FOR AGENDA

EBS/02/185

CONFIDENTIAL

November 1, 2002

To: Members of the Executive Board

From: The Secretary

Subject: **The Fund's Policy on Precautionary Financial Balances**

Attached for consideration by the Executive Directors is a paper on the Fund's policy on precautionary financial balances, which is tentatively scheduled for discussion on **Monday, November 18, 2002**. Issues for discussion appear on pages 28 and 29.

The staff does not propose the publication of this paper.

Questions may be referred to Mr. Trines (ext. 35639) and Mr. Lakwijk (ext. 38819) in TRE.

Att: (1)

Other Distribution:
Department Heads

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INTERNATIONAL MONETARY FUND

The Fund's Policy on Precautionary Financial Balances

Prepared by the Treasurer's Department

(In consultation with other departments)

Approved by Eduard Brau

November 1, 2002

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Appendix Box

Executive Summary

The Fund's precautionary balances in the General Resources Account consist of reserves and the SCA-1 and are currently about SDR 5 billion. These balances: (i) protect the Fund in the event outstanding credit is impaired by absorbing potential losses resulting from non-repayment; (ii) can absorb losses resulting from unpaid charges or insufficient income unrelated to arrears, and (iii) can be used to cover expenses that are incurred because the Fund self-insures against certain risks.

The annual pace of accumulation of precautionary balances during FY1999–2003 (projected) has fluctuated considerably, with surcharge income on average accounting for nearly two thirds of the accumulation, burden sharing for the SCA-1 for about one fifth, and regular net income for the remainder. Precautionary balances have changed little relative to credit capacity and credit outstanding since the early 1990s and are low relative to such balances at other International Financial Institutions.

Credit risk facing the Fund has increased significantly due to the Fund's growing role in resolving financial crises experienced by members and the increasing concentration of credit to a few members, with SDR 30 billion currently outstanding to the two largest borrowers. If a large creditor failed to make repayments to the Fund, a sufficient level of precautionary balances to offset the overdue principal would ensure compliance with international accounting standards and safeguard the Fund's reputation as the central international financial institution. Setting aside balances against large arrears could not be financed out of annual income in the year the nonpayment occurred, because annual income is not large enough and it would be difficult to obtain a decision with 70 percent of the total voting power to increase the rate of charge to the very high level that would be required.

The risk that precautionary balances would have to absorb income losses has also grown. The risk of losses resulting from unpaid charges exceeding the capacity of the burden sharing mechanism has risen in tandem with credit risk as nonpayment of principal and charges would generally occur together. Such losses could be high if there were large arrears when credit outstanding was low. Losses due to Fund administrative expenses exceeding income are a source of vulnerability which has also increased in recent years due to the growth of administrative expenses. Recent developments in insurance markets have raised the degree to which the Fund relies on its reserves to cover potential expenses for which it is self-insured.

The staff believes that:

In light of the credit capacity of the Fund and its ability to lend large amounts to individual members that gives rise to high credit concentration, the current level of precautionary balances is insufficient to safeguard the financial integrity of the Fund. A strong case exists for increasing precautionary balances to a level that is at minimum double the present size.

The present distribution of the accumulation of precautionary balances appears broadly appropriate on efficiency and equity grounds.

The current pace of accumulation of precautionary balances is acceptable but relies heavily on volatile surcharge income so that it is not guaranteed that a sufficiently fast pace will be achieved in the future. The adequacy of the pace of accumulation needs to be kept under review.

I. Introduction

1. At the 2002 review of the Fund's income position, Executive Directors expressed interest in having a comprehensive review of the Fund's precautionary balances.[1] The last comprehensive review of the analytical framework for assessing the adequacy of the Fund's precautionary balances took place in 1995.[2] This paper considers issues related to the assessment of the adequacy and the financing of the precautionary balances in the Fund's General Resources Account (GRA) to determine whether the Fund's current policies remain appropriate.

2. The paper is organized as follows. Section II provides background on the definition, purposes, and policies with respect to precautionary balances. Section III evaluates the appropriate size of precautionary balances in light of their purposes. Issues related to the pace of accumulation are examined in Section IV. Section V provides some conclusions and issues for discussion by Directors.

II. Precautionary Balances: Background

A. Definition and Evolution

3. **The Fund holds the precautionary balances of the GRA in Reserves and the Special Contingent Account (SCA-1)** (Table 1).[3]

- Reserves provide the Fund with protection against financial risks of a general nature and consist of two components that serve similar purposes:
  - The **Special Reserve,** which was established in 1957 with the proceeds from a gold investment program to absorb income losses.
  - The **General Reserve,** which was established in 1958 to absorb losses of a capital character and as a second source for meeting income losses.
- The **SCA-1** was established in 1987 as an additional layer of protection against the adverse financial consequences of protracted (six months or more) arrears. At that time, arrears were rising and available protection against the risk of arrears was

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[1] The discussion took place at EBM/02/43, 4/26/02 on the basis of *Review of the Fund's Income Position, the Rate of Charge, Precautionary Balances, and Burden Sharing for FY 2002 and FY 2003*, EBS/02/60, 4/3/02.

[2] See *Review of the Fund's Precautionary Balances* (EBS/95/22, 2/24/95) which was discussed at EBM/95/24, 3/15/95.

[3] In the balance sheet of the General Department, Reserves appear under the GRA's "members' resources" and the SCA-1 appears under the GRA's "liabilities."

Table 1. The Fund's Precautionary Balances in the GRA, 1990-2002

	End of				
	Financial Year				September
	1990	1995	2000	2002	2002
	(In billions of SDR)				
Precautionary balances	1.6	3.2	4.0	4.6	4.9
Reserves	1.4	1.8	2.8	3.3	3.6
General	0.4	0.4	0.9	1.3	1.5
Special	1.0	1.4	1.9	2.0	2.1
SCA-1	0.2	0.6	1.1	1.3	1.4
SCA-2	--	0.8	--	--	--
Free reserves 1/	-1.0	0.7	3.1	3.7	4.2
Memorandum items:					
Credit capacity 2/	60.2	87.9	150.8	154.7	162.1
Credit outstanding	22.1	32.1	43.9	52.1	62.8
Credit in good standing	19.5	30.4	43.0	51.2	62.0
Arrears	3.4	2.8	1.9	1.9	1.7
Principal	2.6	1.7	0.9	0.9	0.7
Charges	0.8	1.1	1.0	1.1	1.0
	(In percent)				
Ratio of:					
Precautionary balances to credit capacity	2.7	3.6	2.6	3.0	3.0
Precautionary balances to credit outstanding	7.2	9.8	9.0	8.8	7.8
Free reserves to credit capacity	-1.6	0.8	2.0	2.4	2.6
Free reserves to credit in good standing	-5.0	2.2	7.1	7.2	6.7

1/ Precautionary balances in excess of arrears on principal and SCA-2.

2/ Quotas of members in the FTP and resources available under NAB/GAB, excluding the prudential level of uncommitted usable resources. However, for simplicity credit capacity is approximated here by quotas of members in the FTP (see footnote 7 on page 7).

grossly inadequate. Since the mid-1980s, 25 members have at some time been in protracted arrears to the Fund, including 6 middle-income countries (Table 2).[4]

[4] Many more members have experienced arrears that were not protracted, the largest being incurred by Argentina which in the late 1980s made payments to the Fund that were up to 66 days late on obligations totaling some SDR 500 million.

Table 2. Protracted Arrears Cases 1/

	Arrears in the GRA (In millions of SDRs)			Period of Arrears (in years)	Date of Arrears Clearance
	Principal	Charges/ Interest	Total 2/		
PRGF-eligible members					
Afghanistan, Islamic State of 3/	0.0	0.0	0.0	6.9	...
Bosnia and Herzegovina	18.4	3.4	21.8	3.3	12/20/1995
Cambodia	18.7	12.8	31.6	18.6	10/01/1993
Central African Republic	0.4	0.0	0.4	0.8	03/03/1994
Chad	2.7	0.4	3.0	0.8	11/08/1984
Congo, Dem. Rep. of	108.3	7.1	115.4	0.9	05/17/1989
Congo, Dem. Rep. of	157.1	76.7	233.8	10.6	06/12/2002
Gambia	7.6	1.6	9.2	1.1	07/25/1986
Guyana	67.1	31.5	98.6	7.2	06/20/1990
Haiti	8.5	0.8	9.2	0.9	09/08/1989
Haiti	14.8	2.9	17.7	3.1	12/19/1994
Honduras	14.8	2.7	17.5	1.1	11/09/1988
Honduras	20.3	3.2	23.5	1.6	06/28/1990
Liberia 4/	200.9	242.6	443.5	17.8	...
Nicaragua	13.3	0.2	13.5	2.2	04/26/1985
Sierra Leone	13.3	4.7	18.0	1.8	09/18/1986
Sierra Leone	48.6	27.2	75.8	7.2	03/28/1994
Somalia 5/	96.7	92.0	188.7	15.3	...
Sudan 6/	601.4	419.9	1021.3	18.3	...
Tanzania	12.0	1.9	13.9	1.3	07/30/1986
Vietnam	28.4	19.1	47.5	9.7	10/05/1993
Zambia	79.2	36.0	115.2	0.8	01/06/1986
Zambia	615.3	299.6	915.0	9.7	12/06/1995
Zimbabwe 7/	62.4	6.0	68.5	1.7	...
Other members					
Dominican Republic	21.8	2.5	24.3	0.7	04/23/1991
Iraq	0.0	0.1	0.1	11.9	...
Jamaica	67.7	22.2	89.9	0.8	01/13/1987
Panama	138.9	49.5	188.4	2.4	05/23/1990
Peru	469.0	190.5	659.5	7.5	03/18/1993
Yugoslavia, Federal Rep. of	52.6	21.8	74.5	8.3	12/20/2000

1/ Protracted arrears are defined as arrears outstanding for six months or more.

2/ Peak amount of total arrears recorded during period of arrears.

3/ Amounts are less than SDR 50,000.

4/ Arrears to the Trust Fund were SDR 30.1 million.

5/ Arrears on SAF loans were SDR 9.5 million and to the Trust Fund SDR 7.9 million.

6/ Arrears to the Trust Fund were SDR 84.5 million.

7/ Arrears to the PRGF Trust were SDR 57.5 million.

4. **Existing precautionary balances have been financed through the retention of income and the burden sharing mechanism:**

- Additions to Reserves are made by placing regular net income and most income from surcharges to Reserves. Resources accumulated in the General Reserve may be distributed by the Fund to members on the basis of quota shares by a 70 percent majority of the total voting power. Resources in the Special Reserve may not be distributed.[5]

- Resources in the SCA-1 are accumulated through the burden sharing mechanism (Box 1). These resources are refundable if either (i) all charges and repurchases are current, i.e., all unpaid obligations have been settled, or (ii) the Fund decides, by a 70 percent majority of the total voting power, to make an earlier refund of the balances.

5. **The Fund also uses the burden sharing mechanism to cover the loss of income from unpaid charges.** Prior to 1986, the full impact of the loss of income from unpaid charges was borne by members with outstanding Fund credit through a higher rate of charge. In view of the rising level of arrears, burden sharing was introduced to distribute this cost on a wider basis.[6]

6. **The Fund's precautionary balances have changed little relative to credit capacity and credit outstanding since the early 1990s**. While precautionary balances almost tripled in SDR terms between 1990 and 2002, the Fund's credit capacity (quotas of members in the Financial Transactions Plan (FTP)) and outstanding credit grew nearly as much (Table 1).[7] Free reserves—precautionary balances in excess of protracted arrears[8]—were negative in the

[5] Article XII, Section 6(d) and 6(b).

[6] Burden sharing may also be used for unpaid surcharges but the need to do so has not arisen as yet.

[7] The Fund's credit capacity may be defined as the quotas of members in the FTP plus the resources available under the NAB/GAB, minus the prudential level of uncommitted usable resources which the Fund will seek to maintain under normal circumstances (see *The Fund's Liquidity Position—Review and Outlook*, EBS/02/177, 10/15/02). Since the resources of the NAB/GAB (SDR 34 billion) and the prudential level of uncommitted usable resources (presently SDR 33 billion) are roughly offsetting, for simplicity reasons credit capacity is approximated in this paper by the quotas of members in the FTP. The Fund's credit capacity is distinct from the one year forward capacity to commit GRA resources (FCC). Credit capacity refers to the maximum amount of credit the Fund could extend, whereas the FCC indicates the additional credit the Fund could make available one year ahead given its outstanding credit and commitments.

[8] SCA-2 balances are also excluded from free reserves.

early 1990s but have since increased to 2½ percent of the Fund's credit capacity and 7 percent of credit in good standing due to the decline in protracted arrears and build up of precautionary balances.

Box 1. The Burden Sharing Mechanism

The Executive Board established the burden sharing mechanism in 1986 to distribute the financial consequences of overdue obligations among debtor and creditor members. The mechanism provides for upward adjustments to the rate of charge and downward adjustments to the rate of remuneration to generate resources. Burden sharing is constrained by the provision in the Articles of Agreement that the rate of remuneration shall not be less than 80 percent of the SDR interest rate (Article V, Section 9). Currently, the Executive Board has set a floor of 85 percent of the SDR interest rate (Decision No. 12731-(02/43), adopted April 26, 2002).[1]

The following adjustments are or have been made under the burden sharing mechanism:

- The loss of income due to **unpaid charges** is covered by quarterly adjustments in the rate of charge and the rate of remuneration to generate equal amounts from debtors and creditors. The size of the adjustments in any particular financial quarter depends on the amount of unpaid charges and the levels of outstanding credit and remunerated reserve tranche positions. Burden sharing contributions for unpaid charges are to be refunded after the unpaid charges are settled. At the end of September 2002, outstanding burden sharing for unpaid charges amounted to SDR 1.0 billion.

- The **SCA-1** has been financed equally from debtors and creditors through quarterly adjustments to the rate of charge and the rate of remuneration. The SCA-1 balances are refundable to contributing members "when there are no outstanding overdue charges and repurchases, or at such earlier time as the Fund may decide" (Decision No. 8780-(88/12), adopted 1/29/88). At the end of September 2002, the resources in the SCA-1 amounted to SDR 1.4 billion.

- The terminated second Special Contingent Account (**SCA-2**) was also financed through the burden sharing mechanism with creditors providing 75 percent and debtors providing 25 percent of the total resources. The SCA-2 was established in 1990 to cover the Fund against the risks of lending to members that had cleared their arrears following the completion of a rights accumulation program. Balances totaling SDR 1 billion were accumulated and subsequently distributed to members in FY 2000 upon termination of the account in connection with the contributions by members to the PRGF-HIPC Trust.

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[1] The floor was 80 percent when the SCA-2 existed.

7. **The annual rate of accumulation of precautionary balances is determined by specific policies that the Executive Board has established:**[9]

- Rule I-6(4) provides that net income for a financial year—and its allocation to Reserves—should be 5 percent of reserves at the beginning of the year, equal to SDR 163 million in FY 2003. However, as explained below, the Executive Board has decided that a portion of the net income target, amounting to SDR 94 million, be accumulated annually in the SCA-1 through the burden sharing mechanism. The remainder (SDR 69 million in FY 2003) is to be generated from regular income—which excludes surcharge income—through the basic rate of charge (the rate of charge before adjustments for burden sharing) and placed to the Special Reserve.[10]

- Income from surcharges is placed in the General Reserve, except that the cost of administering the PRGF Trust—over SDR 60 million per annum—is paid from surcharge income. Net surcharge income of SDR 310 million was added to the General Reserve in FY 2002. Surcharge income has been associated with relatively large provision of credit under the Supplemental Reserve Facility (SRF) and exceptional access under stand-by and extended arrangements.[11]

- Until FY 2000, annual additions to the SCA-1 were equal to 5 percent of the Fund's reserves at the beginning of the year. Beginning in FY 2001, a flat SDR 94 million per year is being accumulated in the SCA-1 through burden sharing.[12]

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[9] The Articles of Agreement do not allow for mechanisms other than changes in the rates of charge and remuneration to generate income. A proposal for a "variable uniform norm" which provided for adjustments in each member's nonremunerated reserve tranche position to generate income for the Fund was discussed in the mid 1990s but not agreed. Such a mechanism would have required an amendment of the Articles of Agreement (see *Financing the Fund's Operations—Review of Issues*, SM/01/78, 3/5/01).

[10] The Board has decided that regular income in excess of the income target should be refunded through a retroactive adjustment in the basic rate of charge, while shortfalls would be compensated through adjustments in the net income target and the basic rate of charge in the subsequent financial year.

[11] The surcharge on SRF purchases is 300 basis points initially and rises by 50 basis points after one year from the date of disbursement and each subsequent six months to a maximum of 500 basis points. The surcharge on accumulated purchases made after November 2000 in the credit tranches and under the Extended Fund Facility (EFF) is 100 basis points on credit in excess of 200 percent of quota and 200 basis points on credit in excess of 300 percent of quota.

[12] The SDR 94 million corresponds to the estimated annual cost of the 1999–2000 off-market gold transactions (see *Review of the Fund's Income Position, the Rate of Charge, Precautionary Balances, and Burden Sharing for FY 2001 and FY 2002*, EBS/01/50, 4/3/01).

Thus, the current annual accumulation of precautionary balances amounts to 5 percent of reserves at the beginning of the financial year plus net income from surcharges.

B. Purposes of Precautionary Balances

8. **The Fund's precautionary balances have a number of important purposes.** First, they protect the Fund in the event outstanding credit is impaired by absorbing potential losses resulting from non-repayment of Fund credit. Second, precautionary balances can absorb losses resulting from (i) unpaid charges or (ii) insufficient income unrelated to arrears. Third, precautionary balances can be used to cover expenses that are incurred because the Fund self-insures against certain risks.

Credit risk

9. **The Fund is committed to complying with the International Accounting Standards (IAS).** IAS specify that a value impairment of an asset, as evidenced by late or non payments, needs to be recognized in the balance sheet to ensure a fair and accurate statement of the financial position.[13] The Fund has complied with IAS by accumulating precautionary balances that fully cover protracted arrears. Other International Financial Institutions (IFIs) have established provisions or allowances against possible losses in their loan and share portfolios.

10. **The Fund's Articles of Agreement recognize the possibility of a loss after the withdrawal of a member.**[14] In case of compulsory withdrawal of a member in protracted arrears, a loss is expected to occur as the member would not have repurchased the Fund's holdings of its currency as required and would not likely make good the loss incurred by the Fund in selling those holdings in a market. The loss to the Fund would be the difference between the SDR value of the claim on the member and its market value.

11. **The Fund's Articles of Agreement do not permit it to recognize value impairment in its balance sheet in the form of general or specific provisioning until all steps provided for in the Articles have been completed.**[15] Provisions against possible losses could, for instance, be established after a member in arrears withdraws. However,

[13] The Fund's By-Laws (Section 20, paragraph (d)) call for a confirmation by the External Auditors that the Fund's financial statements present "a true and fair view of the financial position."

[14] Schedule J, paragraph 6.

[15] Before such steps are completed the Fund's claim on a member, which is accounted for by the SDR value of the Fund's holdings of the member's currency, is not affected by arrears or failure by the member to comply with the maintenance of value requirement (see *Valuation of Assets in the General Resources Account – Provisioning and Write-Off – Legal Considerations*, SM/86/106, 5/16/86).

precautionary balances in the form held by the Fund are allowed and act as the equivalent of provisions.

12. **If arrears occur, the Fund needs to have sufficient precautionary balances available to offset the overdue principal.** This ensures compliance with IAS and safeguards the Fund's reputation as the central international financial institution by demonstrating that it maintains a strong balance sheet even under adverse circumstances. Precautionary balances for this purpose need to be built up before arrears occur. Setting aside balances against potential non-payment by a large user of Fund resources could not be financed out of annual income in the year the non-payment occurred, because annual income is not large enough and it would be difficult to obtain a decision with 70 percent of the total voting power to increase the rate of charge to the very high level that would be required.

13. **The Fund's precautionary balances also provide additional security to lenders under the NAB and GAB.** Upon activation of the NAB or GAB, the Fund is obligated to repay amounts obtained from these lenders within five years, regardless of whether the borrowing member for whose benefit the activation was undertaken has repaid the Fund. Precautionary balances thus provide additional security that the Fund can satisfy its obligations towards lenders under the NAB and GAB and thereby support their willingness to make additional resources available to the Fund.

Risk of unpaid charges

14. **Precautionary balances can be used to absorb the income losses resulting from the nonpayment of charges.** The Fund has established the burden sharing mechanism to absorb the income loss due to the nonpayment of charges. However, the capacity of burden sharing could be exceeded in the case of large arrears to the Fund because of the floor on the rate of remuneration of 80 percent of the SDR interest rate specified in the Articles of Agreement. If the floor were reached, any unpaid charges that were not replaced through burden sharing would reduce the Fund's income. Losses could then occur if the Board were to decide against large increases in the rate of charge.[16]

15. **The worst losses could occur if there were large arrears when credit outstanding were low.** The maximum creditors' contribution to burden sharing for unpaid charges would be 20 percent of the SDR interest rate applied to their remunerated positions. Debtors would pay the same amount through increases in the rate of charge on outstanding credit. As credit outstanding and remunerated positions fall, the capacity of the burden sharing mechanism to distribute the financial consequences of a given amount of unpaid charges declines as the floor on the rate of remuneration would be reached more quickly. Unpaid regular charges that could be handled by the burden sharing mechanism at high levels of credit outstanding

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[16] Executive Board Decisions have stipulated that current income shortfalls (relative to the income target) are to be recovered in the next financial year by increasing the rate of charge in that year. In addition, there is a safeguard mechanism which calls for adjustment to the rate of charge at mid-year if there are income shortfalls.

would lead to large losses at lower levels (Table 3). The overall impact on the Fund of unpaid charges may be compounded by the failure to receive income from surcharges (which has been placed to Reserves).

Table 3. Arrears, Burden Sharing, and Potential Income Losses: an Illustration
(In SDR million)

Fund credit outstanding (SDR billion)	Burden sharing capacity for unpaid charges 1/	Unpaid charges 2/ Credit in arrears (SDR billion)				Income loss due to unpaid charges after taking account of burden sharing Credit in arrears (SDR billion)			
		5	10	15	20	5	10	15	20
100	1,470	203	406	610	813	0	0	0	0
90	1,318	205	411	616	822	0	0	0	0
80	1,166	208	416	625	833	0	0	0	0
70	1,014	212	423	635	847	0	0	0	0
60	862	217	433	650	866	0	0	0	4
50	710	223	446	670	893	0	0	0	183
40	558	233	466	700	933	0	0	142	375
30	406	250	500	750	999	0	94	344	593
20	254	283	566	850	...	29	312	596	...
10	102	383	...	...	...	281	...	...	...
5	26	...	...	...	...	...	...	...	...

1/ Based on creditors' contribution of 20 percent of the SDR interest rate and SDR interest rate of 3.8 percent--which is the 5-year average.

2/ Excluding surcharges and based on a rate of charge that achieves the current income target (of SDR 69 million).

16. **The Fund would have two ways to continue paying remuneration and administrative expenses if there were unpaid charges that could not be covered by the burden sharing mechanism:**

- The rate of charge could be raised in line with Board decisions on the recuperation of income shortfalls. At low levels of credit outstanding, this approach could require a significant increase (Table 4) for which it may be difficult to achieve the necessary support.
- Alternatively, the Fund's precautionary balances could be drawn down to compensate for (some or all of) the income loss. The length of time that the Fund could do so would depend on the size of the unpaid charges that were not covered by burden sharing and the amount of the available precautionary balances. In these circumstances, precautionary balances would be gradually eroded despite the use of burden sharing to the maximum possible extent if unpaid charges persisted over a number of years.

Table 4. Arrears, Burden Sharing, and Adjustments to the Rate of Charge: an Illustration
(In basis points)

		Adjustments of rate of charge											
Fund credit outstanding		Due to burden sharing 2/				Due to income loss 3/				Total margin			
		Credit in arrears (SDR billion)				Credit in arrears (SDR bln.)				Credit in arrears (SDR bln.)			
(SDR billion)	Margin 1/	5	10	15	20	5	10	15	20	5	10	15	20
100	26	11	23	36	51	0	0	0	0	37	49	62	77
90	31	12	26	41	59	0	0	0	0	43	56	72	89
80	36	14	30	48	69	0	0	0	0	50	66	84	106
70	43	16	35	58	85	0	0	0	0	60	79	101	128
60	53	20	43	72	*108*	0	0	0	1	73	96	125	161
50	66	25	56	96	*118*	0	0	0	37	91	122	162	221
40	86	33	78	*112*	*139*	0	0	35	94	120	164	233	320
30	120	50	*101*	*135*	*203*	0	31	115	198	170	252	370	520
20	186	*85*	*127*	*254*	...	15	156	298	...	286	470	738	...
10	386	*102*	...	...	...	281	...	...	...	770	...	...	...
5	786	...	...	...	...	...	...	...	...	...	...	...	...

1/ Initial margin of basic rate of charge over SDR interest rate to achieve current income target (of SDR 69 million) based on SDR interest rate of 3.8 percent--which is the 5-year average.

2/ Based on income losses in Table 3. Italics indicate that the capacity of burden sharing is exceeded and the rate of remuneration is at 80 percent of the SDR interest rate.

3/ Calculation assumes for simplicity that income shortfall is compensated immediately and not, as is typical, in the subsequent financial year.

Other income risk

17. **The Fund could suffer losses unrelated to credit repayment difficulties at low levels of credit outstanding.** The level of credit outstanding and the margin of the rate of charge over the SDR interest rate determine the available income to pay administrative expenses. At low levels of credit, losses could occur if the rate of charge could not be raised sufficiently, due to the lack of the necessary 70 percent majority of the total voting power required for a decision.

18. **At very low levels of credit, administrative expenses might have to be paid nearly in full from the Fund's precautionary balances, with only a minimal contribution made by income from Fund credit.** One might argue that as a provider of important public goods (e.g., surveillance and encouragement of the adoption of standards and codes), the Fund should be in a position to permanently finance its administrative expenses in the virtual absence of outstanding credit. However, at the extreme, nearly full absorption of these expenses could rapidly use up the Fund's current reserves. The pace of absorption would depend on the level of administrative expenses and the availability of interest-free resources (Box 2). At present levels, existing reserves would be exhausted in perhaps 6–7 years.

Box 2. The Fund's Interest-Free Resources

The Fund's interest-free resources are resources that can earn charges but do not entail remuneration expense. Interest-free resources are about the same size as precautionary balances because other resources that are interest free—in particular nonremunerated creditor positions in the Fund—are approximately offset by noninterest bearing assets, including the Fund's gold holdings.

The Fund's interest-free resources have the effect of lowering operational expenses because they allow the Fund to reduce the amount of currency obtained from FTP members for providing financial assistance to other members, which reduces remuneration expenses. Lower expenses allow the net income target to be met with less income from charges. The rate of charge can therefore be lower than if there were no interest-free resources.

The higher the SDR interest rate, the greater the amount of expenses saved due to the interest-free resources. At the current SDR interest rate of about 2.2 percent, the Fund's operational expenses would be about SDR 100 million higher without interest-free resources, which is the equivalent of nearly 20 basis points on the current rate of charge of 2.9 percent. At the five-year average SDR interest rate of 3.8 percent, the saved remuneration expense would be SDR 170 million.

Other asset and liability risks

19. **Reserves could also be used to cover expenses incurred because the Fund self-insures for certain risks and could incur legal liabilities**:

- Under the medical benefits plan, which provides health insurance to employees and retirees, the Fund is liable for (potentially substantial) costs that exceed the annual premium income and reserves of the plan. A health disaster caused by terrorism or an act of God could lead to such a scenario.

- Similarly, the Fund could incur liabilities under its workers' compensation policy, which provides employees with benefits and compensation in the event of illness, accidental injury, or death arising out of, and in the course of, their employment.

- The Fund could also face additional liabilities under its pension plans when adverse outcomes differed drastically from the actuarial assumptions used in plan management.

- Reserves can also be used to cover losses of a capital nature, such as accidental destruction of buildings.[17]

C. Current Policies with Respect to Precautionary Balances

20. **The Executive Board has adopted broad principles to assess the adequacy of precautionary balances and govern their accumulation which have been applied successfully to build up balances from a very low level** (Box 3). Precautionary balances have fully covered credit outstanding to members in protracted arrears since 1993—due also to the success of the Fund's strategy to prevent arrears and reduce existing arrears. Moreover, an additional amount of precautionary balances (free reserves) has been accumulated and has exceeded the indicative target of 3 to 5 percent of credit in good standing since 2000.

21. **The current guidelines reflect extensive discussions in 1993–94 on methods of assessing the adequacy of the Fund's precautionary balances.**[18] The discussions included consideration of risk assessment and provisioning practices in financial institutions in member countries and in IFIs and included extensive surveys of such practices (see ¶ 29). The Board concluded that it was not desirable to determine the adequacy of the Fund's precautionary balances using strictly quantitative or mechanistic measures and that a judgmental approach that took into account relevant circumstances should be applied.[19]

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[17] No such liability exists for the Fund's gold which is held in 4 depositories and guaranteed by the respective members (Article XIII, Sec. 3).

[18] See *The Fund's Precautionary Balances and Factors Bearing on Their Adequacy* (EBS/93/84, 6/2/93) and *The Fund's Precautionary Balances* (EBS/94/53, 3/11/94).

[19] See *Concluding Remarks by the Acting Chairman* (BUFF/94/37, 4/12/94).

Box 3. Assessment of the Adequacy of GRA Precautionary Balances: Principles

The following general guidelines have been used to assess the adequacy of the Fund's precautionary balances in the GRA:[1]

- Precautionary balances should fully cover credit outstanding to members in protracted arrears.
- These balances should include a margin for the potential exposure to risk related to the credit that is in good standing. This margin is referred to as free reserves. In recent years, Directors have agreed to increase free reserves beyond the indicative target range of 3–5 percent of non-arrears credit.
- Directors agreed that the guidelines are not to be used in a mechanistic way, but that the adequacy of precautionary balances is a matter of judgment, taking into account all relevant factors.

[1] The adequacy of the resources accumulated in the Reserve Account of the PRGF Trust, which is intended primarily to provide security to PRGF Trust lenders, is evaluated relative to the repayment obligations to these lenders. Current balances in the Reserve Account, which have been funded from SDA resources, amount to some SDR 3 billion. This is equivalent to nearly 45 percent of outstanding claims on the PRGF Trust and in line with the historical average of 40–45 percent (see *Update on the Financing of PRGF and HIPC Operations and the Subsidization of Post-Conflict Emergency Assistance* (SM/02/273, 8/21/02)).

22. **While there was broad agreement on the need to build up precautionary balances, views on the precise level of these balances have continued to evolve.** When the 3 to 5 percent target range for the ratio of free reserves to credit in good standing was adopted, it was largely inspired by what was judged to be financially attainable in the medium-term. The target range was adopted initially at a time when the Fund had very low protection against credit risk in general as free reserves were low. When the target range was reached in FY 2000, Directors considered that the ratio should in fact be higher in view of the rising concentration of credit outstanding to a few members and a higher level of perceived risk as evidenced by the existence of a number of very large Fund arrangements with members.

23. **Current policies also take into account the limited role of gold as an alternative to adequate precautionary balances.** The Fund's gold holdings are an important factor of strength in the Fund's balance sheet but offer limited protection against arrears.

- Use of gold by the Fund is restricted by the Fund's Articles and any authorized use requires a decision by an 85 percent majority of the total voting power. Any proposal to mobilize gold is likely to result in a number of alternative proposals for its use to which a higher priority may be accorded. For instance, since the late 1970s, gold has only been used to assist the Fund in the financing of concessional facilities and the HIPC Initiative.

- The Board has formulated a number of policies governing the use of gold and, while these policies do not exclude mobilization of gold resources to cover losses and could be changed, the intended purpose is to cover other unforeseen contingencies.[20] Hence, use of gold under these policies cannot be considered an alternative to normal prudential policies, such as the accumulation of an adequate level of reserves. Furthermore, the policies governing the use of gold also require that the Fund should continue to hold a relatively large amount of gold assets and, if its use is justified, that only earnings from the investment of gold profits be used, while the principal value of the gold asset is retained.

III. The Appropriate Size of Precautionary Balances

24. This section discusses whether the present size of precautionary balances is adequate in light of the Fund's current lending practices and the risks it faces.

A. Precautionary Balances to Cover Credit Risk

25. **The credit risk facing the Fund is increasing due to the Fund's growing role in resolving financial crises experienced by members and the increasing concentration of credit to a few members**. The Fund lends to countries under adequate safeguards but including in circumstances where private creditors have reduced exposure or withdrawn and the country may have defaulted on obligations to private and bilateral official creditors. The Fund's share of total financing needed by members has risen in recent years resulting in an increase of the Fund's share in sovereign debt and external payment obligations by the countries concerned.[21]

26. **Credit concentration has risen as most of the Fund's total credit exposure since 1995 has been committed in support of large arrangements for members experiencing capital account crises**.[22] In providing large access, the Fund has recognized "exceptional circumstances" that allow access under the credit tranches and the EFF above the access

[20] See *Concluding Remarks by the Chairman* (BUFF/95/53, 6/12/95) and *Gold in the Fund* (EBS/95/69, 4/21/95).

[21] Since 1998, bilateral contributions to financing packages for countries facing capital account crises have more or less ceased and the Fund share was close to 100 percent of the Argentina and Turkey packages (see *Access Policy in Capital Account Crises*, SM/02/246, 7/30/02, Annex II, p. 37–38).

[22] See *Access Policy in Capital Account Crises*, SM/02/246, 7/30/02 and *Summing Up by the Acting Chair–Access Policy in Capital Account Crises, EBM 02/94* (BUFF/02/159, 9/20/02).

limits, or provided credit through the SRF under which there are no defined access limits.[23] Twelve arrangements (with nine members) have exceeded 300 percent of quota, and access committed in these cases has averaged over 500 percent of quota.[24] Reflecting the size of their economies, Fund support for individual countries has been substantial in absolute amounts. As a result, credit concentration has increased with the largest amount outstanding to any one user rising from less than SDR 5 billion in the early 1990s to SDR 16 billion as of end-September 2002 and the amount owed concurrently by the two largest users of Fund credit to close to SDR 30 billion or nearly half of outstanding credit (Figure 1). If Brazil were to make all purchases under the arrangement approved in September 2002, the Fund's exposure to Brazil alone would rise to SDR 25 billion.

27. **Reflecting these developments, the credit risk to the Fund now derives primarily from large arrangements with middle-income countries, which is different from the experience the Fund has had so far with members in protracted arrears.** The total amount of financing provided by the Fund to any one of the low-income countries that have experienced protracted arrears to the GRA has not exceeded SDR 0.7 billion. ESAF/PRGF arrangements and the HIPC initiative have made resources available to low-income countries on more appropriate terms than GRA credit, which has helped reduce the incidence of arrears to the GRA. Nevertheless, the increased incidence of effective rollovers of Fund exposure to a number of large borrowers highlights the potentially greater risk that the Fund now faces in the GRA.

28. **Several factors mitigate the credit risk that the Fund faces.** First, conditionality is aimed at improving the borrower's balance of payments prospects and enhancing its debt servicing capacity. Second, in cases where it turns out that a member country is not able to fulfill its debt servicing obligations to all creditors, the repayment risk to the Fund has been mitigated by the Fund's preferred creditor status. Third, since 1990 the Fund has implemented and strengthened its strategy for preventing and reducing arrears to the Fund which has resulted in a substantial reduction of protracted arrears to the GRA (Tables 1 and 2).[25]

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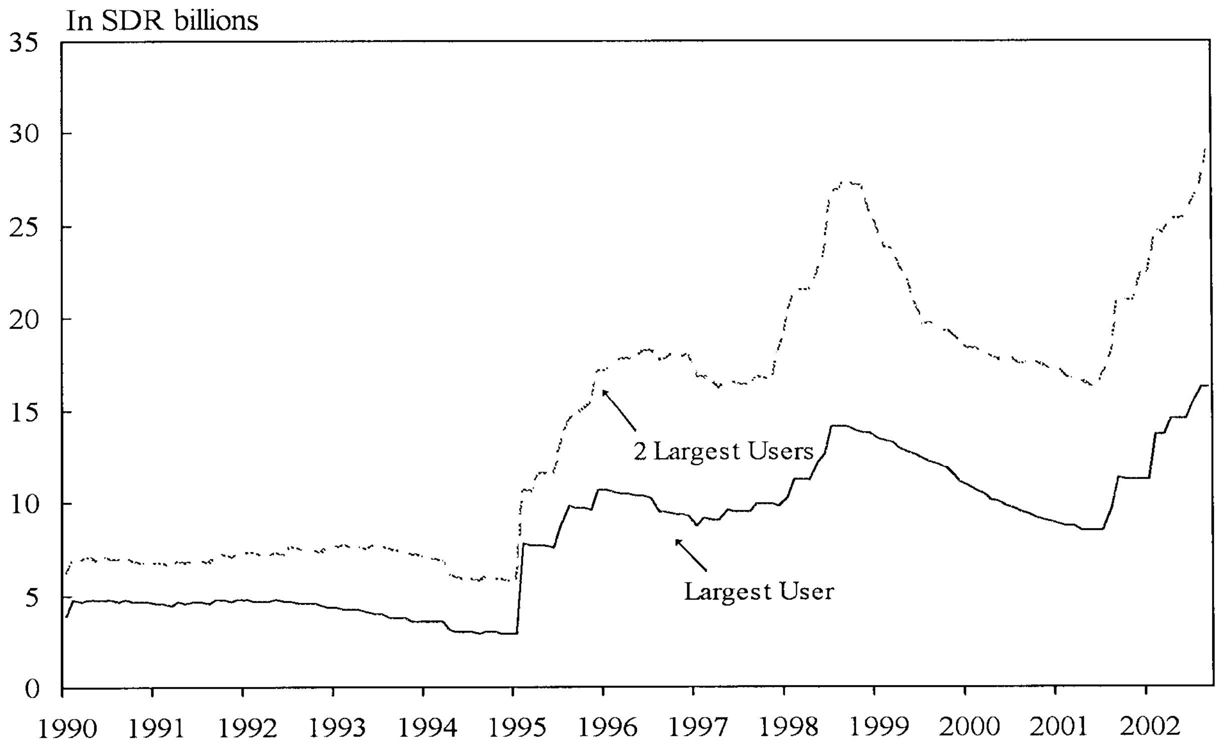
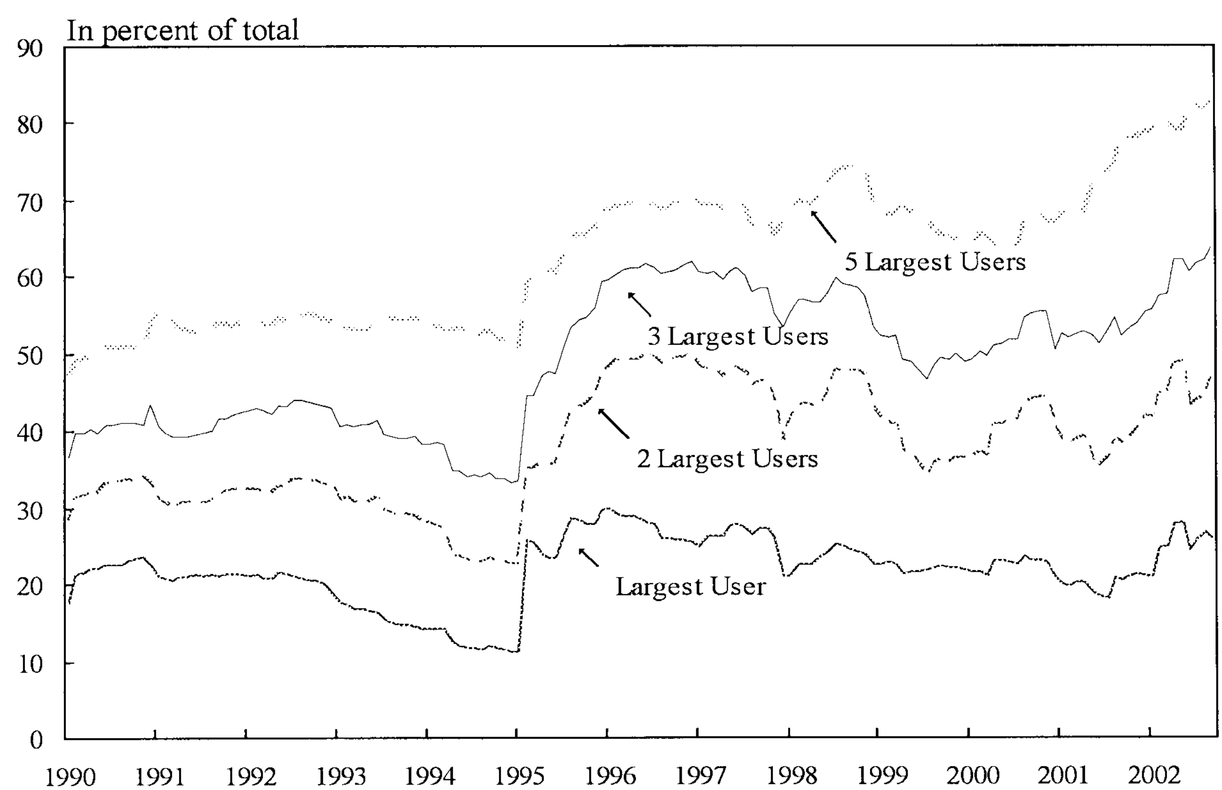
[23] Access under the credit tranches and EFF is subject to an annual limit on gross purchases currently set at 100 percent of quota and a cumulative limit on credit outstanding currently set at 300 percent of quota.

[24] Instances of augmentation are counted as new arrangements.

[25] See *Review of the Fund's Strategy on Overdue Financial Obligations* (EBS/02/133, 07/23/02).

Figure 1. Credit Concentration, 1990-2002





29. **The credit risk that the Fund faces is difficult to quantify and risk assessment practices of others cannot easily be carried over to the Fund.** During past considerations of the adequacy of the Fund's precautionary balances, which examined practices of other institutions that face sovereign risk, subjective and judgmental evaluations were found to play important roles in risk assessments and the relevant considerations of risk differed greatly from the Fund's due to differences in institutional responsibilities and in financial and capital structures.[26] More recently, commercial banks and, to some extent, IFIs have begun to use quantitative risk assessment ("value-at-risk") models. However, these models are of limited practical use in assessing the adequacy of the Fund's precautionary balances because of the unique role of the Fund in the international financial system and because the incidence of nonpayment of obligations to the Fund is too small and diverse to derive reliable estimates of credit risk from historical experience, especially for the middle-income borrowers that currently present the greatest credit risk to the Fund.[27]

30. **The Fund should be prepared for the possibility that adverse scenarios could materialize that resulted in disruptions of payments to the Fund.** Even if the average credit risk of the Fund's portfolio could be estimated, it might not be particularly useful in making an assessment. The Fund should target a level of precautionary balances not merely to deal with the average credit risk that it might face but, given the size of recent arrangements and the high credit concentration, to cope with the consequences of more extreme but plausible adverse scenarios, including non payment by one of the largest borrowers (Box 4).

31. **The appropriate level of the Fund's precautionary balances is related to its credit capacity, particularly the capacity to provide large access to individual members.** The actual amount of credit outstanding at any moment in time is a poor indicator of the credit risk that the Fund might face in the near future as the amount of lending to any one member can change rapidly. Large commitments to a few members have been made with little advance notice in recent years, and the capacity to do so has become an important feature of Fund lending. The assessment of the adequacy of the Fund's precautionary balances should, therefore, be geared primarily to the Fund's credit capacity, rather than to current credit outstanding, particularly as precautionary balances change considerably more slowly than can lending to large users. While precise quantification is not possible, credit risk considerations suggest that it would be prudent for the Fund to maintain a higher level of precautionary balances than the 3 percent of the Fund's credit capacity available at present.

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[26] In 1994, staff surveyed the sovereign risk assessment practices followed by a large number of governments, governmental and semi-governmental entities, commercial banks, and IFIs (see *The Fund's Precautionary Balances,* EBS/94/53, 3/11/94).

[27] Appendix I provides an update of the risk management practices of IFIs, in particular the multilateral development banks which are most closely related to the Fund because of their direct lending to governments and preferred creditor status.

32. **If (large) arrears occurred that were not offset by (sufficiently large) precautionary balances, the Fund's independent external auditors would no longer be able to give the Fund an unqualified opinion on the GRA financial statements.** The External Audit Committee has suggested that the issue of concentration of risks (large resource usage by a small number of members) be taken into account in future evaluations of the necessary levels of precautionary balances.[28] Current precautionary balances more than cover existing protracted arrears but would be insufficient if a large borrower failed to pay.

Box 4. Precautionary Balances and Speed of Accumulation of Arrears: an Illustration

Adverse developments, contributing to payments difficulties by a member country that has received exceptional access to Fund resources, would not immediately result in arrears of all credit outstanding by that member. Rather, the level of arrears would depend on that member's repurchase schedule and the length of time the obligations to the Fund remained unpaid. However, given that, unlike in the past, the Fund faces high credit exposure vis-à-vis several members at the same time, arrears to the Fund could accumulate quickly and in a relatively short period of time exceed existing precautionary balances, SDR 4.2 billion of which presently would be available to "cover" new arrears.

This can be illustrated with the following example:

- A member has credit outstanding from an arrangement providing access at 500 percent of quota, which is less than the average recent level for exceptional access cases (see ¶ 26).[1]
- One-half of the access was provided under the SRF (i.e., about the average for countries that have used SRF resources).
- About 70 percent of the resources committed under the arrangement were disbursed in the first year (the average for high access cases in recent years).[1]
- Purchases take place on a quarterly basis.

These assumptions imply repurchases due to the Fund of some 190 percent of quota in the first year and some 270 percent of quota in the first two years.[2] In case of nonpayment, arrears by a country with a quota of SDR 2 billion (the average of quotas in high access cases) could, therefore, exceed currently available precautionary balances in somewhat over one year.

[1] See *Access Policy in Capital Account Crises*, SM/02/246 (7/30/02).
[2] Under both full expectations and obligations schedules. Under the obligations schedule, repurchases would fall due one year later.

B. Precautionary Balances to Cover Income risk

33. **The income risk presented by the possibility that charges might not be paid rises in tandem with credit risk as nonpayment of principal and charges would generally occur together.** The Fund's precautionary balances would serve as a buffer if the Fund were

[28] "Briefing of the Executive Board by Mr. Loli, Chairman of the External Audit Committee for FY 2002," June 19, 2002.

to incur losses due to unpaid charges exceeding the capacity of the burden sharing mechanism (as discussed in ¶14–16). Higher precautionary balances would extend the time that the Fund could sustain income losses associated with large arrears.

34. **Potential losses due to Fund administrative expenses exceeding income are also a source of vulnerability for the Fund that has increased in recent years.** The growth in administrative expenses has contributed to a higher margin of the rate of charge over the SDR interest rate that is required to achieve the income target. Moreover, the volatility of Fund credit has increased due to the capital account crises that have occurred since the mid–1990s and the introduction in 2000 of incentives for faster repayment of Fund credit (surcharges and repurchase expectations). These factors have increased the likelihood that Fund credit could be low at some stage and a high rate of charge would be needed. Increases in reserves would strengthen the Fund's ability to meet losses if it is unable to raise the rate of charge sufficiently (see ¶ 17). Increases in precautionary balances would also reduce the Fund's vulnerability to losses by increasing its interest-free resources which reduce its expenses and the rate of charge (Box 2).

35. **Losses due to Fund administrative expenses exceeding income have been frequent in the past but the earlier methods for financing such deficits are no longer available.** The Fund ran losses in all but one year from inception to 1956, in most of the 1970s, and in 1985.[29] During 1958–1972, the Fund utilized a gold investment program to generate additional income to offset losses and built up reserves against future losses. This avenue was eliminated with the Second Amendment of the Articles of Agreement in 1978 as the Fund is no longer permitted to purchase gold.[30]

C. Precautionary Balances to Cover Other Asset and Liability Risks

36. **A prudent amount of reserves would also be needed to cover expenses that may be incurred because the Fund self-insures for certain risks and could incur legal liability.** The probability that events unrelated to credit risk would occur that suddenly impaired the value of the Fund's assets (or increased its liabilities under self insurance) cannot be ascertained. However, such risks have increased given recent developments in insurance markets, where certain types of insurance are no longer available or are only available at significantly higher costs. In the event that adverse events occurred, the Fund should be in a position to absorb the associated losses. Consequently, precautionary balances, and reserves in particular, need to be large enough for the Fund to cope with an adverse scenario, including if several adverse events occurred at the same time. Estimates of potential losses the Fund might incur are subject to a great deal of uncertainty.

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[29] See *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.

[30] The Fund can now activate the Investment Account which, however, is limited to investing the Fund's Reserves.

D. The Overall Size of Precautionary Balances

37. **The determination of the optimal overall size of precautionary balances is, as it has been in the past, ultimately a matter of judgment related to the various purposes for which reserves are held and the risks involved.** The different purposes of precautionary balances can to some extent be fulfilled by the same balances. There may also not be an overlap regarding the moment in time that precautionary balances are needed for the different purposes.

38. **The Fund's precautionary balances in the GRA remain relatively low compared to other IFIs.** The ratio of precautionary balances (reserves and provisions) to total credit outstanding in 2001 ranged from 18.6 percent for the World Bank to 29 percent for the ADB, reflecting differences in risk assessment policies and capital structures (Table 5). The Fund's ratio of precautionary balances to credit outstanding at that time was 9.7 percent, which appears low in comparison and may even understate the degree of protection provided because other IFIs operate with maximum exposure limits to individual countries which keeps their credit concentration in check.[31] However, the Executive Board has recently decided not to implement a maximum exposure limit for any one member as part of the Fund's policies on access.[32] While it as been argued in the past that the Fund is very different from other institutions, in the staff's view there are also similarities, and there is no reason why the Fund should hold precautionary balances that are less than half as large as those of most other IFIs relative to credit outstanding. For instance, the IBRD, which like the Fund is treated as a preferred creditor, and in many ways faces similar risks as the Fund, holds reserves which are about double those of the Fund.

39. **A substantial increase in the Fund's precautionary balances would be consistent with the with the increased financial risks faced by the Fund.** A minimum doubling of these balances to about SDR 10 billion would be warranted in light of the following considerations:

- The Fund has lent increasingly larger amounts to a few members and credit concentration ratios have risen, increasing the financial risk to the Fund in case of repayment difficulties by a large borrower.

- It is in the interest of the Fund to continue complying with IAS and obtain unqualified opinions from the external auditors, which requires that the Fund have sufficient precautionary balances to fully cover outstanding credit that may become value impaired.

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[31] For example, the IBRD has a maximum exposure limit of currently $13.5 billion (about SDR 10 billion) to a single borrower. Appendix I describes the policies of other IFIs with respect to the accumulation of precautionary balances.

[32] See *Summing Up by the Acting Chair–Access Policy in Capital Account Crises, EBM 02/94* (Buff/02/159, 9/20/02).

Table 5. International Financial Institutions:
Ratios of Precautionary Balances to Credit Outstanding, 1995-2001

(In percent)

	End of Financial Year						
	1995	1996	1997	1998	1999	2000	2001
IMF	7.4	7.1	8.0	6.1	5.8	9.0	9.7
IBRD	17.3	17.1	17.0	17.3	17.2	17.7	18.6
EBRD	8.2	8.5	11.8	15.1	17.3	20.2	21.8
AfDB	14.9	17.0	19.2	21.4	23.1	25.3	26.8
ADB	33.7	40.1	34.8	28.3	26.5	27.8	29.1
IDB	25.5	26.4	26.1	23.9	22.3	22.5	24.3

Sources: Annual Reports of the respective IFIs.

- Arrears to the Fund could under certain circumstances have a significant impact on the Fund's income and lead to losses that would have to be absorbed by its reserves.
- The Fund's administrative expenses have increased, making the Fund more vulnerable to losses in instances were credit outstanding would decline to relatively low levels and charges could not be raised sufficiently to cover expenses.
- The Fund has to rely more than previously on self insurance of a number of risks in an increasingly uncertain environment.
- The amount of precautionary balances that the Fund should have available relates principally to its credit capacity, in view of the Fund's ability to provide access to individual members in large absolute amounts, cumulatively up to its credit capacity.

At present, precautionary balances are equal to around 3 percent of the Fund's credit capacity. A doubling to a minimum of 6 percent of credit capacity would appear reasonable.[33]

- Precautionary balances are currently 8 percent of credit outstanding at the Fund and almost 20 percent or more at other IFIs. A doubling would bring the Fund's precautionary balances more in line with those of most other IFIs.

IV. The Pace of Accumulation

40. **If it were agreed to achieve a higher level of precautionary balances, consideration would need to be given to the pace and manner of accumulation.** A fast pace of accumulation may be beneficial when precautionary balances are far below the level that the Executive Board considers desirable—the incremental benefit of increasing precautionary balances would be high initially but decline as these balances approach the desired level. However, the costs to members in terms of charges paid and interest foregone will need to be considered in determining the pace of accumulation.[34]

41. **The current system of accumulating precautionary balances is designed to reflect efficiency and equity considerations.** Efficiency considerations indicate that costs ought to be borne at source. Equity considerations suggest that the cost of building up precautionary balances be distributed according to a key that is accepted to result in a "fair" distribution of costs.

42. **The current accumulation of surcharge income in reserves is appropriate on efficiency grounds as such income is related to the type of lending that could compromise the financial position of the Fund.** Arrears may occur on lending to members, and therefore efficiency considerations suggest that borrowers pay for the accumulation of precautionary balances. Moreover, borrowers that are most likely to face repayment difficulties should pay the most (relative to the amount borrowed). Large amounts of lending to individual members increases the risk to the financial position of the Fund and the risk pricing for borrowers reflected in surcharges therefore is appropriate, as is the consequent accumulation of surcharge income in Reserves.

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[33] A minimum ratio of 6 percent indicates the order of magnitude for a reasonable level of precautionary balances but is not a precise target as there is some variation in credit capacity over time due to different degrees of participation by members in the FTP.

[34] Interest earnings on increases in precautionary balances are channeled back to users of Fund credit through a lower rate of charge, which mitigates the cost to debtors.

43. **If it were desired to increase the pace of accumulation, efficiency would argue for raising rates of charge.** While a degree of risk pricing has been applied in the SRF, the credit tranches, and the EFF through surcharges, the Fund cannot differentiate loan conditions on the basis of the characteristics of individual members because it has to treat members uniformly. A faster pace of accumulation could be accomplished with the relatively blunt instrument of raising the rate of charge for all users to the same degree, or raising rates of surcharge which apply to large users. However, this would require revisiting the agreement reached at the time of the review of Fund facilities in 2000 not to change the system of setting of the rates of charge for a period of 4 years.

44. **Equity considerations have been given weight in the accumulation of precautionary balances through the burden sharing mechanism for additions to the SCA-1.** The Fund's lending is available in part to promote a public good and to that extent the cost of accumulating precautionary balances ought to be spread widely. Furthermore, to the extent that the Fund's precautionary balances are built up to increase the ability to finance the administrative budget and to back up self insurance for certain risks, equity considerations are relevant for determining how to share the cost. The only way to give weight to equity considerations in the accumulation of precautionary balances and to have creditors contribute is by using the burden sharing mechanism to add resources to the SCA-1.

45. **The approximate key for the distribution of costs through burden sharing is quotas.** Contributions made by creditors to building up precautionary balances through reductions in the rate of remuneration are approximately in proportion to quota because the reserve tranche positions of participants in the FTP are targeted as a ratio relative to quota. Contributions generated by a higher rate of charge also bear some relationship to quotas as the use of Fund resources is related to quotas, albeit imperfectly. The key in the burden sharing mechanism for the distribution of costs between creditors and debtors as groups in the SCA-1 is equality in terms of amounts contributed. **In the staff's view, the present system of accumulating precautionary balances is broadly appropriate from the perspectives of efficiency and equity, although it leads to a variable pace of accumulation** (see ¶ 48).

46. **Some 40 percent of the accumulation of precautionary balances since the mid-1990s has been the result of the placement of surcharge income to the General Reserve** (Figure 2). The bulk of surcharge income, which started to flow in 1998, was received in just two financial years (1999 and 2002). Since the mid 1990s, additions to the SCA-1 financed through burden sharing have been slightly larger than net income placed to the Special Reserve.

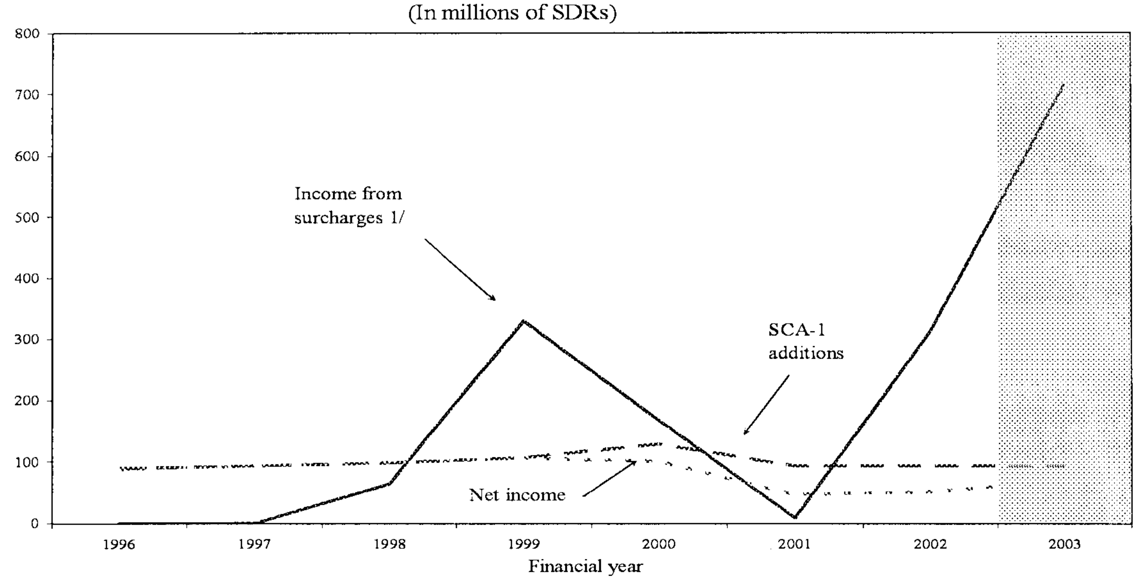
47. **Surcharge income is projected to rise in the current financial year, unless large borrowers make advance repurchases** (Table 6). Based on the profile of current credit outstanding, surcharge income (from both the SRF and the credit tranches) would increase to

some SDR 700 million in FY 2003. If purchases under active arrangements are made as scheduled, projected surcharge income could rise to some SDR 800 million. However, surcharge income is variable as the borrowing by large users is generally related to capital account crises and, as experience shows, could be reversed rapidly when the situation improves, or other members may seek additional large scale assistance in coming years.

48. **The pace of accumulation of precautionary balances set by the current system has been about SDR 450 million a year on average since SRF surcharges were introduced.**[35] The variability in the pace of accumulation has been considerable, however, with annual additions to precautionary balances ranging from SDR 150 million in FY 2001--slightly higher than the floor on the pace of accumulation set by the annual target of 5 percent of reserves—to a projected SDR 0.9–1.0 billion in FY 2003 due to high surcharge income. A rough doubling of precautionary balances could, based on the recent average pace of accumulation , take some 10 years. If income from surcharges were to be high

Figure 2. Additions to Precautionary Balances, 1996-2003

(In millions of SDRs)



1/ For 2003, based on actual surcharge income for May-September and projected surcharge income for the remainder of the financial year assuming no further purchases and no advance repurchases.

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[35] Based on the pace of accumulation—partly projected—during FY 1999–2003. FY 1999 is the first full financial year that surcharges on the SRF were in effect.

Table 6. Projected Surcharge Income, 2003-2005
(In millions of SDRs)

	Financial Year		
	2003 1/	2004	2005
Based on existing credit outstanding (with no further purchases and no advance repurchases) 2/	714	376	74
Based on existing credit outstanding and scheduled purchases (and no advance repurchases) 2/	814	884	461

1/ Based on outcome for May-September and projection for the remainder of the financial year.
2/ Repurchases are assumed to be made on the expectations schedule.

and lead to an average annual accumulation of some SDR 1 billion, precautionary balances could double in around 5 years. In any case, the Fund's finances would remain exposed for some time, but with a doubling of precautionary balances over 5 to 10 years the Fund would reduce its financial vulnerability within a limited time span. **The staff believes that the pace of accumulation implied by the present system, while subject to uncertainty, is likely to be of the right order of magnitude in the coming years**.

49. **In summary, staff is recommending no changes in the current system of accumulating precautionary balances.** The manner of accumulation appears appropriate, reflecting both efficiency and equity considerations. However, the pace of accumulation will need to be kept under close review in light of the uncertainties regarding the availability of, in particular, surcharge income and the risks confronting the Fund.

V. Issues for Discussion

50. **Staff considers that a strong case exists for increasing precautionary balances to a level that is at least double the present size, but that the present distribution and pace of accumulation appear broadly appropriate.** Executive Directors may wish to give their views on these conclusions, specifically:

- What are Directors' views on the size of precautionary balances relative to the credit capacity of the Fund in view of the Fund's ability to lend large amounts to individual members and the objective of maintaining the financial integrity of the Fund?

- Do Directors see the current pace of accumulation as appropriate in view of the risks of operating with precautionary balances that are too low on the one hand and the costs of accumulating balances on the other hand?

- What are Directors' views on the implications of the volatility of surcharge income for the pace of accumulation of precautionary balances in the next several years? What are Directors' views on the desirable pace of accumulating precautionary balances?

- Do Directors see the current distribution of the cost of accumulating precautionary balances as appropriately reflecting the weights that should be given to efficiency and equity considerations?

Risk Management Practices of International Financial Institutions

A. Introduction

51. Like the IMF, other IFIs hold precautionary balances to provide protection against possible losses. Such balances typically include reserves, which guard against unspecified risks, and provisions, which address more specific risks.[36] Among the IFIs, the multilateral development banks (MDBs) offer the most relevant comparisons to the IMF in terms of risk management, as these institutions also are engaged in direct governmental lending to developing countries and protected by a preferred creditor status. The next section presents an overview of the risk management practices of the main MDBs.[37]

52. The functions of the different forms of precautionary balances depend on the specific nature of the relevant institution and risk management practices are therefore not always directly comparable. Importantly, the MDBs derive most of their lending capacity from borrowing on international capital markets and a prime function of their precautionary balances is to maintain the requirements for having a high credit rating. In addition, the different institutions have different exposures and thus face risks that differ in nature as well as in their ability be to quantified.

53. A recent trend in the way that the IFIs manage their precautionary balances is the increased use of quantitative risk assessment models. By combining information on individual loan exposures with projected probabilities of default such credit risk models provide an assessment of the risks associated with the overall portfolio, which may be used to guide the level of precautionary balances. Such models are widely used among commercial banks, but the scarcity of financial data relating to emerging markets, the special nature of the preferred creditor status, and the associated difficulties in projecting probabilities of

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[36] Most IFIs also have paid-in capital subscriptions, which provide additional financial security and may be considered part of an institution's risk-bearing capital. For present purposes, the term precautionary balance excludes paid-in capital subscriptions to focus on provisions and reserves/retained earnings, which are the first lines of defense.

[37] Apart from the MDBs, the main IFIs include the Bank for International Settlements (BIS) and the European Investment Bank (EIB). The BIS places funds deposited with it in the market, for the most part in the form of investments with major commercial banks and purchases of short-term government securities, and also grants short-term credits to central banks, usually on a collateralized basis. The EIB is engaged in project financing with most loans backed by guarantees—typically issued by EU member states. Both the BIS and the EIB maintain provisions and reserves to cover credit exposure and other sources of risk, but, given the nature of the two institutions' operations, credit risk is in both cases relatively modest.

default have until recently been holding back their use among IFIs.[38] Leading in this development is the IBRD, which has been following a model-based approach to credit risk management for several years.

54. In the case of the IMF, a model-based approach to risk management is perhaps not desirable. First, the very limited experience of countries defaulting on their IMF obligations means that any estimates of expected probabilities of default based on historical data would be unreliable. Second, and perhaps more importantly, the IMF's unique role in the world's financial system implies that such probabilities would to a significant extent depend on actions taken by the IMF itself. For these reasons, it is impossible to in any meaningful way attach probabilities to future cases of default, and a mechanistic approach to risk management would therefore give a false sense of security.

B. Risk Management in the Multilateral Development Banks

The International Bank for Reconstruction and Development (IBRD)

55. The IBRD maintains precautionary balances in the form of the Accumulated Provision for Loan Losses, the General Reserve, and the Special Reserve. Country credit risk—the risk that loans to specific countries may go into extended arrears—is considered the most significant financial threat and precautionary balances are held to bolster the IBRD's capacity to bear this risk and ensure that the institution can cover its liabilities. The magnitude of provisions and reserves are determined with a view to potential losses. While the IBRD has never written off a loan and thus recognized a loss of principal, delays in receiving loan payments result in losses to the institution in that it does not charge fees or additional interest on any overdue interest or loan charges. These losses, which correspond to the difference between the present value of payments for interest and charges made according to a loan's contractual terms and the present value of its expected future cash flows, are recognized in the determination of precautionary balances. Credit risk is also managed through individual country exposure limits, which are set according to creditworthiness and performance on macroeconomic and structural policies, and an absolute single borrower exposure limit of currently $13.5 billion. Finally, financial incentives such as partial interest charge waivers conditioned on timely payment reinforce borrowers' self interest in preventing arrears.

56. Credit risk is measured in terms of both expected and unexpected losses from protracted arrears. Provisions are made to cover the expected loss, defined as the amount the IBRD would lose in the normal course of business, and reserves are meant to cover the

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[38] For an overview of these issues see, e.g., the January 2000 special issue "Credit Risk Modelling and Regulatory Issues" and "The Estimation of Transition Matrices for Sovereign Credit Risk Ratings" (forthcoming 2002) by Y. Hu, R. Kiesel, and W. Perraudin, both *Journal of Banking and Finance*.

unexpected loss, defined as the amount the institution could lose with some low degree of probability.

- *Expected losses: Provisions.* The IBRD holds provisions against each borrower to cover expected losses.[39] The amount of provisions required for any individual borrower is calculated by multiplying the estimated probability of default by the magnitude of the current debt and again by a factor representing the severity of loss given default. Here, the probability of default is estimated on the basis of risk ratings assigned to each country and on the IBRD's experience of countries moving from one rating level to another.[40] The severity of loss given default would in theory depend on the duration of nonaccrual, the level of interest rates during that period, and the possibility of loss of principal. Since these components are regarded as very uncertain, the IBRD uses as a proxy a method where countries are categorized into three groups based on per capita income and estimated creditworthiness, and where the assumed severities of loss in the three groups are 30 percent, 50 percent, and 100 percent. These figures were derived as a matter of conservative judgment.

- *Unexpected losses: Reserves.* Unexpected losses are projected using the *Risk Adjusted Allocation of Capital* (RAAC) framework, which combines assumptions with respect to risk ratings, projected exposure levels to individual countries, and countries' sensitivity to changes in the global economic environment into a single measure of the credit quality of the loan book (see Appendix Box).[41] The procedure involves projecting the maximum shock the institution is likely to face. The adequacy of the current level of reserves is then determined by evaluating whether the institution after such a credit shock would have sufficient income to finance continued loan growth.

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[39] It is the policy of the IBRD to place in nonaccrual status all loans made to or guaranteed by a member of IBRD if principal, interest or other charges with respect to any such loan are overdue by more than six months. Of the total Accumulated Provision for Loan Losses of $4 billion at end-June, 2001, about 25 percent was attributable to loans in nonaccrual status.

[40] The IBRD's Country Credit Risk Department rates borrowers semi-annually on a numerical scale representing 10 different degrees of creditworthiness. The ratings are based on estimates of borrowers' vulnerability to external shocks that affect their current accounts as well as their vulnerability to private capital volatility. Given their sensitive nature, the individual ratings are not made public and the Executive Board is provided only with an overview describing the share of the loan portfolio in the different risk bands.

[41] In addition to the RAAC framework, three other measures of portfolio quality are used to provide information on the quality of the credit portfolio. These are the risk structure of the loan portfolio, which divides the portfolio into three categories of riskiness according to the country risk ratings; the loan portfolio score, which is the exposure-weighted average risk rating for the portfolio as a whole; and the exposure-weighted average expected default frequency.

Appendix Box. The IBRD's Risk Adjusted Allocation of Capital (RAAC) Framework

The RAAC framework relies on a numerical simulation model to estimate the magnitude of potential unexpected losses and hence to provide a basis for evaluating the IBRD's risk-bearing capacity. The model is tailored specifically to the IBRD to account for the institution's unique lending portfolio and its preferred creditor status, but it is fundamentally similar to the *Value-at-Risk* models that are widely used to evaluate market and credit risks in private sector financial institutions.

The RAAC model combines developments in idiosyncratic risk, covariance risk, and loan portfolio concentration into a single measure of the credit quality of the loan book. Idiosyncratic risk—i.e., the risk that an individual borrower will fall into nonaccrual status for country-specific reasons—is captured using the same ratings-based approach that is used to calculate expected losses and to determine the level of loan loss provisions except that it uses a three-year projected lending program rather than the current actual. Covariance risk—i.e., the risk that two or more borrowers will fall into nonaccrual in response to global or regional developments—is captured by an events-based approach that considers a number of adverse events affecting groups of countries, the probabilities of such events, and the impact the events will have on the expected default probabilities of individual countries. In addition, the effects of globally important economic variables (including oil prices and international interest rates) are considered by estimating the impact of a given outcome for each of these variables on countries' expected default probabilities. In combination with the distribution of individual exposures, the resulting correlation of default probabilities captures concentration risk, i.e., the risk associated with a more concentrated portfolio.

Together, the different possible outcomes of events and globally important economic variables characterize a range of scenarios where each scenario is associated with countries having different probabilities of default. "Monte Carlo" techniques are then used to randomly consider a very large number of states of the world each representing a realization of a particular scenario and the standing of each of the countries' loans as either in accrual or in nonaccrual. The resulting frequency distribution of the volume of loans in nonaccrual can then answer the question of how large is the maximum amount of loans that could, at a 95 percent confidence level, fall into nonaccrual over a three-year period.

The decision of how much to add to reserves in a given year is made by using the estimated shock to stress test the adequacy of the Bank's income-generating capital. The size of shock and the severity assumptions that translate nonaccrual events into losses to the IBRD determine the magnitude of the performing loan portfolio and the future income profile. The specific test that is applied is whether the Bank in the post-shock years would be generating sufficient income to support a 3 percent annual rate of loan growth with a gradually recovering equity-to-loan ratio. The measure of the IBRD's equity that is used in this context consists mostly of paid-in capital and reserves, and at end-June 2001 the ratio was 21.4 percent.

It has been demonstrated that there is a link between the amount of capital an institution holds relative to the risks in its portfolio and the rating the institution's bonds receive by the major credit rating agencies. According to these implicit standards a "fine" AAA-rated institution (such as the IBRD) should be able to absorb a shock at the 99.99 percent confidence level, corresponding to a once-in-10,000-years chance of insolvency. However, in comparison with a typical private sector institution, the IBRD's callable capital provides an important added degree of protection against insolvency. The confidence level applied in the RAAC framework, therefore, cannot be interpreted a specifying the probability of the IBRD not being able to satisfy its liabilities. Rather, the 95 percent confidence level used by the IBRD should be seen as implying an estimated 5 percent chance that the institution would need to make a call on its shareholders in order to finance, on a sustainable basis, continued loan growth at the target rate of 3 percent a year.

57. At end-June 2001, the projected maximum shock, as estimated with the RAAC framework at the 95 percent confidence level, was that 16.3 percent of the average accruing loan portfolio projected for financial years 2002–2004, or $19.8 billion, could move into nonaccrual. It was judged that the Bank had the capacity to absorb such a shock and could support post-shock growth in the loan portfolio of 1.6 percent per year, or slightly less than the target level.

The Inter-American Development Bank (IDB)

58. The IDB maintains precautionary balances in the form of the Allowance for Loan Losses account, the General Reserve, and the Special Reserve. The Allowance for Loan Losses account holds provisions for possible credit losses. The General Reserve is intended to cover risks not covered by the provisioning account. The Special Reserve can only be applied to the redemption of debt should the Bank's liquidity be exhausted. The current policy, which has been in effect for a number of years, is to target a level of loan loss allowances equal to 3 percent of loans outstanding and a level of reserves equal to 20-25 percent of loans outstanding. At end-2001, total loans outstanding were $45.0 billion, the loan loss allowance-to-loan ratio was 3.2 percent, and the reserve-to-loan ratio was 21.5 percent.

59. To better account for potential changes in risk associated with its exposures, the IDB is considering revising its policies regarding precautionary balances. For that purpose the IDB has been developing a Monte Carlo simulation model to quantify the embedded credit risk of the loan portfolio. In order to determine a loss distribution for the entire portfolio, the model, which is similar to the IBRD's RAAC model, takes as inputs the probabilities of default by country, the correlation of individual risks, and loan-by-loan exposure information for the current and future portfolio.[42] If approved by the IDB's Board, the loan loss provision policy will be changed from the current fixed percentage to one determined by the expected value of the loss distribution obtained from the credit risk model. Similarly, the reserves accumulation policy would be reviewed to reflect the estimated amount of capital necessary to maintain the level of capital adequacy expected from an institution with an AAA credit rating.

The African Development Bank (AfDB)

60. The AfDB views credit risk—the potential default of one or more debtors—as the largest source of risk. The foundation of the AfDB's credit management framework is a systematic credit risk assessment based on an internal credit risk rating scale that is driven by expected loss rates and subject to quarterly reviews. For public sector borrowers the AfDB

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[42] The expected default probabilities in the IDB's model are based on publicly available credit ratings of sovereign debt from Standard & Poor's, which are adjusted by the IDB to reflect its preferred creditor status. The correlations between exposures are based on observed correlations between stock market indices in the different countries.

applies exposure limits that reflect each country's risk rating and its economic potential, with a maximum exposure to any single country equal to 15 percent of the Bank's maximum sustainable portfolio.[43]

61. To cover potential unexpected losses due to extreme and unpredictable events, the AfDB accumulates reserves to maintain an adequate overall capital cushion. The Bank's capital adequacy policy articulates differentiated risk capital requirements, ranging from 25 to 100 percent, for all credit sensitive assets and contingent liabilities. In addition, the AfDB makes general provisions for expected losses commensurate with its assessment of portfolio collectability risk and specific provisions against assets that appear to be permanently impaired. At end-2001, the AfDB had total loans outstanding of SDR 6.5 billion, a total accumulated provision for loan losses of SDR 0.5 billion, total reserves of SDR 1.3 billion and paid-in capital of SDR 1.9 billion. At the same date, loans by 11 countries were in nonaccrual status and the cumulative interest income not received from such loans amounted to SDR 0.6 billion.

The Asian Development Bank (ADB)

62. The ADB's precautionary balances consist of an Ordinary Capital Reserve, a Special Capital Reserve, and Loan-Loss Provisions. Currently, the ADB follows a policy of allocating net income to achieve a reserve-to-loan ratio of no less than 25 percent. Loan-loss provisions are only made for private sector operations where amounts are set aside in connection with specific problem project loans and equity investments. Future loan losses, if these were to materialize, would first be charged against Loan-Loss Provisions. 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 Reserve. At end-2000, total loans outstanding were $28.2 billion, the reserve-to-loan ratio was 26 percent, and Loan-Loss Provisions were less than $0.2 billion.

63. The current policy regarding precautionary balances is about to be changed and ADB is in the process of preparing a risk adjusted allocation of capital framework along the lines of that used by the IBRD. Under this approach, reserves and provisions will be made according to an assessment of borrowers' creditworthiness, taking into account factors such as the duration until arrears are cleared and the correlations between the expected default probabilities assigned to the different borrowers.[44]

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[43] The maximum sustainable portfolio is defined as the largest outstanding portfolio that can be supported by the current level of risk capital applying the Bank's capital adequacy policy, where risk capital is defined as the sum of paid-in capital, accumulated reserves, and general provisions net of translation adjustments.

[44] Risk assessments will initially be based on public ratings provided by commercial credit rating agencies, where the expected default frequency associated with each rating grade will

(continued)

The European Bank for Reconstruction and Development (EBRD)

64. The EBRD conducts regular reviews of its individual exposures to monitor the credit risk associated with its portfolio. Provisioning may take two forms and their adequacy is checked quarterly against a detailed analytical model. General portfolio provisions are made for assets that are not individually identified as impaired according to a methodology that combines different risk indicators and EBRD experience to estimate the expected loss on a portfolio-wide basis. When impairment is identified, a specific provision is made and reassessed periodically over time, reflecting updated information on the extent and timing of future cash flows. Impairment is the estimated difference between the carrying value of the asset and the net present value of its expected future cash flows. All new or increased provisions less any amounts reversed during the period are charged to net income.

65. The EBRD holds a number of reserve accounts and capital adequacy with respect to reserves is evaluated with the same model that is used to analyze provisions. Reserves accumulate as the result of qualifying income from fees and commissions, market valuation changes according to IAS39 on assets which are marked to market, accumulated profit brought forward from prior years and net profit for the year. The EBRD is constrained by its articles from distributing any portion of net profit until the general reserve reaches 10 percent of authorized capital (currently €20 billion). At end-2001, total loans and share investments (after provisions) were €7.9 billion, total provisions were €1.2 billion, and total reserves were €0.5 billion.

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be adjusted by ADB to reflect the institution's preferred creditor status. It is envisioned that the ADB over time will establish an internal country credit risk assessment system.