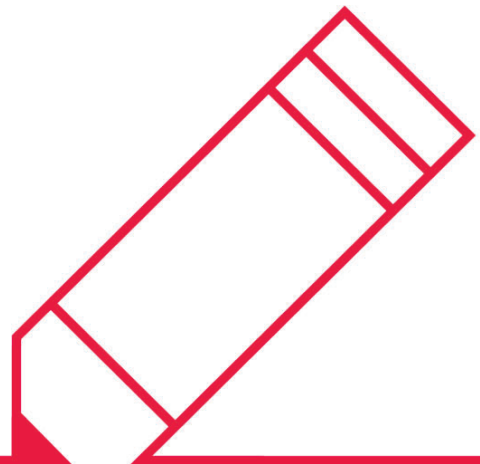


Date: 25.08.2023
Number: 23-63a

RISK CONTROL

Report

Implications of the CAF Panel Report for IBRD and IDA



Contents

Executive Summary	2
1. Introduction	6
2. Risk Appetite for MDBs	7
2.1 Introduction	7
2.2 MDB Capital Adequacy Frameworks	7
2.3 IBRD and IDA Capital Adequacy Frameworks	8
2.4 IBRD and IDA Lending Headroom	11
2.5 The Sustainable Concessional Lending Limit and IDA	16
2.6 Conclusion	19
3. Callable Capital Uplift	19
3.1 Introduction	19
3.2 Debate on the Use of Callable Capital	20
3.3 IBRD Callable Capital	20
3.4 Callable Capital in Rating Agencies Methodologies	21
3.5 Implications of IBRD’s Callable Capital	22
3.6 Conclusion	23
4. Innovations to Strengthen Lending Headroom	23
4.1 Introduction	23
4.2 Hybrid Capital	23
4.3 Risk Transfer to the Private Sector	25
4.4 Shareholder Guarantees	27
4.5 Temporary Pools of Callable Capital	27
4.6 Risk Transfer to and via MIGA	28
4.7 Central Bank Liquidity	29
4.8 Conclusion	29
5. Rating Agency Assessment of MDBs	29
5.1 Introduction	29
5.2 PCT Treatment in Rating Agencies’ Methodologies	30
5.3 How PCT Affects Capital Adequacy as Measured by a CPM?	32
5.4 Conclusion	32
6. MDB Capital Adequacy Governance	33
6.1 Introduction	33
6.2 MDB Capital Adequacy Governance	33
7. Conclusion	34
References	36
Glossary	39

The authors of this report are Swapnil Agarwal, Ahmet Cetintas, Alejandro Lopez and William Perraudin. Comments may be addressed to the authors via the email address: william.perraudin@riskcontrollimited.com. The study has been commissioned by the Rockefeller Foundation.



Executive Summary

This paper examines the implications for the two lending arms of a prominent Multilateral Development Bank (MDBs) of the report by the G20 MDB Capital Adequacy Framework (CAF) Panel (henceforth, 'the CAF Panel').

The two MDBs on which we focus are the sovereign-lending entities of the World Bank Group (WBG), the International Bank for Reconstruction and Development (IBRD) and its concessional lending sister organisation, the International Development Association (IDA).

The paper, which aims to be accessible to a non-technical audience, builds on an associated technical paper, Risk Control (2023).

The CAF Panel provides 5 high level recommendations, each with more detailed, subsidiary suggestions. The high-level recommendations are that MDBs:

1. Redefine the approach to risk appetite in their CAFs.
2. Incorporate uplift from callable capital into their CAFs.
3. Implement innovations to strengthen their capital adequacy and lending headroom.
4. Assess Credit Rating Agencies' (CRAs) methodologies and engage with the agencies.
5. Improve the enabling environment for the governance of capital adequacy.

In the Panel's view, if these suggestions were adopted, MDBs would be able to boost development lending significantly without an increase in paid-in capital. Of course, shareholders may choose to boost capital as part of a package of measures including the adoption of CAF Panel suggestions.

Our objective in this paper is to consider the CAF Panel recommendations in turn, quantifying how the Lending Headroom of IBRD and IDA might be affected if they were adopted.

The analysis we provide of the two organisations relies on public data only, specifically their financial statements and the reports provided by the three global rating agencies. Sovereign-lending focussed MDBs are easier to analyse from the outside than, for example, large commercial banks because their primary risks are publicly known exposure to a set of sovereign governments. Most MDBs have low exposure to market and operational risk. Where data is limited, for example as regards the tenor of loans and Treasury assets, we make assumptions based on the information available.

The scale of lending by MDBs is limited by four independent constraints:

- Some MDBs (including IBRD but not IDA) have Statutory Lending Limits (SLLs) in their articles of agreement.
- MDBs are subject to evaluations by the three global rating agencies, Standard & Poor's, Moody's and Fitch. The two MDBs we study have triple-A ratings which they wish to retain to ensure their continued access to cheap bond market borrowing.
- Like all major MDBs, IBRD and IDA have implemented internal Capital Adequacy Frameworks (CAFs) that evaluate risk and determine appropriate operating policies.
- As a concessional lender, IDA is constrained by the effect on its finances of the subsidy element in the loans it offers. An institution that lends \$100 at a zero-interest rate and is not obliged to pay a dividend, (so long as it covers its costs through fees), can sustainably relend the money when it is repaid again for a zero-interest rate. In this case, if the institution is to operate sustainably, its lending volume is effectively constrained by the size of its equity. We term this constraint the Sustainable Concessional Lending Limit (SCLL).

The key element in CAFs employed by MDBs is a set of limits on risk taking at different levels, typically including counterparty, sector, country, and overall balance sheet risk. These limits are often labelled the "Risk Appetite" policy of the bank. The limit on overall balance sheet risk is often framed in terms of a floor for a Capital Adequacy Ratio (CAR) equal to 'capital resources' divided by 'required capital' (or 'Economic Capital' (EC)). EC is computed using a battery of internal risk models.

To evaluate the lending headroom of the IBRD and IDA, we analyse at what point, if they expanded their lending, one of the four following independent constraints would start to bind:

- (i) an SLL (for IBRD alone),
- (ii) a rating downgrade in at least one of their global agency ratings,



- (iii) a CAR falling below unity (allowing for a buffer) and
- (iv) zero-interest-rate Concessional Loans (CLs) exceeding equity (for IDA alone).

Evaluating (iv) is complicated by the fact that IDA offers Blended Loans (BL) which, while paying an interest rate (unlike its fully CLs) are, nevertheless, subsidised. Hence, evaluating the headroom for IDA within the SCLL involves computing for \$1 of BL, what is the equivalent amount of CL and Non-Concessional Loan (NCL).

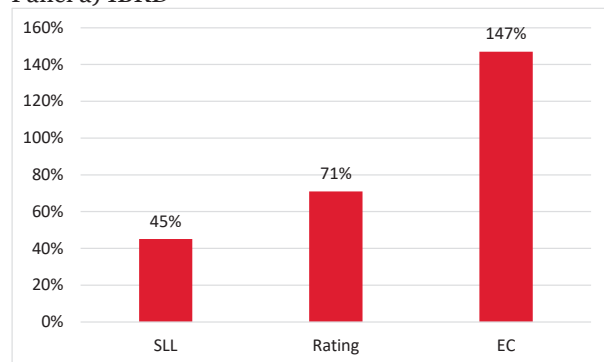
Note that IBRD and IDA rely on key overall risk indicators other than a CAR. In the case of IBRD, internal models are used to calibrate a floor level for the ratio of equity to loans, while IDA uses a ratio called Deployable Strategic Capital (DSC). Note that the numerator of IBRD's ratio equals a smoothed definition of equity named 'Usable Equity' that can differ significantly from the definition of Total Equity (paid in equity, surplus and reserves) that appears in the financial statements and the definitions of equity employed by the ratings agencies. The DSC employed by IDA is quite close to a CAR. It may be defined as 'capital resources' minus 'required capital' all divided by capital resources. Hence, $DSC = 1 - 1/CAR$.¹

Rather than trying to emulate the ratios employed by IBRD and IDA, we implement conventional CARs. In so doing, we make allowance for the risks we cannot observe from public data (market and operational) and devise a reasonable buffer.

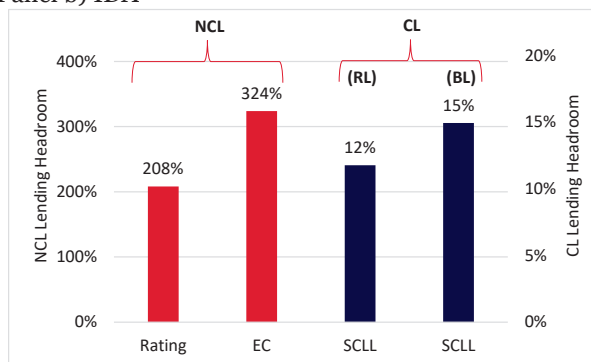
What do we find? We calculate the headroom that the IBRD and IDA possess to expand lending before the independent SLL, rating, and Economic Capital (EC) constraints start to bind. Our quantitative results are depicted in Figure ES1. The red bars show the headroom as a percentage of total lending if the additional lending consists of Non-Concessional Loans (NCLs) only or Concessional Loans (CLs) if the subsidy element in the lending is matched by donor contributions. The dark blue bars show headroom as a percentage of IDA total lending (relative to the SCLL) if it expands its lending using particular subsidised loan instruments (CLs or Blended Loans (BLs)).

Figure ES1: Summary of Lending Headroom

Panel a) IBRD



Panel b) IDA



Note: The red bars illustrate, for IBRD and IDA, the headroom for additional non-concessional lending in percent of current net lending and guarantees implied by the three sources of constraint, namely Statutory Lending Limit (indicated by 'SLL'), the requirement that the AAA-ratings of all three global rating agencies be maintained (labelled 'Rating') and that the Capital Adequacy Ratio (equal to capital resources (paid in equity and reserves) divided by capital required (Economic Capital plus a 10% buffer)) exceeds unity. IDA has no SLL constraint. In computing CARs for IDA, we have followed a conservative approach, comparable to IDA's internal risk management methodology, of adjusting capital resources downwards to allow for the value of the subsidy element in IDA's loans. More information about the computations may be found in the sister technical paper, Risk Control (2023). The dark blue bars show headroom as a percentage of IDA total lending (relative to the SCLL) if it expands its lending using subsidised loan instruments (CLs or BLs). SCLL denotes Sustainable Concessional Lending Limit, NCL denotes Non-Concessional Loan, CL denotes Concessional Loan, RL denotes Regular Loan and BL denotes Blended Loan. Note that because of the differences in the way these constraints are applied, the rating headroom (71% for IBRD) is expressed in terms of outstanding loans whereas the EC headroom (147% for IBRD) is expressed in terms of outstanding loans plus 50% of undisbursed commitments.

¹ IDA adds to capital required an adjustment for the subsidy element in its lending. In our CAR calculation, we subtract this from capital resources instead.

Figure ES1 shows that, for IBRD, as it expands lending from end FY 2022² levels, the first constraint to bind is the SLL (after 45%), followed by the ratings constraint (after a 71% increase in lending, as the Moody's rating drops below triple A), finally followed by the internal EC limit (after a 147% boost to lending, as the CAR falls to unity). Since the IBRD has announced an intention of abolishing its SLL,³ one may conclude that the organisation could expand its lending by about 50% and still be within the envelope permitted by its Moody's rating.

For IDA, the picture is more complex. IDA operates without a SLL but instead faces the Sustainable Concessional Lending Limit described earlier. In 2018, IDA announced the intention to move to a new business model in which it would combine concessional and non-concessional lending. IDA (2022) (see page 6) states that while its concessional loans will be financed with equity or concessional loans to IDA by donor governments, non-concessional loans will be financed with market borrowing. Non-concessional lending remains a very small fraction of IDA's loans, however, equalling just 3.6% in end June 2022.

The red bars in Figure ES1 Panel b) show the headroom for IDA if it were either (i) to increase NCL or (ii) to increase CL with donor-matching of the subsidy element. The finding here is that IDA's capital is so large that market borrowing is effectively unconstrained and so NCL could expand very substantially. However, a large boost in NCL would be a major change in IDA's business model and donor matching of subsidy elements is hard to obtain.

The dark blue bars in Figure ES1 Panel b) show the headroom that IDA has available before the Sustainable Concessional Lending Limit (SCLL) binds if it employs either CLs or BLs. BLs carry an interest rate, but this is still highly subsidised. Hence, BLs may be thought of as a combination of CLs and NCLs. The lending headroom for IDA if it were to boost either CLs or BLs is much smaller. The dark blue bars in Figure ES1 Panel b) show that IDA could expand its total lending using CLs or BLs, respectively by 12% and 15%.

Even if the substantial NCL headroom shown by the red bars in Figure ES1 Panel b) is inaccessible for IDA because it relies overwhelmingly on CLs or BLs, the results point to the capital inefficiency of operating separate balance sheets for concessional and non-concessional lending. Merging the IBRD and IDA balance sheets would give IBRD greater scope to increase its non-concessional lending even if IDA continued lending only on concessional terms. Even without merging the balance sheets, risk transfers could be implemented between the two balance sheets that would permit greater efficiency in capital usage.

It is out of scope for the current study to consider in detail the pros and cons of a substantial change in IDA's lending strategy towards greater use of non-concessional lending. However, we would note that many of the countries to which IDA lends also borrow from regional development banks on less concessional terms and even from other sources on a non-concessional basis. To this extent, in its concessional lending, IDA is putting itself at the top of the pecking order of inexpensive development finance, with borrowers that seek a larger volume of lending on terms that combine concessional and non-concessional terms.

For IBRD, we find that while the Moody's rating is downgraded after 71% lending growth, downgrades for Fitch and Standard & Poor's would be triggered by lending growth of 101% and 152%, respectively. The comparable figures for downgrades in IDA ratings are 208% for Standard & Poor's, 228% for Fitch and more than 300% for Moody's. These figures underline the inconsistency of the three rating agency methodologies.

Agencies with risk-insensitive methodologies (emphasising leverage-type ratios), Moody's and Fitch constrain IBRD because it lends to countries with relatively high ratings. On the other hand, IDA is constrained by the agency with a more risk-sensitive methodology, Standard & Poor's, because its portfolio is lower rated. The G20 and other international financial policymakers might consider whether it is sensible that lending growth by the premier development finance institutions be determined by the quickest to bind of a set of inconsistent methodologies produced by three, New-York-based private companies.

The Panel's recommendation on allowing for callable capital in MDBs' internal CAFs would, if accepted, boost further the room that the IBRD possesses to expand its lending. Our initial analysis (as described above) of the degree to which the CAR constraint binds, conservatively ignored the presence for IBRD of substantial Callable Capital. It is common sense that promises to supply capital in situations of extreme financial stress reduces

²The end-FY 2022 date is 30th June 2022.

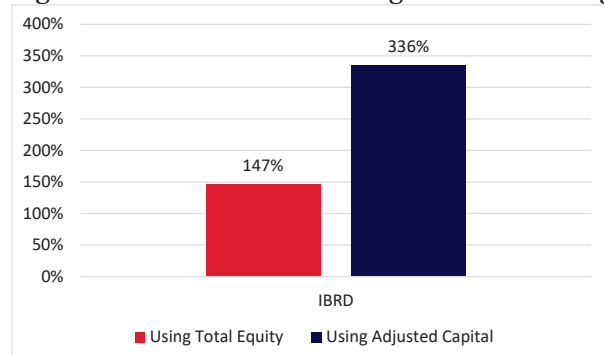
³ See WBG (2023a).



from highly rated sovereigns substantially reduces the risk of default by MDBs. If callable capital of triple-A rated shareholders were regarded as equity, the lending headroom for IBRD would rise from 147% to 336%.

On the Panel's third recommendation regarding innovation, some risk transfer operations that are highly relevant (specifically, risk transfers using synthetic basket guarantees of the kind pioneered by the African Development Bank (AfDB) with its Room2Run (R2R) deal) would be ineffective in relaxing constraints associated with Moody's and Fitch ratings. The reason is that the usual synthetic risk transfers, while offering a powerful means of transferring risk, would leave the IBRD with substantial senior tranche exposures on its balance sheet, implying only small gains in leverage. Risk transfers in which donor governments took the risk on a substantial fraction of the pool par value (in effect, covering the 'senior tranche') would be the way round this. Note that the ineffectiveness of some standard risk transfers for IBRD is nothing to do with the good sense of effecting such transactions to free up lending capacity but is more an issue with rating agency methodologies.

Figure ES2: Increase in Lending Headroom using Callable Capital



Note: 'Total Equity' is the sum of paid in capital and reserves and 'Adjusted Capital' equal to the sum of Total Equity plus eligible callable capital.

In contrast, IBRD would clearly and unambiguously gain in relaxed constraints (indeed all three constraints considered) by issuing hybrid capital. The current proposal of the AfDB and IDB to issue hybrid capital based on loans of Special Drawing Rights (SDRs) appears the most relevant. This approach implies a very light burden on donor governments that might lend their SDRs, indeed they would even gain if a modest premium were paid above the SDR interest rate. Participation in such schemes by WBG entities would also likely assist other MDBs since common arrangements might be adopted for the liquidity provisions required by such transactions.

On the Panel's fourth recommendation regarding engagement with the rating agencies, from the above discussion it should be apparent that this is important if an expansion in IBRD lending beyond 50% were to be pursued. We showed in past work for the CAF Panel itself that PCT reduces sovereign Probabilities of Default and LGDs on average each by factors of between 3 and 4. The impact on credit risk capital required depends on the nature of the portfolio but the sister technical paper, Risk Control (2023), presents evidence for IBRD and IDA that credit risk as measured by EC is reduced by more than two thirds.

For MDBs with relatively highly rated portfolios (like IBRD), the adjustment made by Standard & Poor's (as registered in that agency's RAC ratio) is a bit less than what an EC approach implies but is not completely disproportionate. On the other hand, Standard & Poor's adjustments for lowly rated portfolios is far from the adjustment that an EC calculation would imply, so this is an issue for IDA. The Fitch adjustment for PCT as reflected in the Usable Capital Ratio is less than half what an EC approach implies.

On the Panel's fifth recommendation regarding capital adequacy governance, we do not present quantitative analysis, but concur with the spirit of what the Panel suggests which is greater transparency. This can be advanced through regular benchmarking and greater accessibility for MDB's historical loan default and recovery data. On the latter, sovereign loan performance can be analysed using public data as we demonstrate in this report and Risk Control (2022a) and (2023) so the main benefits in data transparency relate to non-sovereign lending. But benchmarking can be very important for shareholder governments, particularly those that have provided equity to multiple MDBs.

1. Introduction

The G20's Independent Panel published its report on the Capital Adequacy Frameworks (CAF) of Multilateral Development Bank (MDB) in July 2022 (see CAF Panel Report (2022)). The report recommends steps that MDBs could take to expand their lending without an increase in the capital. Of course, shareholders may choose to boost capital as part of a package of measures that includes measures suggested by the CAF Panel.

Since the report was issued, many MDBs have worked on internal assessments of how the Panel's recommendations might be applied to their operations. This study provides an *external* assessment, based on public data, of how two specific multilateral lenders could respond to the CAF Panel recommendations and how this would affect their ability to boost lending.

The organisations we examine are the two sovereign-focussed lending arms of the World Bank, the International Bank for Reconstruction and Development (IBRD) and its concessional lending counterpart, the International Development Association (IDA).

We focus on the five proposals made by the CAF Panel. These cover multiple areas of MDB risk management, financial activities, and governance. Specifically, the Panel proposes that MDBs:

1. Redefine the approach to risk appetite in their CAFs.
2. Incorporate uplift from callable capital into their CAFs.
3. Implement innovations to strengthen their capital adequacy and lending headroom.
4. Assess Credit Rating Agencies' (CRAs) methodologies and engage with the agencies.
5. Improve the enabling environment for the governance of capital adequacy.

In the Panel's view, if MDBs implement its recommendations, they could collectively increase their lending by several hundreds of billions of dollars over the medium term.

The study examines the extent to which, by implementing the Panel recommendations, IBRD and IDA might expand their lending. For each recommendation, we compute how much additional lending capacity might be unlocked. Our analysis draws on a separate technical report that we have completed. That report employs public data to evaluate the headroom the two multilateral lenders possess to lend more before the constraints that they face start to bind.

The constraints that IBRD and IDA face include:

- The objective of retaining the highest possible rating from each of the three global rating agencies.
- The aim of keeping their Capital Adequacy Ratios (CARs) above unity (adjusting for a reasonable buffer).
- In the case of IBRD, the self-imposed constraint represented by the Statutory Lending Limit (SLL), contained in the bank's Articles of Agreement.
- In the case of IDA, a limit on total subsidised (zero-interest-rate) lending which cannot exceed its equity if the institution is to sustain this lending over time. (Here, we assume that costs are covered through fees and no dividend is required.) We refer to this limit as the Sustainable Concessional Lending Limit (SCLL).

Furthermore, if IBRD and IDA decide to engage in risk transfer, they would also face constraints implied by:

- The pricing that the market would charge to provide credit protection for the MDBs' loans.
- The methodology that the rating agencies apply when an MDB engages in such transactions.

The study aims to contribute to the current debate on the strategy that the World Bank Group (WBG) institutions should follow. US Treasury Secretary Janet Yellen recently argued in a February 2023 speech that *"the Bank [World Bank] must boost its financial capacity by responsibly stretching its existing financial resources....Promising ideas for exploration include increased securitization of private sector portfolios or piloting the issuance of subordinated debt instruments to boost headroom."* (See US Department of Treasury (2023b) presented at the Center for Strategic and International Studies (CSIS).) From this, one may infer that the US, a major WBG shareholder, is supportive of the WBG boosting its capacity to finance development. More broadly, other governments appear to support WBG reform, and the current Indian G20 Presidency has made reform of MDBs a key priority.

The WBG itself has responded to the CAF Panel Report by publishing, in January 2023, an evolution roadmap. The roadmap discusses the Panel's recommendations and examines which are relevant to the bank's operations



(see WBG (2023b)). The roadmap envisages an initial increase in lending of US\$5 billion per year. The bank would expect the cumulative increase over ten years to be US\$50 billion (see WBG (2023a)). Such an increase would be significant but small compared to the additional financing requirements of Emerging Market and Developing Economies (EMDEs) of US\$2.6 trillion per year before 2030 identified by International Monetary Fund (IMF) (2019) if they are to meet the Sustainable Development Goals (SDGs) in five key areas (education, health, roads, electricity, and water and sanitation). Another study⁴ concludes that EMDEs other than China must spend US\$2.4 trillion per year by 2030 to achieve the climate goals agreed upon in Paris Agreement across all dimensions.

The WBG is the world's pre-eminent development finance institution. Steps that the WBG adopts would be influential among other institutions. On the other hand, a weak response to the Panel's recommendations would serve to discourage other MDBs.

As a final point, one may argue that capital adequacy for a concessional lender like IDA is very different from a lender that lends at rates that remunerate credit risk like IBRD.⁵ For a concessional lender, capital serves not only to reassure the markets that bonds issued will be repaid, but also serves as a source of returns that may be used to pay for grants or subsidised (e.g., zero interest) lending. While this is true, it does not invalidate the question we ask in this study which is: if IDA expands lending at rates similar to those employed by IBRD (allowing for Expected Credit Losses), how much might it grow before one or other constraint that it faces starts to bind?

This document is organised as follows. Sections 2 to 6 consider sequentially the implications for IBRD and IDA of the five CAF Panel recommendations. Section 7 concludes.

2. Risk Appetite for MDBs

2.1 Introduction

This section looks at changes in risk appetite methodologies and approaches, suggested by the CAF Panel, that might permit IBRD and IDA to lend more.

On Risk Appetite, the report suggests that MDBs should:

1. *“Define risk appetites prioritizing shareholder-specified limits rather than external criteria.*
2. *Ensure that MDB capital adequacy frameworks account adequately for preferred creditor treatment and the concentrated nature of MDB portfolios.*
3. *Relocate specific numeric leverage targets from MDB statutes to MDB capital adequacy frameworks.”*

2.2 MDB Capital Adequacy Frameworks

Before discussing the above suggestions, it is helpful to understand the nature of the Capital Adequacy Frameworks (CAFs) within which most MDBs operate. Such frameworks involve systems of limits on risk taking. Limits can take many forms. For example, a limit may restrict the dollar value of an MDB's exposure to an individual country or sector to be less than some fraction of the bank's equity resources. Limits generally comprise (i) a variable that is restricted (in the above case, exposure to a given country or sector) and (ii) a specific value (here a fraction of equity). Some MDBs place limits on the Economic Capital (EC) consumption of exposures in a category, such as exposures to given countries or sectors. Commonly, EC is calculated with internal risk models and the limit value may be a fractions of equity resources.

In MDB CAFs, the values of limits are generally proposed by management and then approved by the Board of Directors (BoD). Some lower-level limits may be controlled by management in the sense that management can modify the limit without consulting the BoD. (An example might be some limits applied within Treasury operations.) Often, CAFs also include high level limits that are stated in the MDB's statutes or Articles of

⁴ See LSE (2022) by an Independent High-Level Expert Group on Climate Finance.

⁵ IBRD lends at rates that are lower than the rates at which private market investors are prepared to lend to Emerging-Market and Developing Economy (EMDE) sovereigns. It can do this because it enjoys the de facto seniority that benefits MDBs in general known as Preferred Creditor Treatment (PCT). Risk Control (2022a) quantifies PCT by comparing the credit performance of MDB sovereign loans with that of sovereign public bond issues. The difference in performance is enough to suggest that while IBRD lending rates are low, they are not uneconomic or necessarily subsidised.



Agreement. Such statutory limits are hard to modify since changing them requires more than a resolution by the BoD.

The commonest example of a high-level statutory limit employed by MDBs is a Statutory Lending Limit (SLL). In IBRD’s case, the articles define an SLL in the following terms: “The total amount outstanding of guarantees, participations in loans and direct loans made by the Bank shall not be increased at any time, if by such increase the total would exceed one hundred percent of the unimpaired subscribed capital, reserves and surplus of the Bank.” See Article 3 (Section 3) of IBRD (2012). In contrast to the IBRD (and unlike most MDBs), IDA’s articles do not include an SLL (see IDA (1960)).

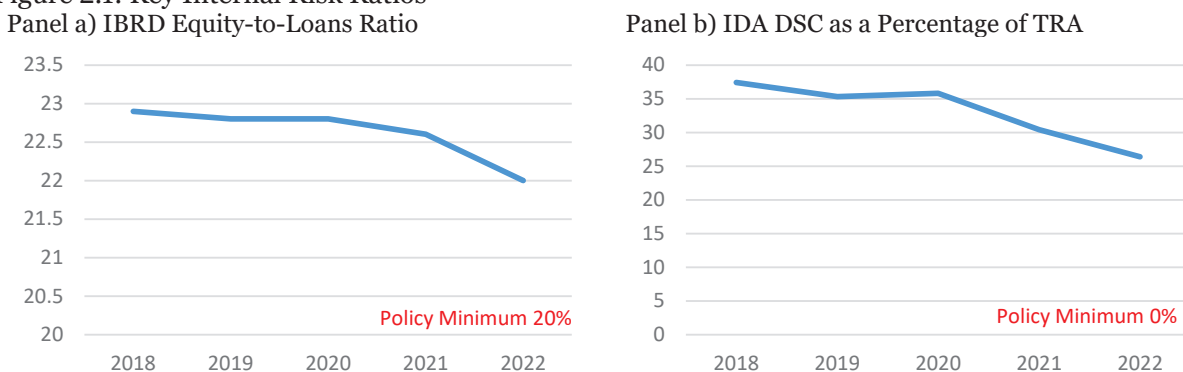
For many MDBs, the highest level non-statutory limit employed consists of a minimum value for the Capital Adequacy Ratio (CAR). The CAR equals the ratio of capital resources to capital required. The numerator in the ratio, ‘capital resources’, is based on a particular definition of available equity. This may be an accounting definition of equity (such as paid-in equity plus reserves, often referred to as Total Equity (TE)) or some adjusted version of this. The denominator, ‘capital required’, is computed using internal capital models and is often denoted ‘Economic Capital’ (EC). Commonly, models are employed to compute EC for each risk type (the most obvious types being credit, market, and operational risks). The EC amounts for individual risks are then summed after which the aggregate amount may be adjusted down to allow for diversification.

It is typical for MDB Boards to specify a floor below which the CAR cannot fall without triggering remedial actions. This floor commonly equals unity plus a buffer. The buffer is designed to ensure that the CAR will exceed unity even if the ratings of the bank’s borrowers fall in a crisis. Some MDBs also explicitly link their CAR to rating agency calculations. For example, one may set the denominator in the CAR to the maximum of (i) the required capital generated by the bank’s own risk models and (ii) the capital implied by a rating agency approach such as that of Standard & Poor’s. Other MDBs perform a CAR calculation independent of rating agency considerations but separately require in their CAF that no action be taken that is likely to reduce one of the institution’s ratings below a specified target level (often AAA).

2.3 IBRD and IDA Capital Adequacy Frameworks

How do the IBRD and IDA assess and implement their capital adequacy? Both multilateral lenders employ key capital adequacy indicators but in neither case is this a conventional CAR-based approach. For IBRD, the key risk indicator is the bank’s Equity-to-Loans (E/L) ratio.⁶ As part of IBRD’s Strategic Capital Adequacy Framework, a floor level for the E/L ratio is periodically calibrated. The bank manages its balance sheet to ensure that the ratio remains above the floor level.

Figure 2.1: Key Internal Risk Ratios



Note: Units for each key risk indicator are percent. The source for Panel a) is IBRD (2022) and IBRD (2021). The source for Panel b) is IDA (2022) and IDA (2021). The IBRD Equity to Loans ratio employs a smoothed definition of Total Equity (TE), designated ‘usable equity’, which can deviate significantly from the TE recorded in the bank’s financial statements and which is close to the equity definitions employed by rating agencies. The IDA risk ratio equals Deployable Strategic Capital (DSC) as a percentage of Total Resources Available (TRA).

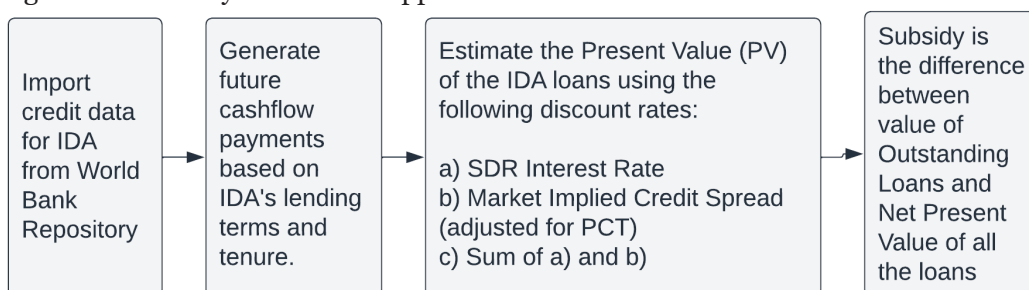
⁶ E/L ratio is 22% in FY22 which fell from 22.6% due to increase the increase in the exposure by \$14.7bn, this was slightly offset by increase in equity by \$1.8bn.

Box 2.1: Subsidy Calculation in the IDA’s Lending Book

In IDA’s balance sheet, loans are recorded at par even though they are issued on concessional or subsidised terms. To allow for this, in its internal risk management, IDA adds an estimate of the subsidy value to the more conventional ‘Economic Capital components’ of its TRR. IDA (2022) briefly explains this, stating: *“Within the TRR there is also a capital allowance to reflect losses that result from valuing IDA’s concessional loan portfolio in present value terms using market interest rates.”*

This box presents the results of our own valuation of the subsidy component in the value of IDA’s loan book. The valuation exercise we perform starts from granular data on individual IDA loans provided by the World Bank Repository (2023). To obtain results consistent with our other calculations, we include all loans contained in IDA’s loan portfolio on 30th June 2022.

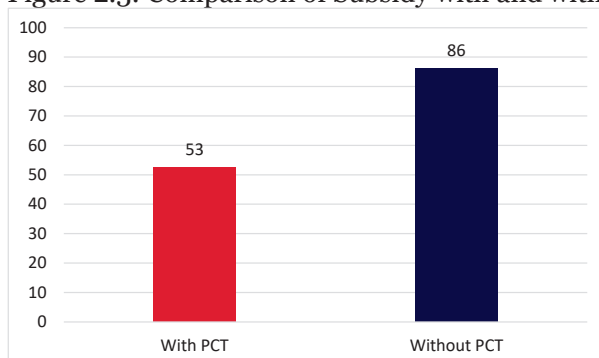
Figure 2.2: Subsidy Estimation Approach



The approach followed in estimating the subsidy element is explained in Figure 2.2. From the repository data, we construct cashflow payment profiles loan-by-loan using the loan terms recorded on the WBG website. We discount these cashflows to end-June 2022 using SDR interest rate term structures to which we add credit spreads. The credit spreads are derived from market sovereign credit spreads but adjusted for PCT.

Our main finding is that the subsidy element in the value of the loan book is \$52.58 bn when SDR interest rates and PCT-adjusted credit spreads are included in the discount factors. This compares to the value of IDA’s concessional lending of \$171.90 bn. (Including non-concessional lending, the loan book value recorded in the accounts is \$178.04 bn.) When credit spreads are employed that do not adjust for PCT, the subsidy element rises to \$86.09 bn (see Figure 2.3).

Figure 2.3: Comparison of Subsidy with and without PCT



Note: The unit of Y-axis is USD billion.

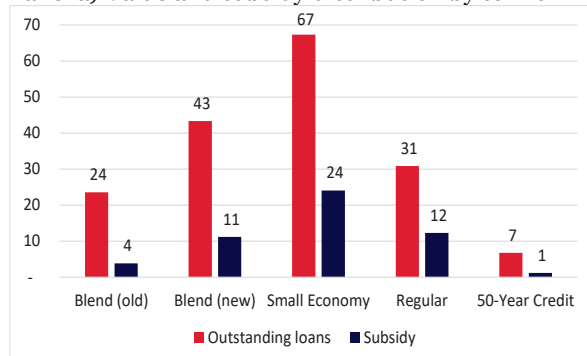
One may split the subsidy element down by loan types as shown in Panel a) of Figure 2.4. The largest fraction of IDA’s outstanding loans is provided under ‘Small Economy’ terms. This category contributes 46% of total subsidy. Panel b) of Figure 2.4 shows how the subsidy element in the end-June 2022 portfolio value is distributed across individual calendar year loan issuance. The peak contribution to the total subsidy is attributable to loans originated between 2011 and 2020. The average subsidy per year during 2012-2020



(both inclusive) is \$3.07bn, compared to the lifetime average per year (i.e., 1972-2022) of \$1.03bn. These calculations show the loan vintages in the end-June 2022 portfolio that contributed most to the total subsidy element. Since loans in earlier periods have fully or partly matured, one cannot deduce from this whether subsidisation has increased.

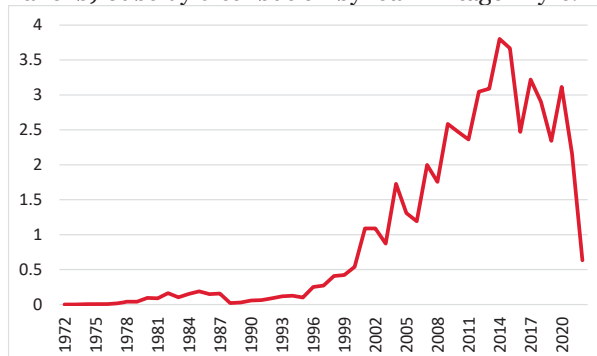
Figure 2.4: Distribution of Subsidy in end-June 2022 Portfolio

Panel a) Value and subsidy distribution by terms



Note: 'Blend (old)' also includes 'hard term' loans which were discontinued in 2017. Units on the vertical axis are in USD billions. The subsidy is adjusted for PCT.

Panel b) Subsidy distribution by loan vintage in yrs.



Note: The data is up to 30 June 2022. Units on the vertical axis are USD billions. The subsidy is adjusted for PCT. The vintages are defined by calendar years.

Note that the definition of equity employed by IBRD as the numerator of its equity to loans ratio can, from year to year, deviate significantly from equity as recorded in its financial statements. The numerator employed by IBRD is what the bank calls 'usable equity'. This is a smoothed quantity. From 2018 to 2022, Total Equity as reported in the financial statements grew from \$42bn to \$55 bn, a rise of 31% over the four-year period. In contrast, in the same 4 years, usable equity rose by 16.0% from \$43.5 bn to \$50.5 bn. The rating agencies employ their own definitions of equity for the purpose of assessing capital adequacy, but their definitions are close to the standard accounting definition one may find in the annual report.

In the past, IBRD operated with a minimum threshold E/L ratio of 23%. In 2014, the target floor was reduced to 20%. This was justified by the bank on the basis that the credit quality of its portfolio had improved since 2008. Recently, IBRD has proposed a reduction in the floor to 19%. The bank has said this would be consistent with increased risk appetite by the bank's shareholders (see World Bank (2023a)). Currently, the E/L ratio is close to 22%, having declined since 2018 from just under 23%.

One may calculate that using the end-FY 2022 usable equity of \$50.5 bn and assuming a 20% E/L ratio floor, IBRD could increase its outstanding loan by 10% before the policy minimum would bind. If the minimum E/L ratio is reduced to 19%, this would increase the allowable increase in outstanding loans to 16%.

For IDA, the key capital adequacy indicator is Deployable Strategic Capital (DSC). DSC is defined as the available capital to support future commitments, over and above the current portfolio. It is calculated as the difference of Total Resources Available (TRA) and Total Resources Required (TRR), plus a Conservation Buffer (CB). IDA has set the minimum allowable DSC to be 0%. The TRA is the sum of IDA's equity and accumulated provision for loan losses and other exposures. The TRR is the minimum capital required to cover expected and unexpected losses subjected to stress scenario as per the solvency-based capital adequacy model.

In broad terms, the TRA is, therefore, closely related to the CAR since it equals one minus the inverse of the CAR (capital available divided by capital requirement inclusive of buffer). Here, the Unexpected Loss is calculated using risk models and, hence, the approach may be characterised as one based on EC models.⁷

The DSC has declined in the past two years from 35.8% in 2020 to 26.4% in 2022, a fall of 9.4% percentage points. The fall in 2022 was essential due to the higher TRR (higher capital requirements to support conditional development grants). The ratio, nevertheless, remains safely above the policy threshold of 0% (see Panel b) of Figure 2.1.

⁷ The CB is 10% of TRA.



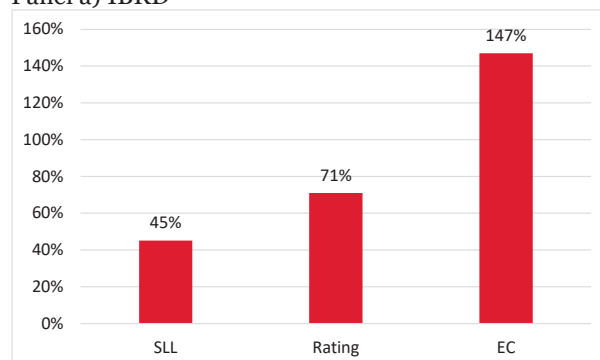
2.4 IBRD and IDA Lending Headroom

Our technical study, Risk Control (2023), examines in detail the constraints that restrict the lending headroom of IBRD and IDA. Specifically, we quantify the room that the two organisations possess to expand lending before one or other constraint binds. We refer to this as lending headroom. The analyses are performed using public data obtained from these institutions’ financial statements and the annual rating assessments of the three global rating agencies, Standard & Poor’s, Moody’s, and Fitch.

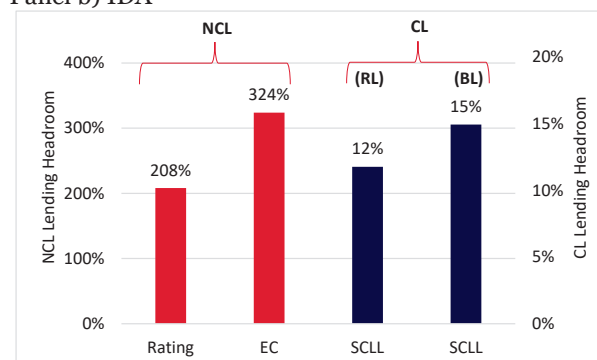
The four constraints considered are (a) the SLL (in the case of IBRD), (b) the requirement to avoid a downgrade in any one of the AAA ratings they receive from the three global agencies, (c) the requirement to keep a CAR above unity (allowing for a buffer) and (d) the requirement that total subsidised (zero-interest-rate) loans be less than total equity for sustainable lending, referred to as SCLL (in the case of IDA).

Figure 2.5: Summary of Lending Headroom

Panel a) IBRD



Panel b) IDA



Note: The red bars illustrate, for IBRD and IDA, the headroom for additional non-concessional lending in percent of current net lending and guarantees implied by the three sources of constraint, namely Statutory Lending Limit (indicated by ‘SLL’), the requirement that the AAA-ratings of all three global rating agencies be maintained (labelled ‘Rating’) and that the Capital Adequacy Ratio (equal to capital resources (paid in equity and reserves) divided by capital required (Economic Capital plus a 10% buffer)) exceeds unity. IDA has no SLL constraint. In computing CARs for IDA, we have followed a conservative approach, comparable to IDA’s internal risk management methodology, of adjusting capital resources downwards to allow for the value of the subsidy element in IDA’s loans. More information about the computations may be found in the sister technical paper, Risk Control (2023). The dark blue bars show headroom as a percentage of IDA total lending (relative to the SCLL) if it expands its lending using particular subsidised loan instruments (CLs or BLs). SCLL denotes Sustainable Concessional Lending Limit, NCL denotes Non-Concessional Loan, CL denotes Concessional Loan, RL denotes Regular Loan and BL denotes Blended Loan. Note that because of the differences in the way these constraints are applied, the rating headroom (71% for IBRD) is expressed in terms of outstanding loans whereas the EC headroom (147% for IBRD) is expressed in terms of outstanding loans plus 50% of undisbursed commitments.

The lending headroom shown in red bars of Figure 2.5 relates to non-concessional loans or concessional loans for which the subsidy element is offset by donor contributions. While IBRD loans may be viewed as being made ‘at market prices’ allowing for PCT, most IDA loans are made on highly concessional terms. In the past, these were financed with equity. In FY 2018, IDA announced that it was moving to a hybrid lending model in which concessional loans are financed from equity or loans made by donors to IDA on terms that mirror the concessions of IDA’s own loans to borrowers. Non-concessional loans would be made using funds raised through IDA’s bond issuance. Up to now, non-concessional loans remain a small fraction of IDA’s loan book (3.6% at end June 2022).

On constraint (a), as already mentioned, IBRD employs a SLL in which loans and related exposures (e.g., guarantees) are constrained to be no more than 100% of subscribed capital plus reserves. IDA on the other hand, has no SLL. Note that some MDBs employ SLLs with constraints greater than 100%. First, European Investment Bank (EIB) has an SLL equal to 250% of subscribed capital, reserves and surplus.⁸ ⁹ Second, the Asian Infrastructure Investment Bank (AIIB), established in 2016, operates with articles of agreements that

⁸ See Article 16 (Section 5) of EIB (2020)

⁹ One could argue that EIB employs a higher SLL because it lends to more highly rated borrowers. But the weighted average rating of IBRD’s counterparties is BB+/BB which should be notched up to allow for PCT.



limit loans to 100% of subscribed capital plus reserves (as does IBRD) but permit its Board of Governors to increase the limit to 250% by a Super Majority Vote.¹⁰

In the case of constraint (c), we employ a CAR-based constraint rather than the constraints that IBRD and IDA follow, in fact. This is not a big step for IDA since its approach of the DSC to TRA equals $1 - 1/\text{CAR}$. In the case of IBRD, the equity to loans ratio is not a risk sensitive measure and requires periodic recalibration as the ratings of the bank's exposures evolve. We expect that the periodic recalibration is informed by risk modelling and perhaps full EC calculation that the bank performs internally. It seems reasonable to evaluate capital adequacy using an industry standard EC-based CAR calculation and this is the approach we follow.

The dark blue bars in Figure 2.5 Panel b) show the headroom that IDA has available before the Sustainable Concessional Lending Limit (SCLL) binds if it employs either CLs or BLs. BLs carry an interest rate, but this is still highly subsidised. Hence, BLs may be thought of as a combination of CLs and NCLs. The lending headroom for IDA, if it were to boost either CLs or BLs, is much smaller. The dark blue bars in Figure 2.5 Panel b) show that IDA could expand its total lending using CLs or BLs, respectively by 12% and 15%.

Even if the substantial NCL headroom shown by the red bars in Figure 2.5 Panel b) is inaccessible for IDA because it relies overwhelmingly on CLs or BLs, the results point to the capital inefficiency of operating separate balance sheets for concessional and non-concessional lending. Merging the IBRD and IDA balance sheets would give IBRD greater scope to increase its non-concessional lending even if IDA continued lending only on concessional terms. Even without merging the balance sheets, risk transfers could be implemented between the two balance sheets that would permit greater efficiency in capital usage.

2.4.1 SLL constraint

Figure 2.5: summarises the two organisations' headroom to expand lending before one or other constraint binds. It is evident that from panel a) of Figure 2.5: , that the primary constraint for increasing the lending headroom for IBRD is the SLL at 45%. Thus, it becomes difficult for the bank to increase lending for a given amount of capital. As SLL, is defined in the articles of agreement it is a hard threshold which cannot be bypassed by the bank, even if it is in the interest of the shareholders to lend above the limit.

SLLs of the type just described have been criticised on the basis that they are unreflective of the risk profile of the bank's portfolio and make no distinction between paid in capital and reserves on one hand and callable equity on the other. Humphrey (2017b) argues that statutory limits should be abolished or modified so they are based on financial ratios that are more reflective of risk.

Following publication of the CAF Panel Report (2022), IBRD and the European Bank for Reconstruction and Development (EBRD) have publicly announced that they are considering removing SLLs from their articles of agreement.¹¹ WBG (2023a) mentions a draft report from Executive Directors to Governors proposing that the SLL be removed from IBRD's statutes.¹² In the case of EBRD, the bank's Governors have adopted a resolution that the SLL be deleted from EBRD's articles of agreement and replace limit based on capital adequacy metrics (see EBRD (2023)) to be approved by the Board of Directors.¹³ If the IBRD proposal is approved by its Governors, then the SLL would, of course, cease to constrain IBRD's lending.

2.4.2 Rating constraint

After the SLL, the constraint that would next bind if IBRD increased lending is the requirement to maintain the bank's agency ratings at the AAA level. Risk Control (2023) evaluates the available headroom by analysing the current rating agency methodologies. Table 2.1 summarises the MDBs' headroom to increase lending before their agency ratings are downgraded, i.e., lose their AAA status for at least one of the three agencies. The 'rating headroom' we report analysis is based on the critical values associated with the loss of at least one AAA rating.¹⁴

¹⁰ See Article 12 Section 1 of AIIB (2015).

¹¹ We understand that at least one other major MDB is also considering removal of its SLL.

¹² WBG (2023a) page 19 includes the text: "At the request of the Executive Directors, management has prepared a draft Report from the Executive Directors to the Governors recommending that Article III, Section 3 be deleted from IBRD's Articles of Agreement and a draft Resolution for consideration by the Governors. Management will separately undertake a work program to assess treatment of maximum lending limit in IBRD's Capital Adequacy Framework."

¹³ The text in the EBRD Governors' resolution suggests that the SLL be deleted, and that the following text be added: "The Board of Directors shall establish and maintain appropriate limits with respect to capital adequacy metrics, in order to protect the financial soundness and sustainability of the Bank." See EBRD (2023).

¹⁴ Fitch does not trigger credit downgrade for IDA when the lending was increase up to 300% as a part of our study.



Note that our findings in this case are based on current credit rating agency methodologies for MDBs and do not allow for potential evolution in rating agency methodologies as would be justified by the results of Section 4 below.

Table 2.1: Lending Headroom based on Credit Rating Analysis

Criteria	IBRD		IDA	
	Headroom	Gross value	Headroom	Gross value
S&P's rating headroom	152%	348,588	208%	371,856
Moody's rating headroom	71%	162,827	300%	536,331
Fitch rating headroom	101%	231,627	228%	407,612

Note: Green shade indicates increase in lending until a downgrade occurs. Lending headroom is expressed in percent of net outstanding loans of respective institutions. The gross values are in USD millions.

Box 2.2: Comments on IDA’s Risk Bearing Capacity and Business Model

IDA has in the past operated more like a fund than a bank.¹⁵ It makes highly concessional, long-maturity loans than are financed by equity contributions from shareholders. Although IDA has begun to expand its Asset and Liability Management (ALM) activities, as far as we can tell, the institution does not attempt to hedge the interest rate risk in its loan portfolio. In the absence of such hedging, while the accounting value of its equity has been stable, the economic value of that equity fluctuates substantially as interest rates change. Recently, IDA has begun to follow a hybrid model¹⁶ in which it combines (i) concessional lending, financed using equity and subsidised borrowing from donor governments, and (ii) some non-concessional lending, financed by issuing debt in the capital market.

Our analysis of the rating and EC constraints on IBRD and IDA suggests that IDA could substantially increase the non-concessional lending element allowed for in its new hybrid business model. This would entail a substantial change in IDA’s basis business model, however. IDA’s non-concessional lending has been growing significantly but from a very low base and it remains a small fraction of its loan book. Our analysis does not imply that IDA can expand its concessional lending substantially.

Why not? IDA’s concessional lending pays very little income so can only be financed safely by the equity of an institution that is not required to pay dividends to its shareholders. It would be imprudent to borrow in the market and use the proceeds to make concessional loans. If one believes that IDA should remain overwhelmingly a concessional lending (non-concessional loans amount to just 3.6% of its total loans at end June 2022), this might appear to be the end of the story. But the calculations highlight the fact that the use of capital by IDA is highly inefficient from a risk perspective. With its existing capital, IDA could expand non-concessional lending to a substantial degree to a wider group of countries.

¹⁵ Balance sheet management and capital optimisation in banks follows established principles. Levels of capital necessary to limit the probability of failure to acceptable levels are determined by internal Economic Capital (EC) calculations or based on methodologies required by regulators (Basel rules as implemented by national regulators) or by rating agencies. Banks generally seek to limit or even eliminate fluctuations in their economic value stemming from changes in market prices (interest rates and exchange rates) by hedging. On the other hand, funds receive equity financing and then deploy this to purchase investments. Funds often make little use of hedging since investors may themselves hedge risk taken on by the funds. In principle, the shareholders of a bank could also hedge risk that the bank itself has left unhedged. But banks’ risks are much more straightforward to measure and offset internally than by an external investor in the equity and bank failure is associated with substantial loss of franchise value and other fixed costs which it is important to avoid.

¹⁶ IDA (2022) (page 6) states “In FY15, IDA introduced debt to its financial model with concessional partner loans received from certain member countries. In FY18, IDA introduced a hybrid financing model by including market debt into its business model. By prudently leveraging its equity and blending market debt with equity contributions from members, IDA has increased its financial efficiency, and scaled up its financing to support the escalating demand for its resources to deliver on the following priorities:

- Provide concessional financing on terms that respond to clients’ needs; and
- Ensure long-term financial sustainability of IDA’s financial model through a prudent risk management framework.

Non-concessional lending will primarily be financed by market debt. Concessional lending, including grants, is primarily financed by IDA’s equity.”



Alternatively, IDA could share its risk bearing capacity with IBRD. The most extreme form of such risk sharing would result from a merger of balance sheets. ADB and IDB recently performed mergers of their concessional and non-concessional lending windows.

Even without such a merger, IBRD and IDA could employ synthetic risk transfers to share risk across the two balance sheets just as the major public financial institutions in Europe (the EIB, EIF and Commission) have done in recent years (see Galizia, Perraudin, Powell and Turner (2022)). Either way, the efficiency with which the WBG collectively uses capital resources could be significantly enhanced.

Detailed discussion of IDA's business model is out of scope for this study, one might question an approach that leads to subsidies the value of which are so dependent on the level of interest rates. A zero-interest rate loan is substantially more valuable to the borrower when inflation and interest rates are higher. Hence, such subsidies tend to be pro-cyclical, highest when economic activity is most depressed.

Also, in the absence of interest rate risk hedging, as already noted, the economic value of IDA's loan book fluctuates substantially, complicating balance sheet management. Lending larger volumes would be more straightforward if the concessional element was more controlled, for example by lending at rates that are some number of basis points below market rates but not at zero.

Of the three rating agencies, we find that Moody's is the most constraining for IBRD. The bank could increase its lending by 71% of the net outstanding loans (i.e., \$162bn) before a credit downgrade by Moody's is triggered (see Table 2.1). The most constraining agency for IDA, on the other hand, is Standard & Poor's (see Table 2.1). IDA could increase its lending by 208% of the net outstanding loans (i.e., \$372bn) before a credit downgrade by Standard & Poor's is triggered. The higher percentage for IDA reflects its extremely strong equity base.

Table 2.1 includes calculations with sovereign ratings downgrades. It may be thought of as inclusive of a buffer. The sovereign downgrades in question are based on the following approach. For each sovereign, we lower the rating by the maximum downgrade observed in two periods associated with (i) the Global Financial Crisis and (ii) the Covid 19 crisis.¹⁷

IBRD's lending headroom with respect to a downgrade from AAA in the Moody's rating is almost half that of its lending headroom with respect to the Standard & Poor's rating at 152%.¹⁸ In Sections 3, 4 and 5 we discuss how callable capital, hybrid capital and Preferred Creditor Treatment (PCT), respectively, are treated by the three rating agencies.

2.4.3 EC constraint

The third constraint on the lending of IBRD and IDA that we analyse is the requirement that capital resources exceed capital required as measured by Economic Capital (EC) plus a buffer.

A typical, industry standard approach is to calculate the net worth or capital that an organisation needs to be sure that it will survive extremely rare shocks. This is done by computing the losses that will be exceeded, over a horizon of a year, only on some very small fraction of occasions. The fraction of occasions, termed the 'confidence level', might be 1 basis point (one in ten thousand times). Often such a value is regarded as equivalent to the confidence level of a triple-A rating.

To generate a constraint, we can then calculate the ratio of capital resources (usually, paid in equity plus reserves and surpluses) to capital required or EC. The ratio is known as a Capital Adequacy Ratio (CAR). As a bank expands its balance sheet without increasing its capital resources, the denominator increases and, hence, the CAR declines. An EC constraint on increases in lending bonds when the CAR falls to unity.

Note that because IDA is a concessional lender, the economic value of many of its loans is distinctly lower less than their par value. Accountants may accept that concessional loans be booked in the balance sheet at par if

¹⁷ See Appendix 8 of Risk Control (2023) for detailed methodology employed.

¹⁸ It would be 261% were it not for an obscure aspect of the S&P methodology, namely the number of notches uplift it permits IBRD to have because of callable capital. IBRD is making efforts to clarify the nature of the callable capital commitments that its shareholders make as reported in World Bank (2023c). If it succeeds and satisfies S&P, it will have even more lending headroom with respect to this agency.



the foregone interest is offset in some way. In IDA's case, the justification is that the institution does not pay dividends to shareholders and, hence, foregone loan coupons are offset by the lack of a requirement to remunerate equity. The rating agencies, in calculating IDA's equity, do not adjust for the value of loan subsidies.

To be conservative, in its internal risk management, IDA chooses to adjust for the subsidy element in its lending. The most obvious way to do this would be to reduce the value of assets as they appear in IDA's balance sheet. IDA, however, instead chooses to increase its calculated Economic Capital (EC) by the amount of the loan subsidy value. The sum of classic EC and the valuation adjustment is then what it refers to as Total Required Resources or TRR. In our calculations, we have followed IDA in conservatively allowing for the value of its loan subsidies. However, we subtract the subsidy value from the numerator of the CAR (i.e., capital resources), rather than adding it to the denominator.

It should be noted that our calculations presume that expanded lending for IDA consists of non-concessional loans or that the subsidy element of additional concessional loans is covered by donors.

We find that the third EC or CAR constraint is the least binding for IBRD and IDA of the three we consider. The implication is that the first two constraints oblige the two organisations to operate well within the 'envelop' permitted by an EC computation. If the first two constraints could be relaxed, these MDBs would be able to manage their balance sheets more directly based on EC considerations.

Table 2.2, summarises the lending headroom implied by the EC computation presented in our technical report, Risk Control (2023). The table shows capital surplus divided by capital required. Capital surplus is defined as the difference between Total Equity (capital resources) and the EC requirement. EC is computed using an industry standard Credit Portfolio Model (CPM) of the kind employed by most large MDBs.¹⁹

The capital computation employed here yields EC for credit risk alone. MDBs commonly say that their appetite for market and operational risks is very low. In our experience, in the EC calculation for a sovereign-lending-focussed MDB, market and operational risk might add 20% to the EC implied by credit risk and the gains from diversification might bring the total EC to 10% more than the credit risk EC. To allow for market, operational and other risks, we, therefore, increase the credit risk EC by 15%. Furthermore, we include a counter-cyclical buffer of 10%.²⁰

Following this approach, we find that, before its CAR declines below unity (allowing for a buffer), IBRD could increase lending by 147% (i.e., \$393 bn) before the EC capital surplus is exhausted. Similarly, IDA could increase lending by 324% (i.e., \$691 bn).

Table 2.2: Lending Headroom based on Capital Model

Criteria	IBRD		IDA	
	Headroom	Gross value	Headroom	Gross value
VAR at 1bp	147%	393,050	324%	691,065
VAR at 1bp AC	336%	894,616	324%	691,065

Note: Green shade indicates the conservative value to increase the lending. AC denotes Adjusted Capital. Lending headroom is expressed in percent of Exposure at Default (EAD). The gross values are in USD millions. VAR denotes Value at Risk. BP denotes basis points.

For IBRD, the EC lending headroom is significantly greater than the rating analysis headroom. One reason may be relatively minor allowance that the rating agencies make for PCT. To allow for the demands that a crisis might put on the MDBs, we have included a stress scenario (in Table 2.2) in which the ratings of sovereigns deteriorate. The downgrade for each individual country is taken to equal the maximum downgrade experienced by the country in question in either the Global Financial Crisis (GFC) and the Covid 19 crisis.

¹⁹ The CPM generates an estimate of capital based on a 1-year horizon, Value at Risk with a confidence level of 1-basis point. MDB portfolios are relatively concentrated. So, it is important to allow for randomness of LGDs. It is also very important to adjust the input risk parameters (Probabilities of Default (PDs) and mean Loss Given Default (LGD) rates for PCT. Risk Control (2023) provides full detail on the approach taken and presents sensitivity analysis of several aspects of the capital calculations.

²⁰ IDA calculates crisis buffer to be 10% of the total resources available which is total equity plus accumulated loss provision.



In the above calculations, we take the conservative approach of computing EC-based lending headroom assuming that the relevant notion of equity resources is Total Equity not Total Equity plus some part of callable capital. In line with Standard & Poor's practice, one may define 'Adjusted Capital' to be Total Equity plus callable capital held by shareholders rated at the same level or higher than the MDB. Table 2.2²¹ indicates that IBRD could increase lending by 147% (i.e., \$393 bn) before the EC capital surplus is exhausted. Similarly, IDA could increase the lending by 324% (i.e., \$691 bn) reflecting its extremely high capital surplus.

2.5 The Sustainable Concessional Lending Limit and IDA

2.5.1 Background

This subsection explains the constraint on IDA lending attributable to its use of concessional loans. We term this constraint the Sustainable Concessional Lending Limit (SCLL). A development institution can sustainably lend on a zero-interest-rate basis up to value of its capital so long as it can cover its costs and is not required to pay dividends. Whenever a zero-interest-rate loan matures and is repaid, the lender may extend a new zero interest rate loan in the same amount. IDA charges borrowers a fee of 75 basis points but no interest rate which appears to cover the institution's costs and is not required dividends.

IDA indeed currently lends an amount approximately equal to its capital, but this lending includes (i) non-concessional loans, (ii) so-called blended loans and (iii) fully concessional (zero-interest-rate) loans. Blended loans have relatively low but still non-zero interest rates.

In this subsection, we calculate the headroom that IDA has available to increase its lending, allowing for the subsidy elements in much of its lending. To do this, we calculate the amounts of fully concessional and fully non-concessional loans that are equivalent to a dollar of blended lending. We argue that the non-concessional lending is unconstrained since the institution's available capital is sufficient to borrow extensively in capital markets. The sum of IDA's fully concessional lending and the concessional component of its blended loans is less than its capital which creates room to lend more either through more concessional or more blended loans.

2.5.2 IDA Portfolio

Figure 2.6 shows the breakdown of IDA lending as it stood at end-June 2022 (see Panel a)) and the same breakdown for loans made in the IDA 19 replenishment period (see Panel b)). The figure suggests that IDA's split of activities has shifted towards blended lending. Blended loans accounted for 38% of the entire loan portfolio at the end of June 2022 (see Panel a)). In the IDA19 replenishment period, however, blended loans represented 56% of total loans approved (see Panel b)). Non-concessional loans comprised 4% of the end-June 2022 portfolio, whereas they made up 9% of approvals in the IDA19 period.

The analysis presented in this note examines the headroom that IDA has available to change its different categories of lending given the constraint it faces as a concessional lender. For an institution to make zero-interest-rate loans sustainably (i.e., in a way that permits it to maintain the same volume of lending indefinitely), it cannot exceed the institution's equity (in IDA's case, \$179 bn).

To understand this, suppose that IDA lends \$100 for zero interest and then re-lends the same amount after the money is repaid again at zero interest. IDA will never receive a return on the activity. So, the present value of this activity is zero. Thus, a limit on IDA's sustainable, fully concessional lending is the institution's equity. Here, we assume their periodic injections of donor cash are used up in grants and that other sources of income, notably IDA's administration charge to borrowers of 75 bps covers its operational costs.

At the end of June 2022, IDA had \$105 bn of concessional loans, \$66 bn of blended and \$6 bn of non-concessional, so \$178 bn in total. On the face of it, this does leave IDA with the possibility of lending more. The amount of capital available to IDA means that it could borrow extensively in the capital markets and make non-concessional lending. Blended loans may be thought of as a combination of concessional and non-concessional. In the next section, we break down IDA's \$66 bn of blended loans into (a) fully concessional and (b) fully non-

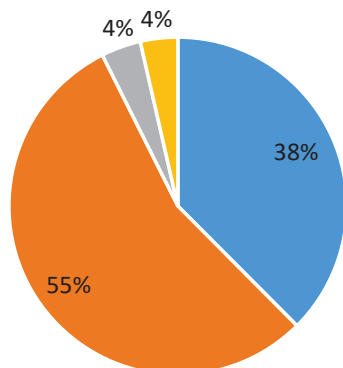
²¹ We calculate the EC-based Lending Headroom by considering how much might net outstanding loans and 50% of undisbursed loans increased before the CAR equals unity. The Lending Headroom calculations based on the SLL and credit ratings instead consider how much can loans increase before the constraint binds. Our approach to calculating the headroom in the three cases may be considered consistent if one supposes that, in the SLL and rating cases, disbursed and undisbursed loans grow in proportion.



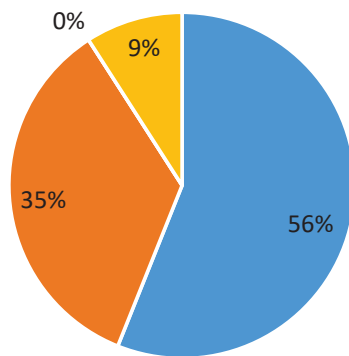
concessional loans with market and par values that sum to equal, respectively, the market and par values of the original blended loans.

Figure 2.6: IDA Portfolio

Panel a) End June 2022



Panel b) IDA 19 Uses



Legend: Blend (Blue), Regular (Orange), 50YC (Grey), NC (Yellow)

Note: Panel a) is based on the historical data of 'IDA Statement of Credits and Grants.' Panel b) is based on the funding allocation of IDA 19 described in IDA FY22 Management's Discussion and Analysis. 50YC denotes 50-year credit, and NC indicates Non-Concessional.

2.5.3 Blended Loans

Suppose we have blended loans with a par value of \$1. Can we split this into amount of concessional loans (LCs) and non-concessional loans (NCLs) that are equivalent in the sense that the sums of (i) the par values and (ii) the market values of the CLs and NCLs are equal to those of the blended loan with \$1 par. This is our topic in this section.

Let \bar{V} be the par value of a portfolio of blended loans and V be their present fair value. Then suppose we can split these as follows:

$$\begin{aligned} p + p^* &= \bar{V} \\ v + v^* &= V \end{aligned} \tag{2.1}$$

Here, p and v are the par value and fair value, respectively, of the CLs and p^* and v^* are the par value and fair value of the NCLs.

The par value (p^*) of the NCL must equal its market value (v^*). On subtracting the two equations in equation (2.1), and rearranging we obtain:

$$\bar{V} - V = p - v \tag{2.2}$$

In equation (2.2), the fair value of the CL depends implicitly on its par value, so one may consider v to be a function of p . We compute p by finding the value such that equation (2.2) is satisfied. One may understand this intuitively by saying that the subsidy element of blended loans, i.e., $\bar{V} - V$ must be equal the subsidy due to the concessional part of the blended loans (i.e., $p - v$).

We take the blended loan portfolio and compute the present value of the portfolio assuming all the blended loans are lent at zero interest rate.²² This exercise is repeated for various possible shares of the ratio of $\alpha \equiv p/\bar{V}$ from 0% to 100%.

²² A 75-basis point service charge is applied for servicing of the loan and a zero-interest rate charge is applied.

Figure 2.7: Computation of $\alpha \equiv p/\bar{V}$ for Blended Loans

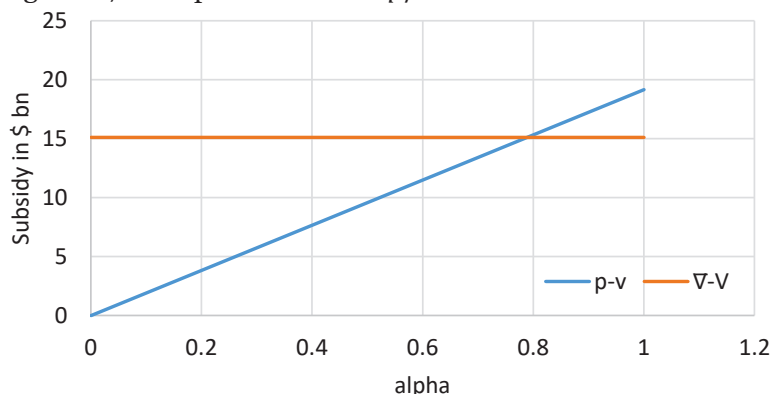


Figure 2.7 shows that $\alpha \equiv p/\bar{V}$ is just less than 80% (actually, 0.79). This could be now used in the estimation of the lending headroom.

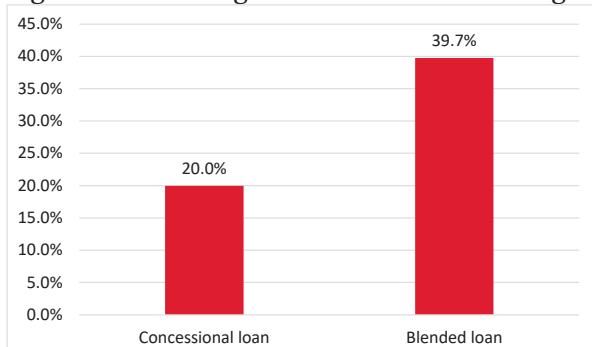
2.5.4 Lending Headroom

One may consider 1 unit of blended lending to be the equivalent of mixture α of fully concessional lending and $(1-\alpha)$ non-concessional loans. If the organisation’s capital is taken to be the limit on its concessional lending, IDA boost its lending by the following amounts:

- Blended lending: $(179-105-\alpha \times 66)/\alpha$
- Concessional lending: $(179-105-\alpha \times 66)$
- Non-concessional lending: No upper bound

For an alpha value of 0.79, the extra amounts of blended and non-concessional lending IDA could provide are as shown in Table 2.3 and illustrated in Figure 2.8.

Figure 2.8: Lending Headroom as a Percentage of Current Loan Type



Note: IDA could either increase concessional loans by 20.0% or blended loan by 39.7%.

IDA could issue another \$26.6 bn of blended loans or \$21.0 bn of concessional. If they started lending non-concessionally or used their balance sheet to support IBRD's non-concessional lending, they could do substantial amounts.

Table 2.3: Lending Headroom

Blended lending	26.6
Concessional lending	21.0
Non-concessional lending	No upper bound

2.5.5 Implications

The possible increase in IDA lending identified in this note (\$26.6 bn of blended loans or \$21.0 bn of concessional) does not look transformative for IDA. It certainly will not sort out the resource needs of EMDEs in the climate emergency. But the expansion in lending is nevertheless significant in scale.

To show EMDEs that they would benefit from IDA boosting volumes by relying more on loans that are less concessional in nature, one should examine the borrowing costs of these countries. The marginal cost of borrowing for most countries is much higher than IDA's terms since they are borrowing from regional and sub-regional MDBs and even from the capital market.

If IDA could issue blended and non-concessional loans in larger volumes, the total borrowing costs could fall since other more costly funding sources would be replaced. Demonstrating that is a subject for another study, however.

2.6 Conclusion

Here, we return to the three suggestions made by the CAF Panel on MDB risk appetite policies. Starting from the third of these ("*Relocate specific numeric leverage targets from MDB statutes to MDB capital adequacy frameworks*"), our analysis shows that, for IBRD, the SLL is the constraint that would bind earliest if the bank expanded its lending. There would indeed, seem to be a strong case for abolishing the SLL and perhaps replacing it with a leverage constraint the level of which should be determined by the BoD. The limit might be set at a figure like that adopted by the EIB and AIIB (in the latter case, following a Super Majority Vote), i.e., 2.5. Without such a change, the headroom for IBRD lending, constrained by the SLL, is, according to our calculations, 45%.

On the first CAF Panel suggestion ("*Define risk appetites prioritizing shareholder-specified limits rather than external criteria*"), this amounts to advocating reduced emphasis on external views on MDB capital adequacy, most notably on those of the rating agencies. Implementing the full score cards of the three global rating agencies, Risk Control (2023) demonstrates the inconsistency of the evaluations provided by the three agencies for IBRD and IDA. As remarked above, IBRD's lending headroom with respect to the Moody's and Fitch ratings are in the region of 70-80%, whereas its headroom with respect to the Standard & Poor's rating is 152%.²³ The inconsistency of the rating agency methodologies is, in itself, an important finding meriting consideration by international financial policymakers. MDBs are public institutions operating under mandates provided by governments round the world. For their operations to be constrained by whichever of three inconsistent methodologies happens to bind the tightest is hard to justify.

The CAF Panel has been clear that they do not advocate a lowering in MDB ratings. However, for an MDB constrained by its ratings, placing more emphasis on *shareholder-specified limits rather than external criteria* could only lead to an increase in lending if, as the Panel suggests elsewhere in the Report, MDBs engage with the agencies to argue that they make greater allowance for PCT (thereby, presumably, relaxing rating constraints). Our analysis (based on 'industry-standard' approaches to capital adequacy rather than IBRD's and IDA's specific internal approaches) shows that the ratings constraints bind before a constraint based on internal capital adequacy. Hence, as far as the IBRD and IDA are concerned, advocating greater emphasis on internal limits is linked to the fourth recommendation on engagement with the rating agencies.

On the second CAF Panel recommendation ("*Ensure that MDB capital adequacy frameworks account adequately for preferred creditor treatment and the concentrated nature of MDB portfolios*"), the calibrations in Risk Control (2023) demonstrate how material adjustment for PCT is for evaluating capital adequacy.

3. Callable Capital Uplift

3.1 Introduction

This section looks at the CAF Panel's second recommendation on callable capital. Callable capital represents a large fraction of subscribed equity for many MDBs, IBRD and African Development Bank (AfDB) for example having substantial amounts. Some others, however, including IDA, have no callable capital at all.

²³ This comment is consistent with the conclusions of the note written by Risk Control for the CAF Panel (see Risk Control (2022b)). The latter note examined the lending headroom of a stylised MDB.



On callable capital, the CAF Panel report suggests that MDBs should:

Incorporate a prudent share of callable capital into MDBs' own calculation of capital adequacy, following the approach validated by all three credit rating agencies.

3.2 Debate on the Use of Callable Capital

The scope to rely more on callable capital has been widely discussed. Standard & Poor's (2016) argued that the 19 MDBs that they considered could collectively increase lending by \$1 trillion. According to Standard & Poor's 93% of this reflected the ratings uplift attributable to extraordinary shareholder support generated by callable capital.²⁴ Standard & Poor's identified five MDBs which could increase their exposure by 100%. Of these MDBs, for three the additional headroom was due to callable capital reserves while the other two had headroom attributable to their stand-alone credit status.

A limitation of the Standard & Poor's study is that it estimates lending headroom based on the methodology of one major credit rating agency only, whereas MDBs like IBRD are concerned to retain triple-A ratings from all three global rating agencies. Risk Control (2023) shows that for IBRD, the Moody's and Fitch ratings would bind much earlier than that of Standard & Poor's IBRD if the bank expanded its lending.

In any case, the suggestion of the CAF Panel is that MDBs allow for callable capital in their internal CAF processes. As shown in the last section, internal CAF considerations bind only after SLL and ratings constraints. If the SLL were to be abolished or relaxed and the rating treatment were to be altered for example by the agencies adopting a less conservative view of PCT, allowing for callable capital in internal CAF calculations could enable greater lending by MDBs.

The IBRD emphasises in its financial report that it has never called its callable capital and carefully explains the limitations on how it might be used. These statements are in line with comments frequently heard from MDB insiders that it is hard to manage the risk of an institutions on the basis that, in any even approximately normal eventuality, callable capital might be accessed.

Nevertheless, common sense suggests that promises from multiple sovereigns, some very highly rated, to provide significant capital in times of financial need, substantially increase the resilience of MDBs. Making allowance in internal risk management calculations, therefore, appears advisable.

It would be valuable to MDBs if the stakeholders' confidence that callable capital would be honoured by sovereigns could be increased. Steps might include making callable capital commitments mutual in the sense that if one shareholder refused to meet a call, the liability of others would increase. Also, if sovereigns would agree that MDBs could draw down on temporary pools of callable capital in crisis periods (as suggested in the CAF Panel's recommendation 3) not just when the MDB is in financial distress, this could create precedents and experiences for the use of callable capital, reinforcing confidence in these instruments as far as the market and ratings agencies are concerned.

3.3 IBRD Callable Capital

For IBRD, callable capital is very substantial. The total uncalled portion of IBRD's subscribed capital, i.e., \$287 bn (see IBRD (2022)) is more than five times the Total Equity (paid in, reserves and surpluses) available to the bank. Hence, allowing for callable capital could change internal capital adequacy calculations considerably.

To provide context, Table 3.1 summarises the breakdown of capital for the top 10 MDBs by exposure, showing the ratio of callable capital to Total Equity. For the 10 MDBs considered, the average ratio is 3.3. IBRD has a ratio of 5.2, while, for the Asian Development Bank (ADB), the ratio is 2.5. The only MDB among the top 10 MDBs which has a higher ratio than IBRD is African Development Bank (AfDB) with a ratio of 12.5.

²⁴ A key assumption of their study is all the other factors are unchanged.



Table 3.1: Capital Breakdown for 10 MDBs

Top 10 MDBs	Paid in Capital	Reserves	Total Equity (TE)	Callable Capital (% of TE)	Eligible Callable Capital (% of TE)
EIB	24,410	59,266	83,676	298%	90%
IBRD	20,499	34,821	55,320	518%	76%
IDA	257,777	79,109	178,668	0%	0%
ADB	7,095	47,119	54,214	248%	46%
IADB	11,854	26,019	37,873	435%	31%
IFC	21,749	11,056	32,805	0%	0%
EBRD*	6,839	15,541	22,380	116%	31%
AfDB*	7,788	4,418	12,206	1248%	379%
CAF	9,778	3,941	13,719	12%	0%
ISDB*	9,565	5,214	14,780	465%	0%

Note: The MDBs capital data is based on 2022 Annual Report and eligible callable capital is based on Standard & Poor's (2022d). Here reserves are the difference between TE and paid-in capital. Where the bank is marked with an asterisk (*), the data is taken from the 2021 Annual Report. All amounts are in USD Million based on 04/05/2023.

3.4 Callable Capital in Rating Agencies Methodologies

Before considering how MDBs might reflect callable capital in their CAFs, it is helpful to consider how the rating agencies adjust their ratings to allow for it.

1. Standard & Poor's

The Standard & Poor's approach may be summarised as follows. The agency's computes the Risk-Adjusted Capital (RAC) ratio as a key input to its Stand-alone Credit Profile (SACP). This RAC ratio equals equity resources divided Risk Weighted Assets (RWAs). To begin with, Standard & Poor's excludes callable capital from the equity resources that constitute the numerator of the ratio. The ratio is then fed through into a calculation of the SACP which in turn leads to a Financial Risk Profile (FRP).

As a second step, however, Standard & Poor's recomputes the RAC ratio with an eligible portion of callable capital included in the numerator. Depending on the value that the adjusted RAC ratio takes, the original FRP may be notched up to yield an enhanced FRP reflecting "extraordinary shareholder support". Callable capital is deemed to be eligible for this calculation if it is held by shareholders for which the foreign currency rating is equal or higher than the SACP letter grade. From the enhanced FRP, an indicative Issuer Credit Rating (ICR) is deduced.

The permitted amount of notching based on "extraordinary shareholder support" cannot exceed 3 notches. The adjustment depends on the MDB's policy importance. For an MDB assessed as having 'very strong' or 'strong' policy importance, the upgrade can be by up to three notches. If policy importance is lower, the permitted upgrade is just one notch. No notching is permitted for MDBs with 'moderate' or 'weak' policy importance.²⁵

This convoluted logic makes the rating benefits for an MDB of having a given amount of callable capital complex and highly dependent on both the rating of the equity holders and the policy importance of the MDB. The right hand two columns of Table 3.1 allow one to assess the fraction of callable capital that is eligible for the major MDBs. For AfDB and IBRD, the two institutions for which callable capital is most significant, the fractions are 30% and 15%, respectively.

2. Moody's

For Moody's, callable capital contributes to the MDB rating through the sub-factor "Willingness to Support". This contributes 25% to a higher-level qualitative adjustment factor "Strength of Member Support". This factor can increase the adjusted Intrinsic Financial Strength (IFS) by between one and three

²⁵ See paragraphs 92 to 98 in Standard & Poor's (2022a).



notches. The financial ratio used to determine the sub-factor is the ratio between callable capital to total (gross) debt.²⁶ The sub-factor “Willingness to Support” may be adjusted based on the enforcement mechanisms and the likely time required to disburse the capital in place in the event a call occurs.

3. Fitch

For Fitch, callable capital feeds via two mechanisms, first, into the Stand-alone Credit Profile (SACP) and, second, into the determination of shareholder support. On the first mechanism, Fitch includes 10% of the callable capital from “AAA/AA” shareholders towards the calculation of shareholders equity in the “Usable equity Capital-to-Risk-Weighted Assets” ratio. On the second mechanism, having calculated the SACP, the agency may adjust this positively by up to three notches depending on its assessment of “MDBs Extraordinary Support”.

“MDBs Extraordinary Support” is decided by looking, first at “Capacity to Support” on a scale of aaa to d which is influenced by the “Average rating of key shareholders” and the “Coverage of net debt by callable capital”²⁷. The “Capacity to Support” is then adjusted (by between +1 and -3 notches) for “Propensity to Support”. “Propensity to Support” depends on five qualitative questions (i) Importance of MDB, (ii) Frequency of capital increases, (iii) Ratio of paid-in capital to callable capital (iv) Coverage of callable capital, and (v) Enforceability of capital call.²⁸

Hence, the volume of callable capital affects the final rating through:

1. The “Usable equity Capital-to-Risk-Weighted Assets” which feeds into the SACP and
2. “MDBs Extraordinary Support” where there are two sub-effects, namely via “Capacity to Support” and “Propensity to Support”.

To avoid double-counting, if callable capital leads to an increase in the SACP, then the callable capital included in the numerator of the “Usable equity Capital-to-Risk-Weighted Assets” is deducted from the callable capital used in the “Coverage of net debt by callable capital”.

Of the three agencies, the Standard & Poor’s is the closest to counting some part of callable capital as equity resources. The treatments adopted by the other two agencies are consistent with callable capital being a qualitative indicator of shareholder support rather than a source of loss absorption.

3.5 Implications of IBRD’s Callable Capital

How might IBRD and IDA include callable capital in their risk appetite decisions? It would be impractical for MDBs to take a view on the support they enjoy from their shareholders as part of their risk management. So, the Moody’s and Fitch approaches are not obviously useful as an approach. The most straightforward approach would be to follow the Standard & Poor’s approach of regarding some part of callable capital as ‘eligible’ as far as internal capital adequacy calculations are concerned. Note that the CAF Panel does not directly advocate this approach, but it does seem to be the most practical way of “*Incorporating a prudent share of callable capital into MDBs’ own calculation of capital adequacy*”.

Risk Control (2023) presents calculations of the CAF in which equity resources consist of Total Equity plus eligible callable capital in the Standard & Poor’s sense, i.e., callable capital held by sovereign shareholders for which the foreign currency ratings are equal or superior to that of the MDB. Since the MDBs we study are triple-A rated, this requires that the sovereigns themselves are rated similarly. Risk Control (2023) shows that (as shown in Figure 3.1), the lending headroom increases from 147% to 336% for IBRD. This reflects the fact that eligible callable capital is around 75% of Total Equity (see Table 3.1).

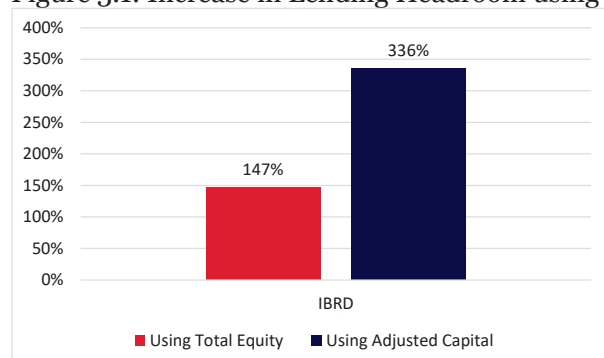
²⁶ See Moody’s (2020).

²⁷ The ‘Coverage of Net Debt by Callable Capital’ is calculated by cumulating the callable capital from highest rated shareholder downwards until the callable capital accumulated equals the net debt. The rating of the last country included is considered the capacity to support.

²⁸ See Fitch (2022b).



Figure 3.1: Increase in Lending Headroom using Callable Capital



Note: 'Total Equity' is the sum of paid in capital and reserves and 'Adjusted Capital' equal to the sum of Total Equity plus eligible callable capital.

3.6 Conclusion

This section focusses on the CAF Panel suggestion that MDBs allow in their internal capital adequacy assessments for the potential risk bearing capacity provided by callable equity.

To allow for callable capital in internal bank CAFs, the most obvious and straightforward approach would be to follow Standard & Poor's by tracking a CAR in which the numerator includes eligible callable capital. As we note above, this would increase IBRD's CAR lending headroom from 147% to 336%. The results of Section 2 nevertheless suggest that this would only increase IBRD's overall lending headroom to the extent that SLL and rating constraints also be relaxed.

4. Innovations to Strengthen Lending Headroom

4.1 Introduction

This section examines the suggestions of the CAF Panel related to the use by MDBs of innovations in their capital management to boost lending.

On Innovative Capital Management, the CAF Panel report suggests that MDBs should:

1. *Endorse MDB consideration of non-voting capital classes (paid-in equity or hybrid) to contribute to available capital.*
2. *Scale up the transfer of risks embedded in MDB loan portfolios to private sector counterparties by accelerating the development of funded and unfunded instruments.*
3. *Encourage shareholder guarantees of sovereign repayments on loans related to cross-cutting priorities.*
4. *Support collective shareholder commitments of temporary pools of callable capital to help MDBs mount strong countercyclical responses in periods of global or regional crisis.*
5. *Call on MIGA and MDBs to collaborate on transferring portfolio risk from MDB balance sheets through MIGA's insurance products and reinsurance capability.*
6. *Explore ways of providing MDBs with access to central bank liquidity, including pooled agreements under the supervisory umbrella of one central bank.*

4.2 Hybrid Capital

MDBs could also focus on increasing the capital available through non-traditional capital instruments such as incorporating private sector as shareholders, issuing non-voting capital and other form of hybrid capital. The CAF Panel report argues MDB shareholders would find non-voting capital attractive which increases the capital resources without diluting the voting structure.

MDBs that are currently considering the use of hybrid capital are AfDB and IDB. The two banks have approached the International Monetary Fund (IMF) with a proposal to issue hybrid capital backed with loans of Special Drawing Rights (SDRs). The SDR loans would be loss absorbing if leverage ratios (assets to equity ratios) of the issuer bank exceeded agreed trigger levels. The proposed use of recycled SDRs would allow donor governments to earn profits on their SDRs while boosting the lending capacity of the MDBs.



Different forms of non-voting equity (including hybrid capital) can be helpful to MDBs if some shareholders are open to contributing additional equity while others are reluctant to see their voting equity diluted while being unwilling to participate in a capital increase themselves. In the current post-COVID-19 situation with many governments concerned about their fiscal balances, such issues of dilution appear to be less relevant for the IBRD and IDA. All major shareholders are currently guarded in their willingness to commit equity resources. On the other hand, the SDR-backed hybrid capital proposal of the AfDB and IDB represents a possibility of accessing substantial loss-absorbing capacity and without placing a significant burden on shareholders. It, therefore, appears to have substantial potential for loosening constraints on MDBs.

If the WBG lenders were to participate, this might increase the potential scale of the resources available to others as one of the constraints or challenges in implementing the AfDB-IDB proposal is that of putting in place liquidity facilities that will maintain the Reserve Asset Status (RAS) of the SDRs that donors would commit. In brief, participating MDB Member Countries (MCs) would have to agree to replace the SDRs lent to the MDBs if one of the participating donors experienced a balance of payments crisis and needs to retrieve the SDRs that they have lent. The more countries that participate in the scheme the better for providing such back-stop liquidity.

The World Bank has recently announced that it is considering the use of hybrid capital, as reported in World Bank (2023c). Different MDBs are likely to be tapping the same donor governments for hybrid capital in coming years. Participation by the World Bank lending institutions in the proposal for SDR-backed hybrid capital could help to open for MDBs a source of capital on an altogether different scale.

Box 4.1: How hybrid capital is treated in rating agency methodologies.

1. Standard and Poor's

The agency assigns hybrid capital issues to depending on their 'equity content'. Specifically, hybrid capital may be high, intermediate or no equity content (see Standard & Poor's (2022b) for detailed guidelines). The assessment is primarily based on the terms and conditions of the security. The underlying factors considered by the agency are:

- The instrument's ability to absorb losses or conserve cash, if and when needed.
- The instrument's availability to absorb losses or conserve cash for a sufficiently long period.

2. Moody's

This agency follows a different approach which depends on whether the issuer is investment-grade or speculative-grade. (See Moody's (2018) for detailed guidelines) Moody's takes account of:

- The instrument's ability to absorb losses or provide financial protection for a 'going' concern and/or 'gone' concern. An instrument which can absorb losses for going concerns are treated as having higher equity content than those that absorb losses only for 'gone' concerns.
- The instrument's availability to absorb loss when needed.

3. Fitch

This agency deems that the equity content for a hybrid capital is 0%, 50% or 100% (see Fitch (2022b) for detailed guidelines on hybrid capital). Eight criteria are used to determine the equity content and five additional criteria for convertible type hybrid securities. The eight factors are as follows:

- | | |
|--|---|
| • Instrument must be subordinated to all senior debt and senior only to equity. | • Instrument's unconstrained ability to defer or omit coupons for at least 5 years before effective maturity. |
| • Instruments shall not have any events of default or have limited events of default. | • Fitch performs a qualitative assessment of permanence based on legal obligations, incentives, covenants, and analytical discussion with management. |
| • Covenants that lead to acceleration of prepayment of the hybrid notes lead to 0% equity content. | • Redemption options |
| • The instruments shall be perpetual or have a remain effective maturity not less than 5 years. | • Share of hybrids in capital structure |

The AfDB and IDB have expressed confidence that their SDR-backed hybrid capital can be structured to obtain favourable treatment by the agencies.



4.3 Risk Transfer to the Private Sector

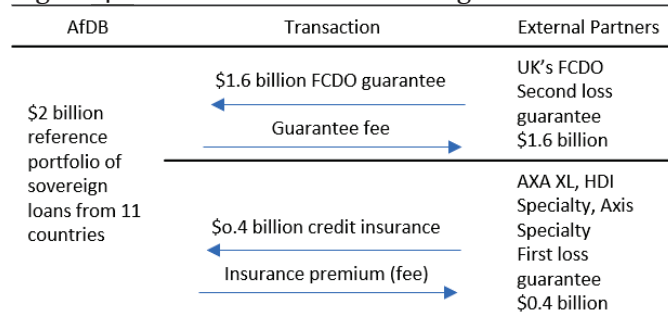
Risk transfer permits a bank, whether in the public or private sector, to boost the size of its lending without taking on more risk and, hence, without demanding additional equity resources. Commercial banks in Europe and North America have been actively involved in risk transfer through the European ‘Significant Risk Transfer’ market and the North American ‘Credit Risk Transfer’ market. The use of Synthetic Securitisations through which either funds or insurers provide credit protection to banks has become widespread, particularly in Europe.

MDBs have been experimenting with a range of different risk transfer instruments. In 2015, AfDB, IDB and IBRD engaged in an Exposure Exchange Agreement (EEA). ADB participated subsequently in 2020. Such deals of course leave loan risk on the collective balance sheets of MDBs but still loosen capital adequacy constraints on MDBs by allowing them to diversify.

For MDBs, a step beyond exposure exchanges is to consider transferring risk outside the MDB sector itself. In particular, the use of risk transfers to mobilise loss bearing capacity from the private sector has been widely discussed. In its 2015 advice to MDBs on Balance Sheet Optimisation (BSO), the G20 advocated that MDB consider engaging in structured finance transactions of non-sovereign loans to private sector investors.²⁹ In this context, the G20 was careful to advocate such transactions only in the case of “non-sovereign operations”. The CAF Panel report goes beyond this by suggesting risk transfers on “MDB loan portfolios,” more generally, i.e., including both sovereign and non-sovereign loans.

Transfers of risk to the private sector have been pioneered by the AfDB which in 2018 implemented the Room2Run (R2R) transaction. Risk Control (2019) describes this transaction in detail. The original R2R, in line with the G20’s recommendation, involved a transfer of risk on a portfolio of non-sovereign loans. The AfDB has now followed up, in October 2022, with a R2R Sovereign (R2RS) transaction involving a risk transfer of sovereign loans to a combination of private sector investors and a donor government via a synthetic risk transfer. R2RS transferred risk on \$2 billion from portfolio of sovereign loans from 11 countries to three London-based private insurers and the UK’s Foreign, Commonwealth and Development Office (FCDO). Information on the transaction is provided in Figure 4.1. The AfDB intends to deploy the ‘freed up’ capital to boost its lending associated with climate-related projects.

Figure 4.1: AfDB Room2Run Sovereign Risk Transfer Structure



Note: The table is reproduced from Humphrey (2022).

When MDBs engage in risk transfer, a key issue is the pricing of the credit protection obtained. MDBs lend to sovereigns at low spreads. These can be regarded as ‘fairly valued’ if the credit performance is superior, either because of well-selected and monitored lending in the case of non-sovereign financing or because of Preferred Creditor Treatment, in the case of sovereign loans. AfDB charges 0.80% on its sovereign loans and the combined cost of risk transfer was below 0.25% (see Humphrey (2022)), leaving a relatively large fraction of the spread income to cover administrative and other costs for the bank. This may reflect subsidised cover from FCDO, but certainly private sector participants would have to accept the strength of the AfDB’s PCT for the transaction to be viable.

²⁹ See fourth measure to increase lending through BSO in G20 (2015) documents “MDBs should evaluate a full range of instruments that share risk in their non-sovereign operations with private investors, including syndications, structured finance, mezzanine financing, credit guarantee programs, hedging structures and equity exposure.”

In this section, we assess the constraints that might limit the scope for risk transfer by IBRD and IDA. The analysis reproduces approaches and results described in our associated technical paper Risk Control (2023). We focus on synthetic risk transfers involving portfolios of sovereign loans. For concreteness, we consider transactions comparable to the AfDB’s R2R transaction (see Risk Control (2019)). While the precise structure could be adjusted, we suppose, for simplicity, the same tranching as in R2R and that the MDB in each case retains the Junior and Senior tranches. The Mezzanine tranche is transferred to external institutions or investors.

For IBRD and IDA, we analyse the effects on lending headroom of risk transfers involving two portfolios that we label (i) Portfolio A with weighted average rating of the portfolio like that of the bank in question and (ii) Portfolio B with weighted average rating of the portfolio worse than that of the bank. The portfolios are constructed to equal in EAD 10% of the total portfolio of the two individual lenders. We assume that the MDB in question retains the Senior and Junior tranches while transferring the Mezzanine tranche (of thickness 25.25%). We suppose that, applying the Standard & Poor’s approach to rating senior retained tranches in an MDB risk transfer, the retained senior tranche can be rated no higher than single A.

The lending headroom due to risk transfer based on credit rating analysis is calculated through a two-step process. First, we calculate the reduction in the adjusted credit RWA after risk transfer compared to the same quantity in the base case. Second, by calculating the percentage increase in the net outstanding loans for the portfolio with risk transfer that would lead generate the same adjusted RWAs as in the base case.

Table 4.1: Lending Headroom due to Risk Transfer based on Credit Rating Analysis

Securitisation Scenario	IBRD		IDA	
	Headroom	Gross value	Headroom	Gross value
Portfolio A	3%	6,323	16%	27,757
Portfolio B	6%	12,758	13%	23,390

Note: Blue shade indicates the portfolio that leads to maximum lending headroom. Lending headroom is expressed in percent of net outstanding loans of respective institutions. The gross values are in USD millions.

Table 4.1 shows the additional amount that the institution could lend following a risk transfer before its Standard & Poor’s RAC ratio equals the value it had before the risk transfer. This additional lending headroom is low for IBRD compared to IDA for similar amount of risk transfer in that, for IBRD the risk transfer generates only an additional 3% for portfolio A and 6% for portfolio B, while for IDA it leads to 16% and 13% for the two portfolios. The difference reflects the fact that IBRD makes loans to higher rated countries. The risk transfer is less effective in this case. The best outcome for IBRD is the 6% it can achieve with portfolio B.

Table 4.2: Economic Capital Gain from Risk Transfer

Securitisation Scenario	IBRD		IDA	
	in %	Gross value	in %	Gross value
	Reduction in required EC	Reduction in required EC	Reduction in required EC	Reduction in required EC
VAR at 1bp - risk transfer of portfolio A	12%	2,669	11%	3,134
VAR at 1bp - risk transfer of portfolio B	18%	4,054	13%	3,515

Note: Blue shade indicates the portfolio that leads to maximum reduction in EC. The percentage reported is in terms of the base case VAR amount without risk transfer. The gross values are in USD millions.

In Table 4.2, we show the reduction in economic capital (EC) for IBRD and IDA when they securitise their respective portfolios A and B. We find that risk transfer reduces the EC substantially if the securitised portfolio is riskier. For IBRD the reduction in required EC is 12% for portfolio A and 18% for portfolio B. For IDA, the reduction in EC turns out to be 12% for both portfolio A and B (see Table 4.2).

The above discussion suggests that there is scope for IBRD to complete risk transfers as have been implemented by AfDB. An obstacle, however, is the rating methodologies of Fitch and Moody’s that emphasise leverage-type ratios (although Fitch also has a risk weighted asset calculation as part of its capital adequacy assessment).

Unless the risk transfer also helped to reduce leverage, it would seem to be ineffective for IBRD in relaxing rating constraints.

4.4 Shareholder Guarantees

The Panel recommends that shareholders provide targeted guarantees on loans aimed for specific purposes. In this context, the CAF panel report mentions two shareholders guarantees (i) The International Finance Facility for Education (IFFEd), and (ii) Asian Development Bank’s Energy Transition Mechanism (ETM).

- IFFEd works by requiring the contributors to pay 15% of their guarantee as paid-in capital and the rest 85% as contingent commitment if loans default. According to IFFEd (2023) a \$0.15 paid in capital triggers a \$4 in MDB lending amounting to a 27x leverage. Thus, with a contribution of \$40 million paid-in capital mobilizes \$1 billion in financing for education.
- Currently ADB’s ETM hopes to finalize the project “The Cirebon MOU” by the end of 2023, which will be financed through blended structure including concessional capital and ADB’s Private Sector Operations Department.

Guarantees for targeted purposes can provide MDBs with pools of risk-bearing capacity, allowing donor governments with specific development preferences to facilitate greater MDB lending. This is complementary and distinct from more general capital resources that a donor might be willing to provide where it leaves the MDB to decide what the development priority is. Like non-voting equity, such instruments also allow willing donors to provide resources without diluting the control rights of Member Countries that are unwilling to participate in a general capital increase.

The examples provided in the Panel report are reasonable but the key area in which targeted risk bearing capacity is a live issue is that of climate-related lending by MDBs. The ADB has recently announced a possible donor-government guarantee for a pool of loans. The capital freed-up would be devoted to green projects. Given current priorities in development, the scope for substantial targeted interventions by donor governments operating through MDBs appears very large indeed. A challenge in this, which is faced by participants in green finance more generally (i.e., including in Developed Country asset managers and commercial banks) is the recording and auditing of the climate benefits that the financing generates.

Once again, an issue remains whether, for IBRD, the constraint provided by ratings based on methodologies that emphasise leverage would be relaxed by such transactions. The guarantees in question would have to cover a substantial portion of the par value of the loans involved for the transaction to be effective in relaxing leverage-related constraints like the Moody’s and Fitch rating constraints. In any case, IBRD is considering first loss shareholder guarantees, as reported in World Bank Group (2023c).

4.5 Temporary Pools of Callable Capital

The Panel report suggest that MDBs and their shareholders institute temporary pools of callable capital to help MDBs mount strong countercyclical responses in periods of global or regional crisis. It is true that MDBs aim to ‘lend into crises’ in the sense of providing resources for Borrower Member Countries (BMCs) when they are most in need. This is typically in line with MDB mandates and, also, serves as an important motivation for BMCs to provide MDBs with PCT.

Table 4.3: Summary for MDB Facilities for Vaccine Procurement

MDB	Resources set aside for vaccine facility (\$ billion)	Resource committed(\$ billion)	% of commitment
IBRD (SPRP)	10	2.4	24%
IDA (SPRP)	10	1.7 (Grants), 1.6 (Loans)	33%
ADB (APVAX)	9	0.1 (Grants), 1.6 (Concessional loans), 0.6 (Non-concessional loans)	25%

Note: The table is reproduced from Hart et al. (2021). The commitment is updated till 30th September 2021. SPRP denotes Strategic Preparedness and Response Program, APVAX denotes Asia Pacific Vaccine Access Facility.

It is instructive to examine how MDBs responded to COVID-19 and what support was provided by shareholders. The World Bank (IBRD and IDA) and ADB cumulatively announced a \$29 billion (see Table 4.3) commitment for acquiring vaccines for the COVID-19 crisis. The World Bank equally distributed \$20 billion between IBRD (non-concessional lending) and IDA (concessional lending). Similarly, ADB allocated \$9 billion to support the procurement and distribution of the vaccines.

In fact, there was relatively poor take-up of the MDB facilities, as one may observe from Table 4.3. MDBs may be ill-equipped to respond to fast-moving and short-term, crisis-related needs.³⁰ The strength of MDBs is likely to be to assist countries in accessing capital resources when the broader economic landscape makes these scarce or when the country in question or the region in which it is located experience a negative shock.

4.6 Risk Transfer to and via MIGA

What scope is there for Multilateral Investment Guarantee Agency (MIGA) to assist MDBs, as the Panel’s report suggests, by taking on their credit exposure or reinsuring it in the broader insurance market?

MIGA operates in the specialist area of Political Risk Insurance (PRI). This provides cover against a set of for classic ‘perils’ namely Breach of contract, Appropriation, Inconvertibility, and War and Civil Disorder. These are associated with sovereign default but are somewhat different with even lower claim levels. Just like MDBs, SMIs benefit from PCT. Typical claim levels on SMI-provided PRI are a few basis points per annum while those recorded by Berne Union members more generally are 6 or more times higher.

Of the four Specialised Multilateral Insurers (SMIs) operating globally, MIGA is the only one to be almost exclusively engaged in providing PRI. The other three, the Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC) (which is substantially owned by the Islamic Development Bank (IsDB)), the African Trade Insurance Agency (ATI) (part owned by AfDB), and the Arab government and financial institution owned Dhaman, have differing mixtures of PRI and Trade Credit Insurance (TCI).

There are already precedents for SMIs participating in MDB risk transfers in that ATI took part in an insurance-based risk transfer by AfDB that the bank effected before its R2R deal and since that date has reportedly been involved in other MDB risk transfer transactions.

Table 4.4: Historical Capital Summary of MIGA

	FY22	FY21	FY20	FY19	FY18
Net Exposure	8,991	9,134	9,192	8,295	7,878
Insurance Portfolio Reserve (Net)	238	250	256	222	210
Retained earnings and AOCL	1,173	1,108	969	954	895
Paid-in capital	366	366	366	366	366
Operating Capital	1,777	1,724	1,591	1,542	1,471
Operating Capital/ Net Exposure	20%	19%	17%	19%	19%

Note: The source is MIGA (2022). AOCL denotes Accumulated Other Comprehensive Loss.

Key to understanding the scope for MIGA to work with MDBs on risk transfer is to examine its available capital. Table 4.4 shows MIGA’s Operating Capital (reserves, retained earnings and paid-in capital) for the years 2018-22. This is modest at less than \$2 billion and the capital to exposure ratio is just 20%. MIGA can operate successfully with a high leverage because, while MIGA is unrated (and not subject to rating agency trade credit criteria which emphasise leverage), bank exposures to MIGA enjoys a zero risk under Basel rules.³¹

³⁰ Hart et al. (2021) argues that there are four reasons why there was limited demand from the Low- and Middle-Income Countries (LMIC). The reasons are as follows: (i) the initial demand was low due to underestimation by LMIC, (ii) LMICs had already purchased from other sources, (iii) the initial design of the facility was unattractive by LMIC, and (iv) LMICs could be reluctant to finance vaccine purchase through borrowing.

³¹ See CRE20 paragraph 20.14, footnote 8 in BCBS (2023). The footnote states “MDBs currently eligible for a 0% risk weight are: the World Bank Group comprising the International Bank for Reconstruction and Development, the International Finance Corporation, the Multilateral Investment Guarantee Agency and the International Development Association, the Asian Development Bank, the African Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, the European Investment Bank, the European Investment Fund, the Nordic Investment Bank, the Caribbean Development Bank, the Islamic Development Bank, the Council of Europe Development Bank, the International Finance Facility for Immunization, and the Asian Infrastructure Investment Bank”



For MIGA to provide cover for MDB credit risk on a substantial scale without ceding it to reinsurers would likely require additional capital. Of course, MIGA might cede the exposure using its network or reinsurers. If this were to be done on a large scale, however, the MDB in question might choose to tap the reinsurance market itself through direct insurance arrangements.

The most interesting possibility would be that MIGA and indeed the other SMIs either individual or collectively create a channel of MDB loans to the insurance market. Doing this on a substantial scale would require investment, capacity building and, probably, some additional capital contributions for the SMIs.

4.7 Central Bank Liquidity

The CAF Panel report's final sub-proposal within its third suggestion of innovation was that MDBs explore help by relaxing rating constraints ways of accessing central bank liquidity. This would serve most to reduce rating constraints in that rating agency methodologies treat MDBs rather too like commercial banks, the business models of which collapses as soon as liquidity is scarce.

The European Investment Bank (EIB) is the one prominent MDB that benefits from accessing central bank liquidity, in its case from the European Central Bank (ECB). The advantages that this confers on EIB are acknowledged in the rating agency reports. Standard & Poor's acknowledges EIB's access to ECB which could benefit it in a crisis period (see Standard & Poor's(2022c)). The Moody's methodology includes the ratio of liquid assets to net outflows as an indicator of liquidity. On this, EIB scored "a3" which is lower than other regional MDBs. (For IBRD, it is aa3, for ADB and AfDB "a2". The agency adjusts up the EIB liquidity score by 3 notches because of the access to ECB funding, resulting on an adjusted liquidity score of "aa3" (see Moody's (2022)). Fitch allows for uplift in its liquidity assessment of up to 6 notches (i.e., two rating categories) if an MDB has access to a central bank refinancing windows (see Fitch (2022b)). This permits EIB to maintain a lower liquidity ratio at 120 compared to IBRD's value of 195 (see Fitch (2022a)).

Thus, EIB benefits from having access to a central bank in improving the liquidity assessment by the rating agencies and hence can maintain a less liquid balance sheet without impairing its "AAA" rating. The EIB, as a central financial institution within the 'European project', enjoys an unusual position. However, for a central bank to be willing to provide liquidity, there would have to be some strong political impulse or motive. For the IBRD or IDA, with their widely dispersed shareholding, this appears difficult. The IMF might be a source of liquidity for MDBs including its sister Bretton Woods organisations but, in our understanding, this has been considered in the past and rejected by the Fund as a possibility.

4.8 Conclusion

This section considers the scope for IBRD and IDA to act upon the CAF Panel's recommendations that innovative steps be taken in Balance Sheet Optimisation. Of the steps considered, in the absence of changes in the ways ratings agencies evaluate MDBs, the most promising for these institutions appears to be hybrid capital and shareholder guarantees.

The former might follow recent proposals by the AfDB and IDB of issuing SDR-loan-backed hybrid capital. The latter could play a role for climate-related lending, but they would have to cover a substantial fraction of the par value of the underlying loans to help in relaxing rating constraints implied by the Moody's and Fitch MDB ratings methodologies which emphasise leverage-style ratios.

5. Rating Agency Assessment of MDBs

5.1 Introduction

This section covers the adjustment by the credit rating agencies to incorporate Preferred Creditor Treatment (PCT) for MDBs.

On Improving Credit Rating Agency Assessment of MDB Financial Strength, the CAF Panel report suggests that MDBs should:

1. *Strengthen communication of G20 members and other shareholders to inform rating agency views of MDBs with respect to the importance of MDBs and shareholder support.*
2. *Rating agencies can take steps to strengthen their MDB evaluation methodologies.*



3. *Rating agencies and MDBs should work together to develop common standards for evaluating the risk weights of ESG-related assets on MDB balance sheets.*

We focus here on the degree to which agency methodologies reflect PCT but there are other aspects of the approaches the agencies take that merit investigation and consideration. A finding of Section 2 is that the rating agency methodologies applied to MDBs exhibit very substantial inconsistencies. The two MDBs are constrained to very different degrees by the agencies.

This exemplifies the fact that the more risk sensitive Standard & Poor's methodology constrains MDBs with lower quality portfolios (IDA), while the less risk sensitive approaches of Moody's and Fitch, which emphasise leverage style measures, constrain MDBs with higher rated loan portfolios. MDBs and rating agencies, may wish to consider whether rating agency approaches could be made more comparable.

As well as the broad consistency of ratings or the lack of it, there are many specific areas of MDB ratings approaches that might be questioned or re-examined. These include the rating agency treatment of retained tranches of MDB risk transfers. The standard rating agency treatment of securitisations when applied to MDB transactions makes no allowance for PCT. Standard & Poor's has introduced a work-around for this but this has its own issues, as discussed in Galizia, Perraudin, Powell and Turner (2021).

Equally, rating agency treatment of equity exposures held by MDBs can be exceedingly conservative. The risk weights employed in the Standard & Poor's Risk Adjusted Capital Framework (RACF) commonly imply a much higher capital burden than, for example, Basel rules would imply. This issue is highly material to MDBs with a specialisation in non-sovereign operations, notably EBRD, IFC and IDB Invest.

The treatment of Single Name Concentration (SNC) employed by Standard & Poor's may be seen as inappropriate for MDBs which tend to have significant such concentration. The S&P approach employs an asymptotic approximation calibrated for much lower SNC than is common in MDBs. This point is developed in Perraudin and Powell (2016) which also discusses Standard & Poor's approach to PCT.

As a final example, one might question whether the treatment of liquidity within the MDB rating methodologies is commensurate with the true risks that these institutions face. Commercial banks, even though they may have access to central bank liquidity unless most MDBs, are far more vulnerable in their business models than are MDBs. The rating agency treatment of MDB liquidity which is inherited to a degree from the ways the agencies rate commercial banks may be viewed as incommensurate in this regard.

5.2 PCT Treatment in Rating Agencies' Methodologies

To explain how PCT is reflected in the agency ratings of IBRD and IDA. There is one common treatment across the top three credit rating agencies for PCT is to notch up the ratings of the borrowing countries, such that the average rating of the borrowers improves. If one considers the best-case scenario which is applicable for IBRD and IDA, (i) Standard & Poor's uplifts the average rating by 4 notches, (ii) Moody's uplifts the average rating by 1 notch and (iii) Fitch uplifts the average rating by 3 notches.

In what follows, we assess what the ratings of the IBRD and IDA would be without PCT. This involves adjusting the assumptions differently for each rating agency.

1. Standard & Poor's

The RAC ratio for IBRD originally is 25.9%. Under the assumption of a no-PCT adjustment the RAC ratio decreases to 11.4% which would be a deterioration of the "Capital Adequacy" from "Extremely Strong" to "Very Strong." The enhance RAC ratio which is calculated including eligible callable capital declines only from 45.7% to 37.7%. Hence, there is no change in the "Enhanced Capital Adequacy."

PCT also plays a role in the policy importance which deteriorates from "Very Strong" to "Adequate." This implies a deterioration of the "Enterprise Risk Profile" from "Extremely Strong" to "Strong," which leads the Stand-Alone Credit Profile to deteriorate from AAA to AA+.

For the IDA, the RAC ratio is 68.8% but decreases to 43.4% when PCT is omitted. Capital adequacy remains "Extremely Strong." The "Enterprise Risk Profile" deteriorates (just as it does for IBRD) from "Extremely Strong" to "Strong." But there is no deterioration in the overall rating.

Box 5.1: PCT in the MDB rating methodologies of Standard & Poor's, Moody's, and Fitch.

1. Standard & Poor's

Standard & Poor's employs PCT assessment in two aspects of the credit rating methodology: (i) Enterprise risk profile and (ii) Financial risk profile. In the Enterprise risk profile PCT is part of policy importance assessment using arrears ratio on a five-point scale. In the Financial risk profile, it is the PCT adjustment to the Risk-weighted Assets (RWAs) on a three-point scale.

First the countries are assigned to arrears categories based on historical arrears data:

- If a country has not been in arrears for the past 10 years, it is assigned to arrears category 1. This corresponds to a factor of 0%.
- If a country has been in arrears sometime in the past 10 years, or Standard & Poor's expects the country to enter arrears soon, it is assigned to arrears category 2. This corresponds to a factor of 25%.
- If a country is currently in arrears, it is assigned to arrears category 3. This corresponds to a factor of 100%.

The sum of sovereign exposures weighted by the respective factors is expressed as a ratio to the MDB's total outstanding sovereign exposure. This yields the arrears ratio used in the enterprise risk profile.

In the calculation of the RWAs adjustment due to PCT from sovereigns, Standard & Poor's applies a rating uplift to countries depending on their arrears category. The uplift is four notches for countries in arrears category 1 and two notches for countries in arrears category 2. There is no uplift for countries in arrears category 3. The rating uplift does not apply to exposures to local governments.

Finally, PCT also influences the Single Name Concentration (SNC) adjustment applied to the RWAs. The LGDs used to calculate the concentration are derived from the PCT assessment scale, LGDs range from 10% (Very Strong PCT) to 45% (Weak PCT) (see Standard & Poor's (2022a)).

2. Moody's

In the calculation of the development asset credit quality sub-factor which accounts for 10% in the scorecard, Moody's incorporate the PCT status enjoyed by the MDBs by uplifting the weighted average rating of the borrowers by one notch (e.g., from B to Ba). This uplift is applied only when there are no historical arrears and the MDB is paid despite the sovereign defaulting to other creditors (see Moody's (2020)).

3. Fitch

In the calculation of the average rating of the outstanding loans and guarantees for the MDBs, Fitch adjusts upwards the average rating based on their assessment of historical preferred treatment and the share of sovereign lending. For a high share of sovereign lending the uplift in notches is as follows: (i) +3 for 'Excellent' evaluation, (ii) +3 for 'Strong' evaluation, (iii) +2 for 'Moderate' evaluation and (iv) +1 for 'Weak' evaluation (see Fitch (2022b)).

2. Moody's

The Preferred Credit Status (PCS), as Moody's refer to PCT, is incorporated qualitatively into the Development Asset Credit Quality (DACQ) factor of the rating. For both IBRD and IDA, assuming no PCS does not imply a material change in the DACQ or, therefore, in the final rating.

3. Fitch

For IBRD, the Weighted average rating of loans and guarantees drops from BBB to BB. The Fitch Usable Capital to Risk Weighted Assets ratio falls from 53.7% to 37.4%. This deterioration does not represent a change in any of the factors that compose the final rating.

IDA does not have a Fitch rating, but we can compare the PCT effect by estimating Fitch rating without the PCT adjustment. The Weighted Average Rating of loans and guarantees falls from B+ to CCC+. The usable capital ratio drops from 103.8% to 91.2%. This would not imply any material change in rating.



5.3 How PCT Affects Capital Adequacy as Measured by a CPM?

We estimate the PCT effect of IBRD and IDA using a Credit Portfolio Model (CPM) by Risk Control. Table 5.1 summarizes the effect of including PCT on the economic capital (EC) based on Value at Risk (VaR) and Expected Shortfall (ES) capital measures at 1 basis point confidence interval (see Risk Control (2023)). The PCT adjustments draw on analysis Risk Control performed for the G20 CAF Panel, see Risk Control (2022a). This showed that PCT reduces LGD means and PDs compared to the values one may estimate using public bond market data each by more than 3 times.

The 1-year horizon, 1 basis point VaR capital estimate, inclusive of stochastic LGD risk, for IBRD is \$17.7 bn. This estimate employs parameters (PDs and mean LGDs) adjusted for PCT. When non-PCT-adjusted parameters are employed, the estimate rises to \$62.4 bn.

Table 5.1: Effect of PCT on IBRD and IDA

	IBRD			IDA		
	With PCT	Without PCT	PCT Effect	With PCT	Without PCT	PCT Effect
VaR 1bp	17,738	62,371	72%	22,213	72,117	69%
ES 1bp	21,101	73,359	71%	24,816	78,497	68%

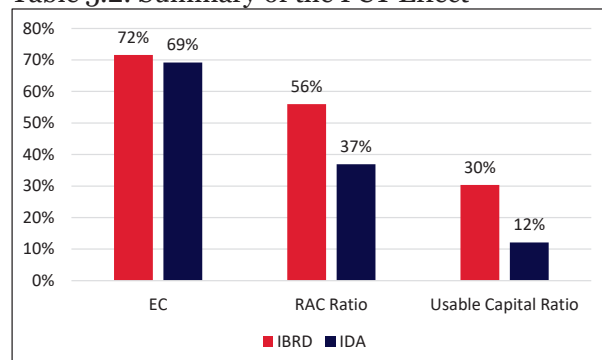
Note: The unit of EC is in USD Million. The EC is based on stochastic LGDs which is conservative to non-stochastic LGDs. PCT effect is the 1 minus the ratio of EC With PCT to Without PCT.

Turning to the results for IDA, on finds from Table 5.1 that the 1 basis point, 1-year-horizon VaR-based capital estimate inclusive of PCT and LGD risk is \$22.2 bn which rises to \$72.1bn without PCT. The “PCT Effect” which is the percentage reduction in the quantitative metric from the base case of not including the PCT compared to including PCT. According to the CPM, we get PCT effect of around 70% for IBRD and IDA which is substantial compared to what the rating agencies account for in their methodologies.

5.4 Conclusion

This section focusses on the ways in which rating agencies reflect PCT in their assessment of MDBs. This is only one of the areas in which MDBs and international financial policymakers might seek to engage with rating agencies, as suggested by the CAF Panel. The broadest concern relates to the inconsistency of agency assessments of MDBs which is underlined by the findings of Section 2.

Table 5.2: Summary of the PCT Effect



Note: The effect of PCT is measured as 1 minus the ratio of Economic Capital (EC) with PCT to EC without PCT. EC with PCT is calculated by adjusting the Probabilities of Default and mean Loss Given Default (LGD) rates for sovereign loans consistent with the estimates provided in Risk Control (2022a). RAC denotes the impact as reflected in the Standard & Poor’s Risk Adjusted Capital ratio. Usable Capital Ratio denotes the impact as measured by the Fitch ratio of Usable Capital to Risk Weighted Assets ratio.

In addition, as mentioned above, there are many specific areas in which rating agencies appear inappropriate for rating MDBs. These include the standard agency approaches to evaluating retained risk in MDB risk transfers, the treatment of equity exposures and that of liquidity.

Here, we summarise the findings of earlier subsections. Figure 5.2 shows the percentage reduction in required capital based on the EC model, the Standard & Poor's RAC ratio, and the Fitch Usable Capital Ratio. We omit a capital adequacy measure for Moody's because that agency's methodology does not include one that is adjusted for PCT.

PCT reduces capital required according to the EC model by 72% for IBRD and 69% for IDA. The allowance for PCT in the Standard & Poor's RAC ratio (as measured by 1 minus the ratio of the with-PCT RAC to the without-PCT RAC) is 56% for IBRD and 37% for IDA. This shows that the Standard & Poor's adjustment is not unreasonable for higher rated portfolios like that of IBRD but much too conservative for lower quality sovereign portfolios. A similar measure based on the Fitch Usable Capital Ratio suggests that the Fitch adjustment for PCT is too small for both institutions in that it is just 30% for IBRD and 12% for IDA.

6. MDB Capital Adequacy Governance

6.1 Introduction

This section discusses the suggestions of the CAF Panel Report on improvements in the enabling environment for capital adequacy governance.

On capital adequacy governance, the Panel suggests that MDBs:

1. *Consider implementing measures to strengthen the ability of shareholder boards at MDBs to effectively undertake their responsibilities in setting the parameters of risk appetite and capital adequacy policies and overseeing their implementation.*
2. *Prepare regular capital benchmarking reports on each MDB's capital adequacy framework in a comparable format employing harmonized definitions and support regular MDB reviews of capital resources.*
3. *Establish enhanced arrangements on issues of capital adequacy and risk management to promote ongoing MDB benchmarking, share best practices and facilitate discussion among MDBs and shareholders.*
4. *Endorse and support ongoing efforts to transform GEMs into a stand-alone entity with legal status and secured budget able to curate and disseminate regularly-supplied MDB statistics and analysis to support improved knowledge on emerging market risks for MDBs, private investors and rating agencies.*

6.2 MDB Capital Adequacy Governance

Risk Appetite and Capital Adequacy decisions in MDBs are typically made within the framework provided by Board of Director (BoD) level policy documents. These are drafted by management and then reviewed and approved by the BoD.

MDBs, as public institutions, funded from the tax-payer resources of multiple Member Countries, aim to be open in their activities, certainly to their shareholders and to a reasonable extent to the wider public. The IBRD and IDA have provided digital data on their exposures for some time and have detailed financial statements on which this study is in part based. It is noticeable, however, that very few MDBs publish their risk policies or provide information in their financial statements in the results of their internal risk calculations.

MDBs are not subject to the detailed scrutiny from regulators and equity analysts that commercial banks typically experience. Market discipline is provided by rating agencies but, as we have seen in this report, that discipline is inconsistent in the approaches taken so for an MDB aiming to maintain the highest rating, the least favourable methodology of the three global agencies acts as the primary constraint.

In these circumstances (i.e., no market or regulatory discipline except that provided by three private companies with inconsistent approaches), it is important for shareholders to have a good grasp of the risk strategies that MDBs follow. MDB shareholders in many cases have significant holdings of the capital of multiple MDBs so it would be natural for the experience and strategies of these institutions to be compared.



The challenge in accomplishing this goal is the nature of MDB boards which are made up of representatives of shareholders typically expert in development finance or economic policy but with less experience of running banks. In this context, the emphasis that the Panel report places on improving transparency and comparability to assist shareholders and their proxies in the form of MDB Executive Directors (EDs) appears justified. The argument seems even more persuasive at a moment when, because of the climate emergency, MDBs are being asked to take on a larger role in assisting EMDEs to increase their investment.

The recommendation to make MDB historical data more widely available is more justified for non-sovereign claims. Risk Control (2022a) and (2023) showed that investigation of sovereign loan performance may be accomplished from outside MDBs using data already published in their financial statements. (Recovery or Loss Given Default estimates might benefit from internal MDB data but few MDBs have recovery data going back in time that is truly reliable.) Analysis of non-sovereign MDB loans remains an important activity that would be improved through better access to internal MDB data.

7. Conclusion

This study assesses the implications of the G20 Independent MDB CAF Panel for two specific MDBs, the IBRD and the IDA. The report builds on and interprets, in a non-technical way, the findings of an associated technical report, Risk Control (2023).

On the Panel's first recommendation, the main findings are that IBRD is limited in an expansion of lending first by its SLL and second by its ratings. There appears to be substantial headroom to boost lending when risk is evaluated using a standard CAR calculation. The rating constraint on IBRD comes from the two agencies that emphasise non-risk-sensitive leverage constraints, namely Moody's and Fitch. The rating of Standard & Poor's, which follows a more risk-sensitive approach in evaluating capital adequacy, binds much later.

IDA, operating without an SLL, is most constrained in making Non-Concessional Loans (NCLs) by ratings. For IDA, with a lower credit quality loan portfolio than IBRD, our analysis shows that the Standard & Poor's rating is the first to bind. This would only happen only if the size of the institution's DRA and Treasury assets expanded by 208%. So, in effect, there is no rating constraint. The practical issues of identifying bankable projects that are candidates for non-concessional loans or finding donors willing to shoulder the subsidy cost of concessional loans would be the immediate challenges. The constraint of maintaining a CAR above unity is even further from binding than the rating constraint.

Substantially expanding NCLs may be seen as out of the question for IDA for which the business model is the provision of highly concessional financing. This consists of either zero-interest-rate loans (termed Concessional Loans (CLs) or Blended Loans (BLs) which carry an interest rate which is subsidised. If a concessional lender like IDA is to operate sustainably (in the sense of being able to continue lending the same volume of CLs over time), its CLs may not exceed its equity. (Here, we assume that no dividend is required and that overheads are met out of fees.) This constraint we denote a Sustainable Concessional Lending Limit (SCLL) There may still be headroom for IDA even with such a limit (implied by its business model) in that IDA's BLs are a significant and growing fraction of its lending and its total lending is approximately equal to its equity. Since \$1 of BL may be thought of as some fraction of a dollar of CL and one minus this fraction of NCL, one may compute the room available to IDA to expand its total effective CLs (actual CLs plus CL component of BLs) up to the value of its equity. Computing this, we find that the actual headroom for IDA is to expand its total lending by 12% or 15% depending on whether the increase takes the form of additional CLs or BLs.

The implication is that the Panel's recommendation of moving the SLL from articles of agreement to be part of the CAF and, hence, subject to alteration by a BoD resolution could be an important step. In our view, IBRD should relax its SLL (setting the limit to the value, for example, that the EIB employs or that the AIIB has envisaged) or should even abolish it altogether. Furthermore, there is room for IBRD and IDA BoDs to increase their Risk Appetite without hitting the CAR-based limit. Representations to the rating agencies that they reconsider the degree to which they reflect PCT in MDB assessments, if successful, could be very important as, once the SLL constraint on IBRD is relaxed, the ratings constraint will be the closest to binding.

Even if the non-concessional lending headroom described above is unattainable for IDA (because the institution continues to employ overwhelmingly concessional loans and is unable to obtain donor funding to



cover subsidy elements), the results underline the capital inefficiency of operating two separate balance sheets for concessional and non-concessional lending. ADB and IDB have merged their concessional and non-concessional lending windows in recent years. If IBRD and IDA's balance sheets were not merged, risk transfers could nevertheless be implemented between the two that mean the risk capacity is not wasted by operating separately.

The Panel's recommendation on allowing for callable capital in MDBs' internal CAFs would, if accepted, boost further the room that the IBRD possesses to expand its lending. Our initial analysis (as described above) of the degree to which the CAR constraint binds, conservatively ignored the presence for IBRD of substantial callable capital. It is a matter of common sense that promises to supply capital in situations of extreme financial stress reduces from highly rated sovereigns substantially reduces the risk of default by MDBs. One rating agency, Standard & Poor's allows 'eligible' callable capital to contribute to uplift in its evaluation of MDBs. Here, eligible means callable capital promised by shareholders rated no less than the MDB's Financial Risk Profile (an intermediate score in the agency's rating decision tree). We show that following Standard & Poor's in assuming that capital resources equal Total Equity³² plus eligible callable capital, the lending headroom for IBRD would be boosted from 147% to 336%.

On the Panel's third recommendation regarding innovation, some risk transfer operations that are highly relevant (specifically, risk transfers using synthetic basket guarantees of the kind pioneered by the AfDB with its Room2Run (R2R) deal) are inapplicable for IBRD as they would not serve to relax risk-incentive ratings constraints such as those associated with Moody's and Fitch. There would possibly be a gain for IDA, but the constraint associated with the Standard & Poor's rating is so distant that such risk transfers would hardly be of use. The transactions could be redesigned to cover a large fraction of the par value of the loans, effectively the guarantors would have to provide cover for thick tranches. This would seem infeasible for private sector counterparties but might be possible if the credit enhancement were provided by donor governments.

On the other hand, IBRD would clearly gain in relaxed constraints (indeed all three constraints considered here) from additional hybrid capital. The current proposal of the AfDB and IDB to issue hybrid capital based on loans of Special Drawing Rights (SDRs) appears the most relevant. This approach implies a very light burden on donor governments that might lend their SDRs, indeed they would even gain if a modest premium were paid above the SDR interest rate. Participation in such schemes by WBG entities would also likely assist other MDBs. This is the case because (i) the scale of the available SDRs is large and (ii) the main challenge in implementing such a scheme is organising liquidity arrangements according to which enough SDR-lending sovereigns are willing to lend SDRs to one of their number needs to retrieve their SDRs in the event of a balance of payments crisis.

On the Panel's fourth recommendation regarding engagement with the rating agencies to persuade them to reassess their view of PCT, we showed in past work for the CAF Panel itself that PCT reduces sovereign Probabilities of Default and LGDs on average each by factors of between 3 and 4. The impact on credit risk capital required depends on the nature of the portfolio but Risk Control (2022) presents evidence for IBRD and IDA that credit risk EC is reduced by more than two thirds. For MDBs with relatively highly rated portfolios (like IBRD), the adjustment made by Standard & Poor's (as registered in that agency's RAC ratio) is a bit less (16% less in the case of IBRD) that what an EC approach implies but is not completely disproportionate. On the other hand, Standard & Poor's adjustments for lowly rated portfolios is far from the adjustment that an EC calculation would imply, so this is an issue for IDA. The Fitch adjustment for PCT as reflected in the Usable Capital Ratio is less than half what an EC-based approach implies.

On the Panel's fifth recommendation regarding capital adequacy governance, we do not present quantitative analysis, but concur with the spirit of what the Panel suggests which is greater transparency. This can be inculcated through regular benchmarking and greater accessibility for MDB's historical loan default and recovery data. On the latter, sovereign loan performance can be analysed using public data as we demonstrate in this report and Risk Control (2022a) and (2023) so the main benefits in data transparency are in the area of non-sovereign lending. But benchmarking can be very important for shareholder governments, particularly those that have provided equity to multiple MDBs.

³² Total Equity consists of paid-in equity, reserves, and surpluses.



References

Asian Infrastructure Investment Bank (2015) "Articles of Agreement," available at:

https://www.aiib.org/en/about-aiib/basic-documents/_download/articles-of-agreement/basic-document-english-bank-articles-of-agreement.pdf.

Basel Committee on Banking Supervision (2023) "CRE Calculation of RWA for credit risk CRE20," January, available at:

https://www.bis.org/basel_framework/chapter/CRE/20.htm?inforce=20230101&published=20221208&export=pdf.

CAF Panel Report (2022) "An Independent Review of Multilateral Development Banks' Capital Adequacy Frameworks," available at:

https://www.dt.mef.gov.it/export/sites/sitodt/modules/documenti_it/news/news/CAF-Review-Report.pdf.

European Bank for Reconstruction and Development (2023) "Resolution No. 260," available at:

<https://www.ebrd.com/statutory-capital-limitation.pdf>.

European Investment Bank (2020) "Statute and other treaty provisions," March, available at:

https://www.eib.org/attachments/general/statute/eib_statute_2020_03_01_en.pdf.

Fitch Ratings (2022a) "European Investment Bank," September, available at:

https://www.eib.org/attachments/fi/external/Fitch_EIB_Report_23Sep2022.pdf.

Fitch Ratings (2022b) "Supranationals Rating Criteria," 11th April, available at:

<https://www.fitchratings.com/research/sovereigns/supranationals-rating-criteria-11-04-2023>.

G20 (2015) "Multilateral Development Banks Action Plan to Optimize Balance Sheets," available

at: <http://www.g20.utoronto.ca/2015/Multilateral-Development-Banks-Action-Plan-toOptimize-Balance-Sheets.pdf>.

Galizia, Federico, William Perraudin, Andrew Powell and Timothy Turner (2021) "Risk Transfer for Multilateral Development Banks: Obstacles and Potential," IDB Working Paper, November, available at:

<https://publications.iadb.org/en/risk-transfer-multilateral-development-banks-obstacles-and-potential>

Hart, Tom, Annalisa Prizzon and Jessica Pudussery (2021) "What MDBs (and their shareholders) can do for vaccine equity," *ODI Policy Paper*, October, available at: <https://odi.org/en/publications/what-mdbs-and-their-shareholders-can-do-for-vaccine-equity/>.

Humphrey, Chris (2017b) "Six proposals to strengthen the finances of multilateral development banks," *Overseas Development Institute Working Paper* 509, available at: <https://www.research-collection.ethz.ch/bitstream/handle/20.500.11850/130651/2/11451.pdf>.

Humphrey, Chris (2022) "AfDB's new Room2Run highlights opportunities and questions about MDB risk transfer," *ODI Policy Insight*, December, available at: <https://odi.org/en/insights/afdb-new-room2run-highlights-opportunities-and-questions-about-mdb-risk-transfer/>.

IFFEd (2023) "How does it work?" available at: <https://iff-education.org/how-does-it-work/>.

International Bank for Reconstruction and Development (2012) "Articles of Agreement," June, available at:

<https://thedocs.worldbank.org/en/doc/722361541184234501-0330022018/original/IBRDArticlesOfAgreementEnglish.pdf>.

International Bank for Reconstruction and Development (2021) "Management's Discussion & Analysis and Financial Statements," June, available at:

<https://thedocs.worldbank.org/en/doc/9e6e5c7c885899cba176dd6e1409cbeb-0040012021/original/IBRD-Financial-Statements-June-2021.pdf>.



International Bank for Reconstruction and Development (2022) “Management’s Discussion & Analysis and Financial Statements,” June, available at: <https://thedocs.worldbank.org/en/doc/16796fod7a20087d312ec8634ace777c-0040012022/original/IBRD-Financial-Statements-June-2022.pdf>.

International Development Association (1960) “Articles of Agreement,” available at: <https://thedocs.worldbank.org/en/doc/2a209939e876fdcd0d957036daebff6e-0410011960/original/IDA-Articles-of-Agreement-English.pdf>.

International Development Association (2021) “Management’s Discussion & Analysis and Financial Statements,” June, available at: <https://thedocs.worldbank.org/en/doc/55ac1406fd9fe61a56e6e5d097ef8251-0040012021/original/IDA-Financial-Statements-June-2021.pdf>.

International Development Association (2022) “Management’s Discussion & Analysis and Financial Statements,” June, available at: <https://thedocs.worldbank.org/en/doc/95f18d0acf6cf1aee22f82a82d063da9-0040012022/original/IDA-Financial-Statements-June-2022.pdf>.

International Monetary Fund (2019) “Fiscal Policy and Development: Human, Social, and Physical Investment for the SDGs,” *IMF Staff Discussion Note*, available at: <https://www.imf.org/-/media/Files/Publications/SDN/2019/SDN1903.ashx>.

London School of Economics and Political Science (2022) “Finance for climate action: Scaling up investment for climate and development,” *Grantham Research Institute on Climate Change and Environment*, available at: <https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/11/IHLEG-Finance-for-Climate-Action-1.pdf>.

Moody’s (2018) “Hybrid Equity Credit,” September, available at: https://www.moody.com/research/doc--PBC_1125264.

Moody’s (2020) “Multilateral Development Banks and Other Supranational Entities Methodology,” 28th October, available at: <https://ratings.moody.com/api/rmc-documents/69182>.

Moody’s (2022) “Credit opinion European Investment Bank – Aaa stable,” July, available at: https://www.eib.org/attachments/fi/external/Moody's_EIB_Report_01Jul2022.pdf.

Multilateral Investment Guarantee Agency (2022) “Management’s discussion & Analysis and Financial Statements,” 30th June, available at: <https://www.miga.org/sites/default/files/2022-08/MIGA%20Management%20Discussion%20and%20Analysis%20and%20Financial%20Statements%20June%2030%202022.pdf>.

Perraudin, William, Andrew Powell and Peng Yang (2016) “Multilateral Development Bank Ratings and Preferred Creditor Status,” July, IDB Discussion Paper, available at: <https://www.riskcontrollimited.com/insights/multilateral-development-bank-ratings-and-preferred-creditor-status/>

Risk Control (2019) “Room2Run: the AfDB’s Approach to Sharing Risk with the Private Sector,” available at: https://www.newmarketcapital.com/wp-content/uploads/2021/11/Room-to-Run_Risk-Control.pdf.

Risk Control (2022a) “MDB Sovereign Loan Credit Performance and PCT: Public Data Analysis,” available at: <https://www.riskcontrollimited.com/wp-content/uploads/2023/05/MDB-Loan-Credit-Performance-and-PCT-Public-Data-Analysis-22-133a-12-12-22-v18.pdf>.

Risk Control (2022b) “MDB Portfolio Expansion – Agency Ratings and Value at Risk,” available at: <https://www.riskcontrollimited.com/wp-content/uploads/2023/05/Impact-of-MDB-Portfolio-Expansion-22-96a-28-06-22-v24.pdf>.

Risk Control (2023) “Ratings and Capital Constraints on IBRD and IDA.”

Standard and Poor’s (2016) “How much can multilateral institutions up the ante?” 12th April.



Standard and Poor's (2022a) "Criteria | Governments | General: Multilateral Lending Institutions And Other Supranational Institutions Ratings Methodology," January, available at: <https://disclosure.spglobal.com/ratings/en/regulatory/article/-/view/sourceId/12245744>.

Standard and Poor's (2022b) "General Criteria: Hybrid Capital: Methodology And Assumptions" March, available at: https://marketing.spglobal.com/e/892491/ethodology-And-Assumptions-pdf/xzzq7t/18234198o?h=Wo88UWxHtKOOIMmZsc3ENwuJmcK_7vYKZc7vr8orltc.

Standard & Poor's Global Ratings (2022c) "Ratings Direct – European Investment Bank," available at: https://www.eib.org/attachments/fi/external/SP_EIB_Report_28Feb2022.pdf.

Standard and Poor's (2022d) "Supranationals," October, available at: <https://www.spglobal.com/assets/documents/ratings/research/101567466.pdf>.

Trade & Development Bank (2021) "Charter of Eastern and Southern African Trade and Development Bank," February, available at: https://www.tdbgroup.org/wp-content/uploads/2021/02/TDB-Charter-English_certified.pdf.

US Department of the Treasury (2023b) "Remarks by Secretary of the Treasury Janet L. Yellen at the Center for Strategic and International Studies," 9th February, available at: <https://home.treasury.gov/news/press-releases/jy1258>.

World Bank Group (2023a) "Evolution of the World Bank Group – A Report to Governors," 30th March, available at: https://www.devcommittee.org/sites/dc/files/download/Documents/2023-03/Final_DC2023-0002%20evolution%20paper.pdf.

World Bank Group (2023b) "World Bank Group Statement on Evolution Roadmap," January, available at: <https://www.worldbank.org/en/news/statement/2023/01/13/world-bank-group-statement-on-evolution-roadmap>.

World Bank Group (2023c) "World Bank Announces New Steps to Add Billions in Financial Capacity," July 17th, available at: <https://www.worldbank.org/en/news/factsheet/2023/07/17/world-bank-announces-new-steps-to-add-billions-in-financial-capacity>.

World Bank Repository (2023) "IDA Statement Of Credits and Grants - Historical Data," 21st June, available at: <https://finances.worldbank.org/Loans-and-Credits/IDA-Statement-Of-Credits-and-Grants-Historical-Dat/tdwh-3krx>.



Glossary

Here is the list of acronyms used in the paper.

ADB: Asian Development Bank	ICR: Issuer Credit Rating
AfDB: African Development Bank	IDA: International Development Association
AIIB: Asian Infrastructure Investment Bank	IFFEd: International Finance Facility for Education
APVAX: Asia Pacific Vaccine Access Facility	IFS: Intrinsic Financial Strength
ATI: African Trade Insurance Agency	IMF: International Monetary Fund
BL: Blended Loans	IsDB: Islamic Development Bank
BMCs: Borrower Member Countries	LGD: Loss Given Default
BoD: Board of Director	LMICs: Low-and Middle-Income Countries
BSO: Balance Sheet Optimization	MCs: Member Countries
CAF: Capital Adequacy Framework	MDBs: Multilateral Development Banks
CAR: Capital Adequacy Ratio	MIGA: Multilateral Investment Guarantee Agency
CB: Conservation Buffer	NCL: Non-Concessional Loans
CL: Concessional Loans	PCS: Preferred Credit Status
CPM: Credit Portfolio Model	PCT: Preferred Creditor Treatment
CRAs: Credit Rating Agencies	PD: Probability of Default
CSIS: Center for Strategic and International Studies	PRI: Political Risk Insurance
DACQ: Development Asset Credit Quality	RAC: Risk-Adjusted Capital
DSC: Deployable Strategic Capital	RACF: Risk Adjusted Capital Framework
EAD: Exposure at Default	RL: Regular Loans
EBRD: European Bank for Reconstruction and Development	RWA: Risk Weighted Asset
EC: Economic Capital	R2R: Room 2 Run
ECB: European Central Bank	R2RS: Room 2 Run Sovereign
ED: Executive Director	SACP: Stand-alone Credit Profile
EEA: Exposure Exchange Agreement	SCLL: Sustainable Concessional Lending Limit
EIB: European Investment Bank	SDG: Sustainable Development Goal
EMDEs: Emerging Market and Developing Economies	SDR: Special Drawing Right
ETM: Energy Transition Mechanism	SLL: Statutory Lending Limit
E/L: Equity-to-Loan	SMI: Specialised Multilateral Insurer
FCDO: Foreign, Commonwealth and Development Office	SNC: Single Name Concentration
FRP: Financial Risk Profile	SPRP: Strategic Preparedness and Response Program
GFC: Global Financial Crisis	TE: Total Equity
IBRD: International Bank for Reconstruction and Development	TRA: Total Resources Available
ICIEC: Islamic Corporation for the Insurance of Investment and Export Credit	TRR: Total Resources Required
	WBG: World Bank Group

