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To: Members of the Committee of the Whole
on Review of Quotas

From: The Secretary

Subject: The Size of the Fund in the 1980s

The attached paper on the size of the Fund in the 1980s will be taken up for consideration by the Committee of the Whole on Review of Quotas in a meeting scheduled on Friday, December 18, 1981.

Att: (1)

Other Distribution:
Department Heads

INTERNATIONAL MONETARY FUND

The Size of the Fund in the 1980s

Prepared by the Research Department

(In consultation with other departments)

Approved by Wm. C. Hood

December 2, 1981

I. Introduction

This paper examines the factors that must be evaluated in forming a view on the appropriate size of the Fund in the 1980s. Its most immediate relevance is to the decision to be taken on the magnitude of the next increase in Fund quotas. The concept of the size of the Fund that is appropriate in present circumstances is, however, broader than the aggregate of members' quotas. The Fund performs two principal financial functions: it makes resources available to assist members in financing temporary balance of payments deficits and it provides assets to be held in members' reserves. The size of the Fund--that is, its capacity to perform these functions as needed--depends mainly on aggregate quotas but also to a certain extent on a number of other elements, most prominently SDR allocations and arrangements that the Fund may make from time to time for securing additional resources through borrowing. It is the aim of this paper to assess the increase in total Fund quotas that is appropriate in the light of expected circumstances within a framework containing all major elements influencing the Fund's capacity to provide these services to the membership.

The distribution of quotas among member countries is dealt with in other papers, some of which have already been discussed by the Executive Board, and will not be considered in this paper. ^{1/} It is true that the distribution of a given total of quotas among members differing in balance of payments performance and reserve behavior can influence the overall capacity of the Fund to provide assistance to members. Nevertheless, moderate changes in this distribution are unlikely to affect the analysis presented in this paper to any substantial degree.

The study on "The Evolving Role of the SDR in the International Monetary System," which is in preparation, is an important companion piece to the present paper in that it, too, looks forward to the requirements of the 1980s and the responses that the Fund can make. Moreover, the forthcoming discussions of Executive Directors on that topic may affect the

^{1/} SM/81/151, "Eighth General Review of Quotas - Quota Calculations," (7/2/81) and SM/81/151, Sup. 1 (10/13/81), and EB/CQuota/81/2, "Variability in the Quota Formulas," (8/11/81).

analysis contained in this paper: the future evolution of the SDR could clearly have material effects on the manner in which the Fund performs its financial functions. The present paper does not, however, anticipate these discussions and is based on the existing SDR system, as well as on the existing functioning of the Fund's General Department. 1/

After the presentation of an outline of the approach followed in this paper (Section II), the historical evolution of the size of the Fund is traced (Section III). This evolution is then related to the growth of relevant economic and financial aggregates (Section IV). Projections of some of these aggregates to 1985 and 1990 form the background against which the size of the Fund appropriate for the decade of the 1980s is considered (Section V). Finally (in Section VI), issues for discussion are reviewed.

II. Approach Taken in This Paper

In past discussions, "the size of the Fund" was generally taken to mean the total of members' quotas. The size of the Fund in that sense has grown, through the expansion of the Fund's membership as well as through general and special quota increases, from some SDR 8 billion at the commencement of the Fund's operation in 1947 to SDR 61 billion at present.

This traditional concept of the size of the Fund was not, of course, intended to measure the actual assistance provided to members at a given time, which would depend inter alia on world economic conditions, on the circumstances of individual members, and on their inclination to enter into Fund programs. While the concept evidently related more nearly to the potential contribution that the Fund could make, it was also clear that the total of members' quotas exceeded the maximum balance of payments assistance that could be extended from the Fund's own resources, since all members could not simultaneously purchase the currencies of other members from the Fund.

A more serious difficulty with the quota total as a measure of the size of the Fund is that it leaves out of account the potential contribution to the performance of the Fund's financial functions of resources available to the Fund through borrowing arrangements as well as of the entire Special Drawing Rights Department, not to mention certain other financial developments such as the establishment of the Trust Fund. 2/ As regards Fund-related balance of payments financing, members have been able to rely on each, or on a combination, of the following: drawings

1/ In particular, no account is taken of the possibility that, under some future change in the Articles, SDRs could be issued to finance the operations of the General Department, in whole or in part.

2/ The Trust Fund was established in May 1976. Its final loan disbursements were made in March 1981.

of SDRs or currencies of other members, which may have been subscribed to or borrowed by the Fund; use of SDRs, which may have been allocated or acquired in other ways; and, for some members in recent years, Trust Fund loans. Again, the Fund-related reserve assets that countries hold consist of SDRs, short-term loan claims, and reserve positions in the Fund, with the last arising through a member's subscription in the form of reserve assets, through the drawing of a member's subscribed currency by other members, or through Fund borrowing. Accordingly, any measure of the size of the Fund, whether it is oriented toward the balance of payments financing function or toward the provision of reserve assets, must combine in a suitable way information relating to quota resources, arrangements for Fund borrowing, other resource contributions by members, and SDR allocations and holdings.

The various ways in which balance of payments finance can be made available to members generally differ in their contribution to the other financial function of the Fund, namely, to the provision of reserve assets.^{1/} For instance, the use of borrowed resources (and ordinarily also the use of quota resources) in Fund drawings adds equal amounts to Fund-related balance of payments finance and to Fund-related reserve assets. Allocation of SDRs, in contrast, adds less to potential balance of payments finance than to reserves, since all members cannot ordinarily use their SDR allocations at the same time. These differences offer, in principle, the possibility of simultaneously achieving separate objectives with respect to the Fund's contribution to balance of payments financing and to the provision of reserve assets by varying the rates of quota increases, borrowing, and SDR allocation (or cancellation).

Decisions on the use of these alternative ways of increasing the Fund's financial role in line with the growth of the world economy are, of course, also guided by other important considerations, prominently by the conditionality under which resources are made available to members. Allocated SDRs are available to members without policy conditions, while resources stemming from quota subscriptions or Fund borrowing are made available under varying degrees of conditionality depending on the policies or facilities under which the drawings are made, from the virtually unconditional drawings against reserve positions to the full elaboration of stabilization programs typically associated with drawings in the upper credit tranches.

The approach taken in this paper emphasizes the interdependence--although by no means the interchangeability--of decisions with respect to quota increases, borrowing, and SDR allocation in meeting the Fund's principal financial objectives and, indeed, the interdependence of these objectives themselves. In decisions on the use of quota resources and

^{1/} When reference is made in this paper to the Fund providing balance of payments finance or reserves to members, it is not implied that these provisions necessarily result in net additions to the total amounts of finance or reserves available to members.

Fund borrowing, priority has ordinarily been given to members' need for finance rather than their need for reserves. This has been especially true in the recent past, when the Fund greatly expanded its lending facilities in response to the emergence of large payments imbalances, without any generally recognized need to accelerate the provision of Fund-related reserve assets. Of course, the Fund may not always maintain this priority. If Fund-related reserves were the fulcrum upon which members' money supplies were levered, it would be unwise to let the creation of such reserves be determined by the amount of balance of payments financing sought by members from the Fund. If the SDR had become the principal reserve asset of the system, and countries were responsive in managing their domestic money supplies to changes in their reserve positions, it would be necessary to give greater weight to the reserve creation involved in the Fund's decisions to provide finance to members. In this paper, however, which looks no further ahead than the period during which the Fund may expect to operate on the basis of the quotas resulting from the Eighth Review, the presumption is maintained that in the operations of the General Department primary emphasis will be placed on providing finance rather than reserves. Nevertheless, the paper will also analyze the effects of alternative approaches to providing the needed amount of finance on the volume and distribution of Fund-related reserves.

As regards the division of the task of providing finance to members between the General Department and the SDR Department, the guiding consideration--conditionality--has been extensively discussed in the past. The lending operations of the General Department provide for the most part conditional resources, i.e., resources that are made available in support of specific adjustment programs, whereas SDR allocations may be used by members to finance payments deficits without adhering to policy conditions. For these reasons, it is generally considered that a growing need for finance should be met by augmenting the resources of the General Department rather than by SDR allocation. The Fund's lending programs promote balance of payments adjustment and thereby help to constrain the future growth of members' need for finance. This principally self-limiting character of conditional lending is seen to justify a full response in securing the necessary resources for meeting an existing or emerging global need for finance.

The question of the appropriate balance between the principal sources of funds for the provision of finance to members--quota increases and borrowing--has also been widely discussed, both by Governors at the Fund's last Annual Meeting and by Executive Directors at meetings of the Board on various pertinent subjects and of the Committee of the Whole on the Eighth General Review of Quotas. Strong emphasis was given in these fora to the use of quota increases rather than borrowed funds in securing resources for the Fund's lending operations. It will be assumed in this paper that this view will prevail throughout the quota negotiations and that quotas will be determined in the light of that preference. The implications of some variation in this degree of emphasis will be discussed in the latter part of the paper.

Since allocated SDRs, as a reserve asset, may be used at the discretion of the holder to provide unconditional balance of payments finance, SDR allocations do not by themselves promote balance of payments adjustment. According to the Articles of Agreement, as well as for the reason just mentioned, SDRs are allocated in response to a global need to supplement existing reserve assets rather than for the express purpose of meeting a need for finance. Nevertheless, just as lending to members incidentally generates Fund-related reserve assets, so SDR allocations also provide potential finance to members. These relations must be taken into account in assessing the prospective needs for finance and for supplementing reserve assets, as is done in Section V of the paper.

III. Measuring the Size of the Fund

Through a variety of financial programs and facilities, the Fund contributes to the means available to members in a weak external position to finance deficits temporarily through the use of resources that they have not previously earned and simultaneously enables members with a sufficiently strong balance of payments and reserve position to obtain liquid international claims (reserve assets), instead of claims on deficit countries, in exchange for the resources made available by them. The total amount of resources that has actually been transferred in this way from some members to others through the agency of the Fund will here be called "use of the Fund." 1/

The resources provided to members by, or through, the Fund derive from a number of sources. Those provided by the Fund's General Department or through the Trust Fund stem mainly from members' quota subscriptions (in the form of currencies, gold, and SDRs) and from the proceeds of borrowing by the Fund. Resources transferred through the SDR system are provided by members accepting SDRs beyond their allocations and by other authorized holders of SDRs, as well as by the General Department of the Fund. It must be stressed that the present economic analysis leaves out of account certain legal distinctions that are important in other contexts, for instance, the difference between assets to which the Fund has acquired title and those that it merely administers, or that between claims on the Fund itself and claims on others resulting from transactions arranged through the Fund. As used here, "use of the Fund" is intended simply to denote Fund involvement in the transfer of resources covered under that heading, without any indication as to whether the Fund is acting as principal, trustee, or in some other capacity.

The extent to which the Fund provides reserve assets to members is related to the use of the Fund. It is measured by the total of "Fund-related reserve assets," which consist of countries' SDR holdings, the

1/ A small part of the resources so transferred stems from lending to the Fund by Switzerland and from holdings of SDRs by "other holders" (non-members).

reserve tranche purchases that members can make, and lending by members or other countries to the Fund that is readily repayable or transferable. 1/

The size of the Fund as a financial entity can be thought of as the maximum exercise of its financial functions that is possible with given quotas, borrowing arrangements, SDR allocations, and other resources contributed by members for particular purposes. Since the provision of balance of payments finance is emphasized in this paper, the size of the Fund will be measured primarily by the maximum use of the Fund that would be possible with the resources at the disposal of members through Fund policies and facilities. This concept can be supplemented by a measure of the maximum amounts of Fund-related reserve assets that could be provided to members on the basis of the available resources. The actual use of the Fund, and the actual holdings of Fund-related reserve assets, are likely to fluctuate with world economic conditions, the size and distribution of payments imbalances, and various other ephemeral circumstances. By contrast, the evolution of the maximum use of the Fund, and of the maximum reserve provision, is not influenced by these variations and depends chiefly on the available resources. The remainder of this section will first present the historical record of the use of the Fund and then trace the evolution of the size of the Fund.

Use of the Fund, 1950-81

The use of the Fund by its members as of September 30, 1981, as well as the sources of this financial support, are illustrated in Table 1, which represents a financial statement for the Fund membership as a whole. 2/ It is convenient to begin with the "uses" side of Table 1, since this table was constructed by first identifying the various uses of Fund-related resources by members and then, as a second step, ascertaining their sources.

The use of SDRs shown in the table (item B.1(a)) is the amount by which the holdings of some members are below their cumulative allocations. One purpose for which SDRs were used, chiefly in December 1980, is subscription payments to the Fund, which for some members established or increased a reserve position in the Fund. It might be considered that uses of SDRs producing that effect should be excluded from the use of Fund resources, as no net use of these resources is involved. Such an exclusion would not be warranted, however, as the alternative to using SDRs from holdings to make subscription payments would be using other assets to acquire the SDRs needed for those payments.

1/ In the statistics on official reserves in International Financial Statistics, short-term lending under the policy of enlarged access to Fund resources (EAR) is included with foreign exchange, while other lending and reserve tranche purchases that can be made comprise "reserve positions in the Fund."

2/ Some items that are small in size, such as the subsidy accounts, have been omitted to simplify the presentation.

Table 1. Sources and Uses of Resources Provided by or Through the Fund,
End of September 1981 ^{1/}

(In billions of SDRs)

A. Sources		B. Uses	
1. Fund resources applied	13.4	1. Use of Fund-related reserve assets	9.0
Gross resources derived from			
Subscriptions	60.7	(a) Use of SDRs ^{2/}	7.0
Reserve tranche positions ^{3/} ^{4/}	(14.6)	(b) Drawings outstanding against	
Currencies issued by members	(46.1)	reserve asset subscriptions ^{5/}	2.0
Retained earnings	0.9		
Total holdings	61.6	2. Use of Fund credit	12.0
Less: Remaining holdings		(a) Low-conditionality facilities	4.4
Gold	3.6	(i) Compensatory financing facility	(3.2)
SDRs	5.2	(ii) Buffer stock facility	(—)
Currencies ^{6/}	39.3	(iii) Oil facilities	(1.2)
Total remaining	48.1	(iv) Other drawings not subject to upper- credit-tranche conditionality ^{7/}	(...)
2. Fund borrowing ^{4/}	5.7	(b) Higher-conditionality facilities	7.6
(a) General arrangements to borrow		(i) Upper-credit-tranche drawings ^{8/}	(5.3)
(GAB)	0.8	(ii) Extended Fund facility	(2.3)
(b) Oil facilities	1.1		
(c) Supplementary financing facility		3. Trust Fund loans	3.0
(SFF)	3.0		
(d) Enlarged access policy (EAR)	0.8		
3. SDR holdings above allocations			
(excluding General Resources Account)	1.8		
SDR holdings			
General Resources Account	5.2		
Countries ^{4/}	16.2		
Total allocations	21.4		
Less: Members' holdings at or below			
allocations and General			
Resources Account's holdings	19.7		
4. Trust Fund resources	3.0		
Total sources	23.9	Total "use of the Fund"	23.9

^{1/} Details may not add to totals because of rounding.

^{2/} Use of SDRs is defined analogously to use of resources of the General Department, i.e., the shortfall of SDR holdings below cumulative allocations for those members that have such a shortfall. At the date shown, use of SDRs so defined was much larger than it had been before December 1980, the month in which almost all members used SDRs to pay the reserve asset subscriptions associated with the quota increases that became effective in November 1980. Similar payments were made by a few members in 1978, when the quota increases decided in the Sixth General Review of Quotas became effective. In the absence of these subscription payments, the use of SDRs as of September 30, 1981 would have been SDR 3.9 billion. The sum of SDR holdings of the General Resources Account (SDR 5.2 billion) and of members' SDR holdings above allocations (SDR 1.8 billion) on the "Sources" side equals the figure for use of SDRs on the "Uses" side (SDR 7.0 billion).

^{3/} Reserve tranche positions, which show the amount of reserve tranche purchases that members can make, reflect the net provision of reserve assets to or through the Fund's General Department, excluding lending to the Fund.

^{4/} Countries' official holdings of Fund-related reserves (SDR 36.6 billion) comprise reserve tranche positions, lending to the Fund, and SDRs.

^{5/} This item is the sum for all members of any shortfall of the reserve tranche purchases a member can make from its reserve asset subscription; it indicates the net use of reserve asset subscriptions (including repurchases on subscription account) that members have already made. A more familiar measure of net use of reserve assets in the General Resources Account would be reserve tranche purchases outstanding; such purchases made since the Second Amendment of the Articles, however, are not subject to repurchase, and thus their "net" amount (i.e., the amount not yet repurchased) is no longer a meaningful quantity.

^{6/} Excluding Fund claims taking the form of Fund currency holdings that are subject to repurchase by the issuing members.

^{7/} Data on these drawings are in preparation but are at present not separately available from upper-credit-tranche drawings, with which they are included in this table.

^{8/} Include drawings under 2(a)(iv); see footnote 7 above.

Drawings outstanding against reserve asset subscriptions (item B.1(b)) measures the use that members have made of the reserve assets subscribed by them. It is the aggregate amount by which the reserve tranche purchases that members could make falls short of the amount of gold, SDRs, and the currencies of other members that they paid to the Fund on subscription account.

Other types of uses listed in the table are largely self-explanatory. The use of Fund credit (item B.2) is a familiar concept that measures the amount of reserve assets that have been made available to members and have not yet been returned to the Fund. With respect to Trust Fund loans (item B.3), it may be noted that the resources lent are not actually owned by the Fund but are administered by it.

As regards the sources of funds used by members, all of the resources of the General Department of the Fund stem from the capital subscribed to it and from its retained earnings, supplemented by resources that the Fund has borrowed (items A.1 and 2). The Fund's financial assets are mostly fungible, and indeed the great majority of transactions and operations take the form of an exchange of one asset for another; for example, drawings on the Fund involve the purchase by a member with its own currency of SDRs or the currencies of other members held by the Fund. For this reason, it is not possible to identify the financing of the use of Fund-related assets and Fund credit with specific assets that were available to the Fund, except that resources derived from borrowing have been employed in full.

Part of the use of SDRs identified on the "uses" side of Table 1 is financed through the holdings by some members in excess of allocations and by holdings of "other holders" of SDRs (item A.3). 1/ The remainder, which is at present the largest part, is financed by SDR holdings of the General Resources Account (shown under item A.1).

The resources of the Trust Fund (item A.4) have been contributed by members in connection with the program of sale of part of the Fund's gold and through other contributions or have been earned on the Trust Fund's investments. Practically the entire amount of these resources entrusted to the Fund for administration has been used to make the Trust Fund loans shown in item B.3.

Altogether, resources totaling about SDR 24 billion were provided by or through the Fund as of September 30, 1981--about one half in the form of Fund credit and almost one third as use of SDRs. Somewhat more than half of the total amount derived from assets owned by the Fund, and an additional portion of nearly one quarter represented resources borrowed by the Fund for relending to members. The remaining sources are the holdings of SDRs above allocations by participants and other holders (excluding the Fund itself) and the contributions to the Trust Fund.

1/ Holdings of "other holders" as of September 30, 1981, at SDR 9 million, were too small to show up in the rounded figures of Table 1.

The evolution of the use of the Fund since 1950 is shown in Table 2. Total use has risen rapidly in the last decade, after much slower growth in the first quarter-century of the Fund's operation. The total of re-resources provided to members through the Fund doubled from the end of 1970 to the end of 1975 and doubled once more between that date and the end of September 1981. Since the mid-1970s, use of borrowed resources has made a significant contribution to the total of available resources, but its share in that total has tended to decline over the last five years. A similar relative decline can be observed in members' holdings of SDRs above allocations. The growth in the use of the Fund from 1975 to date thus largely took the form of an increase in the use of the resources obtained from quota subscriptions and of the Trust Fund resources that were made available during this interval.

During the 1970s, the extension of Fund credit has been the dominant part of the use of the Fund. From 1975 to the end of 1980,^{1/} the larger part of Fund credit was disbursed under special facilities, chiefly the compensatory financing facility and the oil facilities, which are subject to lower conditionality than ordinary credit tranche drawings. Financing through these facilities has, however, continued to diminish in both absolute and relative importance since the peak reached in 1976-77.^{2/} By the end of September 1981, outstanding drawings under upper-credit-tranche conditionality, including drawings under the extended Fund facility and drawings financed with resources of the supplementary financing facility and the enlarged access policy, came to exceed the drawings outstanding under the special low-conditionality facilities by a very substantial margin. New lending commitments and expected repayments indicate a continuation of this trend.

In the last several years, the use of the Fund was augmented by the rapid rise in Trust Fund loans from 1977 to 1981. The resources of the Trust Fund have now been fully committed, however, and its operation has been terminated.

The use of SDRs rose sharply at the end of 1980. As discussed earlier, this resulted from the payment of SDRs to the General Resources Account as part of members' quota subscriptions. Net financing of SDR use by some members through the acquisition of SDRs by other members in excess of their allocations changed very little since 1975. The absolute amount of this direct transfer of resources from members accepting SDRs to members using them appears to have been unaffected by the growth in the amount of allocated SDRs, which has more than doubled from the end of 1978 to September 1981. An appreciable part of the increase, of course, was absorbed by the Fund, as a consequence of its decision to build up and maintain its own holdings.

^{1/} On a commitment basis, the shift toward greater use of high conditionality arrangements would appear in 1979.

^{2/} The resources obtained under the oil facilities were fully utilized by May 1976.

Table 2. Sources and Uses of Resources Provided by or Through the Fund,
End of Selected Years 1950-80 and End of September 1981 ^{1/}

(In billions of SDRs)

	1950	1960	1970	1975	1976	1977	1978	1979	1980	Sept. 1981
Total sources = total "use of the Fund"	0.8	0.9	5.9	11.8	17.8	18.4	16.9	15.2	20.8	23.9
A. Sources										
1. Fund resources from sub- scriptions and retained earnings	0.8	0.9	4.8	5.2	9.1	8.5	7.7	7.5	11.5	13.4
2. Fund borrowing	—	—	0.7	4.8	6.7	8.2	6.4	3.9	4.2	5.7
3. SDR holdings above allocations (excluding General Resources Account)	—	—	0.4	1.8	2.0	1.5	2.0	2.4	2.5	—
4. Trust Fund resources	—	—	—	—	—	0.2	0.8	1.4	2.6	3.0
B. Uses										
1. Use of Fund-related reserve assets	0.6	0.5	2.7	4.4	5.2	5.1	5.8	5.8	9.7	9.0
(a) Use of SDRs	(—)	(—)	(0.7)	(2.4)	(2.7)	(2.7)	(3.2)	(3.3)	(7.1)	(7.0)
(b) Drawings outstanding against reserve asset subscriptions	(0.6)	(0.5)	(2.0)	(2.0)	(2.5)	(2.4)	(2.6)	(2.5)	(2.6)	(2.0)
2. Use of Fund credit ^{2/}	0.2	0.4	3.2	7.4	12.6	13.1	10.3	8.0	8.5	12.0
(a) Low conditionality	(—)	(—)	(0.1)	(5.5)	(9.4)	(9.2)	(8.0)	(5.7)	(4.7)	(4.4)
(b) Higher conditionality	(0.2)	(0.4)	(2.9)	(1.8)	(3.2)	(4.1)	(2.3)	(2.1)	(3.7)	(7.6)
3. Trust Fund loans	—	—	—	—	—	0.2	0.8	1.4	2.6	3.0
Memorandum: Supply of Fund-related reserves	1.7	3.6	10.8	21.4	26.4	26.2	22.9	24.2	28.6	36.6
Reserve positions in the Fund	(1.7)	(3.6)	(7.7)	(12.6)	(17.7)	(18.1)	(14.8)	(11.8)	(16.8)	(20.6)
SDR holdings	(—)	(—)	(3.1)	(8.8)	(8.7)	(8.1)	(8.1)	(12.5)	(11.8)	(16.2)

^{1/} The classification of sources and uses of resources shown in this table corresponds to that elaborated in Table 1, where additional detail and definitions are provided.

^{2/} For some years, use of Fund credit slightly exceeds the sum of the two components shown by the amount paid in members' own currencies for charges and for gold distributed to members.

Viewed over an extended time span, the use of the Fund and the supply of Fund-related reserve assets have both increased relative to Fund quotas. This development is illustrated below:

End of Period	Use of the Fund	Supply of Fund-Related Reserve Assets	Fund Quotas	Ratio to Fund Quotas	
				Use of the Fund	Supply of Fund-related reserve assets
(In billions of SDRs)			(Per cent)		
1950	0.8	1.7	8.0	10	21
1960	0.9	3.6	14.7	6	24
1970	5.9	10.8	28.4	21	38
1980	20.8	28.6	59.6	35	48
Sept. 1981	23.9	36.6 1/	60.7	39	60

^{1/} Composed of reserve tranche position (SDR 14.6 billion), Fund borrowing (SDR 5.7 billion), and SDRs held by countries (SDR 16.2 billion).

The rise in the ratio of the use of the Fund to aggregate quotas in the last two decades can be ascribed to several factors, chiefly to more intensive utilization of quota resources, use of borrowed resources, and establishment of the SDR system and the Trust Fund. The provision of Fund-related reserve assets increased more rapidly than the total of quotas, mainly because of SDR allocations and the rise in the use of Fund credit.

Evolution of the size of the Fund, 1950-81

As discussed earlier, the size of the Fund is here measured primarily by the maximum possible use of the Fund that members could make on the basis of given quotas, SDR allocations, etc., if economic circumstances warranted it. For an assessment on that basis, a distinction must be made between those arrangements for the supply of resources that can, in principle, be utilized up to the full amount specified in the arrangement and those that, because of their mutual character, can be used only up to some proportion of the stated amount. The arrangements for borrowing under the oil facilities provide an example of the first kind: as long as none of the potential lenders develops a balance of payments position justifying suspension of its commitment, the agreed total amount of the arrangements with all lenders is available for the purposes specified. ^{1/} Quota

^{1/} Indeed, the total of commitments to the Fund under the oil facility arrangements (SDR 6.9 billion at the peak in 1976) were fully used in drawings under these facilities.

subscriptions paid to the Fund in members' currencies are the most important example of the second kind of arrangement. At any time, only part of the resources derived from currency subscriptions is in fact available to be used by members, because the currencies of members that are in need of balance of payments assistance are not ordinarily used. 1/

The proportion of such mutual commitments that is potentially available to finance balance of payments deficits of some of the participants cannot be determined precisely, because it depends not only on the rules governing access to the resources in question but also on balance of payments conditions of participating members, in particular, on the distribution of surpluses and deficits in relation to the distribution of the commitments in question (e.g., of quotas).

As regards the potential use of quota resources, a number of additional elements must also be considered, chiefly the "usability" of the Fund's holdings of SDRs and gold. In the following analysis, it will be assumed that SDRs held by the General Account are fully available to be included in drawings and that the gold held by the Fund would not be sold to obtain resources for drawings. 2/ The latter assumption implies that the size of the Fund will be assessed by estimating the amount of finance that could be provided to members without using the Fund's remaining gold holdings.

The maximum amount of balance of payments finance that the Fund could ordinarily provide to its members can be assessed by estimating the proportion of Fund members, weighted by their quotas, that could in ordinary circumstances be expected to be simultaneously in balance of payments surplus, so that their currencies could be used in drawings, while the remaining members would be in balance of payments deficit and could thus in principle be eligible to make drawings. This approach is appropriate when the drawings that members can make are sufficiently large relative to quotas for total potential drawings to be constrained by the Fund's holdings of the currencies of surplus countries 3/ rather than by any ceiling on the drawings of deficit countries. At present, the former is clearly the operative constraint on the amount of balance of payments finance available from quota resources. For the first decade and a half

1/ Because of the asymmetrical formulation in the Articles of Agreement of the requirement of need and the obligation to provide currency, a member could in principle be eligible to use the Fund's resources and, at the same time, be obligated to provide currency.

2/ The resources of the Trust Fund stemmed largely from the sale of a portion of the Fund's gold, and these resources were, of course, included in the total use of the Fund shown in Tables 1 and 2. There were also some sales of gold, mainly for the purpose of replenishing the Fund's holdings of currencies, but no account will be taken here of the relatively small amounts involved.

3/ Possibilities that may exist for augmenting these holdings through borrowing or replenishment are taken into account separately.

of the Fund's history, when members' total drawings were ordinarily limited to 125 per cent of quota, ^{1/} this ceiling, too, constituted a potential limit on the maximum amount of balance of payments finance that the Fund could conceivably make available; for this earlier period, this second constraint must thus also be observed in estimating the maximum amount of finance that could be provided from quota resources.

The proportion of aggregate quotas accounted for by members in surplus has fluctuated from year to year within a fairly wide range. In a sample of 92 Fund members for which annual estimates of the current account balance and the overall payments balance are readily available for a sequence of 15 years (1966-80), members in current or overall surplus accounted for as large a proportion of quotas as two thirds or slightly higher in several years while falling to a quota share as low as one fourth in other years. ^{2/} What is relevant in the present context, however, is the quota share of members that may be expected to be in surplus continuously over a period of several years, so that their currencies can be made available to members in deficit for the duration of the programs supported by the Fund. On the basis of the data, and their averages, shown in footnote 2 below, a plausible assumption to make in this respect would seem to be that members accounting for one half of aggregate quotas might ordinarily be expected to be in surplus for a sufficiently long period to make their currencies usable in extending Fund credit to members in deficit. This assumption also satisfies the constraint with respect to the limit on members' drawings in the

^{1/} Before the creation of the compensatory financing facility in 1963, Fund holdings of a member's currency were ordinarily limited to 200 per cent of the member's quota, which permitted the drawing of the "gold tranche" and up to four credit tranches of 25 per cent each.

^{2/} The current account balance is defined as the balance of goods, services, and private transfers. The overall balance is defined as the balance on current and capital account, official transfers, and net errors and omissions. Members are classified as being either in surplus or in deficit. For each year, the aggregate quota share of those of the 92 members that were in surplus is shown below (CS = current account surplus, OS = overall surplus):

(In per cent)

Year	CS	OS	Year	CS	OS	Year	CS	OS
1966	63	59	1971	66	68	1976	51	39
1967	50	29	1972	47	53	1977	37	58
1968	49	67	1973	65	51	1978	42	51
1969	62	71	1974	43	27	1979	52	61
1970	67	68	1975	50	24	1980	46	43

These 92 members accounted for 95 per cent of the quotas of all members in 1966 and for 88 per cent in 1980. For the entire 15-year period, the averages of the quota shares of members in surplus are 52.7 per cent and 51.3 per cent for current account and overall surpluses, respectively.

earlier part of the Fund's history. 1/ With average Fund holdings of members' currencies, apart from borrowed currencies, being at present approximately 85 per cent of quota, and the Fund's SDR holdings equal to 8 per cent of aggregate quotas, the maximum possible drawings under these assumptions would be about 50 per cent of total quotas. 2/ Since Fund members in balance of payments deficit accounting for 50 per cent of total quotas could draw this amount, the average outstanding drawing would be equivalent to 100 per cent of quota. The contribution of quota resources to the size of the Fund estimated by the method just described is shown in the third line of Table 3.

This estimate of the portion of the Fund's capacity to provide finance that is attributable to quota resources may be compared with data on the supply of the Fund's usable resources which have been prepared for recent periods in connection with quarterly reviews of the Fund's liquidity position. 3/ The difference between the amount of finance that could be provided from quota resources, as shown in Table 3, and the actual use, as given in Table 2, can be seen to represent the Fund's remaining holdings of resources that could be employed. It thus somewhat resembles, at least in general concept, the estimates for the "adjusted balance of usable resources" that appear in the liquidity papers. 4/ The following tabulation compares the two sets of data (in billions of SDRs):

	End of 1980	Sept. 1981
Quota resources (Table 3)	30.8	31.1
Less: Use of resources (Table 2)	<u>11.5</u>	<u>13.4</u>
Difference	19.3	17.7
Adjusted balance of usable resources (EBS/80/272 and EBS/81/226)	20.5 <u>1/</u>	21.0 <u>2/</u>

1/ The figure refers to "November-December 1980 (after quota increase)."

2/ The figure refers to the period beginning November 1, 1981.

1/ With Fund holdings of members' currencies averaging about 80 per cent of quotas in the earlier part of the Fund's history, currencies of surplus countries accounting for 50 per cent of quota would amount to 40 per cent of quota ($0.80 \times 0.50 = 0.40$). If these currencies were fully drawn by the remaining members, which account for 50 per cent of quotas, they would on average draw 80 per cent of their quotas ($0.40/0.50 = 0.80$).

2/ Fund holdings of currencies of members accounting for 50 per cent of aggregate quotas, each at an average of 85 per cent of quota, is equivalent to 42.5 per cent of aggregate Fund quotas of all members, to which the Fund's SDR holdings of some 8 per cent of aggregate quotas must be added. These figures apply to 1981. For earlier years they are somewhat different because of the Fund's smaller SDR holdings as a percentage of aggregate quotas. See also footnote 2 to Table 3, p. 15.

3/ See, for example, "The Fund's Liquidity Position and Financing Needs" (EBS/81/226, 11/20/81).

4/ The method of calculating those estimates is described in EBS/81/226, Table 1, footnote 1.

Table 3. Analysis of the Size of the Fund: Maximum of Available Resources by Source,
End of Selected Years 1950-80 and End of September 1981

(In billions of SDRs)

	1950	1960	1970	1975	1978	1979	1980	Sept. 1981
SDR Department <u>1/</u>	--	--	1.7	4.7	4.7	6.7	8.7	10.7
General Department (excluding gold)	3.3	6.2	15.3	21.1	26.5	32.1	43.9	48.5
Quota resources (excluding gold) <u>2/</u>	3.3	6.2	12.2	12.2	18.0	18.1	30.8	31.1
Borrowing arrangements								
GAB (50 per cent) <u>3/</u>	--	--	3.1	2.7	3.5	3.4	3.4	3.2
Oil facilities (100 per cent)	--	--	--	6.2	5.0	2.8	1.9	1.1
SFF (100 per cent)	--	--	--	--	--	7.8	7.8	7.8
EAR (100 per cent)	--	--	--	--	--	--	--	5.3 <u>4/</u>
Trust Fund resources (100 per cent)	--	--	--	--	0.8	1.4	2.6	3.0
Total excluding gold	3.3	6.2	17.0	25.8	32.0	40.2	55.2	62.2
Memorandum items:								
Fund gold at book value (SDR 35 per ounce)	1.5	2.4	4.7 <u>5/</u>	5.4	4.1	3.7	3.6	3.6
Potential supply of Fund-related reserves <u>6/</u>	4.0	7.4	20.7	32.8	37.3	46.8	60.3	69.2

1/ Calculated as one half of allocations (see text).

2/ Calculated as the sum of total Fund holdings of SDRs plus 50 per cent of Fund holdings of currencies excluding the counterparts of borrowings (see text).

3/ It is assumed that up to one half of the GAB commitments could be used at a given time.

4/ Including SDR 4 billion of the amount committed by the Saudi Arabian Monetary Agency.

5/ Including gold investment.

6/ Sum of SDR allocations, Fund borrowing arrangements, and 50 per cent of quotas (see text).

At least in this recent period--the only one for which comparable estimates are available--the two quite different methods of calculation actually produce results that are rather similar. The element for quota resources that is included in the size of the Fund, which is intended to reflect a notion of average experience over the whole existence of the Fund, appears currently to be understating by a moderate amount the finance that the Fund could still make available from its currency and SDR holdings.

Maximum use of quota resources as a component of the size of the Fund thus embodies a concept of usable resources that is similar to the one regularly used in assessing the Fund's liquidity. A different technique is, however, applied in estimating it. First, the concept used in this paper is employed to assess the Fund's capacity in providing balance of payments finance and, for this reason, is oriented toward the balance of payments criterion of a member's need for finance or ability to provide it. The concept appropriate for the analysis of the Fund's liquidity is defined by the double criterion of a member's balance of payments and reserve position. For this reason alone, the two measures should not be expected to be congruent. Second, maximum use combines all resources available, without distinction as to whether they have already been disbursed or still remain to be used. The size of the Fund, therefore, is not affected by any actual or assumed changes in the intensity of use of its resources or in the country configuration of payments imbalances. This degree of abstraction, which would not seem satisfactory for appraising the Fund's liquidity for operational purposes, is an advantage in estimating and projecting the size of the Fund in the present context.

Like the maximum possible use of resources obtained through quota subscriptions, the maximum use of SDRs relative to cumulative allocations is also strongly influenced by the relationship between the quotas of the participants with surpluses and those with deficits. Because participants in a sufficiently strong position are obligated to provide currencies against SDRs up to an amount twice their cumulative allocations, 1/ which show a distribution similar to that of quotas, 2/ the potential use of SDRs for balance of payments finance would tend to reach a maximum when surplus countries accounting for one third of aggregate quotas accept the SDRs allocated to deficit countries accounting for two thirds of quotas. The maximum use of SDRs is subject to the same constraint, however, as the maximum use of quota resources, namely that only one half of the membership, by quota, would ordinarily be expected to be in deficit for any period of several years. Moreover, if a larger portion of the membership were assumed to be in deficit at a certain time, so that the use of SDRs could exceed one half of cumulative allocations, the use of quota subscriptions would at that time be less than the maximum assumed to be attainable

1/ In addition, the Fund and members may reach agreement providing for acceptance of SDRs above the mandatory limit.

2/ Although each year's allocation is proportional to quotas, cumulative allocations are not strictly proportional to quotas in effect on any given date.

when members accounting for one half of aggregate quotas are in surplus. A joint maximum of use of quota resources and of SDRs requires that a common balance of payments configuration be assumed for both calculations. This means that maximum use of SDRs will be assumed to equal one half of the amount cumulatively allocated. 1/

As already indicated, most borrowing arrangements can be used in their entirety, unless the balance of payments position of one or more of the participants were to deteriorate unexpectedly. The General Arrangements to Borrow (GAB), however, are a mutual arrangement, under which participants experiencing difficulties are to be financed by the other participants. Only a part of the agreed total amount can, therefore, actually be used at any one time. In consideration of the countries that are covered by the GAB and the historical pattern of their payments imbalances, a figure of one half of the total has been chosen to represent the maximum borrowing that might be plausible.

Estimates of the size of the Fund arrived at by applying the foregoing considerations to the various assets and arrangements that enable the Fund to contribute to members' balance of payments finance are shown in Table 3 and Chart 1. While the SDR system has contributed substantially to the growth of the size of the Fund through the allocations of 1970-72 and 1979-81, the contribution of the resources of the General Department, augmented by various borrowing arrangements, has grown equally rapidly in recent years. The contributions of the SDR system and of the Fund's general resources, excluding gold but including borrowed resources, have both approximately doubled from the end of 1975 to the end of 1980.

The summary tabulation below shows, first, that the use of the Fund has increased somewhat faster than the size of the Fund except for a very low value of the use of the Fund relative to quotas in 1960; and, second, the size of the Fund has grown relative to aggregate quotas:

1/ For recent periods, some upward adjustment could be made in the proportion of the cumulative SDR allocations considered to provide potential finance to members in deficit at a given time in recognition of the fact that SDR holdings by other (i.e., nonmember) authorized holders add further to this potential. While in principle there is no limit to the additional amount which could be absorbed by other holders, no upward adjustment has actually been made, because experience has as yet provided no guidance as to its size.

SDR holdings of the General Resources Account are not separately counted as adding further to the potential finance provided by the SDR system, since these holdings are part of the quota resources already counted in the contribution of the General Department to the maximum possible use of the Fund.

	Use of	Size of	Fund	Ratios	
	the Fund	the Fund	Quotas	(1)/(2)	(2)/(3)
	(1)	(2)	(3)	(1)/(2)	(2)/(3)
	(In billions of SDRs)			(In per cent)	
1950	0.8	3.3	8.0	24	41
1960	0.9	6.2	14.7	15	42
1970	5.9	17.0	28.4	35	60
1980	20.8	55.2	59.6	38	93
Sept. 1981	23.9	62.2	60.7	38	102

From the decade of the 1950s--as shown in the figures for both 1950 and 1960--to the end of 1980, the size of the Fund more than doubled relative to quotas, as seen in the last column above. This is to say that the growth of quotas has fallen considerably behind the evolution of other sources contributing to the size of the Fund. An assessment of the implications of this evolution will be postponed until the last section, after the growth of the Fund has been compared with the growth of other relevant aggregates.

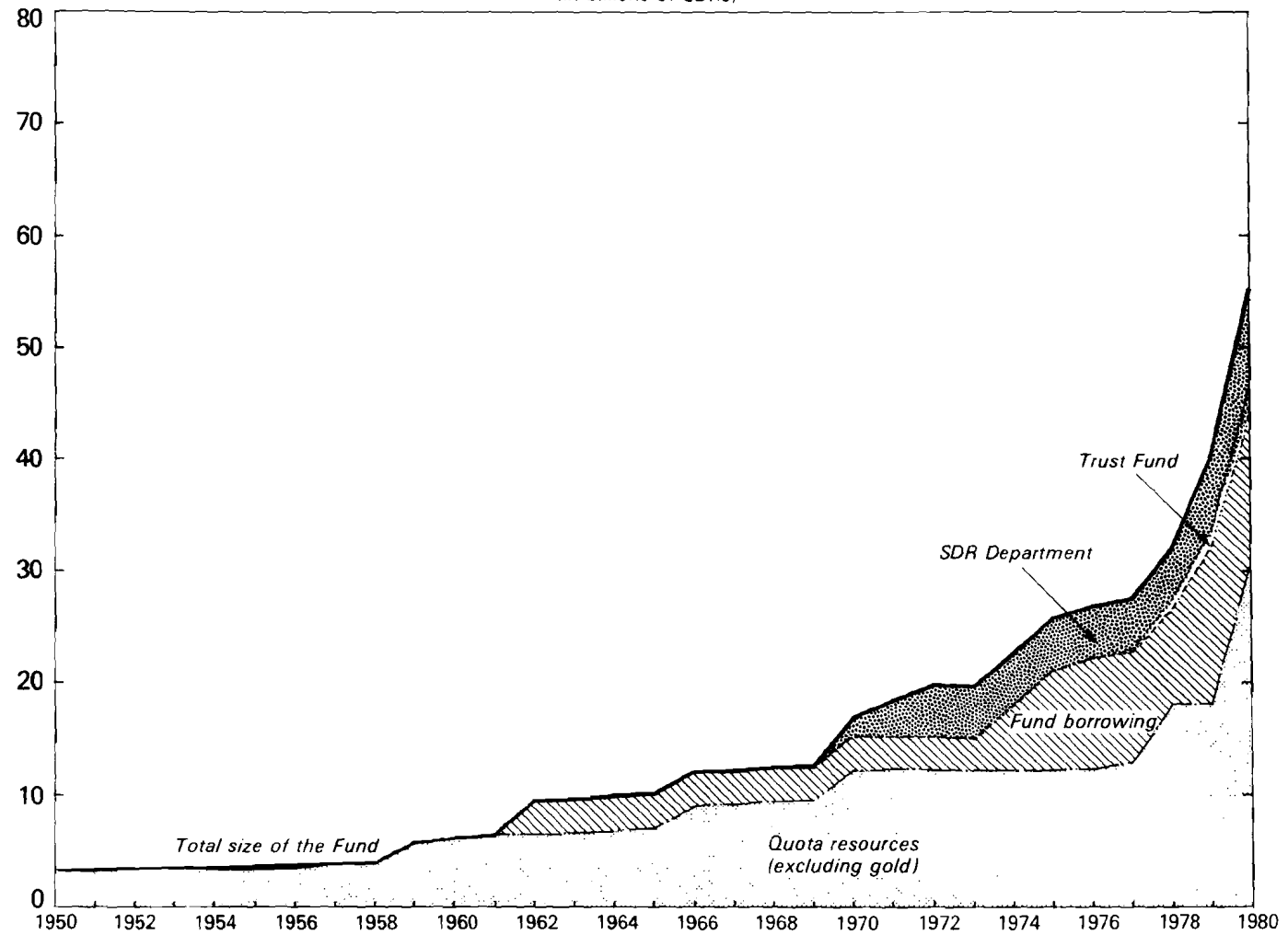
The potential supply of Fund-related reserves may be assessed by applying a procedure similar to that used for estimating the size of the Fund in its role as a supplier of finance. ^{1/} Potential reserve tranche positions of surplus countries may be estimated with the help of the same assumptions that are used in quantifying maximum possible drawings on the Fund. It has thus been assumed that the currencies of members accounting for 50 per cent of quotas could be used in their entirety for drawings, so that their reserve tranche positions would equal their quotas.

The estimate that should be made for the reserve tranche position of other countries--those that are assumed to be making use of Fund resources--is not quite as clear. For 1950 and 1960, the deficit countries would have had to draw their "gold tranche" before making use of Fund credit, and their reserve tranche position would thus be zero by definition. During the more recent part of the period, however, members could retain their reserve tranche positions intact while making drawings under certain Fund facilities, and effective May 1, 1981 members have the option

^{1/} It should be noted that the potential supply of Fund-related reserves is not an indicator of the global creation of international liquidity that could have taken place through the Fund, since changes in the actual supply of Fund-related reserves could be accompanied by offsetting or reinforcing changes in other official holdings.

CHART 1
SIZE OF THE FUND AND PRINCIPAL COMPONENTS, 1950-80

(In billions of SDRs)



of retaining a reserve tranche position whenever they make use of Fund credit. With that provision, every country might at some time acquire a reserve tranche position equal to its quota and thereafter retain that position permanently. Under those circumstances, reserve tranche positions of deficit countries would also be equal to their total quotas. As this theoretical possibility applies only to the most recent date shown and could not have been realized by that time, it is not reflected in the table. Instead, the simplifying assumption is made that no deficit country had a reserve tranche position at any of the dates in question.

For SDRs, it can be assumed that the total allocation might be held by countries as reserves, apart from a possible need of the Fund for working balances, which has been disregarded. Finally, borrowing by the Fund from the authorities generates an equal amount of Fund-related reserves for the countries concerned, so that the amount assumed to be available under borrowing arrangements may be taken as their potential contribution to reserves.

The resulting estimate of the potential supply of Fund-related reserve assets is shown as a memorandum item in Table 3. This amount is in all recent years quite close to the Fund's maximum possible contribution to balance of payments finance, plus its gold holdings at book value. ^{1/} This parallelism is not unexpected, as the two measures are closely related. ^{2/} As a result, it is possible to conduct the discussion of the size of the Fund in terms of the Fund's maximum possible contribution to finance, without having to be concerned that an analysis of the size of the Fund in terms of its other financial objective, namely, the provision of reserve assets, would give markedly different indications.

IV. Size of the Fund in Perspective

The size of the Fund can be set in proper perspective by comparing it to measures of the size of the financial tasks to be undertaken by the Fund. These tasks, to repeat, include the provision to members of temporary balance of payments assistance and of reserve assets as the need arises. The size of the Fund, which reflects its ability to carry out these functions, can usefully be compared with three different types of indicator: first, members' payments imbalances; second, members' reserves and access to financial markets; and third, economic and financial aggregates that indicate the size of the international economy.

^{1/} For the end of years 1971-80, Fund-related reserve assets ranged from 3 to 7 per cent higher than the size of the Fund plus its gold holdings at book value. For that period as a whole, the average was 5 per cent higher, which was also the percentage for the end of September 1981.

^{1/} The maximum use of the Fund and the potential supply of Fund-related reserve assets both depend chiefly on the resources subscribed by members, Fund borrowing, and SDR allocations; the reserve positions in the Fund created by gold subscriptions reflect the book value of the gold.

Although all of these comparators relate in one way or another to the financial functions of the Fund, none of them is by itself a fully adequate indication for the appropriate size of the Fund. There may be good reasons for favoring a faster or a slower growth of the Fund's activities compared with other aggregates. The comparators are only elements that enter, together with other considerations, into an assessment of the appropriate size of the Fund. Some of these considerations are reviewed in Section V below.

Size of the Fund and magnitude of payments imbalances

Because a major role of the Fund is to assist its members by providing means for the financing of temporary balance of payments deficits, the magnitude of these deficits is an important indicator in the assessment of the appropriate size of the Fund. These overall imbalances must be financed through borrowing or through a change in reserve assets or liabilities. One drawback of the concept of an overall payments deficit is the difficulty encountered in defining it in a consistent manner for countries adhering to different exchange regimes and having different types of financial institutions and practices. For this reason, the current account balance (goods, services, and private transfers), which is conceptually more straightforward, is also employed in the following analysis. It turns out that use of these alternative concepts leads to similar conclusions.

In examining the size of these external imbalances as an indicator of the financial resources needed for their settlement, deficits and surpluses could be added separately for the countries in a particular sample and used as indicators for the amounts of resources needed and made available, respectively. If the sample of countries comprises a large part of the world economy, the sum of deficits tends to be close to the sum of surpluses; there are, however, certain inevitable statistical discrepancies, and for this reason it is convenient to use the sum of all imbalances--deficits and surpluses without regard to sign--as a single indicator of the scale on which finance is required.

The sum of current account imbalances of 111 countries (for which data on payments imbalances are available from 1962 forward) increased sevenfold from the annual average for 1962-65 to that for 1976-80 (Table 4).^{1/} In 1980, the sum of these imbalances, SDR 210 billion, was ten times the average for 1962-65. Recorded overall imbalances tended to be much smaller than current account imbalances, on average about 60 per cent of the latter. At this smaller scale, however, overall imbalances also grew rapidly, with the annual average increasing tenfold from the period 1962-65 to that of 1976-80, when it reached some SDR 80 billion.

^{1/} As the sum of imbalances tends to be quite variable from year to year (see Chart 2), annual averages for five-year periods (four years for the first available period) are presented in addition to the figures for individual years.

Table 4. Payments Imbalances, Imports, Size of the Fund, and Quotas, 1962-80 ^{1/}

	Annual Averages								
	1962-65	1966-70	1971-75	1976-80	1976	1977	1978	1979	1980
	(In billions of SDRs)								
Payments imbalances									
Current account ^{2/}									
111 countries	20	26	75	145	118	125	130	143	210
92 members	18	25	70	133	106	115	120	131	193
Overall balance ^{3/}									
111 countries	8	16	52	81	51	90	98	87	80
92 members	8	15	49	77	46	87	91	83	77
Merchandise imports									
111 countries	149	227	474	1,024	767	872	942	1,151	1,389
92 members	141	217	452	993	731	829	892	1,095	1,319
Size of the Fund	10	13	21	36	27	28	32	40	55
Quotas: 92 members	...	21	27	36	27	27	36	36	54
	(In per cent)								
Ratios									
Size of the Fund to imbalances									
Current account (111 countries)	50	50	28	25	22	22	25	28	26
Overall balance (111 countries)	125	81	40	44	53	31	33	46	69
Quotas to imbalances									
Current account (92 members)	—	84	39	27	26	24	30	27	28
Overall balance (92 members)	—	140	55	47	59	31	40	43	70
Payments imbalances to imports									
Current account (111 countries)	13	12	16	14	15	14	14	12	15
Overall balance (111 countries)	5	7	11	8	7	10	10	8	6

^{1/} The sums of payments imbalances and the data on imports are for the years shown, while figures on Fund size and quotas are for the end of corresponding years. When the values of stocks and flows are rising over time, ratios of year-end stocks to annual flows tend to be somewhat higher than the ratios of synchronized stocks and flows (e.g., annual average stocks and annual flows).

^{2/} Net balances on account of merchandise trade, services, and private transfers are summed for the indicated countries without regard to sign.

^{3/} Net balances on current and capital account, official transfers, and net errors and omissions are summed for the indicated countries without regard to sign.

It is worth noting that merchandise imports over the same time span grew not quite sevenfold, that is, at the same rate as current account imbalances and somewhat more slowly than overall imbalances (Table 4 and Chart 2). ^{1/}

The size of the Fund expanded less than fourfold from the average of 1962-65 to that of 1976-80 and consequently fell far behind the increase in payments imbalances. Over this period, the ratio of the average size of the Fund to average current account imbalances fell by one half and the ratio to average overall balances by almost two thirds. Fund quotas alone, which increased more slowly than the size of the Fund, declined even more sharply relative to the size of payments imbalances. From an average of 84 per cent in the period 1966-70, the ratio of the quotas of 92 countries that have been Fund members since 1966 to the sum of their current account imbalances fell by more than one half, to 39 per cent, in the years 1971-75 and to 27 per cent in the most recent five years. The decline in the ratio of quotas to the sum of overall imbalances was even more severe: while drawings equal to, say, 125 per cent of quota would in the years 1966-70 have financed the overall deficit of a "representative" member for 21 months, they would have covered that deficit on average for only seven months in the years 1976-80.

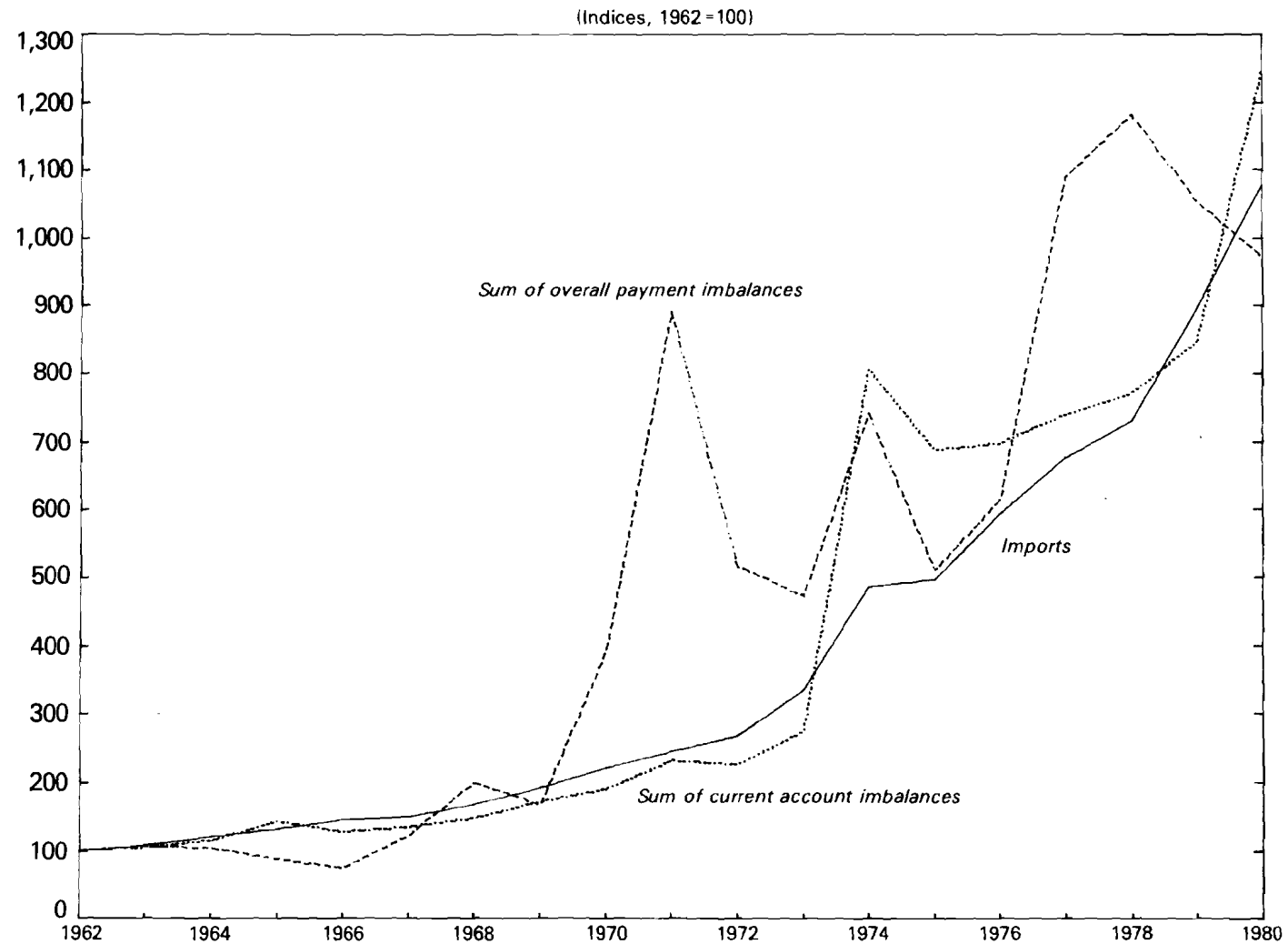
Size of the Fund and growth of international liquidity

Comparing the size of the Fund with the growth of payments imbalances has stressed the question of the adequacy of the Fund's resources in providing balance of payments finance to members; relating it to measures of international liquidity brings to the fore the responses that members and their financial institutions have made to the task of financing payments imbalances. Moreover, the Fund's provision of reserve assets should be seen in the perspective of the growth of members' total international reserves, which provide resources for the financing of payments imbalances that might arise in the future.

The magnitudes of official holdings of international reserve assets and outstanding amounts of international bank lending are compared with data relating to the size of the Fund in Table 5. The actual use of the Fund and the size of the Fund have both expanded much less rapidly than either of those aggregates, and quotas have lagged even further behind.

^{1/} The aggregate of quotas in the Fund has grown over time as a result both of general as well as special increases in the quotas of existing members and of an increase in membership. Since 1946, the membership has more than tripled, and since 1960 it has more than doubled. In order to avoid bias in long-run comparisons of quotas and other aggregates, it is advisable to examine data relating to constant samples of countries that have been Fund members for the chosen time period. Detailed data, using three constant samples of countries, can be found in Appendix Table 10 for 111 countries for which data on payments imbalances are available from 1962 forward; for 92 countries that have been Fund members during the period 1966-80; and for 50 Fund members for comparisons starting from 1956.

CHART 2
 SUMS OF CURRENT ACCOUNT AND OVERALL BALANCES,
 AND IMPORTS: 111 COUNTRIES, 1962-80¹



¹The sums of imbalances represent the summations of surpluses and deficits without regard to sign.

Table 5. Use of the Fund, Size of the Fund, and Related Financial Data,
End of Period, 1950-September 1981

	1950	1960	1970	1975	1978	1979	1980	Sept. 1981
(In billions of SDRs)								
Use of the Fund	0.8	0.9	5.9	11.8	16.9	15.2	20.8	23.9
Size of the Fund	3.3	6.2	17.0	25.8	32.0	40.2	55.2	62.2
Supply of Fund-related reserves								
Actual	1.7	3.6	10.8	21.4	22.9	24.2	28.6	36.6
Maximum	4.0	7.4	20.7	32.8	37.3	46.8	60.3	69.2
Quotas	8.0	14.7	28.4	29.2	39.0	39.0	59.6	60.7
SDR allocations	—	—	3.4	9.3	9.3	13.4	17.4	21.4
International reserves (excluding gold)	15	22	56	159	245	272	323	338
International bank lending: outstanding loans	...	...	88	222	411	505	635	...
(Indices, 1970 = 100)								
Use of the Fund	14	15	100	200	286	258	353	405
Size of the Fund	19	36	100	152	189	237	325	367
Supply of Fund-related reserves								
Actual	16	33	100	198	212	224	265	339
Maximum	19	36	100	159	180	226	291	334
Quotas	28	52	100	103	137	137	210	214
SDR allocations	—	—	100	274	274	394	512	629
International reserves (excluding gold)	27	39	100	284	438	486	577	604
International bank lending: outstanding loans	...	...	100	252	467	574	722	...

While international reserves and international bank lending have risen some six or seven times from 1970 to end-1980 or September 1981, the size of the Fund has increased only somewhat more than 3 times over the same period, while quotas barely more than doubled.

The actual supply of Fund-related reserve assets, as well as its maximum possible extension, expanded less than threefold in the decade of the 1970s, and somewhat more if the end of September 1981 is used as a cut-off point. As a consequence, the contribution of the Fund to total reserves, as well as its capacity so to contribute, declined severely. The ratio of Fund-related reserve assets to total non-gold reserves declined from 19 per cent at the end of 1970 to 9 per cent a decade later, and at the same time the ratio of the potential supply of these reserve assets to that total fell from 37 per cent to 20 per cent.

Size of the Fund and scale of the world economy

In assessing the adequacy of Fund quotas, it has been traditional to compare the size of quotas with the size of world imports, even though payments imbalances should be considered a more relevant comparator, albeit one that is less readily available and more difficult to forecast. The justification for using imports as a comparator in connection with quotas was illustrated in Table 4 and Chart 2 above: the size of payments imbalances has tended, in the long run, to grow at the same rate as world trade. In addition, however, the growth of world imports is also one of the principal general measures of the growth of the world economy.

The relation between the size of the Fund, as well as aggregate quotas, and world imports is shown in Table 6 and Chart 3. Both the size of the Fund and the sum of quotas have declined relative to world imports since the 1960s. This decline has been particularly sharp for quotas. Although the ratio of quotas to imports has held steady since 1976 by virtue of the last two quota increases, the current ratio is less than one half of that prevailing during the 1960s and even further below that of the 1950s. The ratio of the size of the Fund to imports has changed rather little from 1974 to date, but its average value during this seven-year period, 3.4 per cent, was over one third lower than the average ratio of 5.5 per cent during the preceding ten years.

The quota calculations made in the course of the periodic general reviews of quotas constitute a more broadly-based scale indicator than imports or other single variables, since these calculations combine several key variables reflecting the economic size of open economies, including national income, reserves, imports, and exports. ^{1/} The ratio of the size of the Fund to calculated quotas has varied, without distinctive trend, between 34 per cent (1978) and 54 per cent (1976). In 1980

^{1/} For a description of these calculations, see SM/81/151, especially pp. 5-13.

CHART 3
RATIOS OF SIZE OF THE FUND AND QUOTAS TO IMPORTS , 1950-80
(In per cent)

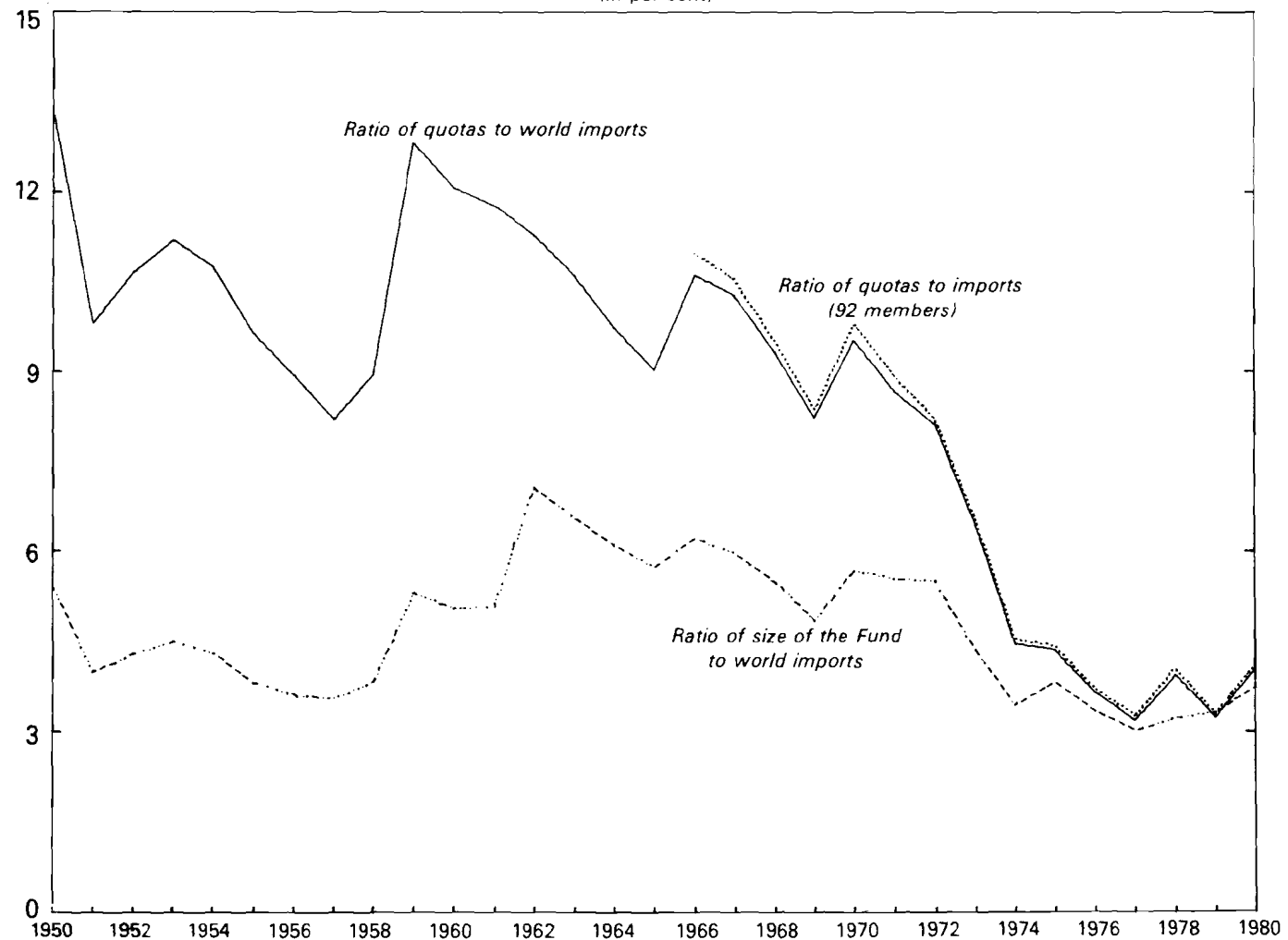


Table 6. Size of the Fund, Actual and Calculated Quotas, and Imports,
Selected Years, 1950-1980 ^{1/}

	1950	1959	1960	1965	1969	1970	1976	1977	1978	1979	1980
<u>(In billions of SDRs)</u>											
Size of the Fund	3	6	6	10	13	17	27	28	32	40	55
Quotas											
Actual	8.0	14.0	14.7	16.0	21.3	28.4	29.2	29.2	39.0	39.0	59.6
Calculated ^{2/}	--	17	--	19	29	--	50	--	95	--	142 ^{3/}
World imports	60	109	122	177	259	298	802	914	991	1,210	1,476
<u>(In per cent)</u>											
Ratios											
Size of the Fund to											
Imports	5	5	5	6	5	6	3	3	3	3	4
Calculated quotas	--	35	--	53	45	--	54	--	34	--	39
Actual quotas to											
Imports	13	13	12	9	8	10	4	3	4	3	4
Calculated quotas	--	82	--	84	73	--	58	--	41	--	42

^{1/} The years shown in this table were selected so as to use existing quota calculations made in connection with previous General Reviews of Quotas. Except for 1950 and 1980, which are included for comparison, the years selected are those in which the Board of Governors approved resolutions giving effect to quota increases under the Third to Seventh General Reviews of Quotas. Data for size of the Fund and quotas are for the end of the years shown.

^{2/} Calculated quotas are based on the Bretton Wood formula (reduced), which has been used since 1959. The calculation for 1959 is taken from SM/64/26, p. 17; all other calculations are taken from SM/81/151, p. 7.

^{3/} The calculation for 1980 was made in connection with preliminary work on the Eighth General Review of Quotas, and is the lowest of three alternative estimates shown in SM/81/151, p. 7.

(using the first set of calculations so far prepared for the Eighth Review), it was still close to the lower part of the range. ^{1/} The ratio of actual to calculated quotas declined in consecutive General Reviews from the fourth to the seventh (1965 to 1978), reaching in 1978 one half the value it had in 1965. The quota increases that became effective in 1980 as a result of the Seventh Review merely arrested the earlier decline by maintaining the ratio of actual to calculated quotas constant from the end of 1978 to the end of 1980.

Historical overview

Leaving aside the early years of the Fund--say, up to 1960--the size of the Fund has increased, but its growth has tended to lag behind that of the world economy and associated financial aggregates (Chart 4). The expansion of the size of the Fund has been achieved in part through the use of new mechanisms such as the SDR system, through access to additional resources under new borrowing arrangements, and through the partial mobilization of previously unused resources such as the Fund's gold holdings, from which a large part of the Trust Fund resources were derived. Quota resources alone increased more slowly than the Fund's overall capacity to provide finance to members, roughly doubling in the decade of the 1960s and rising by 150 per cent in the following decade, for a fivefold increase from 1960 to 1980, while world imports and non-gold reserves expanded by factors of 12 and 15, respectively.

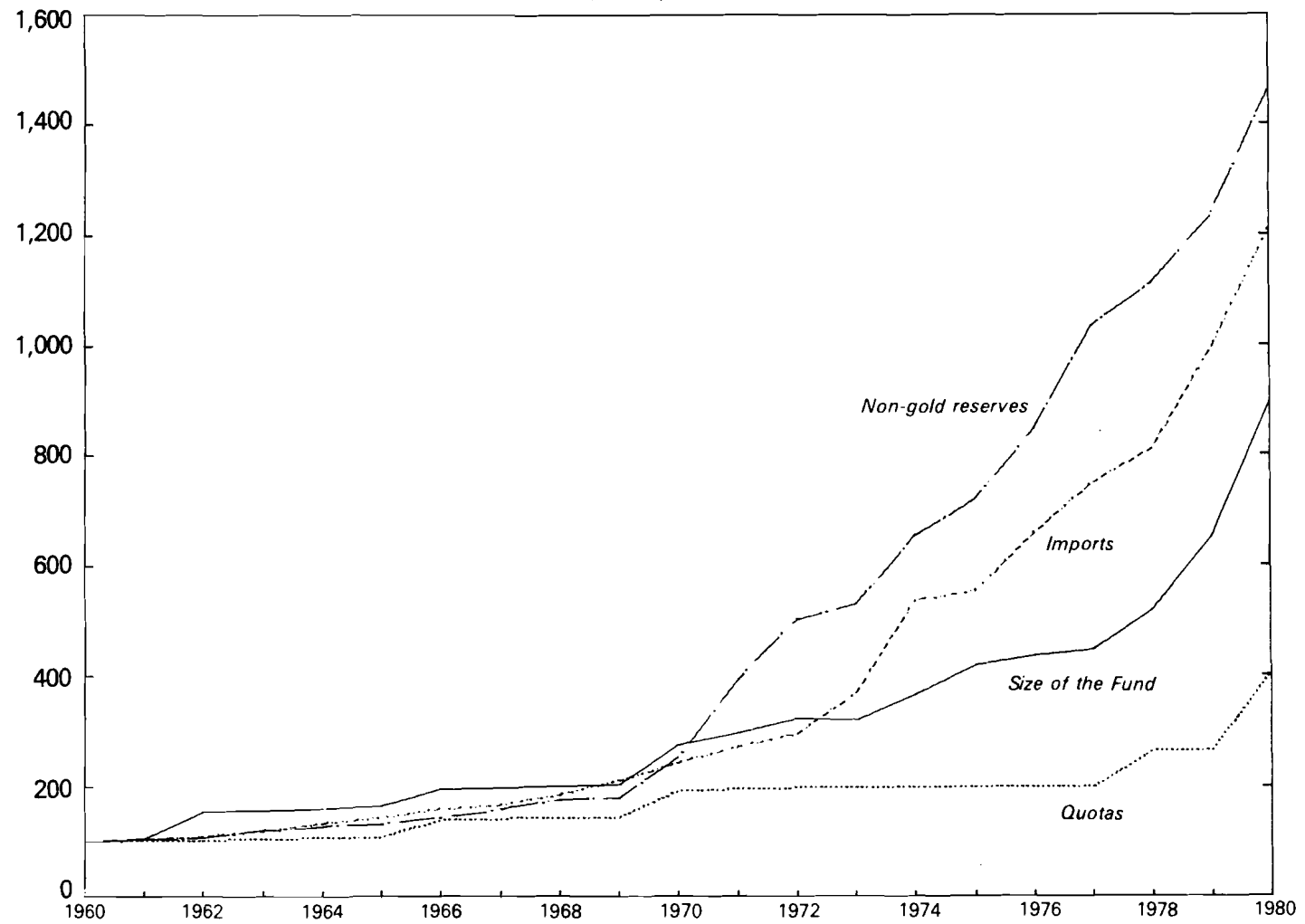
Much of the increase in the size of the Fund was concentrated in recent years. For instance, during the 21-month period from the end of 1979 to September 1981, the Fund's capacity to provide finance rose by almost 55 per cent--more rapidly than any of the comparator magnitudes. Renewed allocation of SDRs, Fund borrowing on an increased scale, some mobilization of gold resources through the Trust Fund, and an increase in quotas that was by historical standards relatively large, caused the size of the Fund to advance especially rapidly from 1978 onward, following a phase during which it had severely lagged behind the expansion of world trade and reserves. As a result, the ratios of Fund size to world imports and non-gold reserves recovered somewhat from the historical low points reached at the end of 1977. Fund quotas, just as the overall size of the Fund, doubled from the end of 1977 to the end of 1980, a three-year period that saw two general quota increases become effective.

While the developments just described had the effect of reversing the downward trend in the relation between the size of the Fund and relevant measures of its tasks after 1977, they restored the relative capacity of the Fund only to its level of about 1975, far below that of any earlier period in the Fund's history.

^{1/} See SM/81/151. The quota formula used for these calculations is the "reduced Bretton Woods formula," chosen because quotas calculated with it are available from 1959 on. Quota calculations with alternative formulas show similar results.

CHART 4
SIZE OF THE FUND, QUOTAS, IMPORTS,
AND NON-GOLD RESERVES, 1960-80

(Indices, 1960 = 100)



The lagging growth in the size of the Fund in the longer run, and the even more pronounced lag in the growth of quotas, have had significant consequences for the international monetary system. First of all, this development has meant that countries' financing needs arising from payments imbalances have been met increasingly through international bank lending rather than through the use of Fund resources. This lag in the capacity of the Fund is not only likely to have raised the cost of finance to members but it may also have been a severe constraint on the exercise of one of the Fund's most important functions, namely, to promote adjustment through the provision of financial support for economic stabilization programs. The inability of the Fund to keep pace with the rise in payments imbalances may thus have contributed to a slowing in the pace of balance of payments adjustment by countries with large external deficits. Another important consequence of these developments is that the Fund, in meeting the financing requirements of its members, had to depend increasingly on resources other than quota subscriptions, which has produced an increase in the average cost to members of obtaining balance of payments assistance from the Fund. These and related consequences will be further discussed in Section V below.

V. Prospects for the 1980s

Although work on the Eighth General Review of Quotas has already begun, the quotas decided in that review will not become effective for several years. When they do, world economic conditions will have changed in ways only imperfectly foreseeable now. Present forecasts and projections make it clear, however, that substantial increases are to be expected in many of the relevant financial aggregates with which quotas and the potential provision of Fund-related resources--the size of the Fund--have been compared in the preceding section. The size of a general quota increase cannot, of course, be decided solely in relation to projections of the scale of the world economy and members' financial requirements. Major questions also arise about the role that the Fund should play, together with other institutions and private markets, in providing balance of payments finance and reserve assets to its members.

The single most important consideration in this context is that the balance of payments assistance given by the Fund to its members differs in character from the balance of payments finance made available by other public and private institutions. The principal difference lies in the conditionality of a large part of the Fund's support, which entails a thorough analysis and discussion with the authorities of a member's economic situation and thereby often provides the stimulus to the adoption of effective stabilization programs. The Fund also differs notably from commercial suppliers of credit in its attitude toward risk (the Fund supports all well-designed and credible programs regardless of the size, political system, and commercial credit rating of the member concerned), in the cost of the support extended, and in the continuity of the support in case of adverse developments beyond the control of the member.

These considerations suggest that, in the provision of finance, the Fund and other financial institutions and markets are to a large extent complementary rather than competitive. Both of these channels through which countries may obtain finance need to be augmented in response to the growth in payments imbalances. It may be difficult, of course, to determine the proper dividing line between the areas to be mainly served by the Fund and by other institutions and markets, and the views of members on this question may be affected by their political philosophy as well as their balance of payments history. Nevertheless, shifts in this line that can be expected to be agreeable to most members are likely to be slight. For this reason, the historical apportionment of financial tasks between the Fund and other entities contributing to their achievement has strong relevance and will be emphasized in the illustrative projections elaborated below.

The appropriate size of the Fund is taken up in the following subsection, while the question of the composition of any planned increase in Fund size is discussed thereafter.

Size of the Fund in 1985 and 1990

In assessing the growth of the Fund that would make it possible for the exercise of its financial functions to keep pace with the tasks to be accomplished, primary weight will at first be given to the evolution of payments imbalances. Since payments imbalances cannot easily be projected into the more distant future, use can be made of the observed relation of approximate proportionality between aggregate payments imbalances and world imports in the past (see Table 4 and Chart 2 above). The relation between the size of the Fund and projected international reserves will be considered later, when the implications of various ways of expanding the Fund's size are drawn.

On the presumption that the quotas decided in the Eighth General Review would serve the international community through much of the second half of the present decade, projections for 1985 and 1990 are considered relevant in the present context. By the end of 1985, the new quotas may have been effective for a number of months, and that year may, therefore, be compared with the present situation, with the quota increases resulting from the Seventh General Review having become effective 12 months ago. If the quinquennial periodicity of quota reviews is maintained, 1990 could again be a year just following a general increase in quotas. This question of timing can have an important bearing on the phasing of borrowing by the Fund, insofar as such borrowing is intended to bridge a gap between the resources available from quota subscriptions and those required for continuity in the conduct of the Fund's operations. This aspect of Fund borrowing will be discussed later in this section. Matters of timing are also relevant to a consistent identification of quota targets, since the ratio of quotas to any smoothly growing variable fluctuates in a cyclical pattern reflecting the periodicity of general quota reviews (see Chart 3).^{1/}

^{1/} This cyclical effect could be avoided if quotas were increased in annual installments, albeit under quinquennial decisions, similar to the

During the decade just ended, the average ratio of the size of the Fund to the annual value of world imports was 3.9 per cent, slightly higher than in 1980, when it was 3.7 per cent. For the entire period shown in Chart 3 (p. 28a), from 1950 to 1980, the ratio was 4.7 per cent. While the average ratio for the decade 1971-80 may be considered relevant for a discussion of the growth of the size of the Fund in future years, it is clear that it offers only imperfect guidance. Mere maintenance of this ratio (Alternative A) would perpetuate the Fund's reduced capacity of the 1970s to accomplish its tasks, compared to earlier periods in the Fund's history. A return to the average ratio for the three decades 1950-80 (Alternative B) would tend to restore the Fund's capacity to its average historical level but would give more weight than may be warranted to the early years of the Fund's history, when it was not very active and, indeed, lacked the capacity to play an important role in solving the financial problems of the years following World War II. For these reasons, the average ratio of Fund size to imports for the decade 1961-70, when the Fund's resources were more ample relative to imports and payments imbalances, is also used as a "normative" reference ratio, which points to a more adequate Fund size than has been observed in recent years. This ratio is 5.9 per cent (Alternative C).

These three reference ratios are applied in Table 7 to two alternative projections of the volume of imports measured in SDRs based on the World Development Report 1981 published by the World Bank, supplemented by projections and assumptions with respect to the rise in import prices. These import projections are quite conservative; indeed, those in the "low growth" case may be regarded as pessimistic. The projections for 1985 of Scenario A of the World Economic Outlook, which place considerable emphasis on demand policies consistent with balance of payments adjustment, lie between the low-growth and high-growth projections of the World Bank for that year. ^{1/} The projected average annual rates of increase in the SDR value of imports from 1980 to 1985 are 11 per cent and 13 per cent under the low- and high-growth assumptions, respectively, and from 1985 to 1990 the corresponding figures are 10 and 12 per cent, compared with 17 per cent observed over the period from 1975 to 1980. The difference between the projections under low- and high-growth assumptions is slight for 1985, about 8 per cent; for 1990, it is 19 per cent.

These projections point to a size of the Fund in 1985 ranging between SDR 98 billion for Alternative A under the low-growth assumption and SDR 159 billion for Alternative C under the high-growth assumption. For 1990, the corresponding range is from SDR 152 billion to SDR 277 billion.

^{1/} (Continued from p. 28) procedure specified for SDR allocation. In some previous general quota reviews, some members were permitted to take up their quota increases, and pay their reserve asset subscriptions, in annual installments.

^{1/} Projections from the World Economic Outlook are not available beyond 1985.

Table 7. Imports and the Size of the Fund, Actual 1980 and Projections to 1985 and 1990

(In billions of SDRs)

	World Imports <u>1/</u>	Size of the Fund 2/		
		A (3.9 per cent)	B (4.7 per cent)	C (5.9 per cent)
1980	1,476	- - - - -	64	- - - - -
Projections				
<u>1985</u>				
Low growth	2,500	98	118	148
High growth	2,700	105	127	159
Average	2,600	101	122	153
<u>1990</u>				
Low growth	3,900	152	183	230
High growth	4,700	183	221	277
Average	4,300	168	202	254

1/ Projections of imports are based on the estimates contained in the World Bank's World Development Report 1981 (Table 2.2, p. 11), where world exports of goods and nonfactor services are projected to grow from 1980 to 1985 by between 3.5 per cent (low case) and 5.0 per cent (high case), and from 1985 to 1990 by between 3.8 per cent and 6.4 per cent. These estimates have been combined with assumptions about the annual increase in import unit values in SDRs as follows: 1980-81, 10 per cent; 1981-82, 7.5 per cent; thereafter decreasing by one half of 1 percentage point per year to 6 per cent for 1984-85; then continuing to decrease by one quarter of 1 percentage point per year to 4.75 per cent for 1989-90 and 4.50 per cent for 1990-91.

In the "World Economic Outlook" (ID/81/8, 8/24/81), the projection of world imports for 1985 that underlies scenario A (the "central" scenario) falls between the low-growth and high-growth projections in this table. The assumed increases in import unit values are the same as those given above.

2/ Projections of the size of the Fund are based on extrapolations of the following historical ratios of Fund size to world imports: A - 1971-80 average; B - 1950-80 average; and C - 1961-70 average.

These projections do not by themselves indicate the quota increases and related measures that would be required to bring about any desired expansion in the size of the Fund. This topic is taken up in the following subsection.

Hypothetical compositions of the size of the Fund in 1985 and 1990

The Fund's capacity to provide finance to its members can be expanded in a number of alternative ways. The quota increase necessary to achieve a certain desired expansion in the size of the Fund depends on related decisions with respect to other matters, chiefly the size of Fund borrowing and of SDR allocations. The interdependence of these decisions is illustrated in Table 8 on the basis of projected Fund sizes under Alternative A, B, and C corresponding to the averages between the low-growth and high-growth assumptions shown in Table 7.

Many different combinations of the major components determining the size of the Fund are possible, and the four illustrative cases presented in Table 8 are more or less arbitrary selections. As a benchmark configuration (case I), it is assumed that the relative importance of these components would remain unchanged at their distribution as of the end of September 1981 (see Table 3 above). In implying proportional growth in the Trust Fund and in borrowing arrangements, this case is quite unrealistic, because of the termination of the Trust Fund in 1981 and, even more, because of the general position regarding Fund borrowing as merely bridging any resource gap existing before the quotas decided in the Eighth General Review become effective. This case is selected solely to serve as a comparator facilitating the assessment of differential effects of changing the assumptions. The 1981 date is chosen in preference to the end of 1980 because it reflects both the SDR allocation at the beginning of 1981 and the borrowing arrangements concluded in the first nine months of the year. It thus represents the "present situation." In the remaining cases II, III, and IV, it is assumed instead that there would be no reliance on borrowing arrangements from 1985 on, after the Eighth-Review quotas have become effective, except that the GAB are maintained at the present level. This would not mean, of course, that outstanding amounts under existing borrowing arrangements would be repaid before scheduled maturity. ^{1/} It would mean, however, that except for the GAB, they would not be renewed or replaced by similar arrangements, so that they would no longer add to the Fund's capacity to provide finance once the Eighth-Review quotas are in place. Similarly, it is assumed in these cases that there would be no further expansion in arrangements similar to the Trust Fund. In case II, the remaining components--quota and SDR resources--are assumed to maintain their distribution of September 1981. In case III, it is assumed that there would be no new SDR allocations in the 1980s.

^{1/} Amounts remaining outstanding in 1985 under various Fund borrowing arrangements (including GAB, SFF, and EAR) may exceed the total amount of these arrangements as of the end of September 1981 shown in Table 3 (SDR 17 billion).

Table 8. Alternative Hypothetical Compositions of the Size of the Fund and Corresponding Quotas and SDR Allocations, 1985 and 1990 ^{1/}

(In billions of SDRs)

	I		II		III		IV	
	Equiproportional Expansion		Expansion Limited to Quota and SDR Resources		As in II, and No SDR Allocations		As in II, and Larger SDR Allocations ^{2/}	
	1985	1990	1985	1990	1985	1990	1985	1990
<u>Alternative A</u>								
Size of the Fund	101	168	101	168	101	168	101	168
Contribution to the size of the Fund of								
SDR Department	17	29	24	41	11*	11*	31*	56*
Quota resources (excluding gold)	51	84	71	121	84	151	64	106
Borrowing arrangements ^{3/}	28	47	3*	3*	3*	3*	3*	3*
Trust Fund-like schemes	5	8	3*	3*	3*	3*	3*	3*
Corresponding aggregates								
Quotas ^{4/}	102	168	142	242	168	302	128	212
SDR allocations								
Cumulative ^{5/}	34	58	48	82	21*	21*	61*	112*
Annual ^{6/}	3.2	4.8	6.6	6.8	—*	—*	9.9*	10.2*
<u>Alternative B</u>								
Size of the Fund	122	202	122	202	122	202	122	202
Contribution to the size of the Fund of								
SDR Department	21	35	30	50	11*	11*	40*	70*
Quota resources (excluding gold)	61	101	86	146	105	185	76	126
Borrowing arrangements ^{3/}	34	56	3*	3*	3*	3*	3*	3*
Trust Fund-like schemes	6	10	3*	3*	3*	3*	3*	3*
Corresponding aggregates								
Quotas ^{4/}	122	202	172	292	210	370	152	252
SDR allocations								
Cumulative ^{5/}	42	70	60	100	21*	21*	79*	139*
Annual ^{6/}	5.2	5.6	9.6	8.0	—*	—*	14.4*	12.0*
<u>Alternative C</u>								
Size of the Fund	153	254	153	254	153	254	153	254
Contribution to the size of the Fund of								
SDR Department	26	44	38	63	11*	11*	52*	89*
Quota resources (excluding gold)	77	127	109	185	136	237	95	159
Borrowing arrangements ^{3/}	43	71	3*	3*	3*	3*	3*	3*
Trust Fund-like schemes	7	12	3*	3*	3*	3*	3*	3*
Corresponding aggregates								
Quotas ^{4/}	154	254	218	370	272	474	190	318
SDR allocations								
Cumulative ^{5/}	52	88	76	126	21*	21*	103*	178*
Annual ^{6/}	7.6	7.2	13.6	10.0	—*	—*	20.4*	15.0*

^{1/} These calculations are based on the composition of the sources of Fund-related resources at the end of September 1981 (see Table 3, last column) and modifications thereof as indicated in the headings. Values that have been assumed so as to give effect to these modifications are marked by an asterisk (*); other values result from the equiproportional expansion of the remaining components that is required for achieving the indicated size of the Fund.

^{2/} Assuming annual SDR allocations that are 50 per cent larger than those shown for the respective alternatives under case II.

^{3/} In cases II, III, and IV, it is assumed that the contribution of borrowing arrangements will be limited to the existing GAB (one half of which is taken as usable at any particular time).

^{4/} Quotas that would make the contribution of quota resources to the size of the Fund equal to the value shown in that line; as explained in Section III above, this contribution equals one half of quotas. This assumes continuation of the present (September 1981) ratios of currency and SDR holdings to quotas.

^{5/} Cumulative SDR allocations that would make the contribution of the SDR Department to the size of the Fund equal to the value shown in that line; this contribution is one half of allocations.

^{6/} For the columns headed 1985, annual allocations are equal to the difference between the cumulative allocations shown and the 1981 cumulative allocations of SDR 21.4 billion, spread over four years (1982-85); for the columns headed 1990, they are equal to the difference between the 1990 and the 1985 cumulative allocations, spread over five years (1986-90).

Case IV reverses this assumption by postulating what by comparison with case II is here called "larger" SDR allocations, i.e., allocations 50 per cent larger than those calculated for case II. The implications of the assumptions underlying these cases are discussed later in this section.

In the presentation of these illustrative cases, interest focuses on the various combinations of aggregate quotas and cumulative SDR allocations, as well as the implied annual allocations, that would achieve the assumed overall size of the Fund. These combinations are found in Table 8 in the last three lines for each of the three alternative Fund sizes shown, under the designation "corresponding aggregates." For instance, equiproportional expansion from the end of September 1981 of all components contributing to the Fund's capacity for providing finance to members (case I) would imply aggregate quotas in 1985, approximately at the time when the quotas decided in the Eighth General Review might enter into force, ranging from SDR 102 billion for Alternative A to SDR 154 billion for Alternative C. For 1990, this range would extend from SDR 168 billion to SDR 254 billion. The corresponding annual SDR allocations over the four-year period 1982-85 would be just over SDR 3 billion in Alternative A and SDR 7-8 billion in Alternative C, leading to cumulative allocations of SDR 34 billion to SDR 52 billion at the end of 1985. ^{1/} At the end of 1990, cumulative allocations would range between SDR 58 billion and SDR 88 billion. Fund borrowing arrangements would have to expand to some SDR 30 billion in 1985 and to about SDR 60 billion in 1990 under Alternative A and to much higher values under the other two alternatives. ^{2/}

Case II shows the implications of the Fund relying chiefly on quota and SDR resources for achieving the postulated capacity to provide finance to members. Both quotas and SDR allocations are calculated to be substantially larger than in case I. Quotas for 1985 range from SDR 142 billion in Alternative A to SDR 218 billion in Alternative C, and the corresponding annual SDR allocations would lie between SDR 6.6 billion and SDR 13.6 billion.

Without such SDR allocations, quotas would have to be larger to achieve the same overall Fund size, as seen in case III, where quotas in 1985 are calculated to range from SDR 168 billion in Alternative A to SDR 272 billion in Alternative C. With "larger" SDR allocations, by contrast, smaller quotas would suffice to restore the Fund's capacity to the postulated levels. This is seen in case IV, where annual SDR allocations are assumed to rise to between SDR 10 billion (Alternative A) and SDR 20 billion (Alternative C), with the effect that the range of calculated

^{1/} For the period up to 1985, four annual SDR allocations are assumed to take place, since the allocation at the beginning of 1981 is already history. For the period 1985-90, five annual allocations are assumed.

^{2/} To the extent that the GAB is part of these arrangements, the total of required borrowing arrangements would be somewhat higher than the contributions shown in the table, since that contribution is assumed to be only one half of the amount of the GAB.

quotas is lower than in cases II and III, namely, SDR 128 billion in Alternative A and SDR 190 billion in Alternative C.

While the calculations for 1985 under cases II and III indicate quota increases ranging from some 130 per cent (case II, Alternative A) to 350 per cent (case III, Alternative C), the calculations for 1990 suggest much more modest percentage increases from the calculated levels in 1985, generally between 70 and 80 per cent. The reason for this is that the calculated increases up to 1985 include a substantial element of "catching-up" with a level that would provide an adequate capacity of the Fund by the various historical standards that are examined in these illustrations. Once this level of adequacy has been achieved, further quota increases are here assumed to follow the trends in various relevant aggregates, for which imports have been taken as a proxy in this paper.

To repeat, the alternative configurations of quota increases, SDR allocations, and Fund borrowing--to name the principal elements--discussed above are merely illustrations of the interaction among decisions in these important areas. Different cases could be elaborated if that proved helpful to the discussion of these matters.

Supply of Fund-related reserve assets in the 1980s

The historical relationship between the use of the Fund and the amount of Fund-related reserve assets has been shown in Table 2 above, and the close association between the potential supply of these assets and the size of the Fund has been reviewed in Section III (see Table 3). The following discussion extends these relations to 1985 and 1990 on the basis of projections of the demand for non-gold reserves derived from estimates of the growth of imports (see also Table 7 above) and projections of the ratio of reserves to imports. ^{1/} When the low-growth case for imports is used as the base, total non-gold reserves are projected at SDR 540 billion for 1985 and SDR 780 billion for 1990; the corresponding figures for the high-growth case are SDR 570 billion and SDR 880 billion.

Alternative methods can be used to project the potential supply of Fund-related reserve assets in the coming decade. First, as noted before, ^{2/} the potential supply in recent years has always been about 5 per cent higher than the size of the Fund including gold at book value. On the assumption that this relationship will continue to hold, the potential

^{1/} The projections, for countries other than the United States, reflect a growth in reserves amounting to 60 per cent of the rise in imports measured in constant prices (based on the actual 1973-81 relationships), inflated by the same price increases that have been assumed in converting the projected real imports to nominal values. For the United States, an increase of SDR 1 billion a year from an anticipated level of SDR 16 billion at the end of 1981 is assumed.

^{2/} See text, p. 19, and Table 3.

supply of Fund-related reserves would amount, for example, under Alternative A, to SDR 110 billion in 1985 and SDR 181 billion in 1990 (see Table 9). The second method is to calculate the potential supply as the sum of SDR allocations, Fund borrowing arrangements, and 50 per cent of quotas (cf. Table 3, footnote 6). When the allocation, borrowing, and quota figures from the various cases in Table 8 are used for this calculation, the potential supply that emerges for Alternative A is in the range of SDR 108-128 billion for 1985 and SDR 175-221 billion for 1990, as shown in Table 9.

The various projections covered in Table 9 can be put into perspective by comparing them with the current situation. At the end of September 1981, the maximum for the supply of Fund-related reserves was equivalent to 20 per cent of international reserves excluding gold (Table 5). This ratio would experience little change by 1985 under Alternative A, while a modest or more substantial increase could occur under the illustrative conditions of Alternatives B and C, respectively. In all cases, some further increase in the ratio is shown in the projections to 1990. Very few of the ratios projected for that year, however, exceed the 37 per cent that prevailed at the end of 1970. It must be recalled, of course, that actual Fund-related reserves are only a fraction--at present about half--of the calculated maximum. If that relationship continues to hold, the smaller of the possible rises in the calculated maximum for Fund-related reserves relative to total non-gold reserves (Alternative A) would produce only a negligible increase in the role of Fund-related assets in members' total reserve holding during the coming decade. This result could be affected by a change in the size of the Fund that was substantially different from the ones projected in these illustrative figures; by a different emphasis on SDR allocation and Fund borrowing in comparison with quota increases, with a tendency for quota increases to give rise to a smaller amount of reserves; or by a combination of both of these possibilities.

Further considerations

The extrapolations presented in this section must be supplemented by more general reflections on the role that the Fund should play in the future international monetary system. In this paper, these reflections are confined to the financial functions of the Fund. They can be focused on three questions. First, what part of the total financial intermediation between surplus and deficit countries should be undertaken by the Fund and what portion of world reserves should be provided in the form of Fund-related assets (SDRs and SDR-denominated claims on the Fund)? Second, what is the proper balance in the provision of finance and reserves between the General Department and the SDR Department? And third, within the General Department, what should be the relative emphasis on quota resources and arrangements for Fund borrowing?

As regards the first of these questions, it is widely held that the Fund should be ready to assist in the transfer of a certain part of the

Table 9. Projections of Total Non-Gold Reserves and Potential Supply of Fund-Related Reserves, End of 1985 and 1990

	Projections		Ratio of Potential Fund-Related to Total Reserves 1/	
	1985	1990	1985	1990
	(In billions of SDRs)		(In per cent)	
Total non-gold reserves				
With low import growth	540	780		
With high import growth	570	880		
Average	555	830		
<u>Alternative A 2/</u>				
Potential supply of Fund-related reserves				
Method 1 3/	110	181	20	22
Method 2 4/				
Case I	113	189	20	23
Case II	122	206	22	25
Case III	108	175	19	21
Case IV	128	221	23	27
<u>Alternative B 2/</u>				
Potential supply of Fund-related reserves				
Method 1 3/	132	216	24	26
Method 2 4/				
Case I	137	227	25	27
Case II	149	249	27	30
Case III	129	209	23	25
Case IV	158	268	28	32
<u>Alternative C 2/</u>				
Potential supply of Fund-related reserves				
Method 1 3/	165	271	30	33
Method 2 4/				
Case I	172	286	31	34
Case II	188	314	34	38
Case III	160	261	29	31
Case IV	201	340	36	41

1/ The ratio is based on the average of the projections of non-gold reserves with low and high import growth.

2/ The alternatives are those for different sizes of the Fund, as shown in Table 8.

3/ Sum of the size of the Fund and Fund gold holdings at book value, raised by 5 per cent.

4/ Sum of SDR allocations, Fund borrowing arrangements, and 50 per cent of quotas, as shown for the respective cases in Table 8.

earnings of members in surplus to members in deficit because this provides a useful and often cost-efficient supplement to existing channels of financial intermediation. Restricting the financial activities of the Fund to those of a lender of last resort, which provides finance only when all other sources fail, would seem to cast too narrow a role for it. Members are being encouraged, as a matter of principle laid down in Article I, to seek Fund support at an early stage of evolving payments difficulties to afford them an opportunity to correct maladjustments before their problems become intractable. ^{1/} At that stage, they may still have access to international credit from commercial sources. Reliance upon these flows has enabled some members to delay, sometimes for excessively long periods, the needed domestic and external adjustment. In such circumstances, commercial flows often decline abruptly, with the result that the Fund has been called upon to provide its resources in circumstances of crisis requiring severe adjustment programs. Early access to the Fund, with parallel borrowing from commercial sources, would give assurance to the member and to the international community of continued flows of funds in the context of well-designed and effectively implemented financial policies. Such an approach would help to avoid delays in the adoption by members of needed adjustment action, the need for the Fund to step into crisis situations, and the adverse effects of volatility in commercial lending.

The principle of early Fund support implies that the Fund should stand ready to provide finance for a part of members' payments imbalances. It is for consideration whether the Fund's capacity to provide finance relative to the total of imbalances to be financed should in future be strengthened, so as to encourage members' efforts to design effective adjustment programs requiring temporary financial support. If such a strengthening is desired, consideration should be directed to those calculations that are based on relations between Fund size and payments imbalances (as measured by imports) during past periods when the Fund's capacity to accomplish its tasks was more adequate than in recent years. This would focus attention on Alternatives B and C shown in Table 8 above.

Whereas the Fund ordinarily supplements other channels in providing balance of payments finance in the manner just described, it would also have to serve the international community as the lender of last resort in a crisis of the international monetary system. In contrast with the Fund's role in supporting ordinary adjustment programs on a regularly revolving basis, the function as lender of last resort to the system does not require that a specific volume of resources be regularly available but rather that resources can be mobilized on a large scale in the event of a

^{1/} Article I provides in part: "The purposes of the International Monetary Fund are: ... (v) To give confidence to members by making the general resources of the Fund temporarily available to them under adequate safeguards, thus providing them with the opportunity to correct maladjustments in their balance of payments without resorting to measures destructive of national or international prosperity."

threat to the functioning of the system. 1/ A large gap between the Fund's capacity to provide finance and the actual amount outstanding--in other words, between the size and the use of the Fund--can give some assurance that additional finance could be made available quickly when needed. The rise in the ratio of the use of the Fund to its size in recent years (see p. 18 above) indicates, therefore, some decline in the Fund's "spare capacity" to step in as the lender of last resort. There may, of course, be circumstances under which exercise of this function would require resources beyond the Fund's existing capacity to finance payments imbalances; these could be generated through supplementary (and perhaps temporary 2/) SDR allocations and extension of existing borrowing arrangements, both of which can probably be accomplished faster than general quota increases.

As regards the portion of world reserves to be supplied in the form of Fund-related assets, the objective stated in the Articles of Agreement of making the SDR the principal reserve asset in the international monetary system requires not only the availability of SDR-denominated international credit but also an adequately growing supply of SDRs. As has been shown earlier in this paper, the provision of Fund-related reserve assets is closely linked to the actual or potential provision of finance and to the balance in the expansion of resources between those available through the Fund's General Department and those generated through SDR allocation. This brings up the second of the three questions raised above.

It has become customary to regard an increase in quotas, perhaps supplemented by Fund borrowing, as augmenting conditional liquidity--that is to say, the capacity for providing finance to members when needed and warranted by the economic programs proposed by them--and to associate an allocation of SDRs with the provision of unconditional liquidity, i.e., reserves. There is, however, a close connection between these two financial tasks of the Fund. It is, clearly, not possible to furnish "reserves" to a country without also providing finance that can be used at the discretion of the country's authorities; nor can the Fund extend net credit to the membership as a whole 3/ without generating reserve claims on the Fund.

1/ This role of the Fund was addressed in the establishment of the GAB in 1962, which provide supplementary resources when they are "needed to forestall or cope with an impairment of the international monetary system" (Decision No. 1289-62/1, adopted January 5, 1962).

2/ Temporary SDR allocations could be achieved through decisions to allocate SDRs linked with decisions to cancel them at a specified later date.

3/ Fund credit extended to an individual member may be offset, in its effect on reserve positions, by repayment of credit previously extended to another member.

As regards the provision of reserve assets, there are substantial similarities between the functioning of the SDR Department and the General Department. The reserve assets provided--SDRs and reserve positions in the Fund--can both be used unconditionally, and this is indeed one of the properties justifying their inclusion in countries' reserves. The functioning of these two Departments differs, however, in the circumstances surrounding the provision of finance: SDR allocations provide unconditional finance, while the resources available through the Fund's General Department to a large extent furnish conditional finance in support of carefully elaborated adjustment programs. This difference also has implications for the timing of Fund-related finance: resources provided through the SDR Department are available immediately upon the allocation of SDRs, whereas resources stemming from quota increases and extensions of borrowing arrangements are made available to members as needed in the light of world economic conditions, as well as their individual circumstances. Conditional lending by the Fund thus affords greater flexibility both in adjusting the flow of resources to the needs of the world economy and in directing that flow to economies needing and meriting support. At the present stage of the world economy, overriding importance attaches to the strengthening of the adjustment process, as more fully discussed in the World Economic Outlook of June 1981, and for this reason provision of adequate resources for supporting adjustment programs must command close attention. SDR allocation (or cancellation), by contrast, is better suited for rapid augmentation (or reduction) of members' aggregate noncurrency reserves, if such changes are deemed to be warranted. The conditions under which this is the case are set out in Article XVIII and have been discussed in a number of recent papers on SDR allocation. There are also important differences between the General Department and the SDR Department in the cost to members of the finance and the reserves provided through these two channels--a topic on which comment will be made at the end of this section.

Turning to the last of the three questions posed above--on the extent to which the resources needed for the operations of the General Department should be provided through quota increases and through Fund borrowing--the widespread consensus on quota increases as the main source of funds has already been noted in Section II. Four points may be added here.

First, while the difference in economic effect between using quota resources and borrowed funds is not a fundamental one, the use of quota resources has the advantage of flexibility. From the point of view of securing access to resources, a quota increase is the equivalent of an extension of borrowing arrangements with all members, each to be activated if and when the member in question is in a sufficiently strong balance of payments and reserve position. This type of arrangement can, in principle, give larger access to resources than a set of borrowing arrangements with only a few members. Moreover, securing the Fund's access to resources through a general quota increase, which potentially taps the resources of all members, accords with the cooperative nature of the intergovernmental financial relations conducted in and through the Fund. Nevertheless, there may at times be reason for supplementing

quota resources through borrowing arrangements if, as is the case at present, the distribution of quotas of major surplus countries differs significantly from the distribution of the surpluses themselves.

The second point concerns the use of borrowing to bridge a resource gap prior to adjustment of quotas. Borrowing arrangements recommend themselves in this context because they can be concluded more rapidly than general quota reviews. For this reason, recourse to borrowing may be difficult to avoid in the time span between general quota reviews (unless it were decided to increment quotas annually) or even following a general review that raised quotas insufficiently relative to the longer-run trend in the required capacity of the Fund. One problem with Fund borrowing to bridge a resource gap of this kind may be that it cannot easily be reversed when the anticipated quota increase takes place.

Third, Fund borrowing may be inevitable if members' access to the Fund's resources is large relative to their quotas. In this situation, a general quota increase will not provide a better balance between available resources and the requirements of the Fund's lending program, both of which will rise in step, at least in the longer run. The balance can be redressed by borrowing, however, since this furnishes resources without increasing the calls on them. The balance of available and required resources can, of course, also be affected by an alteration of members' access to the Fund's resources in relation to quotas. For instance, when the quotas decided in the Seventh Review became effective in November 1980, members' access to the Fund over a three-year period was reduced from 600 per cent to 450 per cent of quota. If Fund borrowing is seen mainly as a bridging operation, as discussed above, a similar reduction in the percentage of members' access to the Fund would be indicated when the quotas decided in the Eighth General Review become effective, so as to adjust the financial balance of the Fund to a reduced reliance on borrowing arrangements.

Fourth, as already mentioned earlier, borrowing arrangements have for some time--since the establishment of the GAB in 1962--been considered an appropriate form of securing access to resources for the exercise of the function of lender of last resort in a crisis of the international monetary system. Borrowing arrangements will, of course, serve this purpose only to the extent that they are unused at the time they are needed. Arrangements intended for this purpose should accordingly be kept in place without being drawn upon until the situation for which they are designed has arisen.

Borrowing arrangements are not typically classified as to the precise purpose for which resources may be transferred under them. For this reason, existing arrangements may be thought of as serving a combination of the purposes listed above, viz., to offset a lack of correspondence between the distribution of quotas and of payments surpluses, to bridge a resource gap between successive quota increases, to increase the available resources without at the same time increasing members' recourse to them under tranche policies and special drawing facilities, and to secure access to resources in the event of an impairment of the international monetary system. While

these separate considerations should be kept in mind, it is neither necessary nor useful to attempt a quantitative assessment of the need for Fund borrowing under any of these headings in the years immediately ahead.

Finally, there is one aspect of all of these alternative configurations--borrowing arrangements versus quota increases, General Department versus SDR Department, and Fund versus private markets--that is of crucial importance to members, namely, cost. Resources stemming from quota subscription have been less costly than those borrowed from members, and this is a further advantage, in addition to flexibility, of obtaining funds through quota subscriptions. It should be considered, however, that this cost difference is not a necessary feature and may well be related to the circumstance that most borrowing arrangements were made at a time of rising interest rates. Use of quota resources has also been less costly than use of SDRs, a consequence of the structure of Fund charges and interest rates. For members considering the alternatives of borrowing from the Fund and using SDRs, this difference is offset, or perhaps more than offset, by the conditionality attached to a considerable part of the use of the Fund's resources. It is important, however, that the cost of using the Fund in any form (quota-related or borrowed resources, Trust Fund loans, or use of SDRs) has been lower than the cost of recourse to the international credit markets. These cost relations, and the conditionality factors modifying them, are important elements in coming to decisions on the size of the Fund and its composition.

VI. Topics for Discussion

An assessment of the appropriate size of the Fund in the 1980s must be based on an evaluation of developments to date. This paper has illustrated certain clear trends occurring over the past 20 years: namely, a decline in the size of the Fund relative to members' payments imbalances, an even sharper decline in the actual and potential role of quota-based resources in the financing of these imbalances, and an increasing reliance on Fund borrowing and other nonquota-based resources. (See also the historical overview on pp. 26-27.) Directors may wish to present their interpretation of these historical trends and comment on the usefulness for their own analysis of the conceptual framework developed in this paper, which is intended to permit direct comparison of the contribution of various Fund programs and activities to the achievement of the Fund's financial tasks of providing balance of payments finance and reserve assets to members as needed.

In commenting on the projections for the 1980s, Directors may wish to give primary emphasis to the appropriate evolution of aggregate Fund quotas by 1985. They may, however, find it convenient to review the assumptions that should be made with respect to the development of other components of the Fund's capacity to provide finance and reserve assets to members, in order to illustrate the overall setting they envisage for the quota increases to be decided under the Eighth General Review.

In addition to the quantitative material relevant to judgments as to the appropriate size of the Fund and of quota increases in the 1980s, this paper has discussed a number of important considerations of a qualitative character that bear upon these judgments. Directors may wish to indicate their evaluation of such qualitative matters, including some of those of a more political character that have not been addressed in the paper.

Directors may wish to comment on the range of quota increases illustrated in Table 8 for the period up to 1985--i.e., for the Eighth General Review. Under the assumption that borrowing arrangements other than the GAB would be phased out once the Eighth-Review quotas will be in effect and would thus provide no additional resources in the second half of the 1980s, this range extends from SDR 142 billion to SDR 218 billion if quota increases are accompanied by commensurate SDR allocations (some SDR 7-13 billion per year), or from SDR 168 billion to SDR 272 billion if no SDR allocations were made. The lower end of each of these ranges corresponds to mere maintenance of the Fund's capacity to perform its functions at the level of the 1970s, while the upper end would be consistent with restoring the Fund's capacity relative to the size of its tasks to the level that prevailed in the 1960s. Directors may want to indicate the quantitative effects of the various considerations and emphases they would wish to bring to bear on these projections.

With regard to technical matters, Directors may wish to comment on the question of annual quota increments decided at quinquennial intervals and on the related question of the use of Fund borrowing for bridging a gap in the Fund's access to resources between quota reviews.

Table 10. Payments Imbalances, Imports, Size of the Fund, and Quotas, 1956-80 ^{1/}

	Annual Averages									
	1956-61	1962-65	1966-70	1971-75	1976-80	1976	1977	1978	1979	1980
	(In billions of SDRs)									
Payments imbalances										
Current account ^{2/}										
111 countries	...	20	26	75	145	118	125	130	143	210
92 members	...	18	25	70	133	106	115	120	131	193
50 members	14	17	21	49	88	68	79	93	86	115
Overall balance ^{3/}										
111 countries	...	8	16	52	81	51	90	98	87	80
92 members	...	8	15	49	77	46	87	91	83	77
50 members	7	7	13	38	58	33	72	69	59	57
Merchandise imports										
111 countries	107	149	227	474	1,024	767	872	942	1,151	1,389
92 members	102	141	217	452	993	731	829	892	1,095	1,319
50 members	89	126	196	405	860	652	732	786	969	1,160
Size of the Fund	5	10	13	21	36	27	28	32	40	55
Quotas										
92 members	...	...	21	27	36	27	27	36	36	54
50 members	10	13	19	24	31	24	24	31	31	46
	(In per cent)									
Ratios										
Size of the Fund to imbalances										
Current account (111 countries)	...	50	50	28	25	22	22	25	28	26
Overall balance (111 countries)	...	125	81	40	44	53	31	33	46	69
Quotas to current account										
92 members	...	...	84	39	27	26	24	30	27	28
50 members	71	77	90	49	35	35	30	33	36	40
Quotas to overall balance										
92 members	...	...	140	55	47	59	31	40	43	70
50 members	143	186	146	63	53	73	33	45	53	81
Quotas to imports										
92 members	...	...	10	6	4	4	3	4	3	4
50 members	11	10	10	6	4	4	3	4	3	4
Current account to imports										
111 countries	...	13	12	16	14	15	14	14	12	15
92 members	...	13	12	16	13	14	14	14	12	15
50 members	16	14	11	12	10	10	11	12	9	10
Overall balance to imports										
111 countries	...	5	7	11	8	7	10	10	8	6
92 members	...	6	7	11	8	6	10	10	8	6
50 members	8	6	7	9	7	5	10	9	6	5

^{1/} The sums of payments imbalances and the data on imports are for the years shown, while figures on the size of the Fund and quotas are for the end of corresponding years. When the values of stocks and flows are rising over time, ratios of year-end stocks to annual flows tend to be somewhat higher than the ratios of synchronized stocks and flows (e.g., annual average stocks and annual flows).

^{2/} Net balances on account of merchandise trade, services, and private transfers are summed for the indicated countries without regard to sign.

^{3/} Net balances on current and capital account, official transfers, and net errors and omissions are summed for the indicated countries without regard to sign.