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December 28, 1983

To: Members of the Executive Board

From: The Acting Secretary

Subject: Considerations Pertaining to the Allocation of SDRs

There is attached for consideration by the Executive Directors a paper on considerations pertaining to the allocation of SDRs, which has been tentatively scheduled for Executive Board discussion on Wednesday, January 25, 1984.

If Executive Directors have technical or factual questions relating to this paper prior to the Board discussion, they should contact Mr. Rhomberg, ext. 73751 or Mr. Mathieson, ext. (5)7662.

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Department Heads



INTERNATIONAL MONETARY FUND

Considerations Pertaining to the Allocation of SDRs

Prepared by the Research Department

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

Approved by Wm. C. Hood

December 28, 1983

I. Introduction

Three years have elapsed since the last SDR allocation of the third basic period took place in January 1981. The question of SDR allocations in the fourth basic period has been discussed on a number of occasions since that time. At the conclusion of its most recent discussion of this question, the Interim Committee stated in its Press Communiqué of September 26, 1983, that:

Most members of the Committee were of the view that the recent trends in the state of international liquidity and the conditions of the world economy strengthened the case for an allocation during the current period, while other members were of the view that the case had not yet been made. The Committee agreed that discussions of the issue, which could lead to a proposal by the Managing Director commanding broad support among members of the Fund, should be pursued as a matter of priority.

This paper considers whether the criteria for an SDR allocation have been satisfied in view of recent developments in international liquidity and anticipated conditions in the world economy and international financial markets. The analysis is a continuation of earlier work relating to SDR allocations during the fourth basic period. 1/

1/ The relevant papers are:

- SM/80/189 "Considerations Relating to the Size of SDR Allocations," July 25, 1980 (and Correction 1, August 13, 1980);
- SM/81/4 "Considerations Relating to the Size of SDR Allocations in the Fourth Basic Period," January 7, 1981 (and Correction 1, January 19, 1981);
- SM/81/74 "Further Considerations Relating to the Size of SDR Allocations in the Fourth Basic Period," April 1, 1981 (and Supplement 1, April 14, 1981);
- SM/83/157 "Considerations Relating to a Possible Proposal for an Allocation of SDRs in the Current Basic Period," July 11, 1983; and
- SM/83/196 "Considerations Relating to the Long-Term Global Need to Supplement Existing Reserve Assets," August 26, 1983.

The remainder of the paper is composed of four sections. Section II reviews the criteria for an SDR allocation laid down in the Articles of Agreement. This review includes a discussion of the factors that must be considered when deciding whether there is a long-term global need for reserve supplementation and of the conditions likely to contribute to making the SDR the principal reserve asset. Section III examines recent developments in international liquidity, the world economy, and international financial markets to determine whether an SDR allocation is warranted. Section IV considers the magnitude of SDR allocations in the coming years. The final section summarizes the arguments bearing on the question of the allocation of SDRs in present circumstances.

II. Criteria for an SDR Allocation

The conditions for an SDR allocation (or cancellation) set forth in the Articles of Agreement refer to certain criteria with respect to the need for reserve supplementation. In addition, the Articles refer to the objective of making the SDR the principal reserve asset in the international monetary system. These two elements will be discussed in turn.

1. The long-term global need to supplement existing reserves

Article XVIII, Section 1(a) provides that:

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.

In discussions leading to the first amendment of the Articles and in subsequent discussions on SDR allocation, the key elements of this provision were examined extensively, and four important clarifications were developed.

First, the provision requires that an SDR allocation meet the need to supplement existing reserve assets. This implies a broader perspective than that encompassed by the concept of "demand" for reserves. Even though the "demand" for reserve assets will always be satisfied at some asset prices and under some attendant economic conditions, the reserves needed for adequate economic performance may be smaller or larger than the reserves effectively demanded. This means that, in principle, there could be scope for an allocation of SDRs even though there is no unsatisfied demand for reserves. 1/ An assessment of the need for an SDR

1/ The Managing Director's proposal to allocate SDRs for the third basic period stated that: "While it is true that most countries have a means for satisfying their need for reserves when international capital markets are as free as they are today, the decision to allocate special

allocation must focus on the effects of such reserve supplementation on the performance of the world economy, on the overall functioning of the international monetary system, and on matters related to the purposes of the Fund.

Second, there must be a global need for reserve supplementation. This condition does not, of course, require the simultaneous existence of a need on the part of every country for an increase in its reserves. It is taken to mean, however, that there is widespread need for more adequate reserves or for a better composition of reserve holdings; that countries with such a need cannot, without adverse consequences for the international economy, obtain reserve assets from countries whose holdings are relatively large; and that failure to meet this need could result in adverse developments which can be considered to be global since they may affect the performance of the entire world economy, comprising both the countries whose reserves needed supplementation and those whose reserves were adequate or ample.

Third, SDR allocation must be concerned with the long-run evolution of reserve needs. The emphasis on long-term considerations was reflected in the selection of a span of five years as the normal length of the basic period. Allocations were not to be used for "counter-cyclical" purposes but were rather to respond to "trend" developments in the international monetary system. 1/

Finally, the allocation (or non-allocation, or cancellation) of SDRs must be conducted in such manner as to be conducive to the achievement of a number of more broadly defined goals. This condition requires an examination of the prospective effects of an SDR allocation on the overall performance of the world economy and the international monetary system. One of these objectives is stated explicitly in the provision cited above: reserve supplementation must be arranged in such a way as to avoid economic stagnation and deflation as well as excess demand and inflation in the world economy. Given the emphasis on long-term considerations, this means that reserve supplementation should aim at avoiding conditions that would lead to a persistence of inflation or stagnation. In addition, SDR allocation must promote the attainment of the Fund's purposes, which are set out in Article I, including in particular the expansion and balanced growth of international trade, as well as the achievement of a stable system of exchange rates and the avoidance of competitive exchange depreciation.

1/ (Cont'd from p. 2) drawing rights does not depend on a finding that the long-term global need cannot be met except by allocation. A characteristic of a system in which countries add to their gross reserves as their international indebtedness increases is that they are faced with the need for periodic refinancing. This difficulty does not arise when additions to net reserves are made through allocation of special drawing rights."

1/ The Articles of Agreement envisage, however, that, within the context of this longer-term perspective, allocations could take place at varying rates from one basic period to another or even within a single basic period.

2. The role of the SDR in non-gold reserves

Among the important aims recorded in the Fund's Articles that are closely linked with SDR allocation are the objectives of promoting better international surveillance of international liquidity and making the SDR the principal reserve asset in the international monetary system (Article VIII, Section 7). Achieving these objectives does not necessarily require that SDR holdings constitute the largest share, or otherwise hold a predominant position, in non-gold reserves. It would be difficult, however, to enhance the role of the SDR as the principal reserve asset when its share in non-gold reserves continues to decline. This share has declined from a peak of 10.2 percent at the beginning of 1972 to 5.3 percent at the end of October 1983. If this tendency continued, it would also be difficult to sustain the potential usefulness of the SDR as a reserve instrument in any possible future reform of the international monetary system that may require a non-currency reserve asset as an important ingredient.

III. Evaluation of the Criteria for an SDR Allocation

This section takes up the question of whether current and anticipated developments in international liquidity, the world economy, and international financial markets suggest that an SDR allocation would be both desirable in the light of these circumstances and consistent with the criteria established by the Articles of Agreement. After briefly reviewing recent changes in international liquidity, the analysis considers the long-term global need for reserve supplementation created by the prospects of increasing world trade and capital flows in the years 1982-86. There follows an examination, in light of the impact of recent disturbances in international financial markets on credit availability, of the extent to which borrowed reserves may currently play an excessive role in meeting the prospective long-term global need for reserves. It is noted that heavy reliance on borrowed reserves has made the international reserve system sensitive to disturbances in international financial markets. The role of an SDR allocation in reducing potential instability in the reserve system by sustaining the proportion of reserves not dependent on access to private international financial markets is examined. Finally, the conditions under which an SDR allocation may create inflationary pressures are considered.

1. The evolution of non-gold reserves

Before examining the need for reserve supplementation, the recent development of non-gold reserves held by all countries, as well as by major country groups, must first be reviewed. The behavior of non-gold reserves can be characterized in terms of both their absolute growth and their evolution relative to factors influencing the need for reserves. Three factors often used to represent key determinants of the need for reserves are imports, trade imbalances, and external debt.

Total non-gold reserves have grown at a rate of 16 percent per annum from the end of 1970 to the end of 1982, although the growth was uneven, and in 1982 reserves actually declined (Table 1). ^{1/} Non-gold reserves of industrial and non-oil developing countries grew at similar rates (14 percent and 15 percent per annum, respectively), but the reserve holdings of the group of oil exporting countries grew at a faster rate (27 percent). As a result of these different growth rates of non-gold reserves in the years 1970-82, the share of industrial countries fell from 69 percent to 56 percent, the share of oil exporting countries rose from 7 percent to 21 percent, and the share of non-oil developing countries was reduced from 23 percent to 21 percent.

In evaluating the adequacy of the stock of reserves it would be useful to relate this stock to a general measure of the size of trade and capital transactions undertaken in a country's exchange market. Since information on capital flows is limited, the value of imports is often used as a proxy for the more comprehensive measure. From 1970 to 1972, the ratio of non-gold reserves to imports rose sharply for all major country groups. For the group of industrial countries, this change reflected the large capital flows and active exchange market intervention that accompanied the move from fixed to more flexible exchange rates (Table 2 and Chart 1). Since 1974, the ratios for the groups of industrial and non-oil developing countries have fluctuated in relatively narrow ranges with no clear trend. In contrast, the ratio of reserves to imports for the group of oil exporting countries peaked in 1974 and declined significantly over the remainder of the period, primarily (until the last few years) because imports grew so rapidly. The non-oil developing countries began and ended the period 1974-82 with about the same aggregate ratio of reserves to imports, but this ratio showed more variation within that period than the corresponding ratios for the industrial countries and for all countries combined.

While imports provide one indicator of the scale of external transactions, the import payments not matched by export receipts (the trade balances) are sometimes taken as a more appropriate measure of the transactions that the authorities may have to support by the use of their reserves. The ratios of non-gold reserves to aggregate trade imbalances are highly variable because of the wide fluctuations in trade imbalances, as well as in reserves. ^{2/} For all countries together, the overall ratio of reserves to trade imbalances for 1974-82 showed irregular movements (Table 2 and Chart 2). It can be observed, however, that since 1980 the ratio has been substantially lower than in the early 1970s.

^{1/} Recent experience suggests that reported international reserves often include assets of varying degrees of liquidity and maturity. An important point is that some of these assets may not be immediately available for making payments.

^{2/} Trade imbalances equal the sum of the absolute values of differences between exports and imports for the individual countries in each country group. Trade imbalances are used instead of the more comprehensive measure of current account imbalances in order to secure the broadest possible coverage of countries.

Table 1. Non-Gold Reserves of All Countries
and Groups of Countries, and SDR Allocations and Holdings,
End of Years 1970-82 and End of October 1983

(In billions of SDRs)

| Year | Non-Gold Reserves | | | | Cumulative SDR Allocations | Holdings of SDRs by Participants |
|-----------|-------------------|-------------------------|-------------------------------|------------------------------------|----------------------------------|--|
| | All countries | Industrial countries | Oil exporting countries | Non-oil developing countries | | |
| 1970 | 56.3 | 38.9 | 3.9 | 13.0 | 3.4 | 3.1 |
| 1971 | 87.8 | 65.7 | 6.6 | 14.8 | 6.4 | 5.9 |
| 1972 | 111.8 | 79.7 | 8.9 | 22.3 | 9.3 | 8.7 |
| 1973 | 117.8 | 77.7 | 10.9 | 28.4 | 9.3 | 8.8 |
| 1974 | 145.5 | 78.3 | 37.2 | 29.1 | 9.3 | 8.9 |
| 1975 | 160.3 | 83.6 | 47.1 | 28.6 | 9.3 | 8.8 |
| 1976 | 188.2 | 92.7 | 54.9 | 39.3 | 9.3 | 8.7 |
| 1977 | 230.0 | 118.9 | 61.0 | 49.1 | 9.3 | 8.1 |
| 1978 | 247.1 | 143.1 | 44.9 | 58.0 | 9.3 | 8.1 |
| 1979 | 274.1 | 153.2 | 55.0 | 64.8 | 13.3 | 12.5 |
| 1980 | 321.8 | 184.3 | 68.1 | 67.6 | 17.4 | 11.8 |
| 1981 | 336.7 | 185.1 | 74.1 | 71.3 | 21.4 | 16.4 |
| 1982 | 331.8 | 184.4 | 69.4 | 70.3 | 21.4 | 17.7 |
| Oct. 1983 | 359.5 | 200.9 | 73.7 | 75.3 | 21.4 | 18.9 |

CHART 1
RATIO OF NON-GOLD RESERVES TO IMPORTS
(in percent)

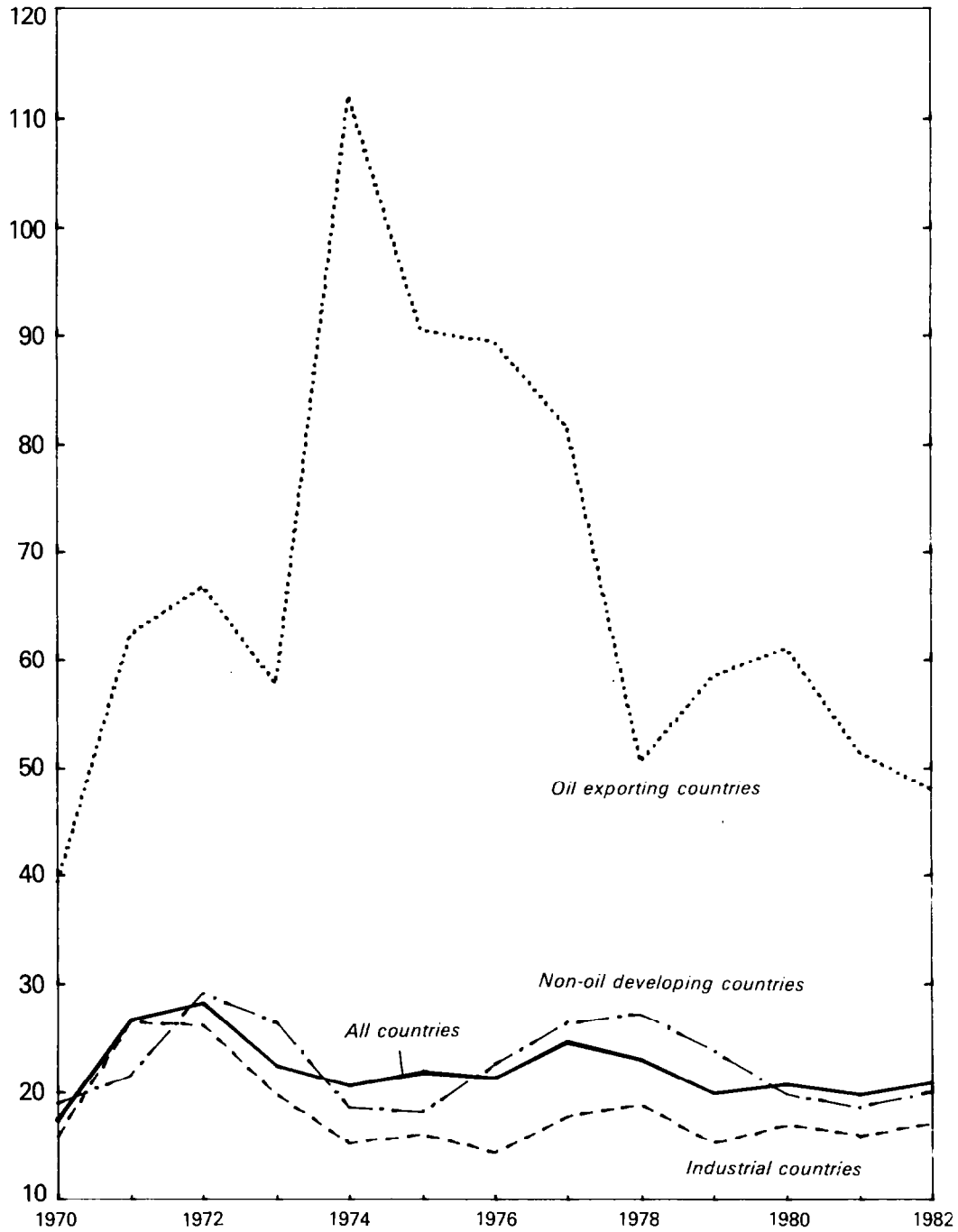




CHART 2
RATIO OF NON-GOLD RESERVES TO TRADE IMBALANCES
(in percent)

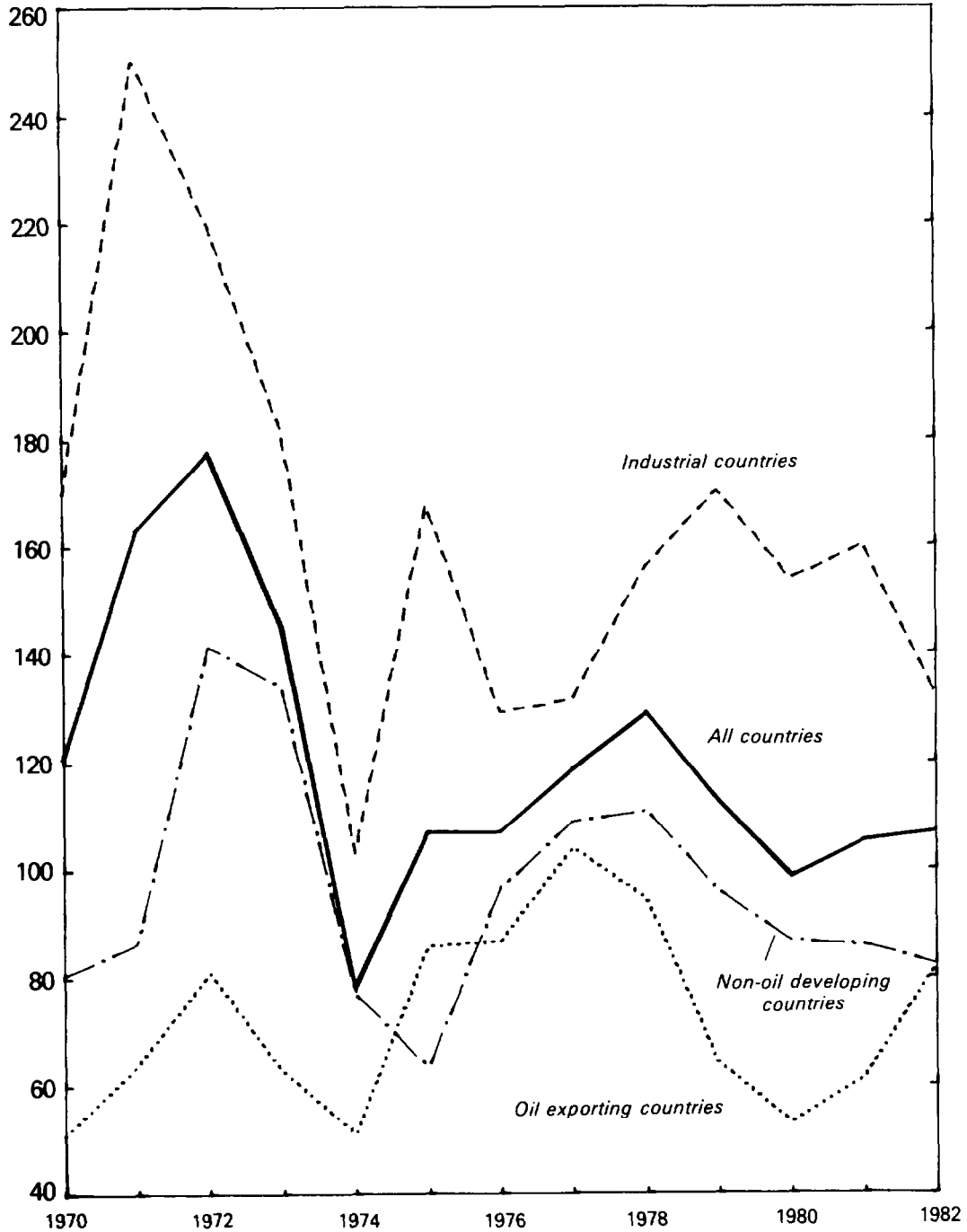




Table 2. Ratio of Non-Gold Reserves and of SDR Allocations and Holdings to Merchandise Imports and Trade Imbalances for All Countries and Groups of Countries, Year-Ends 1970-1982 ^{1/}

| Year | Non-Gold Reserves | | | | Cumulative SDR Allocations <u>2/</u> | Holdings of SDRs by Participants <u>2/</u> |
|----------------------------------|-------------------|-------------------------|-------------------------------|------------------------------------|---|--|
| | All countries | Industrial countries | Oil exporting countries | Non-oil developing countries | | |
| (In percent of imports) | | | | | | |
| 1970 | 17.4 | 16.0 | 39.4 | 19.0 | 1.1 | 1.0 |
| 1971 | 26.6 | 26.4 | 62.4 | 21.6 | 1.8 | 1.7 |
| 1972 | 28.2 | 26.2 | 66.9 | 29.1 | 2.3 | 2.2 |
| 1973 | 22.5 | 19.8 | 57.8 | 26.4 | 1.8 | 1.7 |
| 1974 | 20.6 | 15.3 | 112.0 | 18.6 | 1.3 | 1.2 |
| 1975 | 21.8 | 16.1 | 90.5 | 18.2 | 1.3 | 1.2 |
| 1976 | 21.3 | 14.4 | 89.5 | 22.6 | 1.0 | 1.0 |
| 1977 | 24.6 | 17.8 | 81.7 | 26.4 | 1.0 | 0.8 |
| 1978 | 23.0 | 18.8 | 50.6 | 27.2 | 0.8 | 0.8 |
| 1979 | 19.9 | 15.3 | 58.5 | 23.9 | 1.0 | 0.9 |
| 1980 | 20.8 | 17.0 | 61.2 | 19.8 | 1.1 | 0.9 |
| 1981 | 19.8 | 16.0 | 51.5 | 18.6 | 1.3 | 1.0 |
| 1982 | 20.9 | 17.1 | 48.0 | 20.0 | 1.3 | 1.1 |
| (In percent of trade imbalances) | | | | | | |
| 1970 | 120.7 | 170.0 | 50.9 | 80.5 | 7.3 | 6.7 |
| 1971 | 163.1 | 250.3 | 63.9 | 86.3 | 11.8 | 10.9 |
| 1972 | 177.5 | 220.0 | 80.9 | 141.6 | 14.8 | 13.8 |
| 1973 | 145.1 | 182.1 | 62.6 | 134.1 | 11.5 | 10.8 |
| 1974 | 78.1 | 103.2 | 51.2 | 76.8 | 5.0 | 4.8 |
| 1975 | 106.9 | 167.6 | 85.7 | 63.5 | 6.2 | 5.8 |
| 1976 | 107.0 | 129.1 | 86.7 | 96.5 | 5.3 | 4.9 |
| 1977 | 118.6 | 131.7 | 104.0 | 108.7 | 4.8 | 4.2 |
| 1978 | 129.0 | 156.1 | 94.5 | 110.9 | 4.9 | 4.2 |
| 1979 | 112.5 | 170.2 | 63.9 | 95.9 | 5.5 | 5.1 |
| 1980 | 98.6 | 153.8 | 53.1 | 86.6 | 5.3 | 3.6 |
| 1981 | 105.3 | 160.0 | 61.2 | 85.8 | 6.7 | 5.1 |
| 1982 | 107.0 | 131.8 | 82.1 | 82.1 | 6.9 | 5.7 |

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

^{2/} The ratios for cumulative SDR allocations and holdings of SDRs are formed using the imports and payments imbalances for all countries.

Although imports and trade imbalances can be viewed as proxies for the trade-related transactions that may have to be supported by the use of reserves, they provide little insight into the scale of financial transactions. It is difficult, however, to obtain comprehensive data on gross financial flows. The stock of total external debt or one of its components is therefore often used instead. While no clear trends are indicated in the ratios of non-gold reserves to imports and to trade imbalances for most country groups, the ratio of these reserves to the external indebtedness to banks generally declined (Table 3). For the groups and individual countries included in Table 3, the ratios of non-gold reserves to external bank debt for 1982 and 1983 are generally well below the values prevailing in 1980. While developments in 1983 indicate some rebuilding of reserve positions relative to external debt to banks for the Asian countries and possibly also for the countries of the Middle Eastern region, there has not yet been any corresponding improvement in the ratios for the developing countries in Africa and the Western Hemisphere. ^{1/} The overall impression from these regional ratios is that reserve holdings relative to external debt are still considerably below the levels observed prior to the disturbances in financial markets in 1981 and 1982. This means that these reserves are now less adequate to deal with strains arising from financial disturbances than they were only two years ago.

2. Long-term global need for reserve supplementation

a. Growth of the need for reserves

One fact evident in Table 1 is that the period since 1973 has witnessed a continued high rate of reserve accumulation despite a shift to greater exchange rate flexibility. During this period, reserve holdings appear to have been stimulated by rising trade and capital flows and increased uncertainty regarding financial markets and macroeconomic performance. From 1973 to 1982, the value of world trade (measured in terms of U.S. dollars) expanded by 227 percent. All regions of the world shared in this expansion of world trade, though not in the same proportion. The international flow of capital also increased sharply during the 1970s, with much of the initial increase in international lending associated with the recycling of the current account surpluses of the oil exporting countries after 1973. The net flow of financial credit (both bank lending and bond issuance) grew from an average of \$34 billion in 1971-73 to \$195 billion in 1981, before declining to \$143 billion in 1982. These fluctuations in the flow of credit affected both developed and developing countries. The period 1978-82 also saw an increase in the share of large non-oil developing countries, as well as some oil exporting countries, in bank debt maturing within one year. ^{2/} Large

^{1/} These developments in 1983 are evident in both the more narrowly and more broadly defined series in Table 3.

^{2/} See International Capital Markets, Developments and Prospects, 1983, Occasional Paper 23, July 1983, especially Table 5, p. 8.

Table 3. Ratio of Non-Gold Reserves to External Debt to Banks for
Groups of Non-Oil Developing Countries and Individual Countries,
First Half 1980 to First Half 1983 ^{1/}

(In percent)

| | 1980 2/ | | 1981 2/ | | 1982 2/ | | 1983 2/ | | 1981 3/ | | 1982 3/ | | 1983 3/ | |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--|
| | 1st half | 2nd half | 1st half | 2nd half | 1st half | 2nd half | 1st half | 2nd half | 2nd half | 1st half | 2nd half | 1st half | 2nd half | |
| (a) Including main offshore centers 4/ | | | | | | | | | | | | | | |
| Africa | 19 | 16 | 14 | 13 | 11 | 10 | 10 | | 12 | 11 | 10 | | 10 | |
| Asia | 47 | 39 | 34 | 31 | 29 | 32 | 34 | | 18 | 17 | 18 | | 20 | |
| Europe | 11 | 19 | 17 | 16 | 12 | 13 | 12 | | 12 | 9 | 10 | | 9 | |
| Middle East | 62 | 54 | 48 | 44 | 36 | 41 | 40 | | 19 | 16 | 18 | | 17 | |
| Western Hemisphere | 13 | 12 | 9 | 9 | 8 | 6 | 6 | | 8 | 6 | 5 | | 5 | |
| Argentina | 51 | 35 | 18 | 14 | 13 | 11 | 14 | | 14 | 13 | 11 | | 14 | |
| Brazil | 14 | 13 | 12 | 13 | 12 | 7 | 7 | | 11 | 10 | 6 | | 5 | |
| Mexico | 7 | 7 | 6 | 7 | 3 | 1 | 4 | | 5 | 2 | 1 | | 3 | |
| (b) Excluding main offshore centers 4/ | | | | | | | | | | | | | | |
| Africa | 24 | 21 | 18 | 16 | 14 | 12 | 12 | | 16 | 14 | 13 | | 12 | |
| Asia | 87 | 73 | 66 | 63 | 63 | 68 | 73 | | 36 | 35 | 37 | | 41 | |
| Europe | 11 | 19 | 17 | 16 | 12 | 13 | 12 | | 12 | 9 | 10 | | 9 | |
| Middle East | 101 | 86 | 86 | 73 | 63 | 61 | 59 | | 35 | 31 | 28 | | 28 | |
| Western Hemisphere | 23 | 24 | 17 | 18 | 14 | 11 | 12 | | 16 | 11 | 9 | | 9 | |

^{1/} Percentages supplied by the Bureau of Statistics.

^{2/} 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.

^{3/} These data differ from those described in footnote 2. The source of the interbank data is the regular reports of resident banks' external positions made for IFS purposes by the authorities of over 100 countries, while the nonbank debt to international banks in addition to the description in footnote 2 also includes obligations to deposit banks in Bahrain and to non-U.S. banks in Hong Kong and Singapore.

^{4/} The following offshore centers are included in section (a) and excluded from section (b):

Africa: Liberia

Asia: Hong Kong, Singapore

Middle East: Bahrain, Lebanon

Western Hemisphere: Bahamas, Cayman Islands, Netherlands Antilles, Panama.

external short-term debts generally encourage reserve holdings as a cushion for meeting any difficulties involved in the more frequent funding of these liabilities.

This expansion of world trade and capital flows took place in an international environment that encompassed significant increases in the variability of economic activity and prices, as exemplified in Table 4. For example, the variability (as measured by the standard deviation) of the rate of change in the value and unit value of world imports and in the exchange rates of major industrial countries more than doubled from 1965-73 to 1974-83. In addition, while the variability in the rate of inflation for these countries showed only a modest increase, short-term and long-term interest rates were generally much less stable in the later period.

Larger trade and capital flows and increased uncertainty regarding economic developments presumably raised the need for reserves for all major country groups, and the authorities in many countries sought larger stocks of reserves in order to be able to deal adequately with unexpected disturbances. Reserve accumulation appears likely to continue in the remaining years of the fourth basic period. Although output and world trade declined in 1982, the current World Economic Outlook exercise projects a resumption of growth in output and world trade for 1983 and 1984. As will be discussed later, current trends in the volume and unit value of imports and in the ratio of reserves to imports would lead to a rise in reserve holdings of all countries from 1982 to 1986 by approximately SDR 130 billion. In addition, although these movements in prices and volumes of imports will have an important effect on reserve demands, they do not capture the influence of a number of other factors related to developments in financial markets. Recent experience with the variability of capital flows and the problems associated with servicing external debts may also raise the level of reserves that countries find appropriate to hold. Together, these factors imply a clear long-term global need for an increase in international reserve holdings.

b. Sources of reserve growth

In the 1970s, many developed and developing countries achieved the desired increase in their international reserves in part by borrowing in international capital markets. Although a country could in this way satisfy the growing need for non-gold reserves, the associated liabilities represented a contingent call on the country's international reserves that could be exercised at the discretion of the lender on each renewal date. In the 1970s, countries generally encountered little difficulty in renewing such liabilities and maintaining reserve positions. In 1981 and 1982, however, the ability of many countries to maintain or increase their international reserves was severely diminished as a result of a number of macroeconomic developments and accompanying disturbances in international financial markets, including the spreading world recession, the severe deterioration in the terms of trade of non-oil developing countries, changes in oil prices, high nominal and real interest rates, and the sharp

Table 4. Variability of Proportionate Changes in Trade and Exchange Rates, and of Inflation and Interest Rates: Selected Countries, First Quarter 1965 to Second Quarter 1983 ^{1/}

(In percent per annum)

| | 1965-73 | | 1974-83 (II) | |
|--|---------|--------------------|--------------|--------------------|
| | Mean | Standard deviation | Mean | Standard deviation |
| Rate of growth of world imports (in U.S. dollars) | 14.5 | 9.8 | 14.1 | 16.8 |
| Rate of change in unit value of world imports | 5.1 | 7.7 | 10.9 | 14.8 |
| Rate of change in exchange rate | | | | |
| Canada (C\$/US\$) | -0.8 | 1.9 | 2.2 | 4.4 |
| France (FF/US\$) | -1.0 | 6.6 | 6.3 | 13.5 |
| Germany (DM/US\$) | -4.4 | 6.6 | 0.2 | 11.7 |
| Japan (¥/US\$) | -3.1 | 5.2 | -0.5 | 12.5 |
| Switzerland (SF/US\$) | -3.4 | 6.1 | -3.3 | 12.4 |
| United Kingdom (£/US\$) | 1.6 | 6.0 | 5.8 | 13.3 |
| Rate of inflation ^{2/} | | | | |
| Canada | 4.1 | 1.6 | 9.6 | 1.9 |
| France | 4.8 | 1.7 | 11.3 | 2.0 |
| Germany | 3.7 | 1.9 | 4.8 | 1.4 |
| Japan | 6.3 | 2.6 | 8.0 | 6.5 |
| Switzerland | 4.7 | 2.2 | 4.4 | 2.9 |
| United Kingdom | 5.9 | 2.3 | 14.0 | 5.7 |
| United States | 4.1 | 1.6 | 8.6 | 3.1 |
| Short-term interest rate | | | | |
| Canada | 5.1 | 1.3 | 10.7 | 3.6 |
| France | 6.4 | 2.0 | 10.8 | 3.2 |
| Germany | 6.7 | 2.8 | 7.2 | 3.1 |
| Japan | 6.8 | 1.3 | 7.9 | 2.8 |
| United Kingdom | 6.7 | 1.4 | 11.3 | 2.7 |
| United States | 5.8 | 1.9 | 9.8 | 4.0 |
| Long-term interest rate | | | | |
| Canada | 6.8 | 0.9 | 10.8 | 2.5 |
| France | 6.8 | 1.2 | 11.3 | 2.7 |
| Germany | 7.7 | 0.9 | 8.2 | 1.6 |
| Japan | | | 8.2 | 1.2 |
| Switzerland | 4.8 | 0.6 | 5.0 | 1.3 |
| United Kingdom | 8.3 | 1.4 | 13.7 | 1.3 |
| United States | 5.8 | 0.9 | 9.7 | 2.3 |

^{1/} Variability is measured by the standard deviation.

^{2/} Measured by cost of living.

appreciation of the U.S. dollar. The reduced access of many countries to financial markets reflected the lenders' response to the difficulties of these countries themselves or--by contagion--of countries with which they are geographically or structurally associated. One manifestation of the tightening of international credit was its increasing concentration at the short end of the maturity range for a number of countries.

Disturbances in financial markets can have an adverse effect on the level and distribution of international reserves under any circumstances; but the influence of these disturbances tends to be more severe the larger is the proportion of non-gold reserve holdings financed by borrowing in international credit markets. When such disruptions occur, owned (i.e., unborrowed) reserves can be a stabilizing factor in the face of interruptions in capital flows.

The extent of the recent reduction in the availability of credit through international financial markets is indicated by the contrast in the scale of lending between 1980-81 and 1982-83. Total net international bank credit, which had increased by an estimated \$160 billion and \$165 billion in 1980 and 1981, respectively, expanded by only \$95 billion in 1982. Bank lending to the non-oil developing countries declined from \$51 billion in 1980 and \$54 billion in 1981 to \$28 billion in 1982. It is anticipated that net bank lending to the non-oil developing countries in 1983 will be in the range of \$15-20 billion. In comparison with lending in the late 1970s and early 1980s, this represents a significant reduction in the amount of credit available from international financial markets. Moreover, much of the recent credit to non-oil developing countries has been heavily concentrated, in the framework of "organized" financial packages, on a small number of borrowing countries. Lending commitments to non-oil developing countries during the first nine months of 1983 amounted to \$22 billion, of which more than one half--nearly \$13 billion--reflected commitments in conjunction with Fund programs and agreements to restructure bank debt for four countries, Argentina, Brazil, Mexico, and Yugoslavia.

In 1982, 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 major reductions in output, income, and imports. Such deflationary adjustments could have continued over an extended period. A series of special measures and programs were developed by various governments, the BIS, and the Fund to ensure a more orderly adjustment process. By sustaining the availability of credit and supporting effective adjustment programs, these actions worked to limit the extent of the deflationary impact of disturbances in the financial system. All the same, there is no doubt that the growth of output in major debtor countries having programs with the Fund was substantially negative in 1983.

Within the context of this general adjustment process and the reduced availability of new flows of credit through private financial markets in 1982-83, many countries can rebuild or expand their reserve holdings only

by ensuring that the sum of the current account balance and the net receipts of official loans and transfers is positive. If official lending and transfers are constrained, any accumulation of reserves would generally require surpluses on current account. For many countries, the current account adjustments needed to achieve an accumulation of reserves would have to be larger than those ultimately required for attaining a viable balance of payments position, including the servicing of external debt. The real cost of generating such surpluses is measured by the reductions in output, employment, and income that must, in practice, occur to achieve the temporary surpluses necessary for reserve accumulation. What must also be counted on the cost side is the requirement that certain other groups of countries, which can issue or supply reserves, show a willingness to undergo collectively a corresponding weakening of their current account positions, possibly over an extended period. An SDR allocation could play a role in reducing some of these costs. By satisfying a portion of the long-term global need for additional reserve holdings, such an allocation could help to moderate the temporary balance of payments adjustments needed to finance replenishment of reserves, which would have to come on top of any long-term adjustments required to ensure a viable external position. In addition, SDR allocations would raise the proportion of non-gold reserves that are not dependent on a country's access to private financial markets. These unborrowed reserves would remain available even if future disturbances in financial markets once again impaired the availability of international credit.

Current and prospective economic and financial developments suggest several potential benefits that could be associated with an SDR allocation during the remainder of the fourth basic period. These benefits are consistent with the objectives of satisfying a long-term global need for reserve supplementation and with the Fund's general purpose of strengthening the international payments system. First, an SDR allocation would partially offset the reduction in the availability of borrowed reserves associated with the disruptions in international financial markets during 1981 and 1982. Second, reserve supplementation can help to satisfy the need for additional reserves that will arise as world trade and capital flows expand in the coming years. If access to international financial markets should remain restricted and official transfers and lending flows expand only moderately, then an SDR allocation would help to moderate the temporary--and from a long-run viewpoint, excessive--adjustments in current account balances that would be required of many countries in order to finance the needed replenishment of reserves at the time of substantial burdens imposed by debt servicing. Third, such an allocation would also help to lower the ratio of borrowed to total non-gold reserves, thereby helping to limit the vulnerability of the reserve system to future disturbances in financial markets. Recent experience suggests that the stability of a reserve system heavily dependent on borrowed reserves could be seriously affected during periods of disturbances in financial markets. Finally, an SDR allocation would also contribute to the objective of making the SDR a principal reserve asset by improving, or at least helping to maintain, the relative position of the SDR in non-gold reserves.

3. Inflationary potential of an SDR allocation

In previous discussions of an SDR allocation during the fourth basic period, concern had been expressed that such an allocation might be inflationary or help sustain expectations that inflation would continue. Although inflationary pressures have by no means completely subsided, rates of inflation in industrial countries, and in some developing countries as well, have declined over the past two years or so. This slowing of inflation reflected a number of macroeconomic developments, among which the shift to considerably less expansionary monetary policies in many of the major industrial countries was no doubt the crucial one. ^{1/} A principal issue is thus whether an SDR allocation would somehow jeopardize this anti-inflation effort.

The potential inflationary effect of an SDR allocation must be considered within the context of the current state of slack demand and high unemployment in the world economy and with special reference to the stabilization and adjustment policies of developed and developing countries. In order for an SDR allocation to have a long-term inflationary effect on the international economy, it would have to induce significant changes in the macroeconomic policies of the countries receiving SDR allocations. ^{2/} To the extent that countries added SDR allocations to their existing stocks of reserves, these allocations would have little, if any, inflationary potential unless they induced the adoption of significantly relaxed policies. It is true that countries might monetize a portion of the SDRs allocated to them. In general, of course, the SDR allocations received by countries are small in relation to the domestic monetary base. Even when such monetization takes place, this practice may merely be a substitute for other government borrowing from the central bank that would have taken place in any event. In the current situation, where many countries have experienced significant declines in their reserve positions, it is also likely that a major portion of a modest SDR allocation would be used primarily to rebuild depleted reserve holdings.

For an SDR allocation to be significantly inflationary in the world economy as a whole, any inflationary impulses originating in some countries would have to spread to most or all other countries, which would themselves have to depart from their existing stabilization policies. In most industrial countries, however, it seems unlikely that the monetary authorities would allow departures from their announced monetary policy objectives because of a marginal increase in their international reserves, whether resulting from SDR allocations or balance of payments surpluses. If the monetary authorities offset the effect of these inflows on the

^{1/} A more detailed discussion of the effects of this shift in monetary policy is given in Appendix A3, "Monetary Developments in Major Industrial Countries," World Economic Outlook, Occasional Paper No. 21, May 1983.

^{2/} A more detailed discussion of these issues is given in SM/81/4, "Considerations Relating to the Size of SDR Allocations in the Fourth Basic Period," pp. 11-14.

monetary base, they could attain their announced monetary targets; and there would be no appreciable strengthening of inflationary impulses, especially at projected levels of capacity utilization.

An SDR allocation could conceivably also force up prices if it induced private sector expectations of higher inflation in the future. The allocation of SDRs would have to be taken as implying a shift toward more expansionary fiscal and monetary policies, despite a general commitment by most authorities to contain or prevent a resurgence of inflation. While the possibility of such a change in expectations cannot be ruled out, there is no evidence that earlier allocations had such an effect.

IV. The Size of an SDR Allocation

A decision on the size of an SDR allocation must be based on the same factors that are taken into consideration when deciding whether there should be any SDR allocation at all, namely, the existence and strength of a long-term global need to supplement existing reserve assets. The question can be considered in terms of two elements, the expected need for additional reserves and the proportion of the growth in non-gold reserve holdings that is to be accounted for by SDRs. The analysis of this section is thus focused on projecting reserve needs in the years ahead and examining the corresponding evolution of the ratio of allocated SDRs to non-gold reserves. 1/

One way of gauging the expected need for additional reserves between 1982 and 1986 is to consider anticipated movements in the volume and unit value of imports as well as the likely behavior of the ratio of reserves to imports. World Economic Outlook projections indicate growth in the SDR value of world imports at an average annual rate of 8 percent between 1982 and 1986. 2/ In addition, the ratio of reserves to merchandise imports for 1986 is assumed to equal its average value for 1977-82, namely, 21.5 percent. This implies a slight rise in the ratio from its value at the end of 1982 (20.9 percent)--a movement, as can be seen from Chart 1, well within the range observed since 1974. The slight recovery in this ratio would reflect the rebuilding of reserve holdings that is likely to occur in some non-oil developing countries. Together, these expected

1/ A variable, but generally small, proportion of allocated SDRs is held by the Fund's General Resources Account. These SDRs are not part of countries' reserves. In order to avoid having to make assumptions about the magnitude of Fund holdings of SDRs in future years, the analysis in this section is presented in terms of the ratio of total allocated SDRs (including Fund holdings) to non-gold reserves.

2/ This rate of increase contrasts with the nominal growth of imports in the previous recovery phase (1975-79) at an average annual rate of over 17 percent.

movements in imports and in the overall ratio of reserves to imports would imply an increase in reserve holdings of SDR 130 billion for all countries. 1/

Given this projected increase in non-gold reserves, Table 5 summarizes the changes in the ratio of SDRs to non-gold reserves that would occur as SDR allocations take place at different rates. One possibility would be to resume allocation in the remaining two years of the fourth basic period at the rate of allocation in the last three years of the third basic period. This would mean an annual allocation of SDR 4 billion, resulting in net cumulative allocations at the end of 1986 of SDR 29 billion. This rate of allocation would also be sufficient to maintain the relation of SDRs to non-gold reserves at its end-1982 value of 6.4 percent. In contrast, an annual allocation of SDR 8.5 billion in 1985 and 1986 would be needed to raise this ratio to its previous year-end peak value of 8.3 percent in 1972--one year after the last allocation of the first basic period. The relation between SDRs and Fund quotas as of 1982 could be maintained constant by an annual allocation of SDR 5.3 billion. Finally, as indicated in item 5 of Table 5, the SDR allocations could be set so as to account for specified proportions of the anticipated growth in non-gold reserves. The illustrative proportions used in the last segment of Table 5 are those already discussed in 1981 in connection with SM/81/4. For example, two annual SDR allocations of SDR 13 billion each would raise allocated SDRs by one fifth of the expected growth of non-gold reserves, while annual allocations of SDR 5.3 billion would raise cumulative SDR allocations by one twelfth of the estimated reserve increase.

The data given in Table 5 indicate that significant changes in the relative position of allocated SDRs vis-a-vis non-gold reserves in the remaining years of the fourth basic period would require annual rates of allocation above those used in the past. To an important degree, this reflects the fact that the calculations in Table 5 assume that the allocations must occur in a two-year period (1985-86). To consider a situation where the various objectives given in Table 5 are achieved more gradually, the calculations given in Table 6 are based on the assumption of either a new five-year basic period beginning with an allocation in the course of 1984 or an extension of the fourth basic period until 1988 with the first allocation taking place sometime in 1984.

In analyzing the effects of SDR allocations over this more extended period, the calculations in Table 6 are based on the assumptions that the value of world imports would continue to rise by 8 percent for the years

1/ In earlier papers relating to an SDR allocation during the fourth basic period (including SM/81/4, SM/81/74, SM/83/157, and SM/83/196), a number of alternative approaches to projecting the need for additional reserves were used. With the current World Economic Outlook projections for the growth of the SDR value of world imports, all of these approaches imply an increase in holdings of non-gold reserves for all countries from 1982 to 1986 in the vicinity of SDR 130 billion.

Table 5. SDR Allocation for the Fourth Basic Period
and Share in Non-Gold Reserves 1/

| Objective | Annual SDR Allocation, 1985-86 | Cumulative SDR Allocations at Year-End 1986 | |
|--|--------------------------------------|---|-------------------------------------|
| | | Amount | Relative to non-gold reserves |
| | (In billions of SDRs) | | (In percent) |
| 1. Continuing rate of allocation of third basic period | 4.0 | 29 | 6.4 |
| 2. Equiproportional growth of SDRs and other reserve holdings from end-1982 | 4.0 | 29 | 6.4 |
| 3. Raising ratio of SDRs to non-gold reserves to previous peak value (8.3 percent in 1972) | 8.5 | 38 | 8.3 |
| 4. Maintaining 1982 position of SDRs relative to Fund quotas | 5.3 | 32 | 6.9 |
| 5. Increasing SDRs by a fraction of projected non-gold reserve growth | | | |
| (i) one fifth | 13.0 | 47 | 10.1 |
| (ii) one eighth | 8.1 | 38 | 8.1 |
| (iii) one tenth | 6.5 | 34 | 7.3 |
| (iv) one twelfth | 5.3 | 32 | 6.9 |

1/ The fourth basic period is assumed to be of five years' duration
ending on December 31, 1986, with no allocations during 1982-84.

Table 6. SDR Allocation for the Five-Year Basic Period
Beginning in 1984 and SDR-Share in Non-Gold Reserves

| Objective | Annual SDR Allocation, 1984-88 | Cumulative SDR Allocations at Year-End 1988 | |
|---|--------------------------------------|---|-------------------------------------|
| | | Amount | Relative to non-gold reserves |
| | (In billions of SDRs) | | (In percent) |
| 1. Continuing rate of allocation of third basic period | 4.0 | 41 | 7.6 |
| 2. Equiproportional growth of SDRs and other reserve holdings from end-1982 | 2.7 | 35 | 6.4 |
| 3. Raising ratio of SDRs to non- gold reserves to previous peak value (8.3 percent in 1972) | 4.8 | 45 | 8.3 |
| 4. Maintaining 1982 position of SDRs relative to Fund quotas | 2.1 | 32 | 5.9 |
| 5. Increasing SDRs by a fraction of projected non-gold reserve growth | | | |
| (i) one fifth | 8.4 | 63 | 11.6 |
| (ii) one eighth | 5.3 | 48 | 8.9 |
| (iii) one tenth | 4.2 | 42 | 7.8 |
| (iv) one twelfth | 3.5 | 39 | 7.2 |

1987-88 and that the ratio of non-gold reserves to these imports would remain unchanged. This expansion in imports can be expected to be associated with a further increase in desired reserve holdings estimated at SDR 80 billion from year-end 1986 to year-end 1988.

The extended period for SDR allocations allows for more significant changes in the relative position of the SDR, even with modest annual allocations. For example, the ratio of SDRs to non-gold reserves at the end of 1982 (6.4 percent) could be maintained by an annual allocation of SDR 2.7 billion in 1984-88. Alternatively, this ratio could be raised to its previous year-end peak of 8.3 percent in 1972 by an annual SDR allocation of SDR 4.8 billion over the five-year period. This is less than two thirds of the rate that would be required to accomplish the same goal if allocations were limited to the years 1985-86 (Table 5). Continuing allocations at the rate of SDR 4 billion, as in the third basic period, would raise the proportion of SDRs to non-gold reserves to 7.6 percent by the end of 1988. Assuming no further increase in Fund quotas other than that brought about by the Eighth General Review of Quotas, the ratio of SDRs to Fund quotas would be maintained by an annual SDR allocation of SDR 2.1 billion. Finally, a comparison of Tables 5 and 6 indicates that the annual rate of SDR allocation required to raise allocated SDRs by given proportions of the projected growth in non-gold reserves falls by nearly a third as the allocation period is extended from two to five years.

IV. Summary

Current and anticipated developments in international liquidity, the world economy, and international financial markets suggest that an SDR allocation in the near future would contribute to the objectives of meeting the long-term global need for reserve supplementation, strengthening the international reserve system, and making the SDR the principal reserve asset. In the present world economic situation, it would have a number of distinct benefits. First, an SDR allocation would help to offset the reduced availability of borrowed reserves associated with the disruptions in international financial markets during 1981 and 1982. In addition, SDR allocations could satisfy a portion of the need for additional reserves that will arise as world trade and capital flows expand during the rest of the fourth basic period. Third, by helping to lower the ratio of borrowed to total non-gold reserves, they would assist in reducing the vulnerability of the reserve system to future disturbances in financial markets. Finally, a modest SDR allocation would enhance the relative position of the SDR in non-gold reserves without creating inflationary pressures.

A modest SDR allocation has been defined with reference to the global need to accumulate additional reserves during the fourth basic period and the objective of making the SDR the principal reserve asset. On the basis of past relationships, the anticipated growth in the value of world imports implies an increase in non-gold reserves by about SDR 130 billion

during the fourth basic period. An annual SDR allocation of SDR 4 billion would be required to maintain the ratio of SDRs to non-gold reserves at the end of 1986 at its value at year-end 1982 (6.4 percent). Alternatively, the ratio of SDRs to non-gold reserves could be increased to its previous end-of-year peak value (8.3 percent in 1972) by an annual allocation of SDR 8.5 billion. The ratio of cumulative SDR allocation to Fund quotas could be maintained at its 1982 value with an annual SDR allocation of SDR 5.3 billion. Finally, extending the fourth basic period or starting a new basic period could achieve corresponding objectives with smaller annual SDR allocations.