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March 11, 1994

To: Members of the Executive Board

From: The Secretary

Subject: The Fund's Precautionary Balances

Attached for consideration by the Executive Directors is a paper on the Fund's precautionary balances, which is tentatively scheduled for discussion on Friday, April 1, 1994.

Mr. Wittich (ext. 38307) is available to answer technical or factual questions relating to this paper, Mr. Keuppens (ext. 37813) questions on Section II and the Appendices, and Mr. Corr (ext. 38774) questions on risk indicators, prior to the Board discussion.

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INTERNATIONAL MONETARY FUND

The Fund's Precautionary Balances

Prepared by the Treasurer's Department

(In consultation with other Departments)

Approved by David Williams

March 11, 1994

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I. Introduction

1. The Executive Board last reviewed the Fund's policy on precautionary balances in June 1993 on the basis of a staff paper discussing the factors bearing on the adequacy of these balances. 1/ In the light of the discussion of these issues, Directors requested the staff to elaborate a framework within which the adequacy of the Fund's precautionary balances may be judged. This paper has been prepared in response to that request.

2. In EBS/93/84, the staff suggested three broad conclusions as operational guidelines. First, it would be prudent for the Fund to continue to aim at maintaining sufficient precautionary balances fully to cover all credit outstanding to members in protracted arrears. Second, while it did not appear feasible to attach probabilities of loss to the use of Fund credit by particular members that continue to meet obligations as they fall due, there did remain a residual risk; it therefore was for consideration whether the level and distribution of credit should be taken into account when determining the desirable level of precautionary balances, e.g., by aiming at increasing these balances whenever they declined below a specified level (say, 3 or 5 percent of outstanding credit). And, third, the question of the adequacy of the Fund's precautionary balances should continue to be reviewed annually in the light of outstanding and projected extension of Fund credit and other prevailing circumstances.

3. Executive Directors generally agreed it would be desirable that precautionary balances would cover the credit outstanding to members in protracted arrears and that the adequacy of these balances should be reviewed annually. Differing views were expressed on the question of exposure to risk related to credit outstanding to members not in arrears in payments to the Fund. Directors expressed the view that it could not be precluded that some of these members would incur problems in payments to the Fund at a later stage, and while some considered the Fund's precautionary balances to be generally adequate taking into account the Fund's exposure to such countries, a number of other Directors requested further analysis of the issues arising in this context. These latter Directors considered that the experience and approach of other official and of private financial institutions to the issue of the adequacy of reserves and risk of loss might be relevant. It was noted in this connection that the main protection for the Fund was in the quality of the adjustment programs that supported the use of its resources, but a number of economic variables nevertheless may be important in risk assessment, even though the adequacy of precautionary balances clearly remained primarily a question of judgment. A number of Directors emphasized that the

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1/ *The Fund's Precautionary Balances and Factors Bearing on Their Adequacy* (EBS/93/84, 6/2/93), discussed at Executive Board Meeting 93/86 (6/21/86). A short summary of the origin and policies on the Fund's precautionary balances is found in *Cost of Fund Credit--Principles of Burden Sharing--Concessionality in Fund Operations, and Related Matters* (EBS/92/108, 6/15/92), pp. 8-10 and, more extensively, in *Preliminary Review of the Fund's Income Position for Financial Years 1992 and 1993 and Review of Precautionary Balances* (EBS/92/66, 4/7/92), pp. 6-13 and 25-30.

adverse consequences on debtor countries as well as issues of burden sharing would also need to be taken into account. The issues relating to burden sharing and the distribution of financial costs in the Fund are considered in a separate paper. 1/

4. The present paper is organized as follows: Section II summarizes the approach to the evaluation of risk in credits extended to sovereign borrowers by various governmental entities, by commercial banks, and by other international financial institutions, and examines the relevance of such risk evaluation in the context of the Fund; Section III discusses alternative ways for assessing the exposure to risk of the Fund, particularly in relation to credit that continues to be fully serviced; Section IV deals with some specific aspects which have a bearing on the Fund's precautionary balances, which were raised at the discussion in June. A summary and conclusions are presented in Section V.

II. Risk Assessment and Provisioning Practices in Member Countries and International Financial Institutions

5. To gain a better understanding of the approach to the assessment of sovereign risk, the staff through the offices of Executive Directors sought information from a selected sample of member countries regarding the practices followed by official and private entities in countries in their constituency. 2/ The practices followed by governments and governmental entities to assess risk related to direct governmental lending were the primary objective of the survey, as these are the lending activities that may be considered the most directly comparable to the Fund's financial operations. Furthermore, the survey also covered the practices followed by semi-governmental entities, such as export guarantee agencies, and those of commercial banks, although the practices of these latter institutions, which are governed mainly by commercial considerations and often are based on prescriptions of supervisory agencies, may be of more limited direct relevance for an intergovernmental cooperative institution such as the Fund. The results of the surveys are summarized in the following paragraphs. In addition, the staff reviewed the policies on precautionary balances of other international financial institutions and the underlying methodology followed by them when considering the level of and additions to these balances. 3/

Direct governmental lending

6. The majority of the member countries that responded to the staff's request for information regarding the assessment of risk arising in connection with direct lending by governmental agencies to sovereign borrowers

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1/ See *The Cost of Financing the Fund and its Distribution--Review of Burden Sharing* (EBS/94/28, 2/18/94).

2/ A summary of the responses is presented in Attachments I and II.

3/ An overview of the practices of other IFIs is presented in Attachment III.

indicated either that they had no standard policy or procedure in place for that purpose, or that such lending was influenced primarily by political rather than commercial considerations, and that specific guidelines or procedures for the evaluation of risk were therefore not considered necessary or of primary importance. 1/ Other members indicated that a loss resulting from direct intergovernmental lending, if any, would be recognized in the budget when a default occurred, 2/ and that no prior risk assessment or ex ante provisioning takes place. There were some exceptions, however, the most important of which are the practices in the United States. The U.S. authorities, following the adoption by the Congress of new credit control legislation, 3/ recently introduced elaborate risk assessment procedures that required governmental agencies to set aside budgetary resources for estimated loan losses, the amount of which is determined through a systematic evaluation process by an interagency group. (The procedure is described further below.) Another member indicated that budgetary resources equal to 14 percent of new lending or guarantees are set aside at the time of new commitments until 10 percent of outstanding commitments are covered by reserves, and another member reported that while no significant lending had taken place, if such lending did occur, the establishment of reserves would be considered depending on the nature and condition of the lending.

7. The U.S. risk assessment procedures use a set of some 35 different (and confidential) variables, which fall into four broad groups: (a) factors affecting the burden of foreign debt to be serviced; (b) balance of payments adjustment position and in particular the ability of the government to gain access to the *foreign exchange* needed to repay its foreign obligations (taking into account the countries' payment history, including arrears); (c) macroeconomic factors and in particular the ability of the government to secure sufficient *domestic currency* to repay its foreign debts; and (d) political and social factors or constraints which could reduce the ability of a government to repay foreign debts. A task force with participation from all the agencies engaged in medium- and long-term sovereign lending evaluates the credit risk presented by individual countries based on these factors. As these assessments are considered subjective and involve considerable elements of judgment, the interagency task force does not assign predetermined numerical values or weights to the individual variables but employs broad groupings. For each of the 35 variables, the country under review is placed into one of 11 different categories, 4/ and an overall rating using the same 11 categories is determined for each country on a judgmental basis. The relatively large number of categories is considered useful in that it limits the impact of moving a country from one category to the next and thereby reduces the potential

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1/ A number of responses were held in rather general terms and did not address the issue of governmental lending to sovereign borrowers.

2/ Sovereign loans are recognized as an outlay in the budget; nonpayment of the loan reduces the receipt side of the budget in the year the repayment is due. Governments operate on a budgetary (cash) cycle and generally do not recognize losses or impairment before payment is due.

3/ The Federal Credit Reform Act of 1990.

4/ These are shown in Attachment IV.

effect on the credit standing of the country and the always present possibility that the economic evaluation would be outweighed by political considerations.

Risk assessment followed by or prescribed for commercial banks

8. For understandable reasons--important among which are the preponderance of commercial considerations and the overwhelming importance of the need to protect the capital base of the lending institution--the assessment of risk in the extension of credit to sovereign borrowers is rather more fully developed for the private sector. The approach to risk evaluation by commercial financial institutions in regard to sovereign risk differs from country to country. 1/ In a number of the countries included in the survey, procedures for risk assessment and their relation to precautionary balances are left to the judgment of the individual institution subject, of course, to a *post factum* evaluation by the institution's auditors and, in some countries, the supervisory authorities. In others, the level of precautionary balances or provisioning for the credit extended to (private or sovereign) borrowers in individual countries is strongly suggested or even prescribed by the supervisory authorities - the matrix issued by the Bank of England and the (confidential) provisioning prescriptions of the U.S. Interagency Country Exposure Review Committee (ICERC) are the best known examples. 2/

9. Broadly speaking, the methodology used by the regulatory authorities in evaluating the precautionary balances to be set aside by commercial banks to cover the risk arising from their lending to sovereign borrowers can be classified into three broad categories: (a) the *mandatory or minimum level approach* which requires provisions equal to prescribed proportions for all transfer exposure in high-risk countries. 3/ The required percentages are determined by the supervisory authorities and no flexibility or judgment is allowed (the minimum percentages required to be established by U.S. banks are an example of this method); (b) the *systematic approach* which seeks to measure the degree of country risk according to a number of criteria to arrive at provisioning levels or ranges according to risk classification, such as employed in the Bank of England matrix; and (c) a *pragmatic approach* which leaves the responsibility to determine the adequacy of the level of reserves and provisions to each individual bank. In the majority of countries surveyed the amount and adequacy of provisions are determined by the individual commercial institution, but it is subject to the overview of the supervisory authorities which in turn may advise minimum levels of provisions. The pragmatic approach is used by 9 of the 20 countries for which

1/ In addition to provisioning against risk, commercial banks also follow nonaccrual policies for nonperforming loans that differ from country to country and may proceed to write off claims that are uncollectible.

2/ The Bank of England matrix is reproduced as Attachment V.

3/ Attachment VI provides a schematic overview of the different methods used by different countries. Often countries use a mixture of methods and the demarcation in the methodology is not always clear. The schematic presentation is therefore a simplification.

information became available during the survey, and the systematic method is predominant in 6 countries. The minimum level or mandatory method is found in 8 countries. (The number of countries in each category overlap somewhat because in a number of countries a mixture of methods is used and also some countries did not indicate any specific approach was being followed.)

10. To the extent that they were revealed, the risk assessment underlying these varying methods took into account a number of variables or factors which can be grouped into two broad categories: economic/financial factors and socio-political factors. The economic/financial assessment was based on various macroeconomic and financial indicators or ratios which differ from country to country or among lenders, but which usually include factors such as the debt service/exports ratio, the debt/GNP ratio, the ratio of debt to exports, the credit rating of the borrower and of the country (for transfer risk) and the rating of the country's debt in secondary markets, the experience of debt restructuring and moratoria, the balance of payments and reserves position, the economic structure and responsiveness to balance of payments adjustment measures, the country's past efforts at adopting and implementing policies toward correcting balance of payments difficulties, and the adherence to adjustment policies supported by the Fund. The socio-political variables taken into account included inter alia indicators of political stability, of the risk of war, the form of government (including participation of the military), the perceived commitment of the government to sound economic policies and good governance, indicators of foreign investor confidence, and the ongoing relationship with the international financial institutions, in particular with the Fund.

Practices of international financial institutions

11. Precautionary balances of the main other international financial institutions--mainly the multilateral development banks (MDBs) such as the IBRD, the IADB, and the AsDB--like those of the Fund are composed of reserves and other precautionary balances or provisions that are intended more specifically to provide protection against the risk of loss. However, in light of their very different capital structures and sources of loanable funds, a large part of their precautionary balances--in particular, reserves (or retained earnings)--also serve additional purposes.

12. Apart from the relatively small amount of paid-up subscribed capital, the working capital of the development banks is derived from borrowing in the national and international capital markets. To meet the requirements of these markets, the development institutions must adopt a strict interpretation of generally accepted accounting principles (GAAP) as they relate to the evaluation of and provisioning for possible loss. 1/ In addition, the development banks also hold substantial reserves and regularly add all or

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1/ For example, GAAP do not consider that retained earnings represent an appropriate provision against probable loss because operating and capital losses should be deducted from earnings prior to placement to reserves in order to avoid an overstatement of current income and of equity (including reserves).

part of annual net income to these reserves. An important aspect of reserve accumulation is to assure sufficient income and thus resources to meet interest payments to the lenders to the MDBs, and thus to assist in maintaining market access and the credit rating of the institution.

13. The World Bank recently raised the level of desired provisions for loan losses from 2½ percent to 3 percent of outstanding loans and callable guarantees, and it intends to increase these provisions pari passu with new lending in order to maintain them at that level. In determining the level of desirable provisions and to measure the general risk of extending credit, the World Bank evaluates the broad changes in the risk structure of the Bank's loan portfolio, based on the staff's judgment about individual country risk, global economic climate, loan concentration, and the Bank's lending plans. In order to evaluate individual country risk, the staff assigns a risk rating to each country--low, medium, or severe--based on the factors mentioned above. Global economic factors include economic growth, inflation, prices, world trade volume, and interest rates; country-specific factors taken into account include debt and debt-servicing history, economic factors, and social and political factors. Systemic risks, which are linked to lending to groups of countries whose economies are shaped by similar factors, are also evaluated (risk concentration). At present, risk concentration is analyzed (a) for countries in transition to market economies; (b) for countries that are high-risk oil producers; and (c) for lending to particular areas, e.g, Central America and the CFA Franc Zone. The Bank has taken steps to reduce its exposure to any one borrower to not more than 10 percent of the Bank's loan portfolio. In addition, the Bank takes into account the level of overdue obligations and credit exposure to members in nonaccrual status, i.e., members that are six months or more overdue in their payments to the Bank (credit outstanding to members in protracted arrears amounts to approximately 2.5 percent of total loans and callable guarantees). Individual country risk ratings and the impact of systemic or risk concentration factors are confidential and they are not made available to the Executive Board of the Bank when it considers staff proposals on the determination of the desirable level of provisions. In addition to loan-loss provisions, the IBRD each year adds part of its net income (derived mainly from the investment of the Bank's liquid resources) to reserves which presently equal about 13-14 percent of loans and callable guarantees.

14. The Inter-American Development Bank (IADB) switched in 1991 from a policy of setting aside annual provisions amounting to 10 percent of outstanding loans to members in nonaccrual status (first adopted effective in 1989) to provisions amounting to 3 percent with a goal of achieving overtime provisions in the order of 30 percent of outstanding loans. At the time, all previous arrears to the IADB had been discharged; and the target amount was determined with a view to provide for a possible loss of income from future protracted arrears. 1/ The fact that new arrears would require no adjustment in the level of provisions, thus avoiding instability of the net income position, was perceived as an important advantage of the new policy.

1/ For the purpose of determining the target amount, hypothetical future arrears were assumed to be twice the maximum arrears in the past.

In the determination of the reserves-to-loan ratio, the IADB also took into account the provisioning policy of the IBRD to which it is often compared in the capital markets and which at that time had just adopted a target ratio of 2.5 percent of outstanding loans and callable guarantees. Net income, derived mainly from earnings on the short-term investment of assets, is added to the IADB's reserves; these reserves in 1993 amounted to US$4.4 billion or somewhat more than 20 percent of outstanding loans, compared to the target amount of about 30 percent.

15. The Asian Development Bank (AsDB) has not experienced any overdue obligations and presently does not set aside any loan-loss provision for its public sector loans. However, its staff has recommended that provisions be established if any loans were to become nonaccruing. In order to protect its ability to service its obligations and to provide appropriate indications of financial prudence to the international capital markets, as well as to enable it to absorb loan losses without impairing its paid-in capital, the AsDB aims at a level of net income sufficient to maintain an appropriate relation of general reserves to outstanding loans. The Bank's present policy is to aim at a reserves-to-loan ratio similar to that of other IFIs; given its loan concentration the Bank considers a ratio of 25 percent appropriate at the present time. At end-1992, reserves amounted to US$4.4 billion (about 37 percent of outstanding loans).

16. The European Investment Bank (EIB) is primarily engaged in the financing of capital projects which contribute to the balanced development, integration, and economic and social cohesion of all member countries of the EC. Credits extended by the EIB are guaranteed by the member government in the territory of which the project is located, and therefore are considered to carry very low risk. Given the general absence of risk, the EIB maintains only nominal precautionary balances against these credits. The EIB also provides funding for projects in nonmember countries with which the EC has concluded economic and financial cooperation agreements. Such loans are extended on behalf and at the risk of the European Community (EC) and are funded by the EC. In order to provide protection against the risk of loss associated with such loans, the EC recently began to set aside a fixed portion of new loan commitments equal to 14 percent of all new lending until the reserves so established will equal 10 percent of outstanding loans.

17. The European Bank for Reconstruction and Development (EBRD) is in the process of developing a policy on risk assessment and precautionary balances but has not yet adopted specific guidelines for that purpose. In the interim, provisions at a rate of 5 percent on all loans and 8 percent on participations in equity investments are being established. The Bank intends to recommend a policy of establishing reserve targets of 10 percent on loans and 25 percent on participations in equity investments.

18. The MDBs base their assessment of risk and the precautions necessary to protect equity against loss on considerations that are in a number of respects similar to those used by the Fund. All institutions paid particular attention to the level of arrears, and aimed to cover all credits outstanding to members in protracted arrears. Two MDBs have established a goal to carry provisions equal to 3 percent of outstanding credit or commitments.

Other factors taken into account to evaluate *general* credit risk (i.e., in addition to the risk posed by overdue obligations covered by provisions) included (a) loan concentration (the exposure to a single country or to a number of countries in one geographic area or sharing characteristics subject to similar economic risks), (b) economic factors such as GDP growth rate, gross domestic savings rate, gross domestic investment rate, trade balance, exports and imports, external debt, and debt service ratio, and (c) readiness of borrowers to undertake or continue growth-oriented economic adjustment programs.

19. In addition, the MDBs also take into account the potential impact of loss on their net income and the effect an income shortfall would have on their access to the international capital markets. These institutions therefore carry precautionary balances (reserves and provisions combined) that are considerably larger than those of the Fund. These institutions also have to follow accounting practices that are more closely related to those applied to commercial banks. Under GAAP, reserves--representing retained earnings rather than provisioning against probable loss--usually are not taken into account when determining the adequacy of coverage against losses, which are to be covered by general provisions or specific loan-loss allowances. The ratios of precautionary balances (reserves and provisions in the MDBs, reserves and SCAs in the Fund) to loans or credit outstanding therefore are not strictly comparable and need to be interpreted with caution. 1/ Reserves plus provisions range from approximately 14 percent of credit outstanding (for the AfDB, EIB, and IBRD) to about 25 percent (IADB) and 37 percent (AsDB), compared to approximately 10 percent in the Fund. Strict loan-loss provisions of the MDBs are in a range of zero to three percent of credit outstanding.

20. Conclusions

The following broad conclusions may be drawn from the above:

a. While the factors used in risk assessment by members and by other financial institutions, both public and private, are broadly similar, they are not necessarily evaluated in the same way. For example, the rescheduling of existing indebtedness is likely to indicate enhanced risks for commercial lenders and, perhaps, the MDBs, while for the Fund a rescheduling of debt in the context of a Fund arrangement would usually appear as an additional financing item and most likely would be considered as an *enabling or risk-reducing* variable. The importance of an adjustment program supported by the Fund would also be assessed differently, though it would be considered as an indicator of reduced risks by both the Fund and by other lenders. Nevertheless, while the Fund would not extend (additional) credit unless balance of payments viability in the medium term was considered likely, for other lenders the existence of such a program would be only one among a number of supporting variables;

1/ These ratios are summarized in Attachment VII, Table 1.

b. The level of desirable precautionary balances differs considerably among international lenders, both public and private. While most lenders aim at full coverage of protracted overdue obligations, only a few lenders, including the Fund, aim also to cover *total credit extended* to members in protracted arrears. However, unlike almost all other sovereign lenders, the Fund has not explicitly taken into account any risk of loss associated with credit extended to members that are current in payments to the Fund as they fall due. In this respect the Fund's approach is similar to that of the U.S. ICERC whose provisioning prescriptions are largely based on nonaccrual criteria and attach relatively little weight to a *projection* of *potential* overdue obligations. Moreover, the Fund's policies differ from those of the MDBs in that consideration of the desirable level of precautionary balances in the Fund is based exclusively on *prudential considerations* and does not take into account net income in future years which is an important factor in determining the targeted addition to reserves of the MDBs. This difference between the Fund and the MDBs in turn reflects differences in the manner in which the Fund and the MDBs set charges on the use of resources provided to member countries, and the impact of these different methods of setting the rate of charge on the net income of the organizations;

c. The assessment of risk of loss in sovereign lending involves in almost all cases *a broad process of subjective and judgmental evaluation* of a variety of factors, including both quantified macroeconomic data and nonquantifiable socio-economic and political judgments. The few, but important, exceptions include the provisioning prescriptions for sovereign risk exposure of *private financial institutions* of the U.S. ICERC and the largely formalized risk assessments developed for U.K. financial institutions by the Bank of England;

d. The policies regarding the accumulation of precautionary balances reflect not only different considerations of risk but also differences in the financial and capital structure of the various institutions;

e. The relevance of the reserve accumulation policies of other international institutions as a guideline for the Fund must be tempered to take into account their institutional differences and aims and, in particular, their financial structures and internal financing arrangements.

III. Evaluation of Risk in the Fund

Evaluation of risk in general

21. The evaluation of risk associated with the extension of credit is, of course, not an issue that is unique to the Fund. Risk analysis needs to be undertaken by all financial institutions making credit available with extended repayment terms, and the methods used for this purpose by other official institutions have been discussed in the preceding section. For commercial enterprises that extend a large number of relatively small loans, many of which share some common characteristics, such an analysis can *inter alia* be based on the *experience of payment arrears* or default rates over time. Some average rate of payment arrears or of default provides a basis

for determining the probable loss experience in the future, and hence the desirable level of precautionary balances to protect the institution's capital from erosion. In this context, risk is a matter of probability based on past experience of loss.

22. The problem of evaluating credit risks faced by the Fund (and other multilateral financial institutions) differs in two important aspects. First, credits extended by the Fund are relatively few in number (and normally much larger in size) compared with loans extended by commercial financial institutions. 1/ Second, and perhaps more importantly, although it has experienced protracted arrears in recent years, the Fund has never suffered an outright loss through a formal default on an outstanding credit to a member country (nor, for that matter, has any of the other multilateral financial institutions). It is thus not possible to draw on its experience in the past which the Fund could, with some confidence, expect to be repeated in the future and which could thus provide a reliable guidance to exposure to risk of loss.

Fund experience with overdue obligations

23. Protracted arrears in payments to the Fund increased throughout the second half of the 1980s and their level peaked in absolute terms in December 1992 at SDR 3.5 billion; as a proportion of outstanding credit the highest level was 13.7 percent in November 1990. 2/ Since then, both the absolute level of arrears has fallen and the total of outstanding credit has risen so that the ratio of arrears to outstanding credit now amounts to 10.4 percent. While the Fund may not have to recognize a loss on a large part, if any, of these protracted arrears, it nevertheless could be argued that these arrears provide some indication of the Fund's likely future exposure to the risk of loss, and a number of different statistics could be drawn from the Fund's experience since 1984. These include the average proportion of arrears over a period of years in relation to outstanding credit, or the maximum proportion of arrears in relation to outstanding credit, or the (average or maximum) proportion of arrears to quotas, or the proportion of payments not settled when due to maturing payments over a period, or some other similar measure.

24. While such an approach at first sight may seem reasonable in assessing the Fund's potential losses, none of these indicators--which derive from the same underlying set of statistics--reflects developments since the adoption of the *Strengthened Cooperative Strategy to Resolve the Problem of Pro-*

1/ While some sovereign credits in international capital markets have been very large, these have normally been syndicated among a number of lenders, thus distributing the risk fairly widely.

2/ Precautionary balances and overdue obligations to the Fund are shown in Attachment VII, Table 2.

tracted Overdue Payments. 1/ The Fund's response to the problem of protracted arrears that arose in the mid-1980s focussed on the risk in credit extension for prolonged periods of time along two lines. First, the Fund, when extending credit, began to consider more fully the future availability of financial resources to enable a member to meet repurchase obligations when they fall due. In this regard, the Fund introduced an extended capacity-to-repay analysis in all papers on the use of Fund resources. Second, the Fund intensifies its policy dialogue with members using the Fund's resources when it appears that problems that may affect future repurchases may be emerging. Although the problem of protracted arrears clearly has not been fully resolved, the Fund's policy responses may be judged to have had a considerable degree of success. Abstracting from arrears that in part reflected difficulties in making transfers associated with the imposition of international sanctions on payments, only two members have incurred protracted arrears since the adoption of that policy, while six of the eleven members that had protracted overdues at end-1989 are now current in payments to the Fund. Two of the remaining five members in protracted arrears are seeking a solution of the arrears problem in the context of rights accumulation programs, with two of the other three members experiencing civil and political turmoil that has severely disrupted the normal functioning of government.

25. The Fund's experience with the settlement of overdue obligations thus has improved markedly in the last few years. Some of this improvement may be attributed to recent economic conditions, and in particular the comparatively good economic performance of many developing countries. However, to some extent at least the improvement could also be attributed to changes resulting from the *Strengthened Cooperative Strategy.* That policy is likely, through its precautionary, preventive, and deterrent aspects, to have diminished to some degree the risk faced by the Fund of protracted arrears in the future, and thereby rendered past experience regarding arrears less relevant as an indicator of possible future developments.

Risk related to members in protracted arrears

26. The most immediate risk of loss arising from credit extended by the Fund relates to purchases outstanding to members overdue in meeting payments to the Fund, and in particular to members in protracted arrears. The staff has proposed, therefore, that precautionary balances should be fully sufficient to cover the amount of credit outstanding to these members. 2/ (It will be recalled that arrears on charges are offset under burden sharing.) When new arrears on payments to the Fund occur, the Fund needs to consider whether additional protection against the risk of loss is necessary

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1/ See, e.g., the *Measures for Prevention/Deterrence of Overdue Financial Obligations to the Fund--Strengthened Timetable of Procedures* attached to the Managing Director's statement on the *Strengthened Cooperative Strategy on Overdue Financial Obligations to the Fund* at Executive Board Meeting 90/37 (3/16/90).

2/ See *The Fund's Precautionary Balances and Factors Bearing on Their Adequacy* (EBS/93/84, 6/2/93).

or desirable, taking into account the likelihood, and based on the Fund's experience, that these newly overdue obligations would promptly be discharged. Under this approach, additional precautionary balances would begin to be established at the latest when arrears become protracted--i.e., after six months when the member is put on a nonaccrual basis and income begins to be deferred--and the additional precautionary balances would cover not only overdue obligations but also the credit that is outstanding but has not yet fallen due, as it would not appear prudent to assume that a member that does not discharge (protracted) arrears would meet future obligations as they mature. As noted above, Executive Directors have generally agreed with this approach.

27. One exception to the rule that precautionary balances should fully cover the total of credit outstanding to members in protracted arrears, rather than only the amount of overdue obligations, could be related to members which are following rights accumulation or similar Fund-monitored programs. An important part of such programs is the avoidance of an increase in arrears--that is, an undertaking to discharge at least maturing obligations to the Fund as they become due. In these instances, the requirement that precautionary balances should be built up to provide *full* coverage of credit extended to these members, including credit that is not yet due, might be considered conservative. This could be taken into account in a judgmental manner when evaluating the overall adequacy of the Fund's precautionary balances.

28. When members in protracted arrears discharge their overdue obligations, the question arises whether the level of precautionary balances that was built up to cover the risks associated with the overdue obligations of these members would be no longer needed. In most cases, such settlements are linked to renewed (and often enlarged) use of Fund resources, so that the overall exposure of the Fund does not decline. 1/ In the staff's view, the question whether precautionary balances are relatively high following the settlement of protracted arrears could be considered--other things being equal--when credit extended to a member formerly in protracted arrears was being repaid and the member's indebtedness to the Fund reduced. In the meantime, the level of precautionary balances should be judged in the context of the member's renewed use of the Fund's resources after it had cleared its overdue obligations.

Risk linked to credit outstanding to members that are current in meeting obligations

29. The exposure of the Fund to a potential risk of loss on credit extended to other members--i.e., those members that continue to meet financial obligations as they fall due--is likely to be low, or even minimal, compared with

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1/ Some of the follow-up exposure may be covered through the second Special Contingent Account (to the extent that the encashment of rights is financed by the use of GRA resources) or by the ESAF Reserve (when ESAF resources are used). Nevertheless, some degree of risk continues to rest ultimately with the Fund.

the risk associated with members in protracted arrears. Members in severe balance of payments problems have recourse to the Fund's resources usually in the upper credit tranches--which represents the largest part of outstanding Fund credit--and such credit is provided only in the context of an agreed program of economic adjustment policies designed to achieve a viable balance of payments position over the medium term. To the extent that the adjustment program achieves its purpose and leads to an improvement and eventually to viability of the member's balance of payments position, the risks for the Fund as regards the member not making repurchases when obligations mature are substantially diminished. It is the undertaking of the member making use of Fund resources to pursue appropriate adjustment policies on which the extension of Fund credit is based (and the associated analysis of prospective balance of payments developments and of the member's capacity to repay by the time repurchases fall due) that provides the primary security for the Fund's assets made available to member countries in the context of adjustment programs. In addition, the Fund has been accorded preferred creditor status by the membership. The link of the use of Fund resources to policy adjustments accordingly allows the Fund to provide financial support to its member countries in circumstances where lenders governed by commercial prudential considerations may not be prepared to extend credit on their own.

30. Nevertheless, and disregarding early repurchases, which are infrequent, Fund credit remains outstanding for 3½-5 years (under stand-by arrangements) or 4½-10 years (under extended arrangements), and considerably beyond the period actually covered by the programs of balance of payments adjustment. Moreover, when a member makes use of Fund resources under a number of successive arrangements, credit can remain outstanding, on a gross basis, over a relatively long period of time. For a number of reasons--including weakness in the design or implementation of adjustment programs, the possibility of unanticipated adverse developments and shocks, or of a failure to follow appropriate policies *after* Fund-supported adjustment programs have been completed--balance of payments viability may not be achieved as had been intended under the adjustment programs supported by the use of Fund resources. Notwithstanding the preferred creditor status that members have accorded the Fund, there thus remains some risk of arrears in the discharge of payments due to the Fund arising at a stage following the expiration of the Fund-supported adjustment program in the context of the extension of Fund credit.

Evaluation of risk on credit extended to
members current in payments to the Fund

31. The Fund regularly conducts consultations with all its members, and in this context it evaluates the policy stance of members, including those facing balance of payments difficulties. These consultations include an assessment of the progress toward the establishment of a viable balance of payments position by members making use of Fund resources, whether under a current arrangement or reflecting such use under past arrangements. For those members under a current arrangement with the Fund, the staff in any event carries out regular reviews of members' economic policies in accordance with the terms of the arrangement and these reviews are

considered by the Executive Board. These reviews, inter alia, identify potential problems at an early stage and through timely discussions with the authorities of borrowing countries and appropriate policy adjustments help limit risk to the Fund. For members which no longer have arrangements with the Fund, the staff reviews with the authorities developments in domestic policies and the external position and in that context pay particular attention to the early identification of emerging problems which could eventually lead to delays in payments to the Fund. 1/ These dialogues are carried out primarily in connection with the Article IV Consultation discussions, but also include other staff visits if developments indicated the desirability of having further discussions on corrective measures in the intervening period. These consultation discussions in the Executive Board can also serve as a basis for periodic reviews by the staff, as discussed further below, of the likelihood that the member at some stage in the future might no longer meet current obligations and so incur protracted arrears, and thus present a risk to the Fund of exposure to loss.

32. The Fund's exposure to risk normally may be judged lowest in relation to credit extended to members that continue to implement a Fund-supported adjustment program or that, while no longer implementing a Fund-supported adjustment program, have a viable balance of payments position or are on the way toward achieving balance of payments viability. In contrast, the Fund's exposure to risk is likely to be more substantial to the extent that credit is outstanding to members that no longer implement appropriate adjustment policies and do not appear to be progressing toward balance of payments viability. The element of risk to the Fund in its outstanding lending will be analyzed, in the following paragraphs, in terms of these distinctions in the progress toward balance of payments viability.

33. As mentioned above, the security of the Fund's assets extended to members that have proposed or are in the process of implementing an adjustment program supported by the use of Fund's resources (which may also have credit outstanding from purchases under earlier arrangements) rests, in the first place, in the quality of the adjustment program that aims at re-establishing balance of payments viability in the medium term. In these circumstances, the Executive Board evaluates the request for the use of Fund resources at the time it is considered and approved. The documentation provided to the Executive Board at the time it considers a request for the use of Fund resources usually includes not only a description of the member's economic situation and of the proposed program but also a sensitivity analysis of the impact of adverse shocks--a description of potential developments under alternative scenarios--in the context of an analysis of the member's expected capacity to repay the Fund. The staff has developed

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1/ Prevention is an integral element of the *Strengthened Cooperative Strategy*. As a matter of course, the staff monitors closely members' performance with respect to payments due to the Fund, and if at any time it appears likely that difficulties may emerge in this respect, the staff intensifies the dialogue with the member regarding appropriate policy adjustments and/or the adoption of specific arrangements to ensure timely payment to the Fund.

internal guidelines for these analyses which seek to ensure consistency of treatment among members. The main elements considered in this context are reflected in Table 1. The data provided in these analyses and the conclusions drawn from them as regards the strength of the program, the sensitivity of the attainment of balance of payments viability to adverse developments or exogenous shocks, and hence the risk that the adjustment process may come off track, could also provide a basis for judgments whether or not the proposed use of Fund resources presents *particular risks* of future arrears that would suggest the need for an increase in the Fund's precautionary balances.

34. The success of a program of balance of payments adjustment rests on the persistence of the member in pursuing appropriate adjustment policies and, if it becomes necessary, its willingness to modify these policies in the face of unforeseen adverse developments or shocks. Consequently, for the purpose of analyzing the risk element in Fund credit, a distinction needs to be made between members with outstanding purchases that appear to be following appropriate economic policies and are considered progressing toward achieving a viable balance of payments position so that they are expected not to require further Fund-supported adjustment programs, and those members whose economic policies might not be expected to achieve medium-term viability. The discussion of economic developments and policies in the periodic staff reports on Article IV Consultations give attention to members' debt and debt service position and prospects in case of debt outstanding to the Fund. This analysis could be extended in the future so as to provide an improved basis for assessing the current situation and prospects over the period as long as purchases remain outstanding by the member.

35. In the event that it appears that a member is not making reasonable progress toward a viable balance of payments position, and currently is not following policies that could reasonably be expected to achieve viability over the medium term, then this development would also be analyzed in the staff report. It is these countries that might be considered most likely to present a risk of arrears in the future, unless appropriate policies were to be adopted and successfully implemented not only in the period before repurchases to the Fund became due but while repurchases are being made. While describing economic developments and discussing policy adjustments that may be called for and, in particular, adjustments aimed at enhancing the member's external prospects, the staff reports would discuss the potential impact of these developments on the member's debt service, including payments to the Fund as well as to those multilateral institutions (e.g., the World Bank) which have similar preferred creditor status as the Fund.

Determination of the need for additional precautionary balances

36. The discussion and analysis presented in these reports--as well as important developments occurring subsequent to their consideration by the Executive Board--would be taken into account by the staff in presenting its review of the adequacy of the Fund's precautionary balances as discussed further below.

Table 1. Factors Considered in the Assessment of Members' Capacity to Service Financial Obligations to the Fund

Experience with debt service

- Past record with the Fund and Bank
- Extent of compliance with obligations during BOP difficulties
- Extent to which any rescheduling has been orderly
- Institutional changes which may alter debt service behavior

Prolonged use of Fund resources

- Complete review of experience under recent arrangements
- Extent of progress toward meeting external viability targets
- Explanation of deviations from proposed adjustment path
- Stronger policy justification where progress deemed insufficient

Medium-term assessment of BOP viability

- Stance, strength, and timing of policy adjustment
- International reserves management
- Success in past policy implementation as guide to slippages
- External environment assumptions - sensitivity analysis and past volatility of key variables
- Contingency plans, including CCFF
- Total debt/GDP
- Short-term debt to reserves
- Debt service to current account receipts
- Current account balance to GDP
- Reserves to imports
- Financing assumptions by creditor group and financing gaps
- Degree of assurance of inflows
- Medium-term debt scenarios - maturity structure
- Financial obligations to IFIs with preferred creditor status
- Bunching of repurchases
- Limitations on use of foreign exchange (export receipts)
- Repurchases and charges in relation to: exports, total debt service, gross international reserves, fiscal receipts
- Fund credit outstanding in relation to: GDP, exports, total external debt, quota
- Prospective nonreschedulable debt service payments in relation to total debt service payments
- Possibility of debt reduction operations increasing Fund exposure

Continuing dialogue with members

- Early identification of problems which may delay payments

37. In view of the sensitivity of the matter, it would seem necessary that the analysis of the Fund's exposure to risk regarding credit extended to individual countries and the evaluation of the adequacy of its precautionary balances were made by the staff, say, in the context of the annual review of the Fund's financial position, and only the aggregate result of the evaluation be submitted to the Executive Board as a basis for its discussion of the need for any change in the level of these balances. The World Bank follows this approach in that the staff reviews the risk in the Bank's portfolio and, if it deems it appropriate, proposes a change in the Bank's reserve policies. This approach permits the Executive Board to accept, modify, or to reject the staff's recommendations as regards the adequacy of the precautionary balances and the qualitative discussion and narrative provided in the staff's report. The Executive Board would have been appraised in the context of Article IV Consultation reports of economic developments and their potential impact at the time when repurchases fall due; it would not, however, be provided with the underlying detailed individual country-risk assessments.

38. Against this general background, a number of alternatives could be considered for helping to determine the need for precautionary balances *in addition to* those intended to safeguard credit extended to members in protracted arrears. Three such approaches are discussed in the remainder of this section: (a) an assessment of precautionary balances on the basis of credit extended *to individual member countries* indebted to the Fund (or at least those with credit outstanding in excess of an agreed minimum); (b) the determination of precautionary balances as a proportion of the *aggregate amount* of credit extended to member countries, either in terms of total credit (including credit to members in protracted arrears) or of total credit only to those members that are current in meeting payments to the Fund; and (c) the development of some *quantitative indicator of risk*, as suggested by some Directors, that might assist in coming to a judgment whether the Fund's exposure to risk is increasing or declining, and which thereby would facilitate the evaluation of the need for changing the rate at which precautionary balances are being accumulated by the Fund.

Determination of country-related precautionary balances

39. One of the Fund's responsibilities in the international financial system is to support members' adjustment efforts, which is inescapably associated with risks. The staff's continued monitoring of economic developments in member countries has the consequence of monitoring those risks to the Fund and also, by helping to identify cases where corrective action might be advisable, helps to reduce those risks. In their monitoring of a member's economic developments, in particular of those members with credit outstanding from the Fund, the staff pays close attention to developments that would bear on a member's ability to maintain payments to the Fund as they fall due. Indeed, in connection with the strengthened cooperative strategy on overdue obligations to the Fund, Executive Directors stressed that preventive measures are the key element in the strategy. In this connection, the staff would take into account in its assessment of risk the same kinds of factors that are taken into account currently in the analysis of a member's capacity to repay in connection with members' use of the

Fund's resources. In addition, the likelihood of adjustments by a member in its economic and financial policies which would help resolve any emerging balance of payments difficulties during the period that the member has outstanding obligations to the Fund would also need to be taken into account. In its monitoring, the staff would give some weight to the length of the period over which continuous use has been made of Fund resources, on the hypothesis that--other things being equal--the longer Fund credit is outstanding (and possibly rising), the more likely it is that policy adjustments to resolve balance of payments difficulties in the past have been insufficient and the more difficult the eventual *net* reduction in such credit is likely to be. Other factors include political risks, such as the possibility of war or civil disturbances, although these risks, which are not within the realm of economic analysis, usually would appear more difficult to project and evaluate.

40. Another set of factors that may be considered relevant proceeds from the presumption that all credit extended by the Fund under a *particular* facility is based on similar conditionality, but that the causes giving rise to use of Fund resources under *different* facilities are not the same, and accordingly the conditionality associated with different facilities may also differ. Although there would not appear to be much evidence to support such an argument, it could be thought that differences in repayment experience might in the future be linked not so much to member countries as to the particular facility under which Fund credit has been used and the conditionality with which such use has been associated. For example, the determination of access to Fund resources under the compensatory element of the Compensatory and Contingency Financing Facility (CCFF) assumes that a reversal of shortfall in export earnings will facilitate the availability of resources to meet repurchases when they fall due; such projections are clearly subject to uncertainties. 1/ Similarly, requests for purchases under the Systemic Transformation Facility (STF) are based, among other things, on the presumption that an adjustment program meeting the requirements of purchases in the upper credit tranches will be adopted in the future; and it could be argued that the Fund is exposed to increased risks as long as the member has not adopted such a program. Moreover, total access may exceed the amounts that would be made available to members not qualifying for access under the STF, entailing an additional element of exposure to risk. Notwithstanding these possibilities, there would not seem to be any strong reason to single out Fund credit extended by facility for purposes of determining the adequacy of the Fund's precautionary balances. It would thus seem appropriate to make assessment relating to total credit outstanding in entering into the judgment of the desirable level of precautionary balances against credit outstanding to members not in arrears.

1/ While this summary description clearly is very much of a simplification--e.g., purchases under the CCFF require conditionality of increasing strength the larger the proposed purchases--resources that can be made available in compensation are based on export shortfalls that are calculated as deviations from a five-year geometric average, including projections for two future years.

41. This approach of assessing periodically the need for precautionary balances on the basis of an evaluation of the risk of future arrears for members that are presently current in meeting their obligations to the Fund raises a number of issues. For example, it may be difficult to draw a clear-cut conclusion from the analysis of recent economic developments and policy developments as regards the risk element in outstanding credit to a particular member. Furthermore, the analysis made in the context of consultation discussion may have become outdated; and new elements may have arisen that did not trigger a special consultation but might nevertheless affect the medium-term external financial outlook of a member. Some of the factors considered relevant to assess risk (listed in Table 1) reflect past experience, which may or may not be an indicator of future developments. Other factors will be difficult to evaluate--for example, while higher debt service ratios might suggest the possibility of payments difficulties, quantitative analysis does not indicate any clear relation between the level of such ratios and payments arrears to the Fund. 1/ Moreover, a number of the factors listed as relevant--for example, the reasons for deviation from the adjustment path, or the strength and timing of future policy adjustments to unforeseen developments--may involve issues of political judgment on which views may reasonably differ widely.

42. In view of these uncertainties, it would also be desirable to avoid attempting fine-tuned judgments of the need for additional precautionary balances in terms of the risk of future arrears; instead, an evaluation of such need in terms of risk might be based on a few broad classes of members which the staff would take into account in making the overall assessment of the adequacy of the Fund's precautionary balances. For example, members indebted to the Fund might be thought of as falling into three broad classes: (a) those which pose virtually no risk of arrears and potential exposure to loss--probably the largest group of members--for which no additional precautionary balances would be deemed necessary. This group would include members continuing to implement a strong adjustment program, or members that are in a viable balance of payments position or are well on the way toward viability, and that have an excellent record of meeting obligations as they fall due; (b) those for which the risk of potential arrears is not substantial but could not be excluded and therefore consideration should be given to the need for additional precautionary balances. This group may include countries that are subject to particularly large uncertainties, or members with adjustment programs that have gone off track; and (c) another group for which the risk that future payments may not be met on time appears more substantial. This group would include, *inter alia*, members that neither are following an adjustment program nor are deemed to making progress toward balance of payments viability and whose record of

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1/ While many of the countries that incurred protracted arrears to the Fund had comparatively high debt ratios, an equally numerous group of countries with similarly high ratios continued to meet payments to the Fund as they fell due. This observation holds for a number of other characterizations of members in arrears and members remaining current with the Fund. See the forthcoming paper *A Comparative Characterization of Cases of Arrears to the International Monetary Fund* (to be issued shortly).

past payments performance had given some concern. Some proportion of credit outstanding to members in the second and third categories--those deemed to present some degree of exposure to risk--could then be covered by precautionary balances, and additions to these balances would be proposed if their present level was not judged to be broadly sufficient to cover the exposure.

43. For illustrative purposes, the staff has undertaken an initial evaluation of credit outstanding to the largest debtors (accounting for about 85 percent of Fund credit outstanding in late 1993 1/). This evaluation suggests, on a very tentative basis, that about SDR 3-3.5 billion of credit (of a total amount of credit outstanding of some SDR 25 billion) could be placed in the two classes of members considered to present a somewhat greater exposure to risk. Under present circumstances, none of these credits would appear to be in imminent risk of arrears; in fact, discussions on new programs supported by the Fund are progressing with some of these members. Nevertheless, in the discussion of the adequacy of the Fund's precautionary balances in June 1993, some Directors indicated that it would be reasonable if some proportion of these credits might be covered by precautionary balances.

44. There remains the question as regards the determination of what an appropriate proportion that needs to be covered might be. As shown in the review of the practices of other international institutions, there exist no clear or agreed guidelines for this purpose; in the last resort, this is a matter of judgment. In these circumstances, it may be reasonable to consider precautionary balances in the order of, say, 5 percent and 10 percent, respectively, of credit outstanding to members in the two groups considered to present a somewhat greater risk; there would be a presumption that these proportions would be relatively stable unless circumstances change substantially. Within this framework, precautionary balances of about SDR 200-300 million would be regarded as broadly sufficient to cover the risks associated with credit extended to members current in meeting their financial obligations to the Fund. An alternative, or complementary, approach would be to relate the level of precautionary balances in excess of credit outstanding to members in protracted arrears to credit in the more risky categories. For example, assuming the Fund's exposure to risk in relation to overdue obligations, and which needs to be fully covered, is equal to the credit outstanding to members in protracted arrears, the present level of precautionary balances would provide broadly sufficient coverage of the perceived risk associated with credit extended to members current in meeting their financial obligations to the Fund even if it were assumed that, say, 20-25 percent of such credit might fall into arrears.

1/ The initial analysis has been limited to the 20 members that are the largest users of Fund credit, with liabilities to the GRA of more than SDR 200 million each and which account for about 85 percent of total credit outstanding (see Attachment VII, Table 3). Even if the incidence of loss would be assumed to be higher for countries with less credit outstanding in the GRA, the effect on the need for precautionary balances would be limited.

45. It is not possible to come to a definite conclusion on *a priori* grounds regarding the issue of whether the Fund should hold (or aim for) a certain level of precautionary balances against credit extended to members presenting differing degrees of risk, but which are continuing to service their obligations to the Fund, or what that level might be. The risk element in Fund lending is not captured by a specific figure but rather reflects a margin of riskiness which broadens or narrows depending on many circumstances, as noted above. Moreover, the relationship between risk and the level of precautionary balances is not constant. While the element of risk in Fund lending would generally be relatively low, at particular times, and perhaps for systemic reasons, the perceived level of risk undoubtedly would increase.

46. In principle, minimal risk should call for no precautionary balances while at very high risk, the Fund should be prepared not to extend credit. As concerns credits between these two extremes, it would not seem feasible to determine on strictly quantitative grounds and with any degree of reliability or accuracy a minimal--or desirable--level of precautionary balances in relation to credit outstanding, taking into account the differing degrees of risk for individual members discussed above; for the same reasons, it would not appear feasible to indicate the amount by which such balances should be increased in the light of changing circumstances. While a target level of precautionary balances of, say, equivalent to 5 percent and 10 percent of credit outstanding to members which may be judged to represent the more risky (in terms of timely repayment) outstanding credit have been used above, such a target could be justified only in general terms, such as broad prudential considerations, or comparisons to the practice of other IFIs, or by a "feeling" of adequacy.

Precautionary balances related to total credit outstanding

47. An alternative to the assessment of the need for additional precautionary balances (and its possible amount) in terms of the credit outstanding to individual countries would be to link such an assessment to the *total volume of Fund credit outstanding to all member countries*. This approach, which was put forward for the consideration of Executive Directors at the occasion of the last discussion of the Fund's precautionary balances, 1/ has the advantage of reducing the potential difficulty that the staff's assessment of risk regarding individual countries becomes known, with all the attendant problems to the member's credit standing and possibly its financing efforts in the international markets. Such an evaluation based on total credit outstanding could also take into account the concentration of credit among member countries. The staff had proposed for consideration that the Fund should aim for a desired level of precautionary balances of, say, 3-5 percent of total credit outstanding. Alternatively, some Executive Directors suggested at EBM/93/86 a target that would be set as a proportion related only to credit extended to those members that are current in their payments to the Fund.

1/ See *The Fund's Precautionary Balances and Factors Bearing on their Adequacy* (EBS/93/84, 6/2/93).

48. The preference for using total outstanding credit as a basis to measure the adequacy of the Fund's precautionary balances took into account the expectation that most or all of the members in protracted arrears eventually would become current in their payments to the Fund. In addition, it appeared unwarranted to give the impression that some of the Fund's precautionary balances were akin to specific provisions to cover the risk of loss posed by a specified country or group of Fund member countries. The ratio of 3-5 percent of outstanding credit suggested by the staff in EBS/93/84 was illustrative and was to be regarded as a *judgmental* indication which reflected the Fund's experience with protracted arrears in the past decade as well as the Fund's response to that problem, which aimed at ensuring that overdue payments would remain a relatively small proportion of outstanding Fund credit. The ratio of outstanding credit to be covered by precautionary balances could be reviewed and be changed if it appeared desirable to do so in the light of all relevant circumstances, though fine-tuning changes would be avoided. An important factor in these reviews might be the concentration of use of Fund resources by members with large quotas; and one consideration might be that precautionary balances should not fall below some proportion of credit outstanding to any one member.

49. A number of Executive Directors, assuming credit to members in protracted arrears would be fully covered by precautionary balances, suggested that *additional* reserves would be intended to cover risks associated with credit to members *not* in arrears and accordingly should be determined as a proportion of credit outstanding to these members. The ratio therefore would indicate desired precautionary balances *beyond* those needed in respect of credit to countries in arrears to the Fund as discussed above; the proportion set aside as precautionary balance of the Fund's outstanding credit that continued to be serviced on a timely basis would, of course, be much smaller than the 3-5 percent mentioned above. Taking into account the Fund's response to the problem of arrears as well as the generally positive results of that response, there would not appear to be much of a basis for an *a priori* determination of such a ratio using only economic factors.

50. In view of the presumption of the Fund's preferred creditor status, the expectation that the balance of payments problems of members in protracted arrears eventually will be resolved, the general difficulty in projecting the risk that members current in payments to the Fund would fall into arrears which could reasonably be taken to reflect the exposure to risk of the Fund, and of projecting changes in such exposure, the staff is of the view that the judgment on the amount of any additional precautionary balances that may be needed would more reasonably be based on a proportion of precautionary balances to outstanding credit, even if that proportion necessarily would be largely judgmental.

Risk indices

51. A third alternative for assessing the risk in Fund lending and the consequential need to ensure the adequacy of the Fund's precautionary balances would be to seek to relate the desirable level of precautionary balances to an index which might provide a quantified assessment of the Fund's overall exposure to risk, and then link changes in the Fund's pre-

cautionary balances to changes in the index. When this issue was raised at EBM/93/86, Executive Directors stressed that, while such an approach might serve as a useful tool in this regard, it could not, in the final analysis, substitute for judgment. The staff has made illustrative calculations that could provide a broad indication of how such a method might work. These calculations are summarized in Attachment VIII, together with a description of the methodology and the variables used in the calculations.

52. The illustrative calculations summarized in Attachment VIII necessarily use a number of disparate variables drawing for the most part on factors taken into account in the capacity-to-repay analyses. While there may be broad agreement on the variables that are relevant in evaluating the potential future risk of arrears, there is no empirical basis to determine a unique set of appropriate weights to be attached to the various factors used in the analysis. The weights used in the illustrative calculations were derived from data relating to arrears in the 1980s (as described in the Attachment), but equally valid reasons could be presented for other approaches or weighing systems. The fact that other calculations, including additional variables or different weighing systems, would lead to very different results emphasizes the strictly illustrative character of the calculations.

53. Another difficulty of the index approach is that the index gives no indication of a desirable level of precautionary balances. Nor is there a direct link between changes in the index and changes in quantifiable exposure, and no attempt has been made to link additions to precautionary balances to the index. Nevertheless, allowing for the limitations of this approach, a risk index could be considered a supplementary indicator of overall changes in the general level of riskiness in the Fund's overall exposure in the amount and distribution of credit outstanding to members that are current in their payments to the Fund if there were general agreement of the variables included in the calculations and on their weight.

General guidelines for the evaluation of precautionary balances

54. Three alternative approaches to the evaluation of the Fund's precautionary balances and desirable additions to these balances in the light the Fund's exposure to risk in relation to existing protracted arrears and of the risk that arrears would arise in the future have been outlined in the preceding paragraphs. It would appear desirable to develop, in the light of Executive Directors comments on these alternative approaches, some general guidelines for the determination of a general order of magnitude of precautionary balances that might be deemed appropriate for the Fund in the light of the staff's assessment of the distribution of risk in Fund lending.

IV. Other Issues Bearing on the Adequacy of the Fund's Precautionary Balances

55. When the Executive Directors discussed the level and adequacy of the Fund's precautionary balances at EBM/93/86, Directors raised a number of issues which they felt also had a direct bearing on the analysis of the Fund's reserves in addition to the risk in the Fund's lending. In particular, Directors raised the issues of (a) the role of the Fund's gold holdings in the assessment of the adequacy of its reserves; (b) the issue of a write-off of the Fund's assets and the recognition of a loss; (c) the role of the second Special Contingent Account, which was established in mid-1990, in the assessment of the Fund's precautionary balances; and (d) the issue of the incidence of the cost of ensuring that the Fund carries adequate precautionary balances. The first two of these issues are discussed briefly in the succeeding paragraphs, while the third and fourth question are considered in separate papers. 1/

Asset valuation (hidden reserves - undervaluation of assets)

56. In their discussion of the adequacy of the Fund's reserves, some Directors suggested that the Fund's gold holdings should be considered because these holdings were substantially undervalued in the Fund's balance sheet and therefore contained a large element of a "hidden" asset. 2/ There can be no doubt that the Fund's gold holdings importantly contribute to the financial strength of its balance sheet. However, as regards the presentation of the Fund's financial statements, the undervaluation and potential unrealized gain from the Fund's gold holdings provide little protection against impairment of its assets from the recognition of loss, if such a loss were incurred. The reasons are twofold. First, while a realized gain on the sale of gold could be available to meet an operating loss of the Fund under certain conditions 3/ and thus be available to protect its equity base, the sale of gold requires a majority of 85 percent of the voting power of the Executive Board, and there is no assurance that such a sale would be approved with the requisite majority. Second, the valuation of gold is, implicitly, prescribed by the Articles, and without an amendment of the Articles--which also requires a majority of 85 percent of the total voting power of the Board of Governors--it would not be possible to offset a loss through a revaluation of the undervalued asset.

1/ See *Review of Contributions to the Second Special Contingent Account* (EBS/94/43, 3/8/94) and *The Cost of Financing the Fund and Its Distribution--Review of Burden Sharing* (EBS/94/28, 2/18/94).

2/ The Fund's gold holdings of 103 million ounces, valued in the Fund's balance sheet at SDR 35 an ounce, amount to SDR 3.6 billion. At the current market price of about SDR 250 (US$350) an ounce, the value of the Fund's gold holdings is about SDR 25.8 billion. The cost of holding gold in the Fund is about SDR 150 million per year. This cost fluctuates, of course, with the SDR interest rate.

3/ Gold profits would be transferred to the Special Disbursement Account, and use in the GRA is restricted under the Articles.

57. Even if the Articles permitted a revaluation of the Fund's gold holdings, it would be necessary to consider such a step in relation to its consistency with generally accepted accounting principles. In general, conservative accounting practice suggests that an asset should be valued at the lower of its market price or historical cost, and provides that unrealized gains should not be considered as an offset to the risk of loss.

58. More broadly, precautionary balances are intended to provide assurance for maintenance of the value of the equity of the owners of an organization or institution. In the context of the Fund, that assurance depends not so much on the values recorded in the Fund's financial statements as on the Fund's ability to meet its obligations if and when they arise. The assurance that members will be able to use their reserves held in the form of positions in the Fund depends not so much on the level of precautionary balances as on the proper management of the Fund's liquidity. The immediate usability by a member of its reserve position in the Fund is of paramount importance in the determination of the Fund's financial policies. In this context, the Fund's gold holdings could not be regarded a readily liquid asset.

59. Apart from the Fund's ability to meet demands on its liquidity, there remains of course the question of its solvency. However, that question would appear to arise only if and when members agreed that the Fund should be liquidated. At that time, gold holdings would, of course, have to be liquidated (and/or distributed after being valued to market) and the so far unrealized gain, if any, would then be distributed to members.

60. Taking these various considerations into account, it would appear reasonable to conclude that, in principle, the unrealized (but uncertain) gains the Fund might derive from its gold holdings provides some added security for the Fund's subscribed assets and hence effectively bolster its precautionary balances. However, the degree of security provided by these holdings is difficult to establish precisely with any degree of confidence. The Fund is the second largest official holder of gold, after the United States. It is likely that any decision by the Fund to sell part of its gold holdings in the private market would have a strong influence on the market price of gold. The potential risk to the value of its holdings would need to be taken into account in such an evaluation.

Recognition of loss and write-off

61. Some Executive Directors have raised questions as to the impact on the Fund's financial position of the need to establish specific provisions to cover a possible loss related to the credit outstanding to a member, or of an explicit recognition of loss related to such a credit. 1/ The establishment of special provisions could be charged to the Fund's income or

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1/ See EBM/93/114 (8/6/93). The possible need for specific provisions and for the recognition of loss were discussed in general terms in *Financial Consequences of Compulsory Withdrawal* (EBS/90/216, 12/20/90), and considered in relation to the possible withdrawal of a member in Buff 94/21 (3/7/94).

against the first Special Contingent Account (SCA-1). In the former case, the provisions would reduce net income *pro tanto;* if they exceeded the Fund's net income, net income would be negative (a deficit) resulting in a reduction of the Fund's reserves. If charged to SCA-1, net income would not be affected unless the provisions would exceed balances in that Account.

62. To the extent that balances in the SCAs and reserves and special provisions are but different forms of precautionary balances, it could be argued that the Fund's prudential position would remain more or less unchanged. 1/ On the other hand, a decision by the Executive Board that a loss appeared probable and the establishment of a provision had become necessary would seem to indicate, at the very least, some greater uncertainty whether overdue obligations would be settled in the foreseeable future. The question would also arise whether, in the absence of balances in the SCA-1, the remaining amount of precautionary balances was sufficient to cover remaining risk.

63. The impact on the Fund's prudential position is demonstrated most clearly in the case of a write-off. A write-off, if it became necessary, would reduce both overdue obligations and precautionary balances by the same amount. While remaining overdue obligations would continue to be covered fully, the total of precautionary balances after such a write-off would be somewhat smaller in relation to the total of outstanding credit. 2/ As has been discussed more fully in the staff paper on *Financial Consequences of Compulsory Withdrawal*, a good deal of judgment is required to decide when to provision against outstanding credit, or when to consider that the Fund indeed has incurred a loss that needs to be reflected in its financial

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1/ While from a economic point of view there may appear not to be much difference in charging loan-loss provisions to one or the other of the Funds' precautionary balances (its Reserves and the Special Contingent Account), the same is not true from the point of view of generally accepted accounting principles. Reserves--retained earnings from the point of view of balance-sheet representation--reflect an increase the "equity" of the "owners" of the organization while the Special Contingency Accounts (SCAs) represent a countervalue (i.e. reduction of or offset) to the assets shown in the financial statements (balance sheets).

2/ To take a concrete example, a write-off at the present time of the obligations of one of the larger members in protracted arrears would reduce overdue obligations and precautionary balances each by, say, SDR 600 million. After the write-off, total precautionary balances would be SDR 2.1 billion, protracted overdue repurchases SDR 1.2 billion, and the ratio of precautionary balances to total credit outstanding would be 8.9 percent (compared to 11.1 percent before the write-off). The ratio of "free" precautionary balances (precautionary balances minus credit outstanding to members in protracted arrears) to credit to members current in payments to the Fund, at 3.9 percent, would not be affected by this hypothetical write-off.

statements. 1/ While the fact that judgment is called for in determining the need for provisioning or write-offs introduces a certain element of uncertainty, it at the same time reflects the fact that not all credit outstanding to members in protracted arrears expose the Fund to the same degree of risk. Rather, there are ranges of increasing exposure to risk without any clearly defined borders. The protection against risk provided by the Fund's precautionary balances thus is very much a question of evaluation and judgment, including judgment on the risk presented by the quality of outstanding credit compared to precautionary balances. That judgment no doubt will need to take into account not only the total of precautionary balances, but also the level of "free" precautionary balances in relation to credit extended to members current in their payments to the Fund, and the degree of riskiness, however determined, of that credit extended to members that continue to meet payments to the Fund as they fall due.

V. Summary and Main Conclusions

64. This paper has been prepared in response to a request from Executive Directors to develop a framework within which Directors could review the adequacy of the Fund's precautionary balances in the light of risk assumed by the Fund in extending credit to Fund members. At the last review of the Fund's policy on precautionary balances in June 1993, Executive Directors generally agreed that it would be desirable for precautionary balances to cover the credit outstanding to members in protracted arrears and that the adequacy of these balances should be reviewed annually. A number of Directors also considered that a question of exposure to risk arose in relation to credit outstanding to members not in arrears in payments to the Fund because it could not be precluded that some of these members would incur problems in payments to the Fund at a later stage. This paper has considered this issue both in the light of the policies of other official lenders and in the specific context of the Fund.

Risk evaluation by other official lenders

65. As regards the policies and practices of other official lenders, the staff surveyed, through the offices of the Executive Directors, a selected sample of member countries regarding their policies on assessment of sovereign risk. The majority of them indicated that they had no standard policy or procedure in place for assessment of risk arising in connection with direct lending by governmental agencies to sovereign borrowers. They further noted that such lending was influenced primarily by political considerations and that guidelines for the evaluation of risk were therefore not considered of primary importance; any loss resulting from such lending

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1/ For the legal aspects of the issue of loss in the context in the Fund, see *Valuation of Assets in the General Resources Account--Provisioning and Write-Off--Legal Considerations* (SM/86/106, 5/16/86). The Fund is not legally permitted to write-off holdings of currency in the GRA before the withdrawal of a member has become effective and the settlement procedures prescribed by the Articles have been followed.

would be recognized in the budget when it occurred. There were some notable exceptions, however, such as the elaborate risk assessment procedures mandated by law for U.S. government agencies, and which are based on a large number of economic, social, and political factors.

66. Risk assessment in the MDBs and the precautions necessary to protect equity against loss are based partly on considerations similar to those used by the Fund, such as the credit extended to members in protracted arrears. However, there are important differences between the MDBs and the Fund. Consideration of the desirable level of precautionary balances in the Fund is based exclusively on *prudential considerations* and does not take into account net income in future years. The MDBs base their policies on precautionary balances, including reserves, on other factors as well, such as the requirements of generally accepted accounting standards and the potential impact of a loss on their earning capacity (net income) and on their access to the international capital markets, which reflect differences in their capital structures compared with that of the Fund. These institutions therefore carry precautionary balances (reserves and provisions combined) that are considerably larger than those of the Fund, though the level of provisions against loss are often relatively low or nonexistent. The balances available to cover losses in the Fund, therefore, are not strictly comparable to those held by the MDBs, because reserves are generally excluded from the balances that cover the risk of loss. Consequently, the relevance of the reserve accumulation policies of the MDBs as a guideline for the Fund must be tempered by the institutional and other differences of the MDBs with the Fund.

67. In the absence of specific mandates by supervisory authorities (and even, in some instances, in addition to), the assessment of risk of loss by commercial institutions regarding their sovereign lending generally involves *a broad process of subjective and judgmental evaluation* of a variety of factors. These include both quantified macroeconomic data and non-quantifiable socio-economic and political judgments. The notable exceptions among the countries surveyed as regards their provisioning prescriptions for the sovereign risk exposure of private financial institutions are the U.S. ICERC and the largely formalized risk assessments developed for U.K. financial institutions by the Bank of England. Though even in these cases, the element of judgment plays an important role.

The Fund's experience

68. The evaluation of risk in financial institutions generally is a matter of experience, with the probability of a future loss being based on the experience of loss in the past as well on the current experience of non-performance. The Fund has not in the past systematically reviewed the risk element in the credit it extended to members. In light of the Fund's experience with payments arrears since the mid-1980s, however, it has developed over time a two-pronged approach of (a) aiming to ensure sufficient precautionary balances fully to cover credit outstanding to members in protracted arrears and (b) to work with its members toward a solution of the problem of arrears in the context of the *Strengthened Cooperative Strategy to Resolve the Problem of Overdue Financial Obligations*. Furthermore, when

extending new credit the Fund has over the last few years strengthened its capacity-to-repay analysis, which more explicitly than hitherto considers the future prospect that sufficient financial resources will be available to the member to enable it to meet its repurchase obligations when they fall due.

69. Although the problem of protracted arrears clearly has not yet been fully resolved, there can be no doubt that the Fund's policy responses have had a considerable degree of success. The number of countries with protracted arrears has fallen and in a significant number of the current cases of protracted arrears the members' difficulties relate more to problems in transmitting payments to the Fund than experiencing an insufficiency of resources with which to effect repayments. Protracted arrears have been reduced (from a peak of about SDR 3.52 billion at end-1992 to SDR 2.97 billion at end-1993); and credit outstanding to members in protracted arrears now is more than fully covered by precautionary balances. In this latter regard, the Fund's policies appear to be more conservative than other lenders to sovereign entities that normally cover only part of the obligations outstanding to countries in nonaccrual status.

70. Nevertheless, lacking an historical experience of loss, the Fund has not explicitly taken into account the risk of loss that may be associated with credit extended to members that have remained *current* in payments as they fall due. The Fund's exposure to risk related to credit outstanding to its member countries depends on the progress made toward balance of payments viability by the members making use of Fund resources, and the risk of loss is likely to be low, if not minimal, with regard to members that continue to pursue an agreed program of economic adjustment policies designed to assure achievement of a viable balance of payments position over the medium term and taking into account the Fund's preferred creditor status. However, if balance of payments viability is not achieved, the Fund may be subject to a more substantial exposure to risk in the period following the expiration of the adjustment program or when a program goes off track. It is for consideration whether, and to what extent, the Fund should now develop a policy that would systematically provide for a risk assessment regarding such credit and on the basis of such assessment take appropriate action as regards the level of the Fund's precautionary balances.

71. A number of Directors have suggested that the need for precautionary balances to cover the Fund against the exposure to risk should be assessed in regard to all members indebted to the Fund, and taking into account the extent to which members are progressing to medium-term viability. Many members that are indebted to the Fund are likely to continue to pursue appropriate adjustment policies, even after their arrangements with the Fund are ended, or are progressing toward balance of payments viability; these members may be judged to present minimal exposure to risk for the Fund and therefore add little to the need for precautionary balances. More difficult may be the quantification of the exposure to risk for the Fund related to members--whether under a Fund-supported arrangement or not--that are deemed not to be making adequate progress toward balance of payments viability and hence pose a more substantial risk of potential arrears.

72. The Fund's regular Article IV Consultation discussions with members, including those indebted to the Fund, include an assessment of the policies pursued by the member and the progress toward the establishment of a viable balance of payments position. The discussion of these reports in the Executive Board could be taken into account in reviewing the risk to the Fund of exposure to possible loss in the future, and hence help to form a view on the Fund's precautionary balances in the context of an annual review of their adequacy.

Evaluation of precautionary balances

73. The review of the exposure to risk and evaluation of the Fund's precautionary balances would be undertaken periodically by the staff, say in the context of the annual review of the Fund's financial position and submitted to the Executive Board as a basis for its (annual) review of the adequacy of the Fund's precautionary balances. The staff's review would contain appropriate recommendations with regard to the Fund's precautionary balances.

74. In making this evaluation, the staff could, as one possibility, evaluate the Fund's exposure to risk *in respect of each member indebted to the Fund*, based on the analyses contained in the Article IV and other reports to the Executive Board, and also taking into account later developments and information that has become available to the staff. In order to avoid fine and possibly invidious distinctions among individual members in determining the need for additional precautionary balances, it may suffice to evaluate the Fund's exposure in terms of broad classes of members indebted to the Fund: those not judged to present any risk of arrears and potential exposure to loss--probably the bulk of members indebted to the Fund; those for which the risk of arrears is not substantial but could not be excluded; and lastly, those members for which the risk that payments will not be met on time is more substantial. The evaluation could be concentrated on members whose indebtedness to the Fund exceeds a certain minimum, as the need for precautionary balances at any rate can be determined only in orders of magnitude rather than with exactitude. Consideration may be given as to whether the Fund's precautionary balances would be broadly sufficient to cover a reasonable proportion, say 5 percent and 10 percent respectively, of credit outstanding to those members which may be considered subject to some degree of risk of not being discharged when it becomes due.

75. Another approach that would avoid risk analysis for individual countries (and the possibility that its results became public knowledge) would be to link the desired level of precautionary balances to the *total volume* of credit outstanding while also taking into account the concentration of credit among member countries. For illustrative purposes, the staff at the time of the previous discussion of precautionary balances had suggested a range of 3-5 percent of total credit outstanding, reflecting the view that the Fund's response to the problem of protracted arrears was likely to ensure that overdue payments would remain a relatively small proportion of outstanding credit. If this approach were adopted, the ratio could be reviewed periodically, say, in the context of the annual review of the Fund's financial position, and adjusted, if it appeared desirable to do

so in the light of all relevant circumstances, but without attempting to fine-tune the ratio.

76. A further possibility would be to seek to link the level of precautionary balances to a quantified risk index (of which an illustrative example is presented in Attachment VIII). However, there are various difficulties in the design of an appropriate index--in particular, the essentially arbitrary weighting that would necessarily attach to whatever set of factors were deemed relevant. Moreover, while such an index, if appropriately constructed, might provide some guidance with respect to changes in the level of precautionary balances, it would not be able to address the adequacy of those balances at the outset. Directors stressed at the discussion in June 1993, that any such approach would not obviate the need for judgment in this regard.

77. In assessing the adequacy of the Fund's precautionary balances, a number of Executive Directors requested that the Fund take into account the Fund's gold holdings. Directors also enquired about procedures regarding write-off and the assumption of loss. The staff's analysis of these special aspects may be briefly summarized as follows:

Gold

78. In principle, it would seem reasonable to assume that the unrealized (but virtually certain) gains the Fund would derive from its gold holdings provide some added security for the Fund's subscribed assets and hence effectively bolster its precautionary balances. However, the degree of security provided by these holdings is difficult to establish precisely with any degree of confidence;

Loss or write-off

79. The recognition of a specific loss, or in its more extreme form, a write-off of some of the Fund's assets would reduce both overdue obligations and precautionary balances by the same amount. In view of the reduction in the total of precautionary balances after a write-off, it would be a matter of judgment whether the level of "free" precautionary balances would be sufficient in relation to the credit extended to members that continue to meet payments as they fall due.

80. In light of the above, Executive Directors may wish to indicate their views with regard to the following main conclusion of the staff's analysis:

a. the Fund should in principle aim at a level of precautionary balances that fully covers the credit outstanding to members in protracted arrears, taking into account that the discharge of overdue obligations normally involves additional extension of credit by the Fund. Assessment of the adequacy of precautionary balances would also take into account the extent to which members in protracted arrears have adopted adjustment programs to solve their arrears problem and meet current obligations to the Fund as they fall due;

b. the Fund's precautionary balances should be increased over time to meet this target if additional arrears arise that become protracted;

c. the desirable level of precautionary balances should also include some provision for the possibility that arrears (and hence a potential risk of loss) may arise in the future related to credit to members that are current in meeting payments to the Fund as they mature;

d. the adequacy of the Fund's precautionary balances would be reviewed and any changes in the level of these balances will be determined by the Executive Board in the context of the annual review of the Fund's income position;

e. the annual review of the adequacy of the Fund's precautionary balances would be based on proposals by the staff which could reflect (i) an assessment of the risk of loss that could be associated with the credit extended by the Fund with the larger users of Fund credit, say, those members whose current indebtedness to the GRA exceeds SDR 200 million; or (ii) a proportion of total credit outstanding to the Fund's member countries, taking into account the level of precautionary balances in relation to members with protracted arrears. The staff would present its findings to the Executive Board in aggregate form;

f. the target amount of precautionary balances would be reviewed in the light of the staff's assessment of risk associated with outstanding Fund credit and a judgment as to whether the then current level of precautionary balances appeared broadly adequate to cover the present and foreseeable exposure of the Fund to risk. In this context, an adjustment to the target amount would be proposed if that appeared appropriate.

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
Argentina	No established procedures are reported for direct sovereign lending. Provisions are established to cover country risk related to export lending.	For export lending, risk is assessed based on various economic factors
Australia	Direct sovereign governmental loans are not extended. Commercial bank lending takes into account collectibility risk. For export financing, government risk is viewed as higher than commercial risk in markets where significant uncertainty exists.	Import coverage based on level of foreign reserves Foreign debt levels and debt servicing ability
Austria	Does not provision for direct sovereign governmental loans until the default occurs. No guidelines exist for commercial bank lending.	Provisions in commercial banks can be based upon prices for similar debt in secondary markets
Belgium	No information provided on risk assessment for sovereign governmental loans. Commercial banks must establish provisioning percentages at levels determined by the Banking Commission ranging from 20 - 60 percent.	For commercial banks, countries are scored on a number of political, economic, and financial criteria to reflect the probability and size of the loss
France	Does not provision for direct sovereign governmental loans until the default occurs. For commercial bank lending, the Bank de France establishes minimum percentages for classified countries.	Factors taken into account for commercial risk assessment are an assessment of economic and political situation, arrears, debt service rations and market indicators. Final outcome is adjusted by a judgmental factor.

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
Germany	No established practices regarding provisioning for direct sovereign lending. For commercial lending, provisioning primarily driven by tax law and corporate regulations. Amounts are left to the determination of the individual banks. A general percentage is normally applied to the total number of claims of a particular country.	Secondary market prices ares used as a rough guide for valuation purposes
Italy	Development lending (direct sovereign lending) is an element of foreign policy and risk is evaluated according to political criteria. Country risk analysis for export credit focuses on the probability that a country will remain current over a given period based on a country risk evaluation. Commericial banks must compute their loan loss reserves by subdividing loans into three categories, low, medium and high, requiring provisioning levels of 15%, 30% and 40%, respectively.	For direct sovereign nation lending overall assessment includes an evaluation of economic factors, financial factors, political factors, and the relationships of the country with the IFIs. Commercial banks must evaluate risk factors in four areas: a. Debt-service performance; b. macroeconomic indicators; c. Market performance and economic and political factors; and d. Exceptional factors.

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
Japan	For commercial bank lending, Japanese banks are providing around 35 percent of total eligible loans outstanding (a minimum of one percent must be provided). The criteria and evaluation methods are left to the individual banks. The Ex-Im bank provides reserves at an annual rate of 0.3% (determined by the Ministry of Finance) of the outstanding loans. No loan losses or write-offs have occurred since inception. Direct government lending from the development finance institution is based upon need and political considerations, including macroeconomic situation of the country. No provisions are established for country risk.	For commericial bank lending, the factors considered fall into the following broad categories: a. Political or social factors--political and social stability, risk of war,natural and human resources, industrial development; b. Internal economic factors-- nominal GNP, GNP per capita, real growth rate, savings ratio, inflation rate, exchange rate controls; c. External economic factors--exports, imports, trade balance, current account balance, capital account balance, total debt/exports, total debt/GNP, borrowings from IMF, past payment record.
Mexico	Sovereign lending is not subject to a country risk analysis due to the political nature of these loans. Mexican export bank assesses country credit risk before granting credit based on credit standing of country in the market. For commercial banks, there are no official regulations and banks determine own credit risk.	

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
The Netherlands	No information was provided regarding direct sovereign lending or lending by semi-governmental agencies. Risk analysis is based upon a semi-annual review of various debtor countries.	For commercial banks, the following factors are taken into account: a. progress on IMF programs; b. state of restructuring agreements; c. government commitment to policies aimed at sound internal and external equilibria; d. political and social tensions; e. foreign investor sentiments.
Saudi Arabia	No significant amounts of foreign lending either by the Saudi government or by Saudi banks, such lending representing less than one percent of the total loans outstanding. Certain highly concessional aid-related credits do not take into account country credit risk.	Commercial banks evaluate country risk based on the following factors: a. Political risk factors--constitutional environment, political parties and governments, social structure, ethnic and religious divisions foreign policy, third country subversion, wars and conflicts; b. Transfer risk factors--economic system, size of economy, GNP, exchange rate, inflation, external debt, access to capital markets, balance of payments, current account position, debt service ratio, reserves to import ratio.

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
Sweden	For sovereign governmental loans, no assessment of specific country risks is made. A standard provision of 14% of estimated commitment during forthcoming fiscal year is established until the accumulated provision aggregates 10% of the outstanding loans. Sweden's export financing agency has no reserves and does not explicitly calculate required reserve levels; however, it does evaluate country risk, but the factors used vary by country depending on which factors are judged to determine the future payment pattern of a country. For its commercial banks, the Finance Inspection Board issues rules annually setting the required provisioning levels. There are now five required levels ranging from 0% to 90%.	Sweden's export financing agency's factors fall into three categories: a. Economic factors--balance of payments, external debt, debt service ratio, foreign exchange reserves; b. Political factors; c. Payments record. Above factors are weighted by category, 60%, 30%, and 10%, respectively, and are not weighted individually. In determining the provisioning levels for commercial banks, the assessment considers economic and other relevant economic and political information.

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
Switzerland	For direct sovereign lending, risk assessment covers the debtor's quality and the return on the loan. If the loan has a term of over two years or a rate of return of under 2%, a 100% provision is established. If repayment is required only under certain conditions, a 100% reserve is established. If the term of the loan is less than two years, or if the rate of return is greater than 2%, a 50% provision is established. Provisions of 65% are made after bilateral reschedulings. No significant lending is occurring currently. Switzerland's Federal Banking Commission established minimum provision rates based upon assessments by Swiss domiciled commercial banks and institutions specializing in country revaluations.	For commercial banks the following factors are considered: a. Debt service performance; b. Future economic prospects; c. Future political prospects; d. Third country policies.

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
United Kingdom	No indication of established practices regarding direct sovereign lending by government. For commercial bank lending, the Bank of England matrix is used to score the creditworthiness of countries and recommend provisioning rates. The matrix is included at Attachment V. The most recent version of the matrix has been made more forward looking to evaluate countries with little or no debt experience. The matrix consists of twelve factors grouped into three categories dealing with a country's rescheduling history or its refusal to reschedule, a borrower's current difficulties in meeting its obligations, and economic variables which measure the likelihood that repayment difficulties will persist or arise in the future.	The matrix/s economic variables include: a. Debt/GDP ratio; b. Debt/exports ratio; c. Scheduled debt service/exports ratio; d. Scheduled interest service/exports ratio; e. Visible import cover; f. Secondary market price of a country's debt. The twelfth factor deals with political conditions or pertinent economic actions not considered elsewhere, and involves judgment in the determination of the rating.

Provisioning Practices and Factors Utilized by Selected Member Countries

Country	Provisioning Practices	Factors Utilized
United States	For sovereign lending and lending by agencies such as its import-export bank, the budgeting procedures are outlined in the Federal Credit Reform Act of 1990, and require a current budget charge for estimated loan losses. Countries are categorized into eleven different risk categories for which required provisions are established. Judgment enters into the determination of the factor to be used. For commercial banks, a Federal banking committee meets quarterly and categorizes the various sovereign risks based on economic, social and political factors.	For direct sovereign lending the factors considered are: a. Balance of payments adjustment capacity; b. Political and social constraints. For commercial bank lending, the following factors are considered: a. Debt service performance--current and past; b. Macroeconomic indicators; c. Arrears of interest to IFIs and others; d. Performance on IMF or other suitable economic adjustment programs; e. Ability of country to comply with IMF or other such programs; f. Debt servicing capacity.

Policies and Procedures of Selected Countries

The following summarizes the responses received from countries in respect of the practices followed by official and private entities with regard to risk assessment and provisioning for sovereign loans.

1. Argentina

Sovereign risk is evaluated when extending export credit. In that connection, it reviews political, social and economic factors, liquidity position, price changes, unemployment levels, external debt and debt service, current account performance, GDP, and exchange rates. No indication was provided on whether reserves against sovereign lending by the government are established.

2. Australia

Direct sovereign loans are not made. However, it does provision against the risk of loss resulting from export credit or export credit guarantees. Provisions equal 30 percent of overdue payments. 1/ For rescheduled debt a 100 percent provisioning level applies.

As to sovereign loans by commercial banks, the number of months of imports held in foreign reserves--excluding gold--is the primary basis for assessing risk, with two months' coverage generally the minimum that is considered necessary.

3. Austria

Loss on loans or loan guarantees is recognized and budgetary resources provided when a default occurs. Risk assessment is one determinant of premiums on new guarantees of export credit. The economic and political situation of the recipient, its previous payment record, and the nature of the project all contribute to that assessment. There are no standard guidelines for provisioning for sovereign loans by commercial banks. Instead, commercial banks and their auditors are responsible for assessing reserve adequacy. Their assessment generally includes a number of factors such as the secondary market price of sovereign loans.

4. Belgium

No information was provided on risk assessment of sovereign governmental loans. The Government has established guidelines to protect commercial banks against the risk of loss on foreign private or sovereign debt. Commercial banks must provision for individual countries using percentages set by the Banking Commission. Countries for which provisioning is required

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1/ Since 1988, overdue payments have averaged 0.45 percent of outstanding balances.

are placed in one of four categories using a number of political, economic, and financial criteria to estimate the probability and size of the estimated loss. The provisioning levels for these four classifications are 20 percent, 35 percent, 50 percent, and 60 percent.

5. France

Risk of loss on direct sovereign lending is recognized when a loss is realized, at which time that loss would be absorbed in the budget.

For commercial bank lending, the Bank of France establishes minimum provisioning percentages for each country for which reserves are required. The maximum provisioning level is 60 percent. The list of countries for which provisioning must be made is confidential.

The national credit agency evaluates credit risk. For credit insurance, each country is rated on a scale of 100. Thirty-five percent of the rating relates to payment history, including arrears and reschedulings; 30 percent relates to the country's financial position, based on factors such as debt ratios, the ratio of reserves to imports, market indicators, and credit ratings by commercial agencies; 10 percent of the rating relates to the economic conditions; and the remainder relates to the political situation. The agency then reviews the resulting score and uses a judgmental factor to adjust it.

6. Germany

Current provisioning policies on sovereign loans made by commercial banks are primarily derived from tax law and corporate regulations. The amounts are determined by individual banks. Banks customarily apply an overall rate to the total number of claims on a particular country. Secondary market prices are used as an approximate guide for valuation purposes.

No information was provided on provisioning policies for sovereign direct loans.

7. Italy

Development assistance is an instrument of foreign policy. The evaluation of risk on the Government's sovereign lending is based on political criteria.

Country risk analysis for export credit financing focuses on the probability that a country will remain current over a given period. A case-by-case approach is used, with technical evaluation of country risk by economists and an administrative evaluation based on government policy and budgetary considerations. In evaluating economic, financial, and political factors, the country's relations with international financial institutions is taken into account.

For commercial banks, each country is scored on various risk factors for its debt-service performance, macroeconomic indicators, market performance, economic and political factors, and exceptional factors. Commercial banks must compute their loan-loss reserves by dividing risk countries into low, medium, and high-risk categories. For these three categories provisioning levels are 15 percent, 30 percent, and 40 percent, respectively. Alternatively, commercial banks may provision at a minimum rate of 30 percent of all unsecured loans made to non-OECD countries.

8. Japan

Guidelines provide that all financial institutions must set aside provisions of 1 percent or more of total sovereign and private loans outstanding to countries if any of the following conditions are met: no principal and interest payments have been made for more than one month; the borrower has taken no action for more than one month after a request to postpone payment; less than five years have passed since the last rescheduling or refinance arrangements. Presently, the main Japanese banks are provisioning at about 35 percent of the total eligible loans outstanding. Each bank uses its own method for evaluating risk and determining its provisioning rate.

Banks must establish a special reserve account for countries declared in default and for those countries that satisfy all of the following conditions: no principal or interest payments have been received for at least three years; no new lending or rescheduling has taken place for at least three years; no definite schedule for new lending or rescheduling is foreseen. Up to 50 percent of the loans outstanding for these countries can be charged to this special reserve.

9. Mexico

Sovereign lending is not subject to country risk analysis. The Mexican export bank assesses country credit risk before extending credit. The basis for this assessment is information available from specialized agencies in the international market.

There are no official regulations requiring commercial banks to conduct country risk analyses, but the banks do so on their own initiative using information prepared by specialized agencies and analysts. Foreign credits are generally not significant to Mexican institutions, and no distinction is made by the authorities between domestic and foreign borrowers.

10. The Netherlands

The central bank's risk analysis is conducted as part of a semiannual review of various debtor countries. Quantitative factors in this review include an assessment of the macroeconomic situation, which includes consideration of economic growth, inflation, the monetary situation, public finance, the balance-of-payments position, and the size of reserves. Qualitative factors include progress with respect to Fund programs, the state of restructuring agreements, government commitment to policies aimed at sound internal and external equilibria, political and social tensions, and foreign investor sentiments.

11. Saudi Arabia

Sovereign loans by the Government are almost exclusively in the form of highly concessional credits as part of Saudi Arabia's aid for "fraternal and poor developing countries." These credits are extended primarily through the Saudi Fund for Development (SFD), which categorizes countries as low, medium, and high-risk.

12. Sweden

Country-specific risks are not included in the assessment of possible loan losses on sovereign loans. Instead, a standard provision of 14 percent of estimated commitments during the forthcoming fiscal year is being made in each budget, until an amount equal to 10 percent of outstanding loans is accumulated, after which the rate of provisioning is to be reviewed.

To determine country risk, Sweden's Export Credit Guarantee Board examines factors grouped under three categories: economic factors such as the balance-of-payments position, external debt, the debt-service ratio, and foreign exchange reserves; political factors; and payments record. The selection of factors and their importance vary by country, depending on what factors are expected to determine the future payment pattern of the respective country. Weights are not given to individual factors, but rather to the three categories--60 percent for economic factors, 30 percent for political factors, and 10 percent for payments record. Due to earlier losses, the agency has so far not been able to build any reserves and does not explicitly calculate required reserve levels. The risk factors are used to determine the fees for the guarantees issued by the agency, with a view to build future reserves.

For commercial banks, Sweden's Finance Inspection Board issues rules annually on the provisioning for sovereign loans required of the commercial banks. At present, there are five required provisioning levels: 0, 20, 40, 70, and 90 percent of outstanding loans. The Board uses economic forecasts and other relevant economic and political information to analyze risk and determine into which of the categories above individual countries would fall. The weights are revised annually.

13. Switzerland

For sovereign loans, risk assessment takes into account debtors' quality. Since 1992, returns on sovereign loans have been a supplementary criterion for reserve creation. Reserves on government loans are made for 100 percent of loans that have a term of more than two years, interest rates of less than 2 percent, or must be repaid only when certain conditions are met. Loans with a duration of less than 2 years or with a return of greater than 2 percent require 50 percent provisioning levels. Loans to countries after bilateral reschedulings must be provisioned for at a special rate, currently 65 percent.

As to commercial lending, Switzerland's Federal Banking Commission has set minimum provisioning rates for receivables subject to country risk that are based on assessments by Swiss-domiciled commercial banks and institutions that specialize in country evaluations. This risk differs from the risk of noncollectibility. It consists of political and transfer risks. In evaluating country risk, the following factors are considered: debt-service performance, future economic prospects, future political prospects, and policies by third countries that could affect payments.

14. United Kingdom

The Bank of England established a matrix 1/ for use by commercial banks. It is also used by the U.K. Export Credit Guarantee Department. The matrix provides a system for scoring the credit worthiness of countries to which commercial banks are extending sovereign loans. It is designed to identify countries with current or potential repayment difficulties and specify the nature of those repayment difficulties and their causes.

In 1993 the matrix was made more forward looking to enable a better estimate of the provisioning levels for loans to countries with little or no debt experience. The matrix consists of 12 factors, weighted for their importance, which are grouped under three categories--"A," "B," and "C." The two A factors cover a country's rescheduling history or its refusal to reschedule. B factors evidence a borrower's current difficulties in meeting its obligations. The two B factors cover its arrears of interest to international financial institutions and other external creditors. The eight C factors are mostly economic variables that measure the likelihood that repayment difficulties will persist or arise in the future. These economic variables include debt/GDP ratio, debt/exports ratio, scheduled debt service/exports ratio, scheduled interest service/exports ratio, and visible import cover and the secondary market price of a country's debt. Countries are also scored for breaching Fund program targets or for being unable or unwilling to seek Fund assistance. The twelfth factor, which deals with political conditions or pertinent economic actions not considered elsewhere, is scored within a range of minus five to plus five, and requires judgment.

1/ The matrix is reproduced in Attachment V.

A simple continuous relationship between matrix scores and provisioning levels has been used. The total score for a country-- the sum of its scores on each factor minus 25 points--is equal to the provisioning rate for an individual country. Provisioning takes place for scores of 30 or above.

The United Kingdom did not indicate what procedures it follows in provisioning for direct sovereign lending.

15. United States

For sovereign lending, including lending from semi-official agencies, the United States follows a set of budgeting procedures outlined in the Federal Credit Reform Act of 1990. This system is called the Interagency Country Risk Assessment System (ICRAS). Repayment is considered to depend mainly on the following factors: foreign debt-service burden, balance-of-payments adjustment position and in particular, the ability of the government to gain access to foreign exchange needed to pay its foreign obligations, macroeconomic environment, and political and social constraints, which could reduce the ability of a government to pay foreign debts. Each country is rated on a series of indicators drawn from these factors, which are used to categorize the country into one of 11 different risk categories ranging from A to F=, as indicated in Attachment IV. The categories are determined by representatives from various U.S. government agencies. None of the risk indicators provide a sound basis for risk assessment when used alone, and one inherent problem in the use of indicators is that similar numeric results may have different meanings for different countries. These assessments are considered subjective and involve considerable elements of judgement; pre-determined numerical values or weights are not assigned to the individual variables. For each of the 35 variables, the country is placed in one of 11 differently characterized categories, and an overall rating using the same 11 categories is determined for each country on a judgmental basis. The focus of country risk assessment is on the future, not on the past or the present, and most of the indicators used in the ICRAS refer to conditions expected to prevail over the next five years. ICRAS is in its second year of use.

With respect to sovereign loans by commercial banks in the United States, a Federal banking committee called the Interagency Country Exposure Review Committee (ICERC) meets quarterly and categorizes the various sovereign risks of the United States. The country risk classifications are based on economic, social, and political factors. The committee establishes reserve percentages--or changes previously established reserve percentages--that U.S. banking institutions are required to apply to the total indebtedness of the affected countries. The existence of a Fund program (or other adjustment programs), the compliance thereto, and the most recent payment history are taken into account in determining the reserve percentage. Much of this process is judgmental.

U.S. banks create both general and specific reserves against international loans. The general reserve is also known as the allowance for loan and lease losses (ALLL), which is usually based on past loss experience. Banks establish provisions against international loans on a country-specific basis--the allocated transfer risk reserves (ATRR)--based on country risk classifications using economic, social, and political factors. ICERC ranks countries according to their debt-servicing capacity and categorizes each country with debt-servicing difficulties--or the prospect of such difficulties--into seven loan categories. ICERC requires banks to establish ATRRs against those international assets that it classifies as value impaired, and such reserves generally range from 20 percent to 95 percent.

Practices of International Financial Institutions

The following provides a summary of practices in effect in a number of international financial institutions and some other international organizations exposed to sovereign risk. The summary discusses the practices in the World Bank, the Inter-American Development Bank, the Asian Development Bank, the Bank for International Settlements, the European Bank for Reconstruction and Development, and the European Community. No information was provided by the African Development Bank.

1. The World Bank

Precautionary balances maintained by the World Bank consist of the Accumulated Provision for Loan Losses and the General and Special Reserves. The Bank allocates out of current earnings an amount so as to maintain the Accumulated Provision for Loan Losses Account equal to 3 percent of callable guarantees and outstanding loans. In addition, the Bank aims at keeping the reserve levels at 10 percent of the loan portfolio, and earnings are placed to reserves annually to meet that target.

Risk assessment in the Bank takes into account the global economic outlook, individual country risk assessments, an analysis of significant country groupings called "risk clusters," the Bank's lending plans, and loan concentration. Global economic factors include economic growth, inflation, prices, world trade volume, and interest rates. The Bank conducts an evaluation of each borrowing country, in which it looks at the borrowing country's debt and debt-servicing history, economic factors, and social and political conditions. It then assigns each borrower to a risk category--low, medium, or severe risk, IDA-only, or nonaccrual--with higher risk categories as macroeconomic policy and debt-servicing records worsen and the vulnerability to external shocks increases. Individual risk ratings on a country-by-country basis are not made available to the Executive Board. The Bank also evaluates systemic risks from what it terms "risk clusters," which comprise groups of countries whose economies are shaped by the same influences. These clusters include the countries in transition to market economies, high-risk oil producers, Central America, and the CFA Franc Zone members.

The Bank's lending plans are another factor in its evaluation of risk, with expanded lending, including lending to new members, perceived to increase portfolio risk. In addition, with a portfolio that is relatively concentrated and likely to remain so, credit concentration is taken into account. However, the Bank has taken steps to reduce its exposure to any one borrower by establishing guidelines that recommend that borrowing by any one country not exceed 10 percent of the Bank's loan portfolio and by controlling the level of exposure in relation to each borrower's debt-servicing capacity: Bank debt service should not be more than a specified percentage of the borrower's exports, the percentage varying with the degree of risk; Bank debt service should not exceed 20 percent of public debt service; and preferred creditor debt service should not be more than 35 percent of public debt service.

Currently, it is the Bank's judgment that precautionary balances, together with net income, should, as a minimum, be adequate to absorb a loss equal to 10 percent of the loan portfolio, which is the maximum exposure per borrower under the Bank's guidelines.

In March 1993, the Bank's claims on nonaccrual countries constituted 2.45 percent of the Bank's loan portfolio. Based on this, the Bank approved an increase in its Accumulated Provision for Loan Losses from 2.5 percent of outstanding loans and callable guarantees to 3 percent. This increase reflected, inter alia, the deteriorating outlook for the collection of loans to the former Socialist Federal Republic of Yugoslavia and the greater overall collectibility risk in countries other than those whose loans are nonaccruing. Further provisions are to be accumulated at 3 percent of the increase in the total portfolio. In addition, the Bank increased its desired reserves-to-loans ratio 1/ to 13-14 percent for the financial year 1994/95, owing to loan concentration, higher loan portfolio risk, and the expected reduction in the Bank's earning capacity (attributed to the repayment of fixed rate loans and the declining share of funding provided by paid-in capital).

2. <u>The Inter-American Development Bank</u>

The General Reserve, the Special Reserve, and the Allowance for Loan Losses make up the precautionary balances of the Inter-American Development Bank. The General Reserve is intended to cover any risk not covered in the provisioning account, including risk evidenced by protracted arrears and defaults on loans, but the Special Reserve can only be applied to the redemption of Bank debt should the Bank's liquidity be exhausted.

In provisioning for possible loan losses, the Bank considers the following factors important: (1) previous experience in loan collection; (2) total outstanding loan balances; (3) the total loans outstanding to the largest borrower; and (4) loan concentration. The Bank relies, inter alia, on the efficacy of economic programs adopted by borrowers while maintaining a conservative level of precautionary balances vis-à-vis loans outstanding. Since 1988, when the Bank instituted the allowance for loan losses, the total precautionary balances have always exceeded 20 percent of total credit.

An important factor in determining the size of the allowance for loan losses is the degree of protection that this account provides against loan losses that the Bank might incur over time, usually a two-year period. The

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1/ The ratio is defined as follows: the numerator is the Special Reserve plus the General Reserve but excludes earned but unallocated net income or surplus. The denominator equals total loans (including nonaccruing loans minus accumulated loan loss provisions) plus outstanding guarantees.

desired level for this account has been set at 3 percent of outstanding loans, and additions to this account are intended to keep this account at that level. This percentage was arrived at by taking the highest percentage of nonaccrual loans that the Bank estimated it could experience (based on twice the highest historical rate, which was 7.9 percent), and assuming that in any year no more that 10 percent of the computed amount would enter in non-accrual status. The ratio was then doubled to set aside sufficient resources to protect the Bank over a two-year period. This method resulted in a percentage of 3.16 percent, which was rounded to 3 percent.

3. The Asian Development Bank

The Asian Development Bank's precautionary balances consist of its Ordinary Capital Reserve, its Special Reserve, and its loan loss reserve or loan loss provisions. The Special Reserve may be applied only to liabilities on borrowings and guarantees in the event of a loan default.

Currently loan-loss provisions are not being set aside for public sector loans, because of the Bank's preferred creditor status. However, the staff indicated that they would recommend provisioning for public sector loans that were to fall into non-accrual; no such loans are currently in non-accrual status. The Bank establishes provisions for its private sector operations by setting aside amounts reflecting specific considerations--i.e., for known problem project loans and equity investments--and is considering general provisioning for risk in the Bank's overall private sector lending at a rate to be determined shortly. Loan losses, if these were to materialize, would first be charged against the loan loss provision account; any remaining balance would then be charged against net income for the year in which the loss was incurred, and finally against the Ordinary and Special Capital Reserves.

In weighing the risk of protracted arrears and defaults on sovereign loans, the Bank considers the regional economic outlook, specific country credit risk (at December 1992 there were nine borrowing countries), 1/ and loan concentration. The following economic factors are taken into account both globally and individually: GDP growth rate, gross domestic savings rate, gross domestic investment rate, exports, imports, trade balance, external debt, debt-service ratio, and the willingness and ability of borrowing members to undertake or continue growth-oriented economic adjustment programs. The Bank also uses the credit standing of its borrowers in the markets as a risk indicator.

Private sector projects and equity investments in which the Bank participates are subject to extensive appraisal and continued supervision. Country risk is a consideration, but less important than commercial and financial viability. For equity investments the Bank starts provisioning only after it has assessed that there is a significant and relatively

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1/ The Bank has in preparation a review of its country risk assessment policy and practices.

permanent decline in the value of its equity investments as evidenced by continuing income losses, declining or negative net worth, or other financial indicators. It should be noted that private sector operations form only a small part of the Bank's total operations.

To determine the level of its capital reserves needed to protect the Bank from losses, the Bank's current guiding policy is to maintain these reserves at a level equal to all credit outstanding to its largest borrowing member.

4. The Bank for International Settlements

Lending by the Bank for International Settlements (BIS) consists mainly of redeposits--mainly in G10 commercial banks--of central banks' deposits with the BIS and short-term credits to central banks. Because of the nature of these operations and the absence of protracted arrears, the BIS has so far deemed it unnecessary to provision against banking losses.

5. The European Bank for Reconstruction and Development (EBRD)

The Bank initially did not establish provisions or reserves. However, recently it has started provisioning at a rate equivalent to 5 percent on all loans and 8 percent on participations in equity investments when these are made. Although a definitive policy has not yet been established, the Bank has indicated the intention of establishing reserve targets of 10 percent on loans and 25 percent on equity investments.

6. The European Investment Bank

The EIB's precautionary balances consist of reserves--the Reserve Fund and the Additional Reserves--and a loan-loss provisioning account entitled the "Fund for General Banking Risks." The Reserve Fund covers all types of risk; the Additional Reserves cover general banking risks only. 1/ The majority of the Bank's operations take place within the EC, and loans within member countries are guaranteed by the member states. Consequently, only a small part of their operations are exposed to sovereign risk and a nominal amount has been set aside to cover loan losses. At present that percentage is less than one half of 1 percent of outstanding loans. Loans made outside the EC are made under the mandate of the EIB, but on behalf of and at the risk of the EC. These loans are guaranteed by the EC, which in turn has proposed to set aside resources equal to 14 percent of new commitments until an amount of 10 percent is reached. These resources are allocated to a special fund and are not available for budgetary outlays. The EC has drafted a council directive proposing the establishment of a Guarantee Fund

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1/ As at December 31, 1992, the European Investment Bank had precautionary balances in ECU amounting to a Reserve Fund of ECU 5,760 million, additional Reserves of ECU 958.9 million, and a Fund for General Banking Risks of ECU 150 million. Loans outstanding net of the undisbursed portion amounted to ECU 46.5 billion.

(GF) for this purpose that would accumulate budgetary resources to protect against default of sovereign lending backed by EC loans or guarantees. This Fund would also cover the risk derived from sovereign loans to third countries that have signed protocol agreements with the EC, primarily countries in the Southern Mediterranean area, Eastern Europe, and some countries in Latin America and Asia. It would also cover guarantees to a syndicate of banks financing food aid to FSU countries.

Definitions of ICRAS Sovereign Risk Categories

A Payments problems are unlikely.

B Minor payments irregularities are possible. Should these occur, they are likely to be quickly resolved without refinancings or reschedulings.

C Minor payments irregularities are likely. Should these occur, they are likely to be quickly resolved without refinancing or reschedulings.

C – Moderate payments problems, including refinancings or reschedulings, are possible. Full recovery on all debts is likely over the long term.

D Moderate payments problems, including refinancings or reschedulings, are likely. Small losses on some debts are possible over the long term.

D – Serious payments problems, including repeated reschedulings and/or prolonged arrears, are likely. Small losses on some debts are likely over the long term.

E Serious payments problems, including repeated reschedulings and/or prolonged arrears, are likely. Extended-term debt reschedulings are possible. Moderate losses on some debts are likely over the long term.

E – Serious payments problems, including repeated reschedulings and/or prolonged arrears, are likely. Extended-term debt reschedulings are likely. Eventual forgiveness or effective repudiation of some debts is possible. Substantial losses on some debts are likely over the long term.

F Serious payments problems, including repeated reschedulings and/or prolonged arrears, appear inevitable. Eventual forgiveness or effective repudiation of some debts is likely. Severe losses on some debts are likely over the long term.

F – Serious payments problems, including repeated reschedulings and/or prolonged arrears, appear inevitable. Eventual forgiveness or effective repudiation of most debts is likely. Severe losses on most debts are likely over the long term.

F = Eventual forgiveness or effective repudiation of most debts appears inevitable. Severe losses on most debts appear inevitable.

U.K. Country Debt Provisioning Matrix Used by Commercial Banks

CATEGORY	"A" Factors		"B" Factors		"C" Factors									
COLUMN	1	2	3	4	5	6	7	8	9	10	11	12		
DEFINITION	Rescheduled at any time in the last 5 years, or in the process of rescheduling, or is refusing to cooperate in the rescheduling process, or has significant transfer problems and/or a limit on debt servicing without agreement from creditors.	Second or more rescheduling during the last 5 years of principal amounts rescheduled since January 1993, or new money to clear arrears, or capitalization of interest arrears, or rescheduling of principal arrears, or is refusing to cooperate in the rescheduling process, or has significant transfer problems and/or a limit on debt servicing without agreement from creditors.	Significant arrears of interest or principal to IFIs.	Arrears of interest or principal on original or rescheduled loans from other external creditors; excluding agreed arrears.	Debt/GDP ratio	Debt/ exports ratio	Scheduled debt service/ exports ratio	Scheduled interest service/ exports ratio	Visible import cover	Not meeting IMF targets/ unwilling to go to IMF	Secondary market price	Other factors	Total score (Max 150)	Recommended minimum provisioning level
SCORE RANGE	<= 6 mths=20 <=12 mths=18 <=18 mths=16 <=24 mths=14 <=30 mths=12 <=36 mths=10 <=42 mths= 8 <=48 mths= 6 <=54 mths= 4 <=60 mths= 2	<= 6 mths=20 <=12 mths=18 <=18 mths=16 <=24 mths=14 <=30 mths=12 <=36 mths=10 <=42 mths= 8 <=48 mths= 6 <=54 mths= 4 <=60 mths= 2	10	<= 6 mths=10 <=12 mths=15 > 12 mths=20	>=30%= 2 >=50%= 4 >=70%= 6 >=90%= 8 >=110%=10	>=165%= 2 >=275%= 4 >=385%= 6 >=495%= 8 >=605%=10	>=18%= 2 >=30%= 4 >=42%= 6 >=54%= 8 >=66%=10	>=12%= 2 >=20%= 4 >=28%= 6 >=36%= 8 >=44%=10	<=4.0= 2 <=3.0= 4 <=2.0= 6 <=1.0= 8 <=0.5=10	5	<=95%= 2 <=85%= 4 <=75%= 6 <=65%= 8 <=55%=10 <=45%=12 <=35%=14 <=25%=16 <=15%=18 <= 5%=20	-5 to 5		
COUNTRY	2-20	2-20	10	10,15 or 20	2-10	2-10	2-10	2-10	2-10	5	2-20	-5 to 5	Total	

Summary of Approaches Used by Various Countries
to Establish Provisions for Commercial Banks

Country	Mandatory	Systematic	Pragmatic
Australia			
Austria			
Belgium			
Canada			
Denmark			
Finland			
France			
Germany			
Italy			
Japan			
Luxembourg			
Mexico			
Netherlands			
Norway			
Portugal			
Spain			
Sweden			
Switzerland			
United Kingdom			
United States			

Very	
Average	
Low	

Mandatory - The mandatory approach requires the same levels of provisions at fixed percentages for all country exposures in high risk countries

Systematic -- The systematic approach seeks to measure the intensity of country risk according to a number of criteria to arrive at certain provisioning levels or ranges according to risk classifications.

Pragmatic -- The pragmatic approach leaves the responsibility to determine the adequacy of the levels of reserves and provisions to each individual bank

Table 1. International Financial Institutions
Key Financial Ratios
(In percent)

	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93 1/
IMF						
Proportion of SCAs to total credit outstanding--						
SCA 1 only	0.3	0.6	1.0	1.2	1.5	1.8
SCA 1 and SCA 2	0.3	0.6	1.0	1.9	2.8	3.7
Proportion of nonaccrual credits to total credit	8.5	12.9	11.6	10.3	9.8	6.9
Proportion of precautionary balances to total credit	4.8	6.2	7.3	8.3	9.5	10.3
Proportion of largest borrower to total credit	14.0	14.5	21.7	20.2	19.6	16.9
Proportion of remuneration to interest expense 2/	1.2	1.2	1.2	1.3	1.4	1.4
IBRD						
Proportion of loan loss provisions to total credit (loans)	0.6	1.0	1.4	2.2	2.5	3.0
Proportion of nonaccrual credits to total credit	3.6	4.1	3.2	2.8	2.1	2.4
Proportion of precautionary balances to total credit	9.3	10.2	10.8	11.2	11.7	16.4
Proportion of largest borrower to total credit	10.2	9.9	11.4	11.6	11.9	11.9
Proportion of remuneration to interest expense 2/	1.2	1.2	1.2	1.2	1.2	1.2
ADB						
Proportion of loan loss provisions to total credit (loans)	--	--	--	--	--	
Proportion of nonaccrual credits to total credit	--	--	--	--	--	
Proportion of precautionary balances to total credit	34.2	39.6	38.0	37.2	36.5	
Proportion of largest borrower to total credit	29.4	35.7	37.9	36.8	36.3	
Proportion of remuneration to interest expense 2/	1.5	1.8	2.0	1.9	1.7	
IADB						
Proportion of loan loss provisions to total credit (loans)	0.4	0.9	1.4	2.9	3.1	
Proportion of nonaccrual credits to total credit	2.6	7.9	6.1	1.7	--	
Proportion of precautionary balances to total credit	21.5	21.8	21.2	21.7	22.4	
Proportion of largest borrower to total credit	19.9	19.9	18.3	18.3	17.7	
Proportion of remuneration to interest expense 2/	1.2	1.2	1.3	1.3	1.3	
AfDB						
Proportion of loan loss provisions to total credit (loans)	0.4	0.4	0.8	1.1	1.7	
Proportion of nonaccrual credits to total credit	9.5	3.1	5.5	11.6	8.4	
Proportion of precautionary balances to total credit	11.0	15.1	13.0	12.4	12.3	
Proportion of largest borrower to total credit	11.7	13.5	13.8	14.5	14.8	
Proportion of remuneration to interest expense 2/	1.4	1.6	1.5	1.4	1.3	

1/ The ADB, AfDB, and IADB have calendar year-ends. The IBRD has a fiscal year-end of June 30, and the Fund has a fiscal year-end of April 30.

2/ Proportion of remuneration to interest expense is the number of times earnings cover the interest expense of the institution involved. For the Fund this proportion is equal to total operational income divided by total operational expenses less allocations to the Special Contingent Accounts. This ratio shows how many times operational income exceeds the major cash expenditure(s) of the institution involved.

Table 2. Precautionary Balances in Comparison to Selected Financial Data

FY 1946 - 1994

(In millions of SDRs and in percent)

Financial Year A	Quotas B	Use of Fund Credit C 1/	Net Income (Loss) D	Special Reserve E	General Reserve F	Total Reserves G (E+F)	SCA-1 H	Total Reserves & SCA-1 I (G+H)	SCA-2 J	Total Precautionary Balances K (I+J)	Members in Protracted Arrears: Credit Outstanding L	Members in Protracted Arrears: Overdue Repurchases M	Overdue repurchases as a percentage of credit outstanding N (M/C)	Precautionary Balances (Reserves + SCA-1) as a percentage of: Total Fund Credit Outstanding O (I/C)	Precautionary Balances (Reserves + SCA-1) as a percentage of: Credit to Members in Protr. Arrears P (I/L)	Overdue Repurchases Q (I/M)
1946	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1947	7,720	--	(2)	--	(2)	--	--	--	--	--	--	--	--	--	--	--
1948	7,976	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--
1949	8,032	--	(2)	--	(2)	--	--	--	--	--	--	--	--	--	--	--
1950	7,918	--	(2)	--	(4)	--	--	--	--	--	--	--	--	--	--	--
1951	8,031	--	(2)	--	(6)	--	--	--	--	--	--	--	--	--	--	--
1952	7,276	176	(2)	--	(8)	--	--	--	--	--	--	--	--	--	--	--
1953	8,730	182	(1)	--	(9)	--	--	--	--	--	--	--	--	--	--	--
1954	8,841	97	--	--	(9)	--	--	--	--	--	--	--	--	--	--	--
1955	8,728	65	(3)	--	(12)	--	--	--	--	--	--	--	--	--	--	--
1956	8,751	422	(4)	--	(16)	--	--	--	--	--	--	--	--	--	--	--
1957	8,932	955	8	--	(8)	--	--	--	--	--	--	--	--	--	--	--
1958	9,088	1,076	12	3	6	9	--	9	--	9	--	--	--	--	--	--
1959	9,228	409	20	7	26	33	--	33	--	33	--	--	--	8.1	--	--
1960	14,277	420	14	22	40	62	--	62	--	62	--	--	--	14.8	--	--
1961	14,581	1,437	7	42	47	89	--	89	--	89	--	--	--	6.2	--	--
1962	15,057	1,004	25	65	72	137	--	137	--	137	--	--	--	13.6	--	--
1963	15,231	1,088	21	90	93	183	--	183	--	183	--	--	--	16.8	--	--
1964	15,615	1,436	23	117	117	234	--	234	--	234	--	--	--	16.3	--	--
1965	15,993	3,024	26	148	142	290	--	290	--	290	--	--	--	9.6	--	--
1966	19,411	3,021	45	182	187	369	--	369	--	369	--	--	--	12.2	--	--
1967	20,921	2,482	50	223	237	460	--	460	--	460	--	--	--	18.5	--	--
1968	21,119	3,688	56	263	291	554	--	554	--	554	--	--	--	15.0	--	--
1969	21,231	4,011	71	309	325	634	--	634	--	634	--	--	--	15.8	--	--
1970	21,349	3,232	58	366	351	717	--	717	--	717	--	--	--	22.2	--	--
1971	28,478	1,340	46	406	378	784	--	784	--	784	--	--	--	58.5	--	--
1972	28,809	1,082	(13)	410	366	776	--	776	--	776	--	--	--	71.7	--	--
1973	29,169	1,027	(22)	389	366	754	--	754	--	754	--	--	--	73.4	--	--
1974	29,189	3,469	(37)	352	366	717	--	717	--	717	--	--	--	20.7	--	--
1975	29,189	6,633	(10)	342	366	707	--	707	--	707	19	17	0.3	10.7	**	**
1976	29,211	12,071	(3)	339	366	705	--	705	--	705	19	19	0.2	5.8	**	**
1977	29,217	16,068	(18)	321	366	686	--	686	--	686	19	19	0.1	4.3	**	**
1978	32,346	13,934	27	348	366	714	--	714	--	714	19	19	0.1	5.1	**	**
1979	39,011	10,270	46	395	366	760	--	760	--	760	19	19	0.2	7.4	**	**
1980	39,017	8,884	3	398	366	763	--	763	--	763	19	19	0.2	8.6	**	**
1981	59,606	9,862	80	478	366	843	--	843	--	843	19	19	0.2	8.5	**	**
1982	60,685	14,801	92	570	366	935	--	935	--	935	19	19	0.1	6.3	**	**
1983	61,060	23,590	65	635	366	1,001	--	1,001	--	1,001	19	19	0.1	4.2	**	**
1984	89,236	31,742	73	708	366	1,074	--	1,074	--	1,074	100	38	0.1	3.4	**	**
1985	89,302	34,973	(30)	678	366	1,044	--	1,044	--	1,044	724	117	0.3	3.0	144.2	892.3
1986	89,305	34,640	78	756	366	1,122	--	1,122	--	1,122	1,040	433	1.3	3.2	107.9	259.1
1987	89,305	31,646	86	843	366	1,208	27	1,235	--	1,235	2,318	840	2.7	3.9	53.3	147.0
1988	89,988	27,829	49	892	366	1,257	87	1,344	--	1,344	2,366	1,373	4.9	4.8	56.8	97.9
1989	89,988	23,700	54	946	366	1,311	150	1,461	--	1,461	3,073	1,951	8.2	6.2	47.5	74.9
1990	90,133	22,098	86	1,032	366	1,397	215	1,612	--	1,612	2,569	2,140	9.7	7.3	62.7	75.3
1991	91,128	22,906	70	1,101	366	1,467	285	1,752	142	1,894	2,354	2,165	9.5	7.6	74.4	80.9
1992	91,222	23,432	90	1,191	366	1,557	358	1,915	299	2,214	2,297	2,152	9.2	8.2	83.4	89.0
1993	144,640	24,635	71	1,262	366	1,628	436	2,063	476	2,539	1,856	1,731	7.0	8.4	111.2	119.2
1/31/94	144,800	25,190	58	1,368 *	366	1,734	497	2,231	609	2,840	1,782	1,714	6.8	8.9	125.2	130.2

1/ For FYs 1948-1973, use of Fund credit is the balance at the end of calendar year.

* Includes the gain from the recapitalization of the Fund's headquarters building.

** Amounts greater than 1000 percent.

Table 3. GRA, ESAF, and SAF Loans Outstanding

	January 31, 1994					
	GRA				ESAF	SAF
Member Name	Quota	Total	Percent	Cummulative Percent	Total	Total
India	3,055.50	3,568.24	14.17	14.17	--	--
Mexico	1,753.30	3,485.23	13.84	28.00	--	--
Argentina	1,537.10	2,562.44	10.17	38.17	--	--
Venezuela	1,951.30	1,950.74	7.74	45.92	--	--
Russian Federation	4,313.10	1,797.28	7.13	53.05	--	--
Hungary	754.80	892.32	3.54	56.59	--	--
Philippines	633.40	874.91	3.47	60.07	--	--
Czech Republic	589.60	780.68	3.10	63.17	--	--
Romania	754.10	750.90	2.98	66.15	--	--
Peru	466.10	642.69	2.55	68.70	--	--
South Africa	1,365.40	614.43	2.44	71.14	--	--
Poland	988.50	497.69	1.98	73.11	--	--
Bulgaria	464.90	459.90	1.83	74.94	--	--
Pakistan	758.20	416.34	1.65	76.59	--	382.41
Slovak Republic	257.40	405.17	1.61	78.20	--	--
Chile	621.70	344.93	1.37	79.57	--	--
Algeria	914.40	342.73	1.36	80.93	--	--
Jamaica	200.90	244.19	0.97	81.90	--	--
Brazil	2,170.80	221.02	0.88	82.78	--	--
Tunisia	206.00	207.30	0.82	83.60	--	--
Morocco	427.70	198.23	0.79	84.39	--	--
Israel	666.20	178.64	0.71	85.10	--	--
Cote D'Ivoire	238.20	157.20	0.62	85.72	--	--
Egypt	678.40	147.20	0.58	86.31	--	--
Kazakhstan	247.50	136.13	0.54	86.85	--	--
Dominican Republic	158.80	135.48	0.54	87.38	--	--
Zimbabwe	261.30	119.90	0.48	87.86	85.10	--
Ghana	274.00	116.03	0.46	88.32	286.30	134.97
Trinidad and Tobago	246.80	103.74	0.41	88.73	--	--
Lithuania	103.50	87.98	0.35	89.08	--	--
Panama	149.60	82.32	0.33	89.41	--	--
Latvia	91.50	77.78	0.31	89.72	--	--
Viet Nam	241.60	72.48	0.29	90.00	--	--
Belarus	280.40	70.10	0.28	90.28	--	--
Moldova	90.00	63.00	0.25	90.53	--	--

Table 3. GRA, ESAF, and SAF Loans Outstanding

	January 31, 1994					
	GRA				ESAF	SAF
Member Name	Quota	Total	Percent	Cummulative Percent	Total	Total
Costa Rica	119.00	59.28	0.24	90.77	--	--
Jordan	121.70	54.78	0.22	90.99	--	--
Ecuador	219.20	49.53	0.20	91.18	--	--
Guyana	67.20	44.66	0.18	91.36	47.08	34.44
Kyrgyz Republic	64.50	43.86	0.17	91.53	--	--
Estonia	46.50	41.85	0.17	91.70	--	--
Barbados	48.90	36.84	0.15	91.85	--	--
Gabon	110.30	32.47	0.13	91.97	--	--
Uruguay	225.30	27.90	0.11	92.09	--	--
Papua New Guinea	95.30	26.77	0.11	92.19	--	--
Nicaragua	96.10	17.03	0.07	92.26	--	--
Croatia	261.60	14.82	0.06	92.32	--	--
Mongolia	37.10	13.75	0.05	92.37	9.28	--
Albania	35.30	13.13	0.05	92.42	8.47	--
Cameroon	135.10	11.86	0.05	92.47	--	--
Slovenia	150.50	8.53	0.03	92.51	--	--
Cambodia	25.00	6.25	0.02	92.53	--	--
Mali	68.90	5.72	0.02	92.55	10.16	35.56
Madagascar	90.40	5.15	0.02	92.57	18.07	43.82
Togo	54.30	4.23	0.02	92.59	19.20	26.11
Congo	57.90	3.50	0.01	92.60	--	--
FYR Macedonia	49.60	2.81	0.01	92.62	--	--
Senegal	118.90	2.50	0.01	92.63	127.65	47.66
Niger	48.30	2.02	0.01	92.63	16.85	18.87
Malawi	50.90	1.24	0.00	92.64	34.78	25.67
Bangladesh	392.50	--	--	92.64	330.00	166.75
Sri Lanka	303.60	--	--	92.64	224.00	151.71
Uganda	133.90	--	--	92.64	199.20	63.74
Kenya	199.40	--	--	92.64	167.78	96.56
Bolivia	126.20	--	--	92.64	104.31	56.23
Mozambique	84.00	--	--	92.64	100.65	37.21
Tanzania	146.90	--	--	92.64	85.60	70.62
Mauritania	47.50	--	--	92.64	35.58	19.00
Guinea	78.70	--	--	92.64	17.37	26.63
Burundi	57.20	--	--	92.64	17.21	25.19

Table 3. GRA, ESAF, and SAF Loans Outstanding

	January 31, 1994					
	GRA				ESAF	SAF
Member Name	Quota	Total	Percent	Cummulative Percent	Total	Total
Gambia, The	22.90	--	--	92.64	14.60	9.58
Lesotho	23.90	--	--	92.64	14.35	10.27
Nepal	52.00	--	--	92.64	11.19	24.62
Benin	45.30	--	--	92.64	8.65	22.65
Lao People's Dem. Rep.	39.10	--	--	92.64	5.87	20.51
Burkina Faso	44.20	--	--	92.64	4.10	11.06
Equatorial Guinea	24.30	--	--	92.64	1.29	10.68
Ethiopia	98.30	--	--	92.64	--	35.30
Chad	41.30	--	--	92.64	--	20.20
Rwanda	59.50	--	--	92.64	--	8.76
Guinea-Bissau	10.50	--	--	92.64	--	3.45
Dominica	6.00	--	--	92.64	--	2.24
Comoros	6.50	--	--	92.64	--	0.90
Sao Tome & Principe	5.50	--	--	92.64	--	0.80
Current Credit	32,359.00	23,335.82	92.64	92.64	2,004.67	1,644.17
Sudan	169.70	604.26	2.40	95.04	--	--
Zambia	270.30	559.19	2.22	97.26	--	--
Liberia	71.30	201.55	0.80	98.06	--	--
Zaire	291.00	184.81	0.73	98.79	--	145.50
Somalia	44.20	96.70	0.38	99.17	--	8.84
Honduras	95.00	72.45	0.29	99.46	13.56	--
Serbia/Montenegro	--	56.82	0.23	99.69	--	--
Sierra Leone	57.90	42.63	0.17	99.86	--	9.26
Bosnia & Herzegovina	--	20.54	0.08	99.94	--	--
Haiti	44.10	15.00	0.06	100.00	--	8.82
Central African Republic	41.20	0.41	--	100.00	--	20.55
Overdue Credit	1,084.70	1,854.36	7.36	100.00	13.56	192.98
GRAND TOTAL	33,443.70	25,190.17	100.00	100.00	2,018.23	1,837.15

Note: Totals may not add due to rounding.

An Illustrative Risk Index for Precautionary Balances

One approach to an assessment of the Fund's exposure to risk in connection with credit outstanding to members that are meeting their financial obligations to the Fund on time and a determination whether additional precautionary balances might be necessary would be the use of a risk index. Such an index would be based on a set of factors, suitably quantified and weighted, deemed to have an influence on the likelihood that a member in the future would not meet financial obligations as they become due, and thereby indicate a risk of loss resulting from credit extended to that member. Calculated for each member indebted to the Fund (other than those in protracted arrears) and summed, an overall index of risk deriving from credit to members that are not in protracted arrears can be computed. Since the Fund has no experience of loss, the index cannot directly be related to the probability of loss on outstanding credit. However, movements of the index over time could be taken into account to assess whether the exposure of the Fund to credit risk is increasing or decreasing.

This Attachment describes the construction of such an index. The calculation includes variables that have been used in the assessment of the member's capacity to repay in staff papers on the use of Fund resources prepared for the Executive Board or have otherwise appeared as relevant indicators in reviews of individual arrears countries. The index should be considered as illustrative, as many alternative variables or alternative weighting schemes could be used. 1/ As noted above, the Fund has no experience of loss and it was not possible to link the variables directly to the likelihood of loss. Instead, the "risk ratings" assigned to particular variables in the assessment were based on past experience of the variable for members that incurred protracted arrears, as discussed further below. It must be noted, however, that many of the variables had similar values for members who regularly met their financial obligations to the Fund on a timely basis. This phenomenon may reflect essentially unquantifiable differences in members' treatment of the Fund's preferred creditor status.

Table A describes the factors and weights involved, which have been applied to countries with repayments to the Fund in any year in the period 1980-91. The rationale for the selection of variables is as follows:

1/ For a review of quantitative approaches to country risk analysis, see Saini, K. and Bates, P., "A Survey of Quantitative Approaches to Country Risk Analysis," *Journal of Banking and Finance* 8 (1984) pp. 341-356. The literature on significant financial and macroeconomic correlates of external debt repayment problems is reviewed in McFadden, D. *et al.*, "Is There Life After Debt? An Econometric Analysis of Creditworthiness of Developing Countries" in *International Debt and the Developing Countries* (IBRD, 1985), and that on the theoretical issues of sovereign creditworthiness in Arora, V., "Sovereign Debt: A Survey of Some Theoretical and Policy Issues," *IMF Working Paper* No. 93/56 (1993).

Macroeconomic and Financial Strength

There is a large range of possible variables which could be included to reflect the macroeconomic and financial position of a member. In the present index, the ratio of reserves to imports is used an indicator of the availability of resources for future repayments. In addition, per capita income and the size of claims on central government in relation to GDP are used to represent measures of the overall resources potentially available to a member and of the size of domestic imbalances, respectively.

The concentration of export earnings, particularly in primary commodities, was assessed in order to capture vulnerability to fluctuations in export earnings. Volatility of variables affecting foreign exchange earnings is a key component in the analysis of the capacity to repay purchases from the Fund; the level of exports is perhaps the single most important variable in this respect.

External Indebtedness

The debt/GDP and debt service/export ratios are traditional measures of the stock and flow of debt obligations. They relate to total external debt, rather than debt to the Fund alone. The ratio of debt to international financial institutions to total debt attempts to measure the relative importance of financial obligations to preferred creditors. All of these ratios are components of capacity to repay discussions and both debt service obligations and exports are used as payments indicators in cases of arrears to the Fund. The ratio of arrears to total debt is also used as a risk element, as the presence of arrears to other creditors could be thought to indicate increased risk of arrears to the Fund as well. The level of external arrears is also a payments indicator in Fund arrears cases. The number of reschedulings in the previous ten years has been included as a proxy for the orderliness of the member's relations with creditors.

Relations with the Fund

The ratio of Fund credit to quota is intended to measure the size of obligations to the Fund in relation to the basic Fund proxy for a member's economic size; and the ratios of Fund credit to total external debt and to exports, and that of projected repurchases and charges to exports, have been included to represent the size of obligations to the Fund in relation to external receipts and external obligations of the member. The last ratio is also an important payment indicator in arrears cases.

The number of programs arranged in the previous ten years is included as a representation of the length of use of Fund resources. The number of programs canceled in the previous ten years attempts to capture instances where policies have gone off track.

While these risk factors capture most of the elements that are used in appraising capacity to repay when the Executive Board considers a request for use of Fund resources, some relevant factors--such as the success in policy implementation in past programs--are difficult to capture in a quantitative approach. Other relevant considerations, such as whether a member currently has a Fund-supported program and, if so, whether the program is on track or not, are also not easily quantified. Similarly, the impact on risk of the absence of a recent rescheduling of official debt is difficult to assess as it may indicate either that external debt arrears are not a problem or that adjustment policies sufficiently strong for a Fund-supplied program--which usually is a requirement for rescheduling of official debt--are not being followed.

Computation of the Index

In compiling the index, the observations over a twelve-year period for each risk factor for all members indebted to the Fund during the period were ordered and divided into five groups of equal size. The first group (A) comprised the 20 percent of observations with the lowest value for the factor under consideration, the second group (B) the 20 percent of observations with the next highest value, and so on up to group E, containing the 20 percent of observations with the highest values. For each of the five groups, the proportion of observations that related to members that had been in arrears during the period 1980-91 was calculated. An example is given below:

Group	Number of observations from members in arrears as proportion of total number of observations in group
A	0.100
B	0.114
C	0.191
D	0.243
E	0.258

These proportions were used as "risk ratings" 1/ for the relevant factor for each country: if the level of reserves to imports of a given country in 1990 was within the range of Group A, then 0.100 was the 1991 risk rating for that given country for that factor. These individual factor ratings were weighted using the weights set out in Table A to calculate an aggregate risk level for a specific country for 1991; the overall risk level for Fund credit outstanding in each year was then computed by weighting the aggregate risk level for each member not in protracted arrears by the amount

1/ The "risk rating" thus represents an indication of the relative frequency of the association of arrears with the particular range of values of the variable.

of its GRA purchases outstanding and summing the products. The results are shown below: 1/

Risk Index for Fund Credit Outstanding in the GRA

End-FY	Risk index	Minimum level of risk index	Ratio of actual to minimum risk index
1981	1,792	629	2.79
1982	3,114	975	3.17
1983	4,982	1,553	3.08
1984	6,791	2,089	3.16
1985	7,271	2,244	3.16
1986	6,997	2,122	3.22
1987	6,346	1,893	3.31
1988	5,478	1,677	3.26
1989	4,302	1,358	3.08
1990	3,966	1,268	2.91
1991	3,900	1,339	2.48
1992	3,966	1,385	2.40

The index does not provide any indication of a desirable or adequate level of precautionary balances to be held in respect of credit to members that are not overdue, or of additions to such balances. However, changes in the index would indicate in a systematic fashion whether the Fund's exposure to risk had increased or lessened in the period under consideration, due to changes in the overall amount of credit outstanding, to changes in the amount and concentration of credit extended to individual members, or changes in the members' own situations--assuming, of course, that the computed "risk ratings" do in fact have systematic relation to the

1/ In view of the wide variations in the values of the variables among member countries, not much significance can be attributed the annual "risk ratings" for individual members, and they are not discussed further.

probability of future arrears. 1/ Such a composite risk indicator could therefore provide an additional element of information Executive Directors might find useful when considering the desirability of additions to those balances.

Other things being equal, the value of the index will rise when Fund credit outstanding increases as a result of net new lending; similarly it will fall when net repayments are made. The index could fall to zero only if outstanding GRA credit fell to zero. Regardless of the total amount of credit extended, it may be useful to see how the index is moving in relation to its minimum possible value given the level of Fund credit outstanding, i.e. the value it would have if all Fund credit were outstanding to borrowers with the lowest risk rating in every category. The minimum value of the index and the ratio of the actual value to the minimum are shown in the second and third columns of Table B. Sharp movement in the ratio would indicate a worsening (when the index rises) or improvement (when it falls) of the Fund's exposure to risk as a result of changes in the amount of credit outstanding, changes in the composition of members making use of Fund resources, or of changes in the borrowers' macroeconomic or financial circumstances.

1/ Like other indices or forecasting systems, the risk index assumes that statistical patterns observed in the past will hold in subsequent periods. As discussed in Section III of the paper, this assumption is unlikely to be correct as regards the incidence of arrears in the discharge of obligations to the Fund.

Variables and Weighting in the Illustrative Risk Index

Category	Weight	Subcategory	Weight
Macroeconomic strength	35	Reserves/imports	8.33
		Per capita income	8.33
		Claims on government/GDP	8.33
		Export structure	10.0
External indebtedness	25	External debt/GDP	5.0
		Debt service/exports	5.0
		Number of debt reschedulings	5.0
		Arrears/external debt	5.0
		Debt to IFIs/total external debt	5.0
Relations with the Fund	40	Fund credit/quota	6.67
		Fund credit/total external debt	6.67
		Fund credit/exports	6.67
		Fund repurchases and charges/exports	6.67
		Number of Fund programs arranged	6.67
		Number of Fund programs canceled	6.67
	100		100