



Emerging analysis

Maximising the developmental value of MDB callable capital

Preliminary findings

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Key messages

Callable capital is worth \$1.2 trillion in nominal terms, but multilateral development bank (MDB) statutes are unclear on how it can be used, weakening its value.

Several major shareholder governments could deploy substantial resources quickly to meet a capital call, although budgetary accounting needs clarifying.

Credit rating agencies account for callable capital in divergent ways in part due to limited information from MDBs and shareholders.

Preliminary evidence suggests that MDB tools and processes to face financial stress could be refined to further reduce financial risk and increase resilience.

Stress tests illustrate the extraordinary financial strength of MDBs, even in the face of shocks many times greater than any experienced before.

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Acronyms

ADB	Asian Development Bank
AfDB	African Development Bank
AIIB	Asian Infrastructure Investment Bank
BoD	Board of Executive Directors
BoG	Board of Governors
CAF	Development Bank of Latin America
CRA	credit rating agency
EBRD	European Bank for Reconstruction and Development
ESM	European Stability Mechanism
IBRD	International Bank for Reconstruction and Development
IDB	Inter-American Development Bank
LGD	loss given default
MDB	multilateral development bank
PCT	preferred creditor treatment
S&P	Standard & Poor's

1 Introduction

The capital structure of multilateral development banks (MDBs) is a unique feature that distinguishes these international financial institutions from traditional development agencies on the one hand and commercial banks on the other.

Unlike aid agencies, MDBs have a capital structure rather than a budget-funded model. Based on that capital, and their strong performance and reputation, MDBs can fund most of their operations by issuing bonds on international capital markets – the key to their financial power. But unlike commercial banks, MDBs have not only normal shareholder capital, but also ‘callable capital’ – an unusual type of ‘surety fund’ (US Treasury, 1945: 12) committed by shareholders.

With a nominal value of \$1.2 trillion across the 14 largest MDBs – over 90% of their subscribed shareholder capital in most cases – callable capital would seem to be an extremely valuable financial instrument to support the ability of MDBs to increase lending capacity and create more development results. It is effectively a shareholder backstop to ensure that an MDB can repay its creditors even when facing an extreme financial shock.

Understanding the true value of callable capital, however, is challenging. The MDB statutes defining callable capital are ambiguous and the ability and speed with which a capital call would be met by MDB shareholders is uncertain. The instrument is untested, as the superlative financial performance of major MDBs has meant that none have ever had to make a capital call. As a result, MDB management, shareholder governments and credit rating agencies (CRAs) have no clear guidelines on how to value callable capital.

A better understanding and valuation of callable capital as a specialised type of instrument to absorb financial losses in stress could underpin a substantial increase in available MDB lending headroom. It could also support MDBs’ long-term financial sustainability and AAA bond rating. Enhancing transparency on such loss-absorbing capacity and establishing a systematic approach to responding to MDB financial stress will strengthen market confidence in MDB resilience. Ultimately, planning for financial stress is a part of modern risk management of all financial institutions, commercial as well as public.

Such steps will help modernise the MDB financial model to face the challenges of the coming decades. As numerous studies have argued – most recently the G20 Independent Expert Group’s Triple Agenda report (2023) – a system of sustained, scaled-up MDB financing is critical in the face of our planet’s multiple challenges. Maximising the value of MDB callable capital is an essential part of that agenda.

To improve the understanding of callable capital and inform policy decisions by key stakeholders – notably the second recommendation of the G20 Independent Panel on MDB Capital Adequacy Frameworks report (G20 Capital Adequacy Frameworks Panel, 2022) – the MDB Challenge Fund is supporting an ODI-led research project on callable capital. This paper describes preliminary findings based on extensive discussions with MDB management, CRAs and shareholder governments as well as a review of relevant documents. The final report is expected in April 2024.

2 Historical background

Understanding how callable capital was created and has evolved helps contextualise current policy discussions. Callable capital was an integral part of the capital structure of the World Bank from its inception in 1944 at Bretton Woods and has been replicated in the 30-odd MDBs that have since been established, up to and including the recently founded Asian Infrastructure Investment Bank (AIIB) and New Development Bank.

In the mid-1940s, the World Bank faced deep suspicion from the New York bond markets, which were loath to offer credit to a new type of public, non-profit international bank. As a World Bank internal history put it, 'Private investors in the United States were still scarred by heavy losses from foreign loan defaults during the 1930s and needed to be convinced that this new international bank was sound' (World Bank, 2018: 33) Callable capital was created as a surety fund for World Bank creditors, to ease its ability to access credit on reasonable terms.

A signal of the importance of callable capital was a 1946 ruling by the US Attorney General that confirmed that the US was liable for its share of callable capital. As the World Bank history notes, 'This opinion was instrumental in convincing investors of the financial integrity and strength of the World Bank's capital structure' (World Bank, 2018: 42). It was a critical factor paving the way for the World Bank's first bond issue the following year, and its eventual receipt of a AAA bond rating in 1959. As the Bank's first marketing director put it in a 1948 speech to investors, 'It [callable capital] is in the nature of a guarantee designed to encourage and induce private capital to invest in the Bank's obligations' (World Bank, 2013).

As a result of this successful model, first the Inter-American Development Bank (IDB) in 1959 and then all subsequently founded MDBs copied the use of callable capital. Between that time and the early 2000s, the following trends related to callable capital are notable:

- Because MDB statutes limited lending capacity to a ratio with total subscribed capital (including callable capital), and because callable capital had until recently minimal or no budgetary implications, shareholders have committed ever more callable capital to keep MDBs within the statutory limits.

- CRAs relied heavily if not entirely on the presence of callable capital from wealthy shareholder governments when awarding the top AAA rating on MDB bonds, as noted by a former top World Bank finance official (Mistry, 1995: 73).
- The presence of callable capital, rather than permitting MDBs to take on more risks, led major non-borrower shareholders to actively encourage MDBs to operate in a highly conservative fashion to minimise 'to a level of insignificance' (ibid: 22) any risk of a capital call, in part explaining why MDBs have very low leverage ratios.
- These conservative financial policies came to be viewed by MDBs, shareholders and CRAs as best practice for MDBs, thus entrenching a highly restrictive approach to capital adequacy despite their superlative portfolio performance over the decades.

In more recent years, and particularly in the wake of the 2008 global financial crisis, the context for MDB callable capital has evolved substantially, for the following reasons:

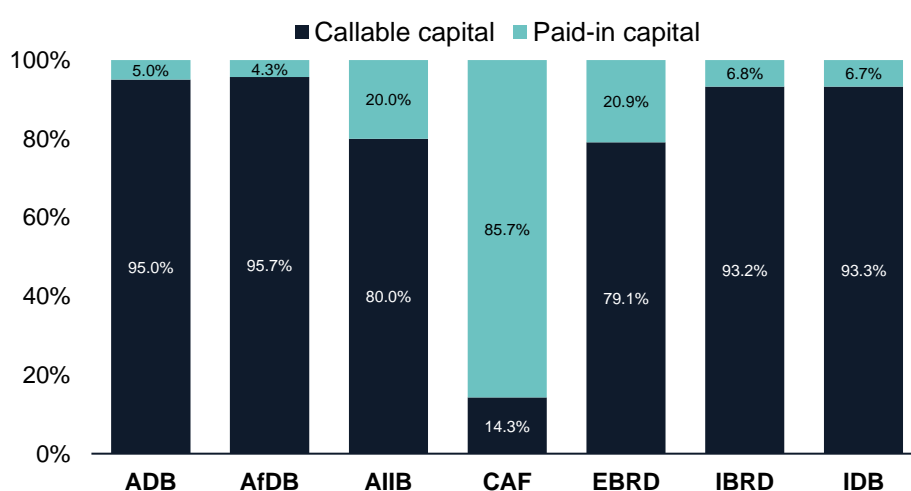
- CRAs faced post-crisis regulatory pressure to make their rating methodologies more transparent and comparable across asset classes, leading to a much more detailed approach to evaluating MDBs in general and callable capital in particular.
- Governments are taking an increasingly sophisticated approach to managing budgetary contingent liabilities, of which callable capital is one.
- Numerous stakeholders – most notably the 2022 G20 Capital Adequacy Frameworks report – have called on MDBs to take a less conservative approach to capital usage, including recognising the value of callable capital, to better reflect their demonstrated financial solidity.
- In response to the G20 Capital Adequacy Frameworks report, several MDBs are in the process of eliminating their statutory lending limits, thus encouraging a re-think of the instrument's true purpose.

3 Statutory provisions for callable capital

Callable capital is in the first instance defined by the legal statutes creating each MDB. The statutes are treaties which have been signed and ratified by all member governments and their respective legislatures, meaning all provisions have the status of an international treaty obligation. As such, this project is carefully reviewing the statutory provisions related to callable capital of the MDBs covered in the study.

The statutes formally divide MDB capital structure into ‘paid-in’ capital and ‘callable’ capital. The specified amounts differed in the original statutory provisions, with callable originally accounting for 80% of capital at the International Bank for Reconstruction and Development (IBRD) and AIIB compared to 50% at the Asian Development Bank (ADB). Because subsequent capital increases had a lower ratio of paid-in to callable capital, the current share of callable capital at the MDBs covered in this study is over 90% in most cases (see Figure 1).

Figure 1: Structure of MDB capital, 2022



Source: Authors' calculations based on MDB 2022 financial statements

The statutes for six of the seven MDBs do not explicitly state whether management, the Board of Executive Directors (BoD) or the Board of

Governors (BoG) has the authority to trigger a capital call. Only the Development Bank of Latin America (CAF)'s statutes specify that a capital call occurs 'upon prior resolution by the Board of Directors' (CAF, 2022: Art. 5 (c)).

In background discussions for this project, World Bank senior management clarified that the Bank has concluded that the correct level of governance would be the BoD. Similarly, African Development Bank (AfDB) management shared with the research team a 1983 internal resolution stating that the BoD is the responsible authority for initiating a capital call, but management noted in a background discussion that they would expect the BoG to take the final decision. Due to the similarity in statutory language on governance, the situation is likely to be the same at ADB, AIIB, the European Bank for Reconstruction and Development (EBRD) and IDB.

Whether by the BoD or the BoG, the triggering of a capital call would be decided by normal voting rules as it does not fall under the few matters for which special majority voting is specified in any of the seven MDBs. This is different from a regular capital increase, which in most cases requires some type of special majority vote with a higher voting power approval threshold.

None of the MDB statutes refer to the timing of how shareholders should respond to a capital call. This contrasts with the European Stability Mechanism (ESM), the treaty of which (1) requires shareholders to pay called capital within seven days to meet any ESM liabilities and (2) permits the BoD to set an appropriate timeframe for payment of the called capital needed to restore capital levels following ESM losses (ESM, 2012: Art. 9).

Most MDB statutes specify that callable capital can only be called to meet MDB 'liabilities' and, in particular, obligations to MDB creditors (mainly bond investors). Other liabilities, such as pension obligations or derivative exposures, are not covered by callable capital. The only exception is CAF, the statutes of which only refer to callable capital being used to cover CAF's 'financial obligations' in general terms.

The language for all MDBs make it clear that callable capital cannot be used as an equivalent to equity risk capital to directly backstop lending.

The statutes of all seven MDBs specify (in almost identical wording) that callable capital can be called 'only when required to meet obligations of the Bank' (World Bank, 2012: Art. II, Section 5 (ii)).

The statutes of most MDBs spell out a 'waterfall' of resources to pay off MDB liabilities if necessary. ADB, IBRD and IDB statutes state in very similar language that first the MDB must use a special reserve, then 'to the extent necessary and at the discretion of the Bank,' other reserves, surplus and capital. The subsequent clause then states that

‘[w]henever necessary,’ to meet MDB liabilities, ‘the Bank may call an appropriate amount’ of callable capital. The clause goes on to note that if borrower defaults are expected to be of a long duration, the MDB may additionally call in each year not more than 1% of total subscribed capital (World Bank, 2012: Art. IV, Section 7 (a-c)).

The statutes of EBRD and AIIB define a more precise ‘waterfall’ order of resources to be used to meet ‘losses’ (EBRD, 2013: Art. 17) or ‘liabilities’ (AIIB, 2016: Art. 20). This greater precision may reflect the fact that these two MDBs were created more recently than the other three.

The statutes of CAF (2022, Art. 5 (c)) and AfDB (2016, Art. 7 (4)) are less precise and do not define any ‘waterfall’ order of how resources would be deployed to meet liabilities before making a capital call.

It is not immediately clear whether the differences in statutory language make a material difference in how callable capital might be utilised and, therefore, what value it would have as a financial backstop. The major MDBs have long argued that the statutes mean that callable capital can only be called in a ‘gone concern’ scenario – when the MDB has faced such an extreme crisis that it has used up all other resources, and callable capital is only to repay creditors before permanently shutting down. The argument is that callable capital is not a ‘going concern’ instrument, and it is not possible for an MDB to access some share of callable capital to recover from a crisis and continue operations.

An initial reading of the statutes suggests there may be more flexibility in callable capital provisions that should be explored, at least for ADB, AfDB, CAF, IBRD and IDB. There may be space for some share of callable capital to be legally available to help an MDB recover from a shock, or even to trigger a capital call preventatively as a way to calm market concerns in a crisis scenario, without needing to actually disburse it. The huge scale of callable capital – far beyond what an MDB would actually need to pay off liabilities in any remotely feasible scenario, as preliminary modelling results for this study show – also seems to point in that direction.

Such an interpretation is not to imply that callable capital is more likely to be called. That scenario remains as extremely unlikely as it always has, due to the extraordinary strength of MDB balance sheets. Rather, a more flexible view of how callable capital could be deployed to cope with a massive shock would allow MDBs, shareholders and CRAs to give callable capital greater value as a financial backstop to be taken into account when calculating MDB capital adequacy.

These do not represent definitive conclusions, but rather highlight that the interpretation of callable capital provisions in MDB statutes merits re-visiting to better understand what may or may not be

possible in legal terms. The legal aspects of the statutory provisions will be examined in more detail in the next phase of the study, including further consultations with MDBs, shareholders and external experts.

4 Shareholder fiscal context of multilateral development bank callable capital

An important factor fuelling uncertainty around callable capital is the process by which member governments would meet a hypothetical capital call as well as how callable capital fits into their budgetary frameworks and broader fiscal context. This was the topic of a report by Fitch (2022), which provides a high-level assessment of how five large shareholders would respond to a call on capital. Standard & Poor's (S&P) and Moody's have also noted that greater clarity on budgetary processes surrounding callable capital could strengthen their view of this instrument in providing greater security to MDB bondholders.

To help fill this knowledge gap, this project is gathering information from 30 governments that are shareholders in several of the major MDBs, including all G20 governments. Below we report preliminary findings arising from desk research and initial discussions with government representatives in several countries, typically sitting within ministries of finance.

Callable capital is most often treated as a remote, off-balance sheet contingent liability

Contingent liabilities are uncertain but may lead to future expenditure if specific conditions are met or specific events happen. Regardless of whether or not funds have been appropriated, callable capital is usually disclosed to the legislature and in department accounts, but does not appear on the budget. Callable capital is usually defined as a 'remote' contingent liability, based on the very low probability of a call.

International Financial Reporting Standards, International Public Sector Accounting Standards and Eurostat guidance recommend provisioning for a contingent liability only if the likelihood of a call is deemed greater than 50–70%, which (as preliminary modelling for this project shows) is far higher than the case for callable capital. Consequently, no government currently faces any requirement to

provision for callable capital in their budgets. Only once an event is considered likely and a reasonable estimate of the loss can be quantified would the expected loss be provisioned.

Despite increased attention on the fiscal implications of contingent liabilities in recent years, detailed evaluations of callable capital are very rare. For example, the UK's Foreign, Commonwealth and Development Office provides specific information on the fiscal risk and losses relating to guarantees it deploys for development purposes. However, it provides no comparable information related to callable capital, even though it is four times larger than contingent liabilities relating to development finance guarantees (UKGI, 2022). The story is similar among all other large shareholders.

A 2005 Congressional Research Service report from the US found that 'the IBRD could continue servicing its debt for four and one-half years before any of the callable capital subscribed since 1980 would be needed' (CRS, 2005: 3). Even though this estimate has not been updated since, the US seems to be the only country to have conducted its own assessment of a capital call.

The timeline for meeting a capital call differs across countries

Timing depends on whether funds are already appropriated, emergency expenditure powers are in place or whether legislative approval is required. In the two former cases, funds could be made available more rapidly than in the latter.

From 1945 until 1981, the US Congress regularly appropriated money to cover the callable portions of its capital subscriptions to the MDBs, amounting to around \$12 billion (\$8 billion for IBRD, \$1 billion for ADB and \$2.5 billion for IDB). These appropriations remain as unspent, unobligated balances at the Treasury. Callable capital subscribed since 1982 – including subsequent capital increases as well as shares in MDBs joined later by the US (EBRD and AfDB) – has not been appropriated. As part of the most recent IBRD capital increases, Canada appropriated US\$2.81 billion in callable capital commitments in FY2011/2012 and FY2018/19. Already-appropriated resources in the US and Canada could be disbursed in a matter of weeks, requiring the authorisation of the executive branch but not the legislature.

Should the capital call exceed appropriated amounts, US resources must be requested and approved by both houses of Congress. Such a request can be made by the US administration at any time, either by transmitting an emergency supplementary funding request or including it as part of another measure that also needs to be passed by Congress. In Canada, additional appropriations can be made every three months during the annual budget cycle, with requests requiring approval by the Parliament.

Both Germany and the UK would only have to request legislative approval via a supplementary budget in the ‘very unlikely’ (as German authorities put it) case that the amount of a call breaches the ceiling on net borrowing for the relevant fiscal year. In Germany, if the amount due exceeds the budget allocation dedicated to guarantees (of which callable capital is one), the government would need to inform the Budget Committee of the Bundestag but would not need its approval.

Several countries, including Japan, Germany, China and Mexico, can tap into existing funds to meet a capital call if the request fits within ceilings already voted on as part of the current budget. Several countries have set up contingency funds to be used for expenditures that do not have approval of the legislature, in anticipation of such approval becoming available. The creation of such funds is either authorised in the constitution (Brunei Darussalam, India, Japan, Kenya) or in legislation (UK Contingency Fund Act 1974).

Japan could respond to a call by any MDB in a matter of weeks via either encashment or the issuance of new bonds, both of which would be reported to the cabinet and would not require parliamentary approval. In an emergency situation, Japan would be able to appropriate funds from the government’s unused budget by tapping into its cash reserve (currently around \$2 billion). Parliamentary approval would be required if the government sought to respond to a call by tapping into unspent money that had been previously approved for a different use. This is also the case for Mexico and some other countries.

China could also respond to a capital call without engaging the legislative process insofar as disbursement happened through contingency funds within the government’s pre-approved annual budget. If instead China were to disburse funds through its emergency budget, then this would require approval by both the National People’s Congress and its Standing Committee (Fitch, 2022).

Government analysis of development-related contingent liabilities, including callable capital, is likely to increase

Guarantees are becoming an increasingly common instrument in the development finance toolbox of major governments. As such, it is likely that governments and legislatures will begin to take a closer look at their budgetary implications. This could include more detailed and systematic evaluation of the likelihood that the expenditure will be realised as well as identifying how resources would be raised and disbursed.

The UK, for example, has begun to draft criteria through which it will determine whether a contingent liability warrants a more detailed explanation. Switzerland has also begun to assess how callable

capital commitments differ from other guarantees held by its Department of Foreign Affairs and the State Secretariat for Economic Affairs. Australia is investigating whether money appropriated towards the MDBs within the Consolidated Revenue Fund could be used to meet a capital call.

The current discussion of MDB callable capital is already leading several governments to consider its budgetary treatment in detail for the first time. This process will help improve an understanding of MDB callable capital among shareholders, rating agencies and MDBs themselves.

5 Credit rating agency methodologies

The three largest CRAs in terms of market presence – S&P, Moody’s and Fitch – all incorporate callable capital into their methodologies for rating MDBs. As such, they are obliged to give callable capital a defined value and consider how it impacts creditworthiness in a systematic fashion across all MDBs.

This project is comparing and evaluating the approaches taken by CRAs to value callable capital, for two reasons. First, it has substantial weight in CRA methodologies and is therefore a parameter that MDBs must take into account to maintain their credit rating. Second, the three methodologies offer different approaches to valuing callable capital, which can provide useful perspectives to MDBs and shareholders as they consider options on how they may wish to incorporate the value of callable capital into MDB internal capital adequacy frameworks.

CRAs face serious challenges to valuing callable capital. As outlined above, MDB statutes and government budgetary frameworks are ambiguous, a call has never occurred at any MDB, and shareholders and MDB management have not given any clear signalling or evidence to help guide CRA thinking. In this context, it comes as no surprise that the three CRAs have each arrived at very different conclusions on the impact of callable capital on MDB creditworthiness.

For example, the six MDBs currently rated AAA considered in this study (not including CAF) could double the size of their loan book from \$550 billion to \$1.1 trillion and still comfortably maintain a AAA rating under S&P’s methodology (based on own calculations using 2022 data). However, they would lose their AAA rating long before that under the methodologies of Moody’s and Fitch. Most of the difference is due to how callable capital is evaluated. Such a large divergence speaks to the conceptual uncertainty on this instrument across CRAs. A recent report by Risk Control (2023) substantiates this point based on close technical analysis of CRA methodologies and IBRD’s balance sheet.

The project final report will contain a detailed review of all three CRA methodology components related to callable capital. For the present

briefing, we note a few key ratings issues that have arisen in discussion with CRAs, MDBs and shareholders:

- The conceptual approach for incorporating callable capital is different for all three CRAs. S&P includes a portion of callable as an addition to equity in calculating capital adequacy; Moody's as a more general, overall uplift to an MDB's rating; and Fitch a combination of the two.
- Thresholds for including callable capital are highly divergent. S&P includes only callable capital from shareholders at or above the MDB's own stand-alone rating; Moody's takes an average shareholder rating combined with a ratio of callable to gross MDB debt; Fitch focuses on the rating of callable needed to cover net MDB debt.
- Moody's and Fitch methodologies offer far less uplift from callable capital to an MDB's rating compared to S&P, due to the mechanics of how it is incorporated (as a ratio to MDB debt) and to cut-off values needed by an MDB to achieve maximum rating uplift from callable.
- It is unclear how thoroughly the CRAs have worked through what a process of an MDB heading into stress and needing to make a capital call would entail, both in terms of timing and amounts needed. Moody's and Fitch in particular appear to expect a call as a sudden, unexpected event, whereas the modelling results discussed below and discussions with MDB management suggest a longer process that would be apparent well in advance of an actual call.
- CRAs have given some indications of factors that would potentially encourage a change in their methodological approach to incorporating callable capital, including greater clarity on the process of a call and in the budgetary frameworks for callable among major shareholders. This is a topic for further exploration in the next phase of the study, including what might be possible at the level of policy changes and what might require statutory reform.

At least three MDBs (IBRD, IDB and EBRD) have said that they already incorporate callable capital into their internal capital adequacy frameworks. They do so, but only as a reflection of CRA methodologies. That is, the MDBs establish certain thresholds to maintain a AAA bond rating, and in the three mentioned cases do so by reflecting how CRAs (and in particular, S&P) offer uplift to MDB ratings due to callable capital.

To our knowledge, none of the MDBs have evaluated the inherent value of callable capital to MDB financial strength as a mitigant to cope with extreme tail risk. Nor have they taken the value of that risk mitigation into account in defining the risk thresholds built into their

capital adequacy frameworks, irrespective of the approach taken by CRAs. Doing so is the core of the second recommendation of the G20 Capital Adequacy Frameworks report (2022) and would provide guidance to CRAs as they evolve their methodology components related to callable capital.

6 Callable capital within the broader shock resiliency toolkit of multilateral development banks

This study considers the broader range of instruments and processes that MDBs have to face financial stress, including callable capital. In the wake of the global financial crisis, commercial banks and banking regulators have developed increasingly sophisticated approaches to manage and recover from stress along a continuum from 'business as usual' to non-viability. MDBs may benefit from some of these approaches to strengthen their capacity to respond to financial stress, recover from shocks and provide counter-cyclical financing in times of crisis.

MDBs have well-established risk management and capital adequacy frameworks for business-as-usual purposes. Some MDBs manage capital adequacy with respect to a 10-year planning horizon and limit credit risk relative to a target capital adequacy ratio at the end of that period. Other MDBs conduct stress tests examining the impact of different borrower default and funding cost increase scenarios on their internal ratios or ability to sustain planned lending targets.

However, most (but not all) MDBs have limited internal arrangements for monitoring their proximity to non-viability or default. For example, most MDBs do not conduct reverse stress testing to assess how they could cope with severe economic scenarios. MDBs have limited formal arrangements that link management actions to stress triggers to recover from such scenarios.

Our research has found some consistent views across MDBs on how they consider financial stress. MDBs consider the loss of the AAA rating as indicative of MDB entry into a period of stress. This, in turn, leads MDBs to focus heavily on ratings and less on an MDB's financial resilience with respect to the level of loss-absorbing capacity needed to maintain continuity in the critical lending functions through the economic cycle. This is for good reason, given the need to minimise their cost of funding and respond to shareholders' directive to maintain AAA credit ratings.

Most MDBs have limited internal forecasting or modelling capability related to recovery planning compared to commercial banks. Such well-developed internal models, processes, documented procedures and resources are related to assessing when a capital call would be triggered. This requires robust forecasting capabilities, well-defined non-viability triggers, monitoring arrangements, and crisis management governance, as such actions are fundamentally judgement-based. In general, MDBs have limited going concern recovery capacity to enable a response to increasing levels of financial stress beyond requesting additional shareholder capital.

Recent hybrid capital issuance by AfDB and IBRD (Hay, 2023) is one example of the steps some MDBs are taking that can help improve recovery capacity. The calibration of the triggers for any such MDB recovery actions will need to reflect their risk appetite and market factors where private third-party participation is involved.

6.1 Enhancing multilateral development bank resilience – economic rationale

MDBs posit that they are not subject to the excessive risk-taking problem that motivates the need for higher resilience requirements for commercial banks. However, there are other policy reasons for resilience requirements on banks that MDBs do share. They both carry out important public policy functions where a temporary discontinuity in these lending services could have important implications for economic growth. MDBs play a critical role in poverty reduction, climate change mitigation and other public development goals as a lender to public and private sector actors who cannot access similar credit in the private funding market. Temporary disruption of MDB lending capacity could have very significant implications for sustainable economic development.

Resilience requirements also aim to maintain optimal risk-sharing between shareholder governments and MDBs designed to maximise economic efficiency. Improving the ex-ante resilience of MDBs is also consistent with protecting public funds from stress. For example, while some MDBs have identified management actions linked to stress indicators, other MDBs could enhance financial resilience by issuing non-voting hybrid capital instruments or preparing recovery plans with well-developed management actions to improve solvency and liquidity in a stress scenario as additional options beyond requesting shareholder capital injections as the main source of support.

While MDBs are not profit maximisers or prone to excessive risk-taking in the same way as commercial banks, there remains a strong policy rationale for MDBs developing enhanced resilience reforms beyond relying on future shareholder capital injections.

The development of transparent capacity and systematic approaches to managing financial stress will also strengthen market confidence in MDB resilience. This will support its access to funding markets at sustainable prices in both benign and stressed market conditions. Doing so does not in any way imply that serious financial stress is more likely to materialise, and indeed there is every reason to think that the extraordinarily strong performance of MDBs over past decades will continue. Rather, planning for financial stress is a part of modern risk management of all financial institutions, commercial as well as public, and will underpin continued or indeed strengthened rating agency metrics and privileged capital market access.

6.2 Emerging reform considerations

The World Bank Evolution Roadmap (World Bank, 2023) set out a work plan to explore options for enhancing IBRD financial resilience, such as (1) risk transfer, (2) non-voting (hybrid) capital, (3) callable capital, and (4) Statutory Lending Limit solutions. These proposals are indicative of similar discussions currently under way across multiple MDBs, spurred in part by the G20 Capital Adequacy Frameworks Panel report (2022). This project aims to contribute to the ongoing work of MDBs and shareholders to by exploring proposals related to:

- Improving MDBs' definition of the crisis continuum (e.g., the steps from business as usual to stress to non-viability). MDBs report their capital adequacy ratios and have clearly defined 'waterfalls' of how losses would be absorbed in stress. However, it will be important to describe how stress might evolve in an MDB balance sheet and what management actions could be taken to recover at increasing stress levels. This will strengthen market confidence in MDB resilience.
- Refining MDB proactive intervention frameworks (where they have been institutionalised), including enhancing internal monitoring and governance arrangements for forecasting and responding to financial stress with timely management actions.
- Defining a clear framework for MDBs moving from going to gone concern. MDBs require a clear methodology for assessing non-viability triggers. Absent this, it is difficult for MDBs to manage their operations to avoid such conditions. The issuance of hybrid capital or requests for capital calls is also dependent on the establishment of non-viability trigger frameworks.
- Developing MDB recovery planning capacity with clear proactive intervention triggers to ensure that MDBs deploy management actions that go beyond a reliance on shareholder paid-in capital.

- Improving MDB loss-absorbing capacity. MDBs are expanding the range of options available to ensure the continuity of their critical lending services in stress, including exploring hybrid capital instruments. Strengthened MDB recovery planning and reverse stress testing forecasting capability support the timely deployment of such additional options.

7 Modelling the impact of shocks to multilateral development bank balance sheets

A key limitation to discussion between stakeholders of MDB callable capital, and capital adequacy more broadly, is an understanding of the circumstances that would lead an MDB into financial stress that could, eventually, result in a capital call. This includes what sort of factors could trigger financial stress, the timeframe over which this would materialise, a realistic assessment of the probabilities, and an understanding of how callable capital or other management actions could be deployed to resolve extreme crises.

To improve understanding of these issues and generate evidence to better inform discussions on callable capital and MDB financial stress, this component of the study models MDB balance sheets using publicly available data and subjects them to a series of increasingly severe shocks – a reverse stress test. The initial modelling has focused on the World Bank’s non-concessional lending wing, IBRD. In a later phase this will be refined and extended to the other MDBs in the study.

This modelling approach, as with all models, has limitations, including lack of access to the Global Emerging Markets Risk database of MDB loan performance. Its purpose is to capture the relative dynamics of MDB balance sheets in the face of shocks, including the impact of management actions.

7.1 Model description

The modelling forecasts an annual balance sheet and income statement for IBRD over a 10-year period. The estimates for lending margins, operating costs and balance sheet structure are from a five-year historical analysis based on published annual reports. These operating ‘norms’ are projected forward in the model.

The initial lending portfolio is from the most recent IBRD annual report, and the relative geographic mix is maintained over time. Credit risk is simulated by generating random scenarios linked to a

sovereign rating transition matrix using a Monte Carlo process. We selected the Moody's transition matrix for this purpose as it does not include selective defaults in the downgrades, which would be inconsistent with the preferred creditor treatment (PCT) enjoyed by MDBs – that is, a country can be in default with commercial creditors but still current with MDBs. Sovereign default risk is correlated at a country level using historical data when available and smaller countries are allocated to regional groupings.

The model assumes that if a sovereign loan goes into 'non-accrual status' (the borrower stops repaying), IBRD will incur a loss one year after the non-accrual occurs, resulting in lower income for the year reflecting all future potential non-accrual costs. Recognising a definitive 'loss given default' (LGD) in this way is different (and more conservative) to the usual accounting treatment followed by IBRD. IBRD does not recognise losses immediately, but rather gradually takes losses because it does not charge interest on delayed repayment of interest of non-accruing loans (although it does collect interest charges on delayed principal repayments).

The two approaches can be reconciled as shown in a background paper by Risk Control (2022) for the G20 Capital Adequacy Frameworks Panel, which demonstrates the relationship between the approach in the model and the current IBRD accounting method. It further shows that using a discount rate of 5% as an example, the effective LGD equivalent might be in the region of 13% for an MDB such as AfDB and below 5% for other MDBs. The magnitude of the LGD experienced by IBRD in the event of a sovereign default is a key assumption in the model.

The model is designed to permit experimentation with a higher volatility of credit upgrades/downgrades, and for a skewed analysis with an increase chanced of downgrades. Downgrades to non-accrual are generated using a Markov chain from the transition matrix over the 10-year modelling period. At the end of each balance sheet year in the model, the lending capacity of IBRD is re-calculated based on an equity/loans ratio. Future loans are only disbursed to countries that have not gone into non-accrual on their loans.

The model is run with many iterations to create a distribution of outcomes for different input assumptions about credit risk and LGDs. This output can indicate whether a capital call would be triggered in the distribution of scenarios.

7.2 Early modelling outcomes for the International Bank for Reconstruction and Development

Based on the effective LGDs being of the order of 10–15%, it has not been possible to create a stress scenario that would trigger a capital call. The intuition is clear: as IBRD operates with a higher equity/loans ratio (around 20%) than the LGDs in the model, the

entire portfolio could default and IBRD would still be solvent. For a capital call to be triggered, the LGD would need to be significantly higher and closer to private sector levels, which average around 40% (Martinez et al., 2022). Unless shareholders were to respond to such an extraordinary shock with fresh capital, this could trigger a funding crisis, which could in turn further weaken the incentive of remaining borrowers to respect PCT – leading to a downward spiral for the MDB.

The dynamic nature of the model also captures a secondary effect that reduces risk and would be absent from a stress test over a single period. In any given year, a fraction of loans is repaid, and new loans are disbursed. In a year when losses are high, and if the balance sheet equity is below the desired target level, IBRD could theoretically shrink its loan portfolio to stabilise its finances. In these scenarios, the model shows that IBRD could engineer a ‘soft landing’ and remain solvent over a 10-year period by consistently shrinking its balance sheet in the face of losses. There is no sudden jump to stress and management would have time to develop recovery strategies. There is a question around what would happen to funding costs in this scenario, which in turn would be linked to how these costs are passed on to borrowers.

Managing stress through balance sheet shrinkage would of course significantly conflict with shareholder objectives and IBRD’s development mandate, but it emphasises the point that purely in terms of ability to repay creditors in the face of shocks, IBRD is extremely secure. If MDBs want to maintain their policy purposes or expand balance sheet capacity, then the modelling indicates that their current capital ratios would be a constraint.

In summary, stress emerges over a long time-horizon and triggering a capital call appears to be contingent on IBRD not taking management actions to conserve capital through reducing lending and experiencing defaults on a scale that it has never experienced. Such losses suggest PCT would no longer be relevant. Static credit stress assessments do not incorporate natural management rebalancing actions that further reduce risk.

8 Summary of findings and future research

The findings outlined above are tentative, representing the results of the first phase of the research project. A robust agenda of further research will be followed in the coming months, as sketched out below. Nonetheless, the work undertaken so far has been highly revealing and leads to a number of reflections.

8.1 Summary of preliminary findings

The **legal parameters of callable capital** are ambiguous and would greatly benefit from clarification. This may be done at the level of policy and formal legal findings, without requiring statutory reform (a non-trivial undertaking). Greater clarity around triggers and processes would be positively interpreted by CRAs and improve the ability of MDBs and shareholders to consider the role of callable in facing potential severe financial shocks. A close reading of the statutes suggests that callable capital may be used more flexibly than heretofore considered by MDBs, but this requires further exploration.

Preliminary findings show that **several major shareholders could quickly deploy substantial resources to meet an MDB capital call**. At the same time, the manner in which callable capital is embedded in shareholder fiscal frameworks is ambiguous and would benefit from improved clarity. This aligns well with broader moves by many governments to better understand fiscal contingent liabilities, including those related to development cooperation. While such analysis may be sensitive, the status of callable capital as a remote contingent liability would remain unchanged should shareholders clarify related budgetary processes. It would have no impact on the extremely low likelihood of a capital call and would strengthen public accounting and provide greater confidence to MDBs and CRAs.

CRA methodologies incorporate callable capital in highly divergent ways, resulting in huge differences in lending headroom space for the same MDBs across all three major CRAs under a AAA rating, a point emphasised in a recent report by Risk Control (2022). This reflects the uncertainty surrounding this unique MDB guarantee. It is incumbent on MDBs and shareholders to provide clearer information and signalling about callable capital to help orient CRA approaches.

The broader set **of processes and instruments available to many MDBs to face financial stress are not well developed** when compared to commercial financial institutions. While understandable for historical reasons and their unique policy mandate, MDBs could benefit from more robust planning for different stages along a crisis continuum, including the ability to quickly deploy other types of loss-absorbing capital. Modernising MDB crisis management capabilities can further reduce the already remote possibility of requiring a capital call.

Reverse stress test modelling illustrates the extraordinary financial strength of MDBs. Preliminary results from the IBRD balance sheet show that even in the face of massive repayment stoppages – many times greater than any major MDB has ever experienced – it could continue servicing its bonds for several years, although its capacity to undertake new lending would be constrained. This suggests that MDB capital adequacy frameworks are over-engineered to face stress and do not adequately value the liquidity coverage provided by callable capital.

8.2 Future research directions

A considerable agenda of work remains before the project team will have sufficient evidence to postulate more conclusive findings and formulate policy recommendations. This will involve further in-depth discussions with MDBs, CRAs and shareholder governments as well as deeper analysis of data and relevant documentary sources.

Specific planned research directions include:

- More detailed exploration of the legal implications of MDB statutory provisions related to callable capital, potentially including consultations with external legal experts as well as archival research on the creation of callable capital.
- Systematic overview of fiscal considerations of 30 major MDB shareholders, including existing appropriations and processes/timings to appropriate new resources in the event of a capital call.
- Detailed comparative analysis of CRA methodology for conceptualising and valuing callable capital in MDB ratings.
- Evaluation of existing management processes and instruments to cope with financial stress across MDBs, including role of innovations proposed by the G20 Capital Adequacy Frameworks report, and recommendations to modernise MDB capacity to manage stress based on lessons of other financial institutions.
- Refined reverse stress test modelling for IBRD and extension to other MDBs covered in this study, adapted to their

circumstances and drawing relevant conclusions on factors potentially leading to a capital call, including probabilities, timing and scale.

A final, critical step of the project, based on the results of the above research, will be to formulate concrete proposals for how MDBs, shareholder governments and CRAs might account for the value of callable capital as a specialised guarantee into their capital adequacy frameworks to prudently expand lending capacity.

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