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To: Members of the Executive Board

From: The Secretary

Subject: Considerations Pertaining to a Resumption of SDR Allocations  
in the Fifth Basic Period

The attached paper on considerations pertaining to the issue of a resumption of SDR allocations during the fifth basic period has been scheduled for discussion on Friday, March 27, 1987.

Mr. Isard (ext. 6640) or Mr. Folkerts-Landau (ext. 7665) is available to answer technical or factual questions relating to this paper prior to the Board discussion.

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INTERNATIONAL MONETARY FUND

Considerations Pertaining to a Resumption  
of SDR Allocations in the Fifth Basic Period

Prepared by the Research Department

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

Approved by Jacob A. Frenkel

March 3, 1987

I. Introduction

In response to requests by the Interim Committee, 1/ the Executive Board has continued to examine the role of the SDR in the international monetary system. 2/ This paper extends earlier analyses in the context of reconsidering the issue of a resumption of SDR allocations during the fifth basic period, which began on January 1, 1987.

Decisions regarding the allocation of SDRs are governed by the principles set forth in Article XVIII, Section 1(a) of the Fund's Articles of Agreement:

In all its decisions with respect to the allocation and cancellation of special drawing rights the Fund shall seek to meet

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1/ Communique of the Interim Committee of the Board of Governors of the International Monetary Fund, September 28, 1986.

2/ In the course of their examinations during 1986 and 1987, the Executive Board has discussed the following papers:

SM/85/340, "Implications of Changes in the International Monetary System for the Role of the SDR," December 27, 1985;

SM/86/17, "The Potential Contribution of the SDR to Economic Stability," January 29, 1986;

SM/86/44, "Allocation of SDRs--Consideration in Light of Recent Developments," February 26, 1986;

SM/86/142, "The Development of Voluntary Transfers of SDRs Among Participants and Prescribed Holders," June 18, 1986;

SM/86/154, "Proposals for Post-Allocation Adjustment in the Distribution of SDRs," June 27, 1986;

SM/86/169, "Consideration of Alternative Approaches to Influencing the Share of SDRs in Member's International Reserves," July 9, 1986;

SM/86/198, "Considerations Relating to Allocations of SDRs in the Fifth Basic Period," August 8, 1986;

SM/86/302, "Concept of Long-Term Global Need for Reserve Supplementation in the Current Context," December 17, 1986.

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.

Over the years, the application of these principles has been guided in part by historical evidence that countries have pursued policies to maintain a fairly stable degree of proportionality between their holdings of international reserves and the scale of their international transactions. From this perspective, it has been recognized that inadequate growth of international reserves over the long term would or could preclude the attainment of the Fund's purposes with regard to facilitating the expansion and balanced growth of international trade and promoting stability and order in the exchange rate system. Yet, because it has always been possible to satisfy the growth in the demand for reserves without SDR allocation, decisions regarding allocation have required judgments as to whether the attainment of the purposes of the Fund would be promoted more effectively with reserve supplementation than without reserve supplementation.

At the time of the conception of the SDR system, it was judged that reserve supplementation would more effectively promote the purposes of the Fund than would measures to provide for the growth of reserve demand by raising the price of gold or by maintaining incentives for governments and monetary authorities in countries other than the United States to pursue policies designed to increase their official claims on the United States, the principal reserve-currency country. <sup>1/</sup> At the time of the first activation of the SDR system, it was perceived that reserve supplementation would better promote the purposes of the Fund than would continued efforts to maintain reserve adequacy through restrictions on international transactions and recourse to international financial assistance, both of which had increased during the second half of the 1960s. <sup>2/</sup> At the time of the second activation of the SDR system, it was judged that reserve supplementation would better promote the purposes of the Fund than would the continued reliance on a system in which countries added to their gross reserves primarily by borrowing on international credit markets, and it was also emphasized that the amended Articles of Agreement had established the objective of making the SDR the principal reserve asset of the international monetary system. <sup>3/</sup> In the current context, it has been argued that reserve

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<sup>1/</sup> See Margaret Garritsen de Vries, The International Monetary Fund 1966-71: The System Under Stress, Volumes I and II, International Monetary Fund, Washington, D.C., 1976.

<sup>2/</sup> See the September 1969 report by the Managing Director, as reproduced in de Vries, *ibid.*, Volume II, pp. 254-55.

<sup>3/</sup> See the October 1978 proposal by the Managing Director, as reproduced in Margaret Garritsen de Vries, The International Monetary Fund 1972-78: Cooperation on Trial, International Monetary Fund, Washington, D.C., Volume III, pp. 275-76.

supplementation would better promote the purposes of the Fund than would continued reliance on a system in which many countries add to their reserves by borrowing on international credit markets while many other countries have limited access to international credit markets and are induced to rely on trade and payments restrictions or other forms of import compression in order to maintain adequate reserve levels. 1/

This paper extends the arguments for reserve supplementation in the current context by providing preliminary estimates of the direct costs that participants incur by funding their foreign exchange reserves principally in the international credit markets. Although the estimates rely on several assumptions and approximations, it is evident that the order of magnitude of these costs is substantial. It is suggested that these costs can be reduced by increasing the share of the SDR in total non-gold reserve holdings.

To provide historical perspective, Section II presents a brief review of the evolution of the reserve system to its current form under which reserves are principally supplied by the international financial markets at terms depending on the markets' assessments of the borrowers' credit standings. Section III reviews recent developments in reserve holdings and projects the growth of demand for reserves during the fifth basic period. Section IV then derives quantitative estimates of the direct costs that members incur by funding their reserves principally in the private credit markets. Section V discusses the potential benefits of increasing the share of the SDR in total non-gold reserve holdings. In addition to the direct benefits of reducing the carrying costs of reserves, indirect benefits could accrue to participants from reducing reliance on the private financial markets as a source of reserves in favor of an SDR-based reserve system. Section VI reviews allocations and holdings of SDRs and also presents estimates of the size of SDR allocations required to raise the share of SDRs in total non-gold reserves to selected levels. It is emphasized, however, that up to now the SDR does not appear to have functioned as fully as it could as an international reserve asset, in the sense that it has not been reconstituted as rapidly as other reserve assets have been rebuilt after use. The paper then briefly notes some shortcomings in the characteristics of the SDR and suggests that these shortcomings must be remedied or compensated for if the SDR is to function effectively as a reserve asset. Section VII concludes the paper.

## II. Review of the Evolution of the Current Reserve System

Under the gold exchange standard the supply of total reserves and the distribution of reserves among countries were important determinants of economic policies. The physical stock of gold, the principal reserve

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1/ See SM/86/302, "Concept of Long-Term Global Need for Reserve Supplementation in the Current Context," December 17, 1986.

asset, depended on mining technology while the nominal value of the gold stock was determined by the fixed price of gold in terms of the national currency. The national monetary authorities had to consider their obligation to convert currency balances into gold at the fixed price when deciding upon the quantity of national currency they wished to issue. An excessive issuance of currency could be expected to lead to a drain on gold reserves if the holders of currency possessed a stable demand for money. The growth of a country's stock of gold relative to the demand for gold was of crucial importance in the sense that a shortfall in the growth of the gold stock implied deflationary pressures.

The link between domestic monetary policy and the country's stock of gold was not, however, always immediate and tight. The evolution of the gold exchange standard represented a gradual move away from strict subservience of economic policy to changes in gold holdings. In particular, governments resorted to a variety of official credit arrangements, most notably with the United States, to loosen the constraint imposed on their economic policies by the need to maintain the convertibility of their currencies into reserve assets. The ability of governments to supplement their gold reserves with financial assets denominated in a reserve currency was limited, however, by the confidence that could be placed in the convertibility of the reserve currency into gold. The growth in claims on the reserve center would at some point become large enough relative to the center's gold holdings to raise doubts about the continued convertibility of these claims into gold at the prevailing price of gold. Furthermore, occasional shifts in preferences of reserve holders toward gold and away from currency reserves, induced by doubts about the sustainability of the price of gold, required a general contraction of the monetary liabilities issued by authorities of individual countries. Thus, the cost to the system of changes in the composition of observed reserve holdings could be large if the associated changes in domestic monetary policies were disruptive. The gradual move away from convertibility was completed in August 1971 with suspension by the United States of the convertibility of official dollar holdings into gold. The link between domestic policy and the reserve stock was weakened further by the advent of greater flexibility of exchange rates during the first half of the 1970s.

Another aspect of the fundamental changes that have taken place is the increased availability of private credit to official borrowers, which has relaxed the systemic constraints on the supply of reserves. As a result, many governments are able to increase their stocks of foreign exchange reserves by issuing liabilities denominated in reserve currencies and acquiring liquid reserve assets in the form of deposits or securities. Countries with limited access to private international credit markets, however, are as before forced to accumulate reserves through current account surpluses or official credits.

The evolution of the reserve system has had important implications for monetary policy and price stability. Under the gold exchange

standard, the stock of gold anchored the stock of money through convertibility of money into gold at a fixed price. In the post-Bretton Woods environment, authorities have come to rely on nominal anchors other than the stock of gold in the conduct of their monetary policies. In particular, targets for monetary and credit aggregates, along with less formal objectives for the growth of nominal spending, have emerged as important guidelines for the macroeconomic policies of individual countries. Another significant feature of the current multiple reserve currency system is its decentralized nature. For the most part, price stability is pursued independently by the monetary authorities of individual countries, 1/ and the demand for reserves is met chiefly by private financial markets.

### III. Recent and Projected Developments in International Reserves and Liquidity

Recent structural changes in the international monetary system have affected the rationale for holding reserves as well as the mechanisms through which reserves are supplied. The ending of the obligation to defend fixed parities and a greatly increased access to international financial markets had been expected to lead to reduced holdings of reserves. However, some countries have continued to maintain fixed exchange rates, while most others have found it desirable to use reserves to smooth temporary variations in their balances of payments in order to mitigate exchange rate variations. Furthermore, countries with ready access to international financial markets have found it nevertheless desirable to hold reserves in the form of liquid assets denominated in reserve currencies, since access to financial markets and the cost of borrowing is determined by their credit-standing, which is likely to deteriorate at the very time countries find it necessary to borrow, thus raising the cost of borrowing or causing access to be denied. As a result, countries have tended to expand their non-gold reserve holdings in line with the growth of their imports (Table 1).

The growing importance of borrowed reserves meant, however, that developments in international reserves and liquidity in the early 1980s were strongly affected by the responses of private financial markets to the emergence of external payments difficulties for many developing countries. Countries with debt-servicing problems were faced with swift and marked shifts in the terms and conditions under which they could refinance their external obligations, including those used to finance reserve holdings. The evolution of non-gold reserve holdings has reflected these developments: in 1982, the total stock of non-gold reserves held by all countries declined for the first time since 1959

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1/ In this environment, the surveillance function of the International Monetary Fund, as provided in Article IV of the Articles of Agreement, has become the principal means by which systemic considerations are brought to bear on the conduct of policy in member countries.

Table 1. Non-Gold Reserves of All Countries and Groups of Countries,  
and SDR Allocations and Holdings of All Participants:  
Amounts and Ratios to Merchandise Imports, 1970-86

(End-of-period data)

Non-Gold Reserves								
Developing countries								
Capital-importing countries								
All countries	Industrial countries	All developing countries	Capital-importing countries			Cumulative SDR Allocations <sup>1/</sup>	Holdings of SDRs by all Participants <sup>1/</sup>	
			All capital-importing countries	Countries with recent debt-servicing problems	Countries without recent debt-servicing problems			
(Amounts at end of periods, in billions of SDRs)								
1970	56.1	38.9	17.3	14.6	6.9	7.8	3.4	3.1
1971	87.6	65.7	21.8	17.1	7.3	9.9	6.4	5.9
1972	111.4	79.7	31.7	25.2	11.3	13.9	9.3	8.7
1973	117.6	77.8	39.8	32.6	15.0	17.5	9.3	8.8
1974	145.2	78.3	67.0	41.8	22.3	19.5	9.3	8.9
1975	160.0	83.6	76.4	42.8	22.9	19.9	9.3	8.9
1976	188.0	92.7	95.3	54.8	28.0	26.8	9.3	8.7
1977	227.8	118.9	108.9	61.4	29.8	31.6	9.3	8.1
1978	247.0	143.1	103.9	68.3	31.6	36.7	9.3	8.1
1979	273.9	153.2	120.7	80.3	37.4	42.9	13.3	12.5
1980	321.4	184.3	137.1	89.4	39.7	49.7	17.4	11.8
1981	330.2	185.1	145.1	95.4	36.0	59.5	21.4	15.4
1982	327.7	184.4	143.3	90.8	23.8	67.0	21.4	17.7
1983	360.8	204.7	156.1	105.1	28.6	76.5	21.4	14.4
1984	405.8	224.5	181.3	132.0	44.1	88.0	21.4	16.5
1985	404.4	227.3	177.1	127.7	40.0	87.6	21.4	18.2
1986	420.3	251.5	168.8	127.6	32.2	95.4	21.4	18.9
(Ratios to imports <sup>2/</sup> )								
1970	17.4	16.0	21.5	19.3	19.8	18.8	1.1	1.0
1971	24.7	24.6	25.0	21.0	19.8	22.0	1.8	1.7
1972	28.2	26.3	34.3	29.3	29.4	29.3	2.4	2.2
1973	22.6	19.9	30.6	27.1	30.3	24.9	1.8	1.7
1974	20.2	15.0	33.6	23.2	27.6	19.6	1.3	1.2
1975	21.9	16.2	35.7	23.3	27.7	19.7	1.3	1.2
1976	21.2	14.4	39.2	26.3	31.2	22.6	1.0	1.0
1977	23.8	17.4	39.6	26.6	30.1	23.9	1.0	0.8
1978	22.9	18.7	33.2	26.9	30.3	24.6	0.9	0.8
1979	19.6	15.1	31.6	25.2	27.0	23.8	1.0	0.9
1980	20.9	17.2	29.5	22.4	22.4	22.4	1.1	0.8
1981	19.4	16.0	26.5	21.1	18.8	22.8	1.3	1.0
1982	20.0	16.7	26.8	21.0	14.7	24.8	1.3	1.1
1983	20.7	17.1	28.6	23.2	18.3	25.8	1.2	0.8
1984	21.6	17.2	31.9	27.3	27.5	27.1	1.1	0.9
1985	21.1	16.5	33.2	27.6	27.4	27.6	1.1	1.0
1986	23.1	18.6	36.5	31.1	25.6	33.6		

<sup>1/</sup> The ratios to imports for cumulative SDR allocations and holdings of SDRs are calculated by using imports for all countries.

<sup>2/</sup> Calculated by dividing the stock of reserves or SDRs at year's end by the annual rate of imports in the fourth quarter.

(Table 1). The stock of non-gold reserves of capital-importing developing countries 1/ declined by 5 percent in 1982, while the group of these countries with recent debt-servicing problems 2/ experienced the most significant deterioration in their liquidity position, with their stock of non-gold reserves declining by one-third. However, as a reflection of countries' desire to maintain a relatively stable ratio of reserves to imports, the reserve losses of 1982 were made up during 1983-84 when holdings of non-gold reserves by industrial and developing countries expanded by 22 percent and 27 percent, respectively. The capital-importing countries with debt-servicing problems more than offset the loss of reserves in 1982 by expanding their holdings from SDR 24 billion at the end of 1982 to SDR 44 billion at the end of 1984. The rebuilding of the reserve stocks held by capital-importing countries was achieved by a reduction in their current account deficits from \$90 billion in 1982 to \$47 billion in 1983 and to \$23 billion in 1984. During the same period, the current deficits of capital-importing countries with recent debt servicing difficulties declined from \$62 billion to \$18 billion. This improvement in current deficits permitted a reduction in the amount of new external borrowing as well as an increase in foreign exchange reserves.

The effects of financial developments in the early 1980s were also reflected in the ratio of non-gold reserves to imports (Table 1 and Chart 1). While for industrial countries this ratio remained nearly stable at around 17 percent over the period 1974-86, the same ratio for various groups of developing countries underwent more variation. In particular, the ratio of reserves to imports for developing countries ranged from a high value of 40 percent in 1977 to a low value of 27 percent in 1981 and 1982. The group of developing countries with debt-servicing problems experienced the sharpest changes in their reserve-to-import ratio, which declined from a peak of 31 percent in 1976 to a trough of 15 percent in 1982 before recovering to more than 27 percent in 1984 and 1985. The improvement in the ratio for countries with debt-servicing problems was achieved partly by an increase in total non-gold reserves and partly by a compression of imports from SDR 138 billion in 1982 to SDR 135 billion in 1985.

In 1986, total reserves increased markedly for the group of industrial countries (by 11 percent) and for the group of capital-importing developing countries without debt-servicing problems (by 9 percent), but

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1/ The category of capital-importing developing countries includes all developing countries except the eight Middle Eastern oil exporting countries (Islamic Republic of Iran, Iraq, Kuwait, Libyan Arab Jamahiriya, Oman, Qatar, Saudi Arabia, and the United Arab Emirates).

2/ Developing countries that have experienced recent debt-servicing difficulties are defined as those which incurred external payments arrears during the period 1983 to 1986 or rescheduled their debt during this period as reported in the relevant issues of the Fund's Annual Report on Exchange Arrangements and Exchange Restrictions.

declined by 20 percent for the group of countries with recent debt-servicing problems. These movements in reserves were mirrored in the movements of reserve-to-import ratios, which rose for all country groups except the developing countries with debt-servicing problems.

Since the average ratios of non-gold reserves to imports for all countries, for industrial countries, and for capital-importing developing countries varied over relatively narrow ranges during the period 1974-86, future reserve demand can be estimated by applying the long-run averages of these ratios to the projected growth in the value of imports. <sup>1/</sup> The World Economic Outlook projections for the increase in the SDR value of world trade during the fifth basic period <sup>2/</sup> imply that reserve holdings of industrial and capital-importing developing countries would need to increase by 43 percent (SDR 107 billion) and by 40 percent (SDR 51 billion), respectively, during the 1987-91 period if

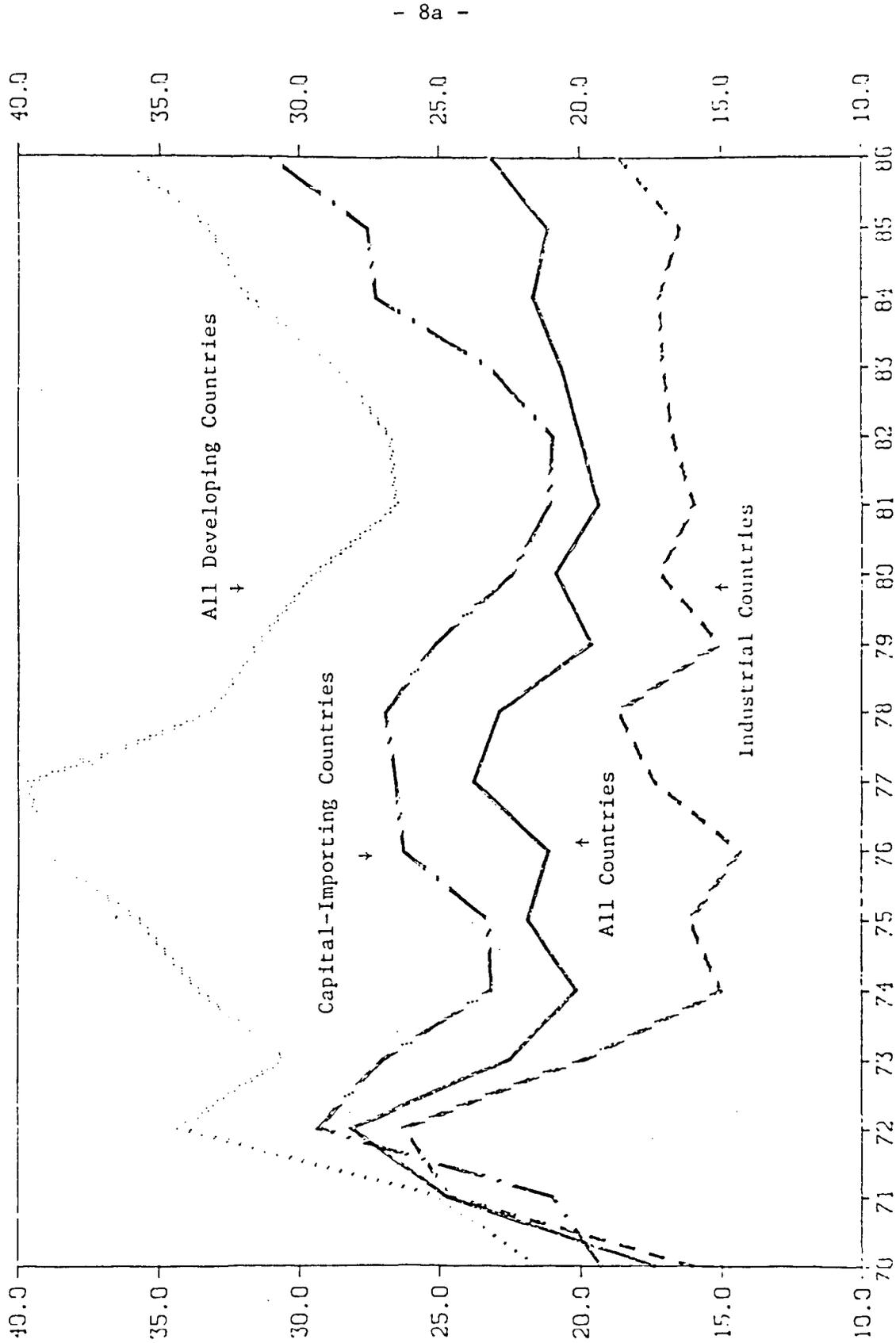
<sup>1/</sup> The average ratios of non-gold reserves to imports during the period 1974-86 were 21 percent for all countries, 17 percent for industrial countries, and 25 percent for capital-importing developing countries. The literature on the demand for reserves includes empirical studies where other variables (such as payments variability, national income, propensity to import) also affect reserve demand, see Lizondo J.S. and D.J. Mathieson, "The Stability of the Demand for International Reserves," DM/85/62, October 1, 1985; but for the purpose at hand, e.g., estimating the long-run trend growth during the fifth basic period, the expected growth in imports is the appropriate scale variable.

<sup>2/</sup> The growth rates of the SDR value of imports are composed of changes in volume and prices (in SDRs) at the following annual rates:

	1984	1985	1986	1987	1988-91
	(In percent)				
All countries					
Volume	8.6	3.3	4.9	3.6	5.6
Unit Value	1.9	-1.2	-9.4	-2.4	2.7
Value	10.7	2.1	-5.0	1.1	8.5
Industrial countries					
Volume	12.4	5.0	8.8	4.2	5.8
Unit Value	1.1	-0.9	-9.9	-2.1	2.7
Value	13.6	4.1	-2.0	2.0	8.7
Capital-importing developing countries					
Volume	4.1	3.6	-0.1	3.9	5.3
Unit Value	2.9	-2.8	-11.2	-3.2	3.1
Value	7.1	0.7	-11.3	0.6	8.6

Sources: World Economic Outlook and staff estimates, International Monetary Fund.

Chart 1. Ratio of Non-Gold Reserves to Imports <sup>1/</sup>



<sup>1/</sup> End-of-year data, calculated by dividing the stock of reserves at year's end by the annual rate of imports in the fourth quarter.



the projected ratios of non-gold reserves to imports for these country groups at the end of 1991 were to equal their average values for the period 1974-86. When taking into account the expansion of the reserve holdings of capital-exporting developing countries, the non-gold reserves of all countries are projected to increase by 40 percent (SDR 170 billion) to SDR 589 billion at the end of the fifth basic period in 1991.

#### IV. Estimates of the Carrying Costs of International Reserves in the Current Reserve System

It was noted above that despite fundamental structural changes in the international financial system, the demand for international reserves has tended to grow in line with imports. In the present environment, many countries build their reserves, in effect, by borrowing on international financial markets, and hold reserves in highly liquid forms as short-term obligations of the reserve-currency countries and as short-term negotiable deposit liabilities of international money-center banks. <sup>1/</sup> One approximate indication of the cost incurred by an individual country carrying foreign exchange reserves is, therefore, given by the spread between the interest rate paid on its external obligations and the interest rate received on its reserve assets.

The interest cost of a country's external obligations <sup>2/</sup> includes a premium reflecting the international credit market's assessment of the credit-standing of the country. The risk associated with holding the external obligations of a nonreserve-currency country is usually perceived by the credit market to exceed the risk of holding the external obligations of reserve-currency countries. As a result, the average interest rate that a nonreserve-currency country pays on its external obligations denominated in a reserve-currency is usually greater than the average interest rate it receives on its holdings of reserve assets

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<sup>1/</sup> In 1985, 65 percent of the total identified official holdings of foreign exchange reserves was denominated in U.S. dollars, 12 percent in Deutsche mark, 5 percent in Japanese yen, 2 percent in Swiss francs, and 1 percent in French francs. The rest was denominated in other currencies, each of which made up less than 1 percent of total foreign exchange reserves. See Annual Report, International Monetary Fund, 1985.

<sup>2/</sup> Such external obligations largely result from borrowing in the international syndicated loan markets, the international bond markets, and the markets for international issuance facilities. See Capital Markets Report, International Monetary Fund, December 1986, for a description of these various credit instruments.

denominated in the same reserve-currency. <sup>1/</sup> This so-called risk premium reflects the perception of the international credit markets of the country's credit standing relative to reserve-currency countries. The premium tends to reflect the quality of the country's economic policies as well as the size of its external obligations, and it acts to some extent as an incentive for countries to pursue policies that maintain or improve their creditworthiness.

Since borrowing in international credit markets for the purpose of reserve accumulation cannot be distinguished from borrowing for other purposes, the risk premium paid by a borrowing country is also applicable to whatever portion of its external debt is used to fund its foreign currency reserves. While the appropriate means to reduce risk premiums on private lending is through policy measures designed to strengthen countries' abilities to service their external obligations, it can also be argued that it would be desirable, other things being equal, to reduce the costs of carrying reserves by reducing reliance on relatively high-cost sources of reserves. This could be achieved in a system in which reserves were obtained through SDR allocation, and in which the charge on any net use of SDRs was approximately equal to the interest rate on short-term obligations of reserve-currency countries, e.g., any risk premium charged on net use of SDRs would be less than the risk premium applicable to other external debt. As the remainder of this section will indicate, the cost savings that an SDR-based system might permit are substantial. Section V discusses the net benefits that would be likely to accrue to participants from an enlarged SDR system.

For the purpose of deriving quantitative estimates of the costs that member countries incurred in carrying international reserves during the fourth basic period, it is convenient to group countries into four broad categories: industrial countries with access to private credit markets that chose not to borrow significant amounts of foreign currencies during the fourth basic period (Group I); industrial countries that chose to borrow significant amounts of foreign currencies during the period under consideration (Group II); developing countries with access to international financial markets (Group III); and developing countries with limited access to international financial markets (Group IV). <sup>2/</sup> The Group I countries that did not borrow significant amounts of foreign currencies during the fourth basic period--namely, France, Germany, Japan, the United Kingdom, and the

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<sup>1/</sup> For cases in which a country's external obligations are denominated in a different currency than its reserve assets, the interest parity relation implies that the expected cost of these external obligations is approximately equal to the expected cost of external obligations denominated in the currency of the reserve assets.

<sup>2/</sup> The group of developing countries with limited access is here taken to be the group of capital importing countries that have experienced recent debt servicing problems as defined in the World Economic Outlook.

United States--also represent countries that issue currencies in which foreign reserves are denominated. For these countries the opportunity cost of holding reserves was the rate of interest on their public sector money market obligations, some of which were held as reserve assets by other countries. Accordingly, to the extent that differences between the interest rates on public sector obligations and the interest rates on reserve assets with comparable risk characteristics tended to be minimal after adjusting for expected changes in exchange rates, these countries did not on average incur any significant costs from holding reserves during the fourth basic period, except to the extent that there were valuation changes associated with unexpected movements in exchange rates.

The industrial and developing countries in Groups II and III, respectively, undertook substantial borrowing programs in foreign reserve currencies during the fourth basic period. For these countries, the costs incurred by carrying reserves were reflected in the spreads between the interest rates on their liabilities denominated in reserve currencies and the rates of return on their reserve assets. 1/

It is assumed here that these spreads, which signify the credit market's assessment of the borrowing country's risk, do not differ significantly across currencies. 2/ Data are currently available on spreads between the interest rates on U.S. dollar-denominated liabilities and reserve assets. Data on interest rate charges on external dollar-denominated obligations of non-reserve currency countries with access to the international credit markets have been readily available in the syndicated loan market. 3/ Syndicated loans are traditionally priced in terms of a spread above LIBOR (London Interbank Offered Rate). The spread between LIBOR and the U.S. Treasury bill rate can then be added to the loan rate spread above LIBOR to obtain the total spread between the interest rate on external obligations in the syndicated loan market and the interest rate on a relatively risk-free

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1/ These returns are adjusted downward for risk by using only the interest rate on the country's holdings of the short-term public-sector obligations of the reserve countries in the computation of total returns, rather than using the rate it received on its holdings of bank liabilities.

2/ This amounts to an assumption that there are no systematic differences in the assessment of the credit risk of a given country by lenders in different currencies.

3/ Rates on syndicated loans are assumed to be representative of the interest costs on other forms of external obligations of countries with access to credit markets.

reserve asset (Table 2). 1/ These interest spreads are then applied to the foreign exchange reserve stocks of the Group II and Group III countries (Table 3) to obtain the total carrying costs of their reserve holdings (Table 4).

For the Group IV developing countries with limited access to international financial markets, the cost of holding reserves cannot be calculated from interest rates on new syndicated loans, since such loans have not taken place. However, the outstanding obligations of these countries trade in the secondary market for external bank debt, specifically for syndicated loans. This secondary market has grown in size 2/ and sophistication of trading practices sufficiently to regard the yields which emerge from this market as generally representative current assessments of the credit risks of the countries that issued the debts. 3/ Moreover, the yields established in the secondary market in bank debts owed by developing countries with limited access to international credit markets can also be taken as estimates of the borrowing costs of these countries in their domestic markets. In particular, in the absence of perceived differences in the credit standings of the domestic and external public debts of these countries, arbitrage will ensure that the rates of return on their domestic public obligations are approximately equal to the rates of return on their external obligations (after adjusting for expected changes in exchange rates). 4/ Therefore, the rate of return on bank debt, in the secondary market, can be taken reasonably as an estimate of a country's cost of funds domestically, which is the rate of return required to induce residents to sacrifice domestic absorption and thereby allow the country to build reserves by generating a larger current account balance.

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1/ Countries are able to earn higher returns than the U.S. Treasury bill rate by choosing more risky reserve assets such as Euro-dollar deposits or other money market instruments. But any such returns above the U.S. T-bill rate must be viewed as returns to risk taking activities and not as returns to reserve holding.

2/ The volume of transactions in this market is estimated by observers to have been about US\$7 billion in 1986.

3/ In 1986, the market yields on syndicated bank loans trading in the secondary markets for a sample of 27 countries were: Argentina, 16 percent; Bolivia, 108 percent; Brazil, 13 percent; Chile, 15 percent; Colombia, 10 percent; Costa Rica, 30 percent; Cote d'Ivoire, 13 percent; Dominican Republic, 24 percent; Ecuador, 16 percent; Guatemala, 17 percent; Honduras, 27 percent; Jamaica, 24 percent; Madagascar, 16 percent; Malawi, 13 percent; Mexico, 19 percent; Morocco, 15 percent; Nigeria, 30 percent; Panama, 15 percent; Peru, 52 percent; Philippines, 13 percent; Senegal, 16 percent; Togo, 15 percent; Uruguay, 16 percent; Venezuela, 13 percent; Yugoslavia, 12 percent; Zaire, 40 percent; and Zambia, 52 percent. Calculated from data provided by Salomon Brothers, New York.

4/ See WP/86/14, Michael P. Dooley, "An Analysis of the Debt Crisis," December 4, 1986.

Table 2. Interest Rate Spreads, 1982-86 <sup>1/</sup>

(In percent)

Libor Minus U.S. T-Bill Rate	Interest Rates on International Bank Loans Minus LIBOR				Interest Rates on International Bank Loans Minus U.S. T-Bill Rate		
	Industrial countries (Group II)	Developing Countries		Industrial countries (Group II)	Developing Countries		
		With access	Without access <sup>2/</sup>		With access	Without access <sup>2/</sup>	
		(Group III)	(Group IV)		(Group III)	(Group IV)	
1982	2.2	0.6	1.0	4.6	2.8	3.2	6.8
1983	0.8	0.7	1.3	7.2	1.5	2.1	8.0
1984	1.0	0.5	1.1	9.0	1.5	2.1	10.0
1985	0.7	0.4	0.9	8.3	1.1	1.6	9.0
1986	0.7	0.3	0.6	7.3	1.0	1.3	8.0

Sources: Data Resources, Inc.; Deutsche Bundesbank; OECD Financial Market Trends, various issues; Salomon Brothers, New York; and staff estimates.

<sup>1/</sup> LIBOR = Three-month London Interbank Offered Rate.

U.S. T-bill = Three-month United States Treasury bill.

<sup>2/</sup> The average yield on bank debt of the sample of 27 countries was 14 percent in 1986 (see text and footnote), 17 percent in 1985, and 20 percent in 1984. For 1982 and 1983, the risk premia of 6.8 percent and 8.0 percent were obtained directly from data on yields on external bonds.

Table 3. Non-Gold Reserve Holdings, 1982-86

(Billions of dollars, period averages)

	Group I	Group II	Group III	Group IV
1982	117	78	124	31
1983	123	86	130	27
1984	123	95	132	37
1985	127	101	140	41
1986	164	110	154	41

Source: IMF, International Financial Statistics.

Table 4. Cost of Holding Reserves, 1982-86

(Billions of dollars)

	Group I	Group II	Group III	Group IV	Total
1982	--	2.2	4.0	2.1	8.3
1983	--	1.3	2.7	2.2	6.2
1984	--	1.4	2.8	3.7	7.9
1985	--	1.1	2.2	3.7	7.0
1986	--	1.1	2.0	3.3	6.4
Total	--	7.1	13.7	15.0	35.8

In 1986, the weighted average yield 1/ on the syndicated loans of the sample of 27 countries 2/ without current access to credit markets was 14 percent. The average rate of return on the reserve assets of those countries is assumed to have equalled the average rate on three-month U.S. Treasury Bills during 1986, namely 6 percent. Hence, their average carrying cost of foreign exchange reserves was 8 percent. Given that their foreign exchange holdings stood at \$41 billion, the total estimated cost of holding foreign exchange reserves was \$3.3 billion for this group of countries in 1986. For all member countries combined, the estimated cost of carrying foreign exchange reserves in 1986 amounted to \$6.5 billion and the total cost for all countries of carrying foreign exchange reserves during the fourth basic period amounted to \$34.6 billion (Table 4).

Although these cost estimates rely on several assumptions and approximations, it is clear that their general order of magnitude is large and is comparable in size to Fund credit extended in recent years. An estimate of what the cost of reserve holdings would have been in the absence of recent debt difficulties might be obtained by reducing the risk premium of countries without credit market access to the risk premium of countries with credit market access. In this case, the total cost of carrying reserves during the fourth basic period would have been \$25.6 billion (as compared with \$34.6 billion under current conditions). While the difference is significant, the carrying cost remains substantial.

#### V. The Benefits of Making the SDR the Principal Reserve Asset

This section argues that the benefits of increasing the share of SDRs in total non-gold reserves would derive in part from the possibility of using the SDR system to reduce the carrying costs of foreign exchange reserves. In addition, a diminished reliance on reserve assets financed through external obligations would lessen the global deflationary effects of trade and payments restrictions or other forms of import compression required to produce the surpluses necessary to generate reserves when access to credit markets has been interrupted.

The carrying costs of foreign exchange reserves reflect the spreads between interest rates on external debts and interest rates on reserve assets, which in turn reflect market perceptions of the riskiness of the external debts relative to the riskiness of claims on the reserve-currency countries. An individual country can reduce the risk premiums on its debts, and the corresponding costs of its reserve holdings, by undertaking appropriate adjustment policies and by establishing a strong historical record of debt service. However, by the very nature of the

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1/ Yields for individual countries are weighted by the country's share in total reserves of the sample of countries.

2/ See footnote 3, p. 12.

development process, sovereign lending to developing countries is likely to be regarded by international markets as more risky than sovereign lending to the reserve-currency countries. Hence, the scope for reducing the risk premiums in lending rates for developing countries is limited, and the process of reducing those risk premiums will take time.

It needs to be emphasized that the appropriate means to reduce the risk premiums on private lending is to implement sound macroeconomic and structural policies in debtor countries. There is also, however, an opportunity to reduce the carrying costs of reserves by shifting more of the sourcing of reserves to the SDR system where, unlike in private credit markets, changes in desired reserve accumulation can be disentangled from borrowing for other (nonreserve) purposes.

The potential savings in carrying costs under an SDR system depend, of course, on the ability of the SDR system to charge participants a lesser interest rate on the net use of SDRs than that charged by credit markets for the use of a corresponding amount of external funds. The lower interest rate in the SDR system is likely to be sustainable if (1) participants continue to maintain their reserve holdings over time, and to restore them after periods of use; (2) participants, after net use, replenish their holdings of SDRs such that there is an indicated willingness to hold SDRs as a form of reserves; and (3) net users of SDRs service their obligations to the SDR Department before servicing private market debts. It may be recalled in this connection that Article VIII, Section 7 provides for members to collaborate with the Fund in matters pertaining to reserve asset management and, if desired, these considerations could become a more regular feature of Article IV consultations.

In connection with the first of the three considerations mentioned above, the available evidence is that participants have indeed maintained their reserve holdings over time in fairly stable proportions to their imports (Table 1)--and this even during periods when some participants have had difficulties in meeting their debt-service obligations. However, with regard to the second condition, and as will be discussed further below, the characteristics of the SDR must be made equally attractive to those of other reserve assets in order for participants to replenish their holdings of SDRs after use and for the reserve system to function effectively with the SDR as the principal reserve asset.

The ability of the SDR system to charge a lower interest rate on net use of the SDR than the interest charge on private credit is to some extent limited by the possibility that over time, if the share of the SDR in total non-gold reserves increased significantly, the likelihood of countries not remaining current on their obligations to the SDR Department might also increase. In this case, the need to maintain the financial integrity of the system would require that the SDR interest rate be raised, or that other characteristics of the SDR be enhanced, to reflect any increased risk incurred by participants holding SDRs in

excess of their cumulative allocations. Thus, as the share of SDRs in non-gold reserves was increased, the savings in the cost of carrying reserves would continue to increase, but at a reduced rate.

Another qualification is that the savings in the cost of carrying reserves might be partially offset if the implicit subordination of market debt to SDR obligations caused credit markets to raise the risk premiums on external obligations that remained outstanding to private creditors. On the other hand, if the desire to rebuild reserves induced net users to reconstitute their SDR holdings by undertaking appropriate adjustment policies, those actions would also improve the ability of member countries to service their obligations to credit markets. This latter spill-over effect, in fact, could act to increase the benefits of an SDR-based reserve system by, in effect, inducing a reduction of the risk premiums charged by the private market.

If the liquidity, usability, or rate of return characteristics of the SDR were enhanced to make the SDR as attractive as other reserve assets, as was originally intended, then the resumption of SDR allocations at a rate that approximated the growth in the demand for reserves would increase the share of the SDR in total non-gold reserves and result in a proportional reduction in the cost of holding reserves. The estimates of the cost to members of holding the current stock of reserves, arrived at in the previous section (Table 4), give some indication of the potential savings that a sustained allocation of SDRs would have made possible. If additional allocations of SDRs in the past had raised the share of SDR holdings to 50 percent of non-gold reserves, for example, during the fourth basic period, then the average annual savings during that period would have been about \$3.5 billion. These savings would have accrued in proportion to the costs of reserve holdings experienced by the various country groups: developing countries with limited access to the international financial markets would have obtained 40 percent of total savings; developing countries with access to financial markets would also have obtained 40 percent of total savings; industrial countries that borrowed in reserve currencies would have received 20 percent of total savings; while the five reserve-currency countries that did not borrow significant amounts of other reserve-currencies would not have benefited significantly. 1/

In addition to the direct benefits or cost-savings that would accrue to most individual member countries that participated in an SDR-based reserve system, there would also be significant benefits accruing to the system as a whole. The reliance on reserve assets that are financed through external obligations means that a change in the market's assessment of the borrower's credit risk to the point of limiting the borrower's ability to roll over its external obligations

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1/ These calculations have assumed that the proportion of reserves held by each group would have remained unchanged with increased allocations.

forces the borrower to produce a current surplus to maintain its desired reserve levels. The positive external benefits of increasing the share of the SDR in total non-gold reserves derive largely from avoiding the global deflationary effects of trade and payments restrictions and other forms of import compression required to produce a current surplus. Because borrowing for the purpose of reserve accumulation cannot be distinguished from borrowing for other purposes, many countries find their access to capital markets limited even when they simply want to borrow to build the reserves that they have historically maintained at fairly predictable levels in relation to their imports. Thus, the current system of reserve accumulation is burdened by other aspects of the international credit system, whereas a system in which the SDR was the predominant reserve asset would separate the reserve accumulation mechanism from other aspects of a country's relation to the financial markets.

In considering the effects of an SDR-based reserve system, it might be asked whether there would not also be losers from larger allocations. After all, countries that are net lenders would be receiving lower interest rates when credit was being provided through SDR allocations rather than the private capital-market. The answer to this question appears to hinge on whether the operation of the SDR system in fact yields lower risk to lenders, that is, whether net users in fact act to rebuild their reserve holdings after use, to maintain stable ratios of SDRs to total non-gold reserve holdings, and to service SDR obligations prior to those in private credit markets. If that were the case, then lenders would be largely indifferent between the lower interest rates charged under the SDR system and the higher ones charged in private credit markets, since risk-adjusted returns would be similar.

In weighing the potential benefits of SDR allocations against their potential costs on the occasion of previous discussions of SDR allocations, concerns were also expressed that an SDR allocation in the current environment could be inflationary. For example, it was reasoned that if SDRs allocated to developing countries were spent on goods in the industrial countries, then this increased demand for goods would put upward pressure on prices. Such concerns have arisen largely from the observation that the holdings of SDRs by capital-importing countries, and especially by countries with debt-servicing problems, have remained below their allocations, i.e., these countries have remained net users of SDRs. <sup>1/</sup> However, the empirical observation that all country groups have maintained fairly stable proportions between their total non-gold reserves and their imports suggests that an improvement in the reserve characteristics of the SDR might well result in a timely reconstitution of the SDR holdings. In that case, new allocations of SDRs at a rate

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<sup>1/</sup> Historical data on the net use of SDRs are provided in the next section.

consistent with the growth of imports would be used to meet the growth in the desired holding of reserves, rather than to fuel current spending and price pressures.

A related argument, based on the observation that countries with debt-servicing problems have remained net users of SDRs, has led to concerns that SDR allocations of significant magnitude could lead to a relaxation of the stabilization efforts now being undertaken by countries with adjustment programs. Given the historical stability of the ratios of reserve holdings to imports, however, improvements in the reserve characteristics of the SDR might be expected to lead to timely reconstitution of any net use of SDRs, and to the avoidance of prolonged net use in the future, provided the rate of allocation did not exceed the growth in the demand for reserves.

## VI. Allocations and Holdings of SDRs

The SDR facility was established at the end of the 1960s as a response to strong concerns about the ability of the international monetary system to supply a sufficient quantity of international reserves while also sustaining confidence in the gold convertibility of the U.S. dollar, the principal reserve currency. Empirical investigations conducted during the second half of the 1960s pointed to evidence that the growth of reserves had flattened markedly, that ratios of reserves to imports had declined, that restrictions on international transactions had increased, and that countries had increased their recourse to official credit arrangements for meeting payments deficits and obtaining reserves. These findings led to the 1969 agreement to allocate SDRs over a three-year period beginning in 1970. The allocations of SDRs in 1970, 1971, and 1972 coincided, however, with large and unforeseen balance of payments deficits of the United States on an official settlements basis, which resulted in rapid accumulation of official claims on U.S. residents and put greater pressure on exchange rates. As a result of these developments, SDR allocations did not continue after 1972.

Although the possibility of augmenting world reserves through the international credit mechanism made it increasingly difficult to determine, at any particular moment, the existence of a global need for a deliberate act of reserve creation, concern about the desirability of relying largely on private markets to supply reserves contributed to renewed allocations of SDRs in 1979, 1980, and 1981. These allocations in the third basic period raised cumulative SDR allocations to SDR 21.4 billion and increased the share of SDRs in total non-gold reserves to 6.5 percent at the end of 1981 (Table 5). Since 1981 there has been no agreement on the need to augment reserves through the allocation mechanism, and the share of total SDR allocations in non-gold reserves fell to 5.1 percent at the end of 1986.

Table 5. SDR Allocations and Cumulative SDR Allocations  
Relative to Non-Gold Reserves, 1970-86

	Basic Period	Allocation of SDRs (In billions of SDRs)	Allocation of SDRs (In percent of non-gold reserves at year-end)	Cumulative SDR Allocations
1970	First	3.4	6.1	6.1
1971	First	2.9	3.4	7.3
1972	First	3.0	2.7	8.4
1973	Second	--	--	7.9
1974	Second	--	--	6.4
1975	Second	--	--	5.8
1976	Second	--	--	5.0
1977	Second	--	--	4.1
1978	Third	--	--	3.8
1979	Third	4.0	1.5	4.9
1980	Third	4.0	1.3	5.4
1981	Third	4.1	1.2	6.5
1982	Fourth	--	--	6.5
1983	Fourth	--	--	5.9
1984	Fourth	--	--	5.3
1985	Fourth	--	--	5.3
1986	Fourth	--	--	5.1

Table 6 provides information on the implications that SDR allocations of various magnitudes would have for the projected share of SDR holdings in total non-gold reserves at the end of the fifth basic period. In the absence of further SDR allocations, SDR holdings would represent only 3.6 percent of non-gold reserves at the end of 1991. If SDRs were allocated during the fifth basic period at a rate of SDR 3 billion per year, these allocations would represent 8.8 percent of the projected increase in reserve holdings through the end of 1991 and would leave the ratio of cumulative SDR allocations to non-gold reserves at 5.7 percent at the end of 1991, about equal to the average value of the ratio during the fourth basic period. An allocation of SDRs at a rate of SDR 4 billion per year--equal to the size of the allocations during the third basic period--would raise the ratio of cumulative SDR allocations to non-gold reserves to 6.6 percent by end of 1991. Allocations at the rate of SDR 17 billion per annum would raise the ratio of cumulative SDR allocations to non-gold reserves to 17.6 percent by the end of 1991 and would meet half of the projected increase in non-gold reserves during the fifth basic period. Allocations of SDR 34 billion per year would provide the entire projected increase in non-gold reserves during the fifth basic period and would raise the share of SDR holdings in non-gold reserves to 32.2 percent at the end of 1991.

In previous discussions of SDR allocations, concern has been expressed about the prolonged net use of SDRs by some countries. Table 7 shows the distribution of SDR holdings relative to cumulative allocations and non-gold reserves for the major country groups. In the period through 1981, holdings of SDRs by capital-importing developing countries fluctuated around 60 percent of their total allocations, but dropped sharply at the end of 1980 when SDRs were used to finance the asset portion of the quota subscriptions made in connection with the Seventh General Review of Quotas (Chart 2). The holding of SDRs as a percentage of total allocations for the industrial countries stood at about 100 percent until the quota subscription payments at the end of 1980, when it declined to about 80 percent; in recent years, it has recovered to about 100 percent. However, the holdings of SDRs relative to allocations for the group of capital-importing developing countries fell from an average of 60 percent during the period 1975-79 to below 40 percent during recent years. The corresponding average for the capital-importing countries with debt-servicing problems fell from around 60 percent to around 20 percent.

The prolonged net use of SDRs by the capital-importing developing countries, which replenished their total non-gold reserves relative to imports following the drop in reserves in 1982, has been associated with a decline in the share of their SDR holdings in their total non-gold reserves (Table 7 and Chart 3). Along with anecdotal evidence, this substitution away from SDR holdings suggests that improvements in the

Chart 2. SDR Holdings as Percent of Cumulative SDR Allocations for Selected Country Groups

(End of quarter data)

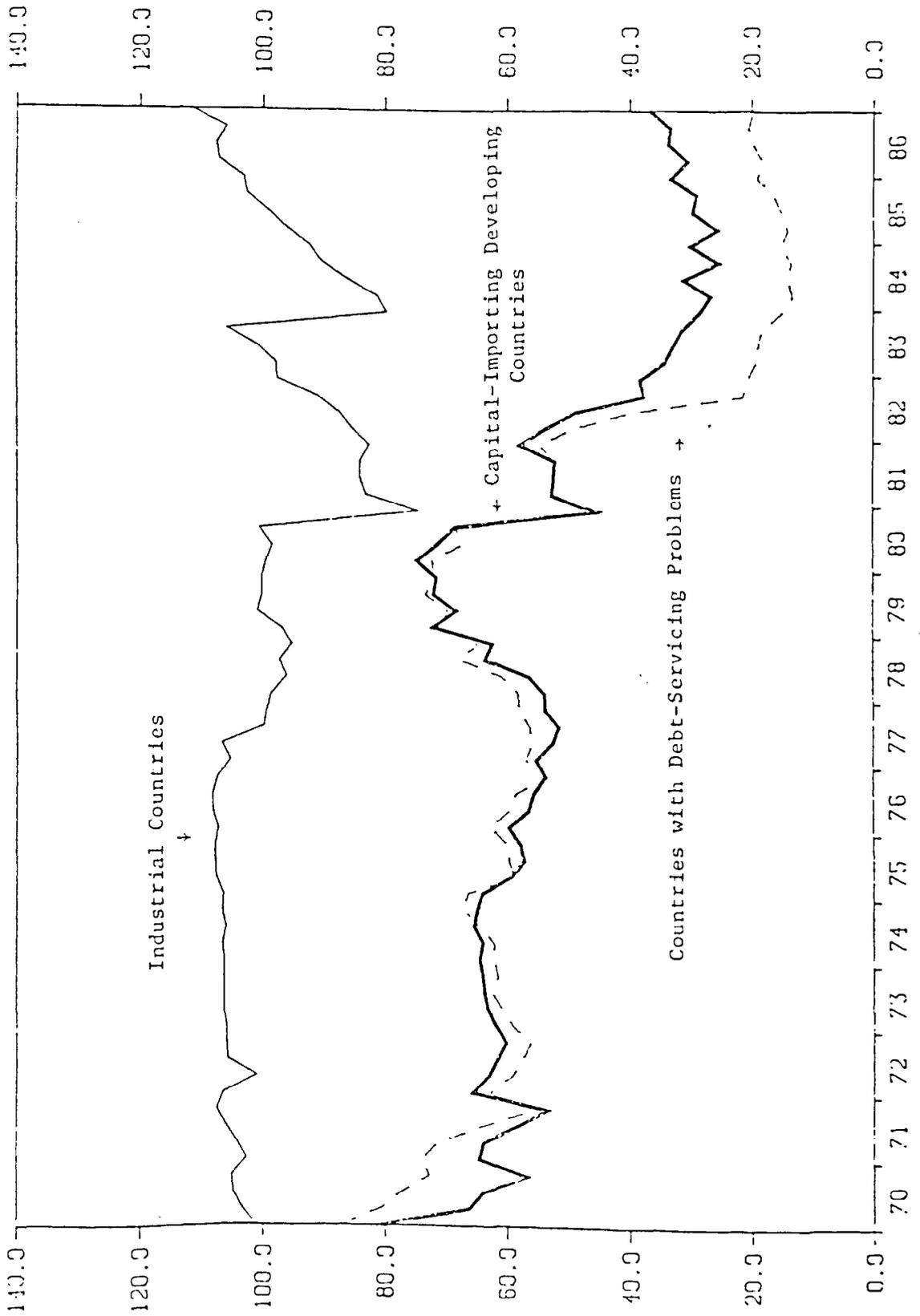




Chart 3. SDR Holdings as Percent of Non-Gold Reserves for Selected Country Groups  
(End of quarter data)

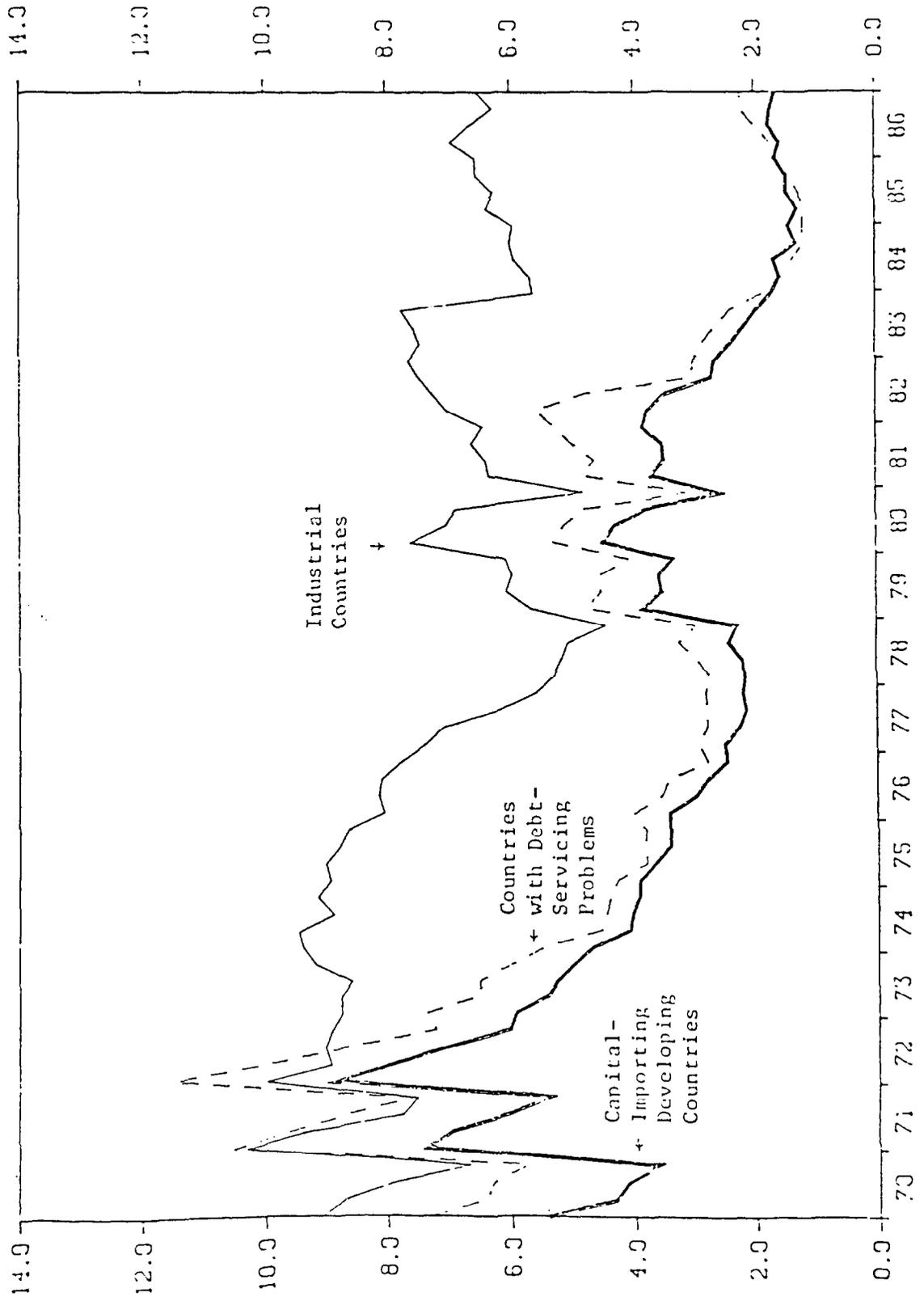




Table 6. Hypothetical SDR Allocations and Ratio to Non-Gold Reserves of All Countries

SDR Allocation		Share of Projected Increase in Reserve Holdings Provided by SDR Allocations During Fifth Basic Period	Cumulative SDR Allocations Relative to Non-Gold Reserves at Year-End 1991
Annual Amount	Total Amount 1987-91		
<u>(In billions of SDR)</u>		<u>(In percent)</u>	
--	--	--	3.6
3.0	15.0	8.8	5.7
4.0	20.0	11.7	6.6
17.0	85.0	50.0	17.6
34.0	170.0	100.0	32.2

Table 7. Holdings of SDRs by All Participants and by Groups of Countries as Percent of Their Cumulative Allocations of SDRs and as Percent of Their Non-Gold Reserves, End of Years 1970-86

	All Participants 1/	Industrial Countries	Developing Countries				
			All developing countries	Capital-exporting	Capital-importing		
					All capital-importing countries	With recent debt-servicing problems	Without recent debt-servicing problems
<u>Holdings of SDRs as percent of cumulative allocations</u>							
1970	91.5	105.2	55.8	4.8	56.9	72.8	34.7
1971	92.3	107.6	52.7	24.1	53.6	55.7	50.8
1972	93.3	106.0	60.5	68.0	60.2	56.2	65.6
1973	94.5	106.4	64.1	67.3	64.0	61.5	67.3
1974	95.1	106.6	65.4	79.6	64.9	67.3	61.8
1975	94.1	107.7	59.0	92.5	57.8	60.0	54.9
1976	92.9	107.4	55.6	108.4	53.8	53.6	54.0
1977	87.3	99.4	56.1	121.7	53.9	58.2	48.0
1978	87.1	95.3	65.9	166.0	62.5	64.9	59.2
1979	93.5	100.2	77.7	167.6	71.6	71.9	71.2
1980	67.9	74.7	53.2	133.0	46.0	44.4	48.1
1981	76.6	82.6	64.0	122.9	58.0	54.7	62.0
1982	82.8	97.6	52.2	186.8	38.4	20.8	59.7
1983	67.2	79.8	41.4	165.6	28.7	15.2	44.9
1984	76.8	92.5	44.4	185.2	30.0	15.1	47.9
1985	85.0	103.1	47.5	186.6	33.3	19.1	50.4
1986	88.1	106.8	49.6	169.0	37.3	24.8	52.5
<u>Holdings of SDRs as percent of non-gold reserves</u>							
1970	5.9	6.7	3.1	--	3.6	5.7	1.7
1971	7.0	7.5	4.3	0.3	5.4	7.6	3.7
1972	8.2	8.9	5.0	0.9	6.0	7.2	5.1
1973	7.8	9.2	4.2	0.8	5.0	5.9	4.1
1974	6.3	9.1	2.5	0.3	3.9	4.4	3.4
1975	5.7	8.6	2.0	0.2	3.4	3.8	2.9
1976	4.9	7.8	1.5	0.2	2.5	2.8	2.2
1977	3.7	5.6	1.3	0.2	2.2	2.8	1.6
1978	3.5	4.5	1.7	0.4	2.3	3.0	1.7
1979	4.8	6.1	2.6	1.1	3.4	4.1	2.7
1980	3.8	4.8	2.1	1.3	2.6	3.1	2.2
1981	5.3	6.4	3.1	1.6	3.9	5.3	3.0
1982	5.8	7.6	2.5	2.3	2.7	3.0	2.6
1983	4.3	5.6	1.9	2.1	1.7	1.9	1.7
1984	4.4	6.0	1.7	2.5	1.4	1.2	1.6
1985	5.0	6.5	1.9	2.5	1.7	1.7	1.7
1986	5.1	6.1	2.1	2.7	1.9	2.7	1.6

Source: International Monetary Fund, International Financial Statistics.

1/ This category consists of all participants in the IMF's SDR Department. The part of cumulative allocations not held by the group of participants is held by the Fund (SDR 2.0 billion in 1986) and by other holders (SDR 0.01 billion in 1986).

reserve characteristics of the SDR are necessary before it can proceed toward becoming the principal reserve asset. 1/

The main disadvantages of the current SDR compared to other reserve assets appear to be its relative lack of liquidity and usability. The procedures for turning SDR holdings into bank balances for exchange market intervention tend to be more unwieldy than turning traditional reserve holdings into bank balances. In addition, the usability of the SDR is limited for participants that do not have a balance of payments need or Fund liabilities. Furthermore, the requirement that all transactions in allocated SDRs be recorded in the Fund removes some of the anonymity that is available when dealing in reserve currencies.

While the current shortcomings of the SDR may have encouraged many countries to make prolonged net use of their allocations and not to reconstitute their SDRs in proportion to their other reserve assets, it can be argued that a resumption of allocations, even without any improvements in the attractiveness of the SDR, would result in a reduction in reserves supplied by credit markets or earned through import compression. This would help to reduce the cost of reserve holdings and reduce the negative effects of relying on reserves funded in credit markets or earned through import compression. Nevertheless, it would be desirable if any large-scale allocation of SDRs was preceded or accompanied by measures to make the SDR more attractive to hold as a reserve asset.

## VII. Conclusions

This paper has presented considerations pertaining to a resumption of SDR allocations with an emphasis on the implications of making the SDR the principal reserve asset in the international monetary system. It was noted at the beginning of the paper that it has always been possible to satisfy the growth in the demand for reserves without SDR allocation, and that decisions regarding the existence of a long-term global need for reserve supplementation have required judgments as to whether the attainment of the purposes of the Fund would be promoted more effectively with reserve supplementation than without reserve supplementation.

The paper has extended previous considerations of this issue by providing quantitative estimates of the carrying costs of reserves in the current context in which, for most countries, the process of building reserve holdings involves, in effect, either borrowing on private international credit markets or a sacrifice of domestic

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1/ Different types of reconstitution requirements and improvements in the asset quality of the SDR have been addressed in a recent staff paper, SM/86/169 "Consideration of Alternative Approaches to Influencing the Share of SDRs in Members' International Reserves," July 9, 1986.

absorption in order to earn reserves through balance of payments surpluses. Although a number of assumptions and approximations must be made to derive quantitative estimates of the carrying costs that could be saved under a system in which reserves were supplied through SDR allocation, it seems that the potential cost savings, taken in isolation, are substantial.

The ability of the system to achieve the potential savings in the carrying costs of reserves requires that participants rebuild their SDR holdings following periods of use. Countries have in the past demonstrated their desire to rebuild their overall reserve levels following periods of use, as is evident from the relatively stable reserves-to-imports ratios that they have maintained over time. If, therefore, the characteristics of the SDR were changed so as to make it the preferred reserve asset, then it can be assumed that the SDR would be willingly reconstituted. Moreover, the resumption of SDR allocation on a scale that did not exceed the growth in reserve demand over time would neither be inflationary nor undermine current adjustment efforts, since the allocated SDRs would be held as reserve assets and would not be used for current transactions.

It needs to be emphasized, of course, that the potential cost savings in the operation of the reserve system could be partially offset by higher costs in the operation of private credit markets. In particular, the implicit subordination of the claims of private creditors to the claims of the SDR system might somewhat offset the potential cost savings if private creditors perceived their claims to have increased in risk. It is also possible, however, that in their efforts to reconstitute their SDR holdings participants would undertake policies that increased their credit standing in private capital markets.

These considerations appear to support a resumption of SDR allocations, but also suggest that it would be desirable to enhance the attractiveness of the SDR as a reserve asset. Executive Directors may, therefore, accordingly wish to consider an allocation of SDRs that would take a significant step towards increasing the share of the SDR in total reserve holdings by the end of the fifth basic period; for example, providing half of the projected growth in total non-gold reserves over that period through SDR allocation would raise the projected share of SDRs in total non-gold reserve holdings to 17.6 percent by the end of 1991 (see Table 6). Alternatively, to the extent that Executive Directors are concerned to remedy the characteristics of the SDR before taking large steps toward increasing the share of the SDR in total reserve holdings, they may wish to consider a much smaller magnitude of allocation, or to refrain from allocation all together at the present time.