



BANCA D'ITALIA
EUROSISTEMA

Questioni di Economia e Finanza

(Occasional Papers)

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banks' capital

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TOWARDS A MORE EFFICIENT USE OF MULTILATERAL DEVELOPMENT BANKS' CAPITAL

by Riccardo Settimo*

Abstract

The increasing financing needs of the Sustainable Development Goals (SDGs), coupled with factors likely to restrain in the near future the growth of multilateral development banks' (MDBs) own resources, call for maximizing capital efficiency. Focusing on 7 major MDBs – the IBRD, IFC, AfDB, EBRD, EIB, ADB and IADB – this paper contributes to this debate by: (a) quantifying their aggregate available lending capacity (capital resources and ratings being unchanged); (b) providing a preliminary estimate of the impact on these banks' lending capacity if rating agencies (in particular, Standard and Poor's) were to refine their methodologies to take into account 'preferred creditor status' and 'single name concentration', as suggested by other researchers. The analysis is replicated assuming that MDBs target an AA+ rating. The paper shows that appropriately refining rating procedures may indeed increase MDBs' current overall lending capacity significantly, under both 'triple-A' and 'AA+' scenarios. At the same time, it makes clear that MDBs alone cannot satisfy what are anticipated to be the very substantial financing needs of SDG-related investments.

JEL Classification: F53, G24, O19.

Keywords: multilateral development banks, preferred creditor status, single name concentration, credit ratings, rating agencies, 2030 development agenda.

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1. Introduction

In an effort to end all forms of poverty, the international community has recently agreed on the 2030 Development Agenda, by far more ambitious compared with the previous development framework – the Millennium Development Goals (MDGs) – in that it universally applies to all countries. The new Sustainable Development Goals (SDGs) recognize that ending poverty can only be the result of a comprehensive strategy that builds on economic growth, inclusiveness and sustainability, and addresses a whole range of related investment needs in sectors such as education, health, social protection, infrastructure, innovation, job creation, clean energy, and the quality of institutions.

To fund the investment needs of the new Agenda, it is indispensable to step up the discussion from the ‘Billions’ in Official Development Assistance to the ‘Trillions’ in financial resources of all kinds, public and private, domestic and international.¹ With specific regard to multilateral development banks (MDBs), the Addis Ababa Action Agenda (AAAA) states that they should make optimal use of their resources and balance sheets, and at the same time preserve their financial integrity.² More generally, given the enormity of development financing needs, and in the face of mounting pressures on public budgets, it is increasingly necessary that precious (and scarce) public resources be used as efficiently as possible.

How can efficiency be ensured? First of all, in a value for money mindset, it implies maximizing development outputs (whilst maintaining appropriate quality standards) and at the same time minimizing costs.³ Secondly, for certain public investments it may mean optimizing the mobilization and catalyzation of private sector resources to support countries with the implementation of the 2030 Development Agenda, including through financial innovation.⁴ Lastly, with particular regard to development institutions, efficiency may be related to the maximization of banks’ development exposure for given capital resources (capital efficiency). It is evident that the above distinction is used here for descriptive purposes only; in actual fact, the three concepts are not mutually exclusive. On the contrary, they overlap and are mutually reinforcing.

MDBs play a crucial role on all of these three fronts. Among development institutions they are first-class providers of financial and knowledge solutions at competitive costs. In keeping with their respective mandates, they also play a central role in mobilizing private sector resources, either directly, through the provision of co-financing and credit enhancement instruments, or indirectly, by supporting reforms and hence improving the risk-return profile of private capital. Finally, MDBs are able to leverage relatively small amounts of capital contributions from

¹ ‘From Billions To Trillions: Transforming Development Finance - Post-2015 Financing For Development: Multilateral Development Finance’, prepared jointly by the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the European Investment Bank, the Inter-American Development Bank, the International Monetary Fund, and the World Bank Group for the Development Committee Meeting of 18 April 2015.

² ‘Addis Ababa Action Agenda’ – Final text of the outcome document adopted at the Third International Conference on Financing for Development (Addis Ababa, Ethiopia, 13–16 July 2015) and endorsed by the General Assembly in its resolution 69/313 of 27 July 2015.

³ ‘Value for money and international development: Deconstructing myths to promote a more constructive discussion’, OECD (2012).

⁴ To this end, under the current German Presidency, the G20 is in the process of drafting a set of ‘Principles of MDBs’ strategy for crowding-in Private Sector Finance for growth and sustainable development’.

shareholder governments, borrow from capital markets, and lend much larger amounts for development purposes (Table 1.1).

While sharing the view that progressing on all three fronts is crucial for achieving the SDGs, in this paper we restrict our focus to capital efficiency. This aspect is particularly important at this juncture, given the huge gap between global development financing needs and the aggregate amount of public resources available to meet them. For example, considering physical infrastructure only, estimates suggest additional needs of USD 1.0-1.5 trillion per year between now and 2030 in low and middle-income countries, amounting to about 5 per cent of their GDP in 2015.⁵ Given the predominance of infrastructure finance in MDBs’ portfolios, this is just one of the many factors that lead us to forecast a steep rise in financial demands for these institutions in the next few years.

	Paid-in capital	Cumulative operations*
IBRD	13.4	586.2
IADB	4.9	208.6
ADB	5.9	146.4
AfDB	4.6	103.5
EBRD	8.6	116.9
IFC	2.4	204.6
Total	51.1	1,579.0

* Sum of loans, guarantees and equity investments provided since the start of operations.
Source: Humphrey (2015). Data as of 2013. Figures in nominal USD billion.

However, a few factors are limiting the potential growth of capital resources. On the one hand, the extended period of low interest rates is squeezing these institutions’ margins, weakening their historical capacity to generate equity internally. On the other hand, new capital injections are unlikely to be feasible at the current juncture, in view of recent political developments in some advanced economies, the related increasing tide of inward-looking policy stances, and mounting pressures on public budgets.

Therefore, avenues other than capital increases need to be explored in order to allow MDBs to accommodate the growing financing needs of the 2030 Development Agenda.

Note that raising capital efficiency is only one of the five lines of action through which MDBs are implementing the Action Plan to Optimize Balance Sheets, endorsed by the G20 Leaders at the Summit in Antalya in 2015, with the objective of increasing these institutions’ development exposures given current capital resources, whilst preserving triple-A rating levels.⁶ In a recent article, S&P estimates that the 19 multilateral lending institutions (MLIs) it rates could accommodate an additional USD 1 trillion of credit exposure, on aggregate, based on their ratings as of 15 March 2016. While not giving out more detailed information, the agency declares that ‘most of this capacity lies with triple-A entities, which benefit from robust intrinsic

⁵ Bhattacharya et al. (2015).

⁶ Group of Twenty 2017. The remaining lines of action are the following: perform exposure exchanges, leverage concessional window equity, resort to risk transfer instruments for non-sovereign operations, and adopt a set of net-income measures. A number of very important results have already been achieved in this respect, especially with regard to the leveraging of concessional windows’ equity and the introduction of net income measures (pricing updates, expenditure review, reform of transfer policies), which are expected to have beneficial effects on lending capacity in the near term.

capital adequacy and reserves of 'AAA' rated callable capital'. Their estimates stem from simulating higher exposures on the risk-adjusted capital of the 19 MLIs, assuming other factors (including rating levels) remain unchanged. In their results, the distribution of available capacity is not uniform across institutions, ranging from 0% to 240% of existing exposures.⁷ In a follow-up article (S&P 2017), S&P stresses the many important static assumptions on which the previous estimates are based.⁸

In this paper we focus on 7 MDBs – the IBRD, IFC, AfDB, EBRD, EIB, ADB and IADB – which together represent some 90% of total exposures by the 19 MLIs rated by S&P, and explore a few possible avenues for increasing their lending capacity beyond what is already being implemented as part of the G20 MDB Balance Sheet Optimization Action Plan. In particular, we point to actions in three directions: (i) a better utilization of the margins for increasing risk exposures implicit in the S&P rating framework; (ii) a refinement of the methodologies applied by S&P to take account of MLIs' preferred creditor status (PCS) and single name concentration (SNC); (iii) the acceptance of a lower than triple-A rating level.

In the next section, we recall the main factors that make MDBs very special institutions and pinpoint the key features of S&P's methodology for rating multilateral lending institutions (MLIs) (Section 3). In accordance with S&P 2016a, in Section 4 we assess the current availability of lending space across the 7 institutions, achieving results that are in line with those attained by S&P and other non-published discussion papers. Section 5 provides an estimate of the potential increase in such lending space originating from a better exploitation of the margins for increasing risk exposures existing under the current S&P rating framework. In Section 6 we examine the argument that the methodologies adopted by major rating agencies tend to underestimate the financial strength of MDBs, and end up significantly constraining their capacity to expand operations. In particular, we estimate the potential increase in lending space deriving from improving the methodologies to take due account of preferred creditor status (PCS) and single name concentration (SNC). Finally, in Section 7, we explore the implications of challenging the triple-A taboo and estimate the impact on lending capacity of targeting a lower rating level, for instance AA+.

⁷ S&P (2016b).

⁸ Spare lending capacity could actually be lower due to a combination of factors such as: the weakening sovereign credit quality that affects capital ratios, the need to hold buffers to safeguard the countercyclical lending role, the gradual erosion of highly-rated callable capital, a parallel potential downgrade of the business profile evaluation. Quite importantly, the 'all else being equal' assumption implies that liquid treasury assets increase by the same amount as development-related exposures. Considering that liquid exposures are typically between 20%-30% of total exposures (development+liquidity), the USD 1 trillion estimate of additional development exposures would shrink to USD 700 – USD 800 billion.

2. What makes MDBs so special?

Multilateral development banks (MDBs) play a crucial role in addressing market failures in the long-term financing of global development and poverty reduction. They do so by raising funds in international capital markets and lending them at a spread (to cover administrative costs) to borrowing member countries. As stated already, one of the main reasons for the success of their financial model rests on the chance offered to shareholder governments to support a large volume of development operations with a relatively limited amount of capital contributions.

These institutions were established at different points in time by a number of sovereign governments and mandated to support the policy intent of their owners. The IBRD and IFC (members of the World Bank Group, WBG) are global entities, with a membership that exceeds 180 countries; other institutions (the AfDB, EBRD, EIB, ADB, and IADB) are more regional in scope and have a lower number of member countries (Table 2.1). Usually MDBs count only (or mainly) developing countries among borrowers, with the exception of the EIB, which lends mostly within its own member countries. Some MDBs also lend to the private sector; the EBRD and EIB have, in fact, large private sector portfolios. The IFC is the World Bank Group institution specialized in providing financial support to the private sector without sovereign backing. The World Bank, AfDB, ADB and IADB also have concessional lending windows. In this paper we limit our analysis to their non-concessional operations.

	IBRD	IFC	AfDB	EBRD	EIB	ADB	IADB
Subscribed capital	252.8	2.6	90.8	32.4	265.2	147.1	156.9
<i>Callable</i>	237.6	-	84.0	25.6	241.5	139.7	151.2
<i>Paid-in</i>	15.2	2.6	6.8	6.8	23.7	7.4	5.7
Adjusted Common Equity	38.6	24.4	9.0	15.8	68.6	17.2	25.1
Purpose-related exposures	158.4	39.8	20.3	29.6	491.4	64.1	90.3
Year of establishment	1944	1956	1963	1991	1958	1966	1959
No. of shareholders	188	184	78	68	28	67	48

Source: MDBs' Annual Reports. Data in USD billion. As of 2015. Conversion rates: USD/SDR =1.39 (for the AfDB) and USD/EUR =1.09 (for the EBRD and EIB). The source of Adjusted Common Equity (ACE) and Purpose Related Exposures (PREs) is S&P 2016

At least to some extent, MDBs differ from each other in terms of mandate, structure, instruments and scope of activity. At the same time, however, they share a number of similar and unique characteristics that set them apart from commercial banks. They are not usually subject to national banking regulations or commercial law; their special status is governed by international treaties and internal bylaws. Given the public policy character of their missions, they are exempted from paying corporate income tax and do not distribute dividends, which in the past has allowed them to generate considerable amounts of capital internally.

MDBs generally have a simpler and less diversified business model than commercial banks. Their activity mostly consists of lending to or guaranteeing the obligations of a relatively limited number of sovereign governments (borrower countries). They do not collect deposits and rely exclusively on market funding (as a rule, they have no access to central bank funding)⁹; all 7 MDBs considered in this paper have triple-A ratings, allowing them to minimize the cost of funding.

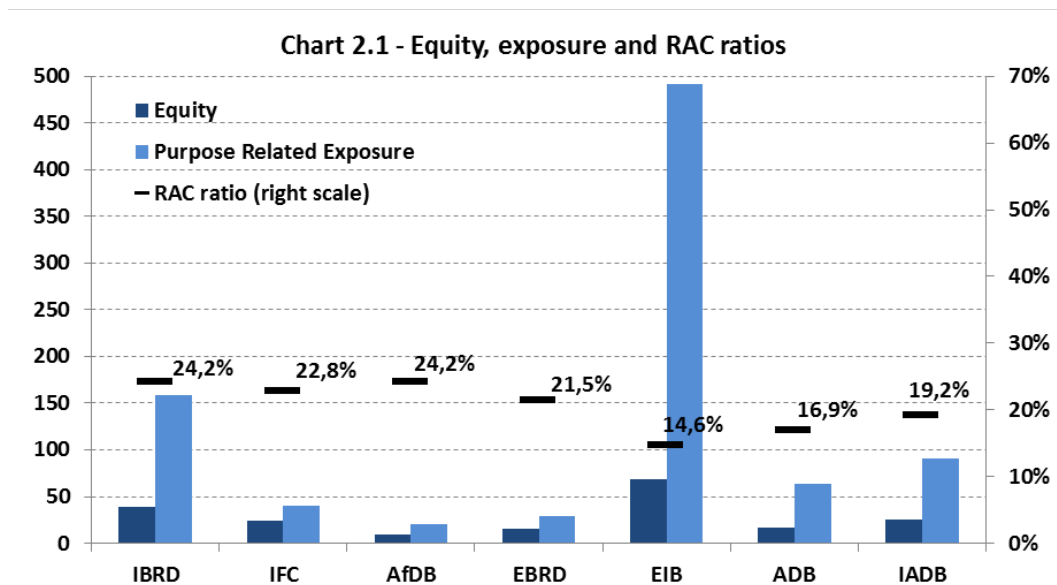
⁹ With the notable exception of the EIB.

De facto preferred creditor status (PCS) on exposures to sovereigns is a key characteristic of MDBs, which has enabled them to operate with low or no losses throughout their history. These institutions are not just ‘banks’ that provide low-cost finance for development-related projects; they also provide their borrower (member) countries with technical assistance, an external anchor to push through development policies and a voice in the international arena. As a result, the decision to suspend payments on a MDB loan is more than a mere financial decision and, as history has shown, countries that do stop payments invariably repay principal and interest eventually.¹⁰

A final important characteristic of most MDBs is callable capital, which refers to the portion of capital subscriptions that is not ‘paid-in’ but committed by each shareholder only in the event it is required to prevent a default on a MDB obligation. Callable capital dwarfs paid-in capital, ranging from around 80% (AfDB) to over 96% (IADB) of total subscribed capital. So far no MDB has ever experienced a call on its callable capital.

The 7 institutions considered have an aggregate stock of purpose-related exposures (PREs)¹¹ of USD 894 billion as of FY2015. The EIB is by far the largest institution, with almost USD 500 billion in total exposures. The IBRD (World Bank) follows with around USD 160 billion.

Combined equity¹² is about USD 200 billion, which determines a purpose-related exposure / equity ratio of 4.5. While drawing comparisons with other kinds of financial institutions is not entirely correct, given MDBs’ many unique features, it is a matter of fact that they operate at very conservative leverage ratios.



Given the absence of a regulatory framework for MDBs, limits on their lending derive from internal capital adequacy frameworks which, in turn, reflect the risk attitude of shareholders.

¹⁰ Humphrey (2015).

¹¹ Balance sheet data and information are not reported in a standardized way by all MDBs. For simplicity and uniformity across institutions we use S&P’s aggregate ‘purpose-related exposures’ which includes loans, guarantees and investments that are linked to their respective development missions.

¹² Again, in order to ensure comparability across institutions, we report ‘adjusted common equity’ (ACE), the globally consistent measure of capital used by S&P, adjusted for MDB-specific factors (see ‘Bank Capital Methodology And Assumptions,’ S&P, 6 December 2010).

The institutions differ considerably in terms of methods for measuring risk exposures and required capital buffers. Some impose minimum equity-to-loan ratios (ELRs), others recur to an economic capital utilization rate, still others refer to a capital coverage ratio or to strategic deployable capital.

One way of comparing risk exposures across MDBs is to use risk-adjusted capital (RAC) ratios, as computed by Standard and Poor's, which relate each MDB's capital to its risk-weighted assets (RWAs) after adjustments, based on S&P's own methodology, for preferred creditor status and diversification / concentration. Chart 2.1 also reports adjusted RAC ratios for the 7 institutions; in 2015 they ranged between a maximum of 24.2% (IBRD and AfDB) and a minimum of 14.6% (EIB). Again, their prudent stance is particularly evident, as most private financial institutions typically have ratios below 10%.¹³

¹³ Humphrey (2015) reports from S&P that, out of the top 100 rated banks in 2013 (highest rating AA-, three notches below triple-A), only four had ratios above 10%.

3. S&P's methodology for rating multilateral lending institutions

The methodology adopted by S&P's for rating multilateral lending institutions (MLIs, of which MDBs are a subset) replicates, where applicable, the framework used for banks, but with some substantial modifications to reflect MDBs' special characteristics.¹⁴ It consists of two key steps: (i) determining the MLI's stand-alone credit profile (SACP), and; (ii) assessing the impact of 'extraordinary shareholder support', in the form of the addition of callable capital, on the institution's creditworthiness to determine the issuer credit rating (ICR) (Chart 3.1).

Chart 3.1 - Setting the issuer credit rating (S&P 2016)



The SACP is based on the evaluation of two factors: the business profile, which reflects the assessment of the MLI's policy importance and its governance and management expertise, and the financial profile, which reflects the assessment of the institution's capital adequacy and its funding and liquidity capacity (Chart 3.2).

Chart 3.2 - Assessing the stand-alone credit profile (S&P 2016)

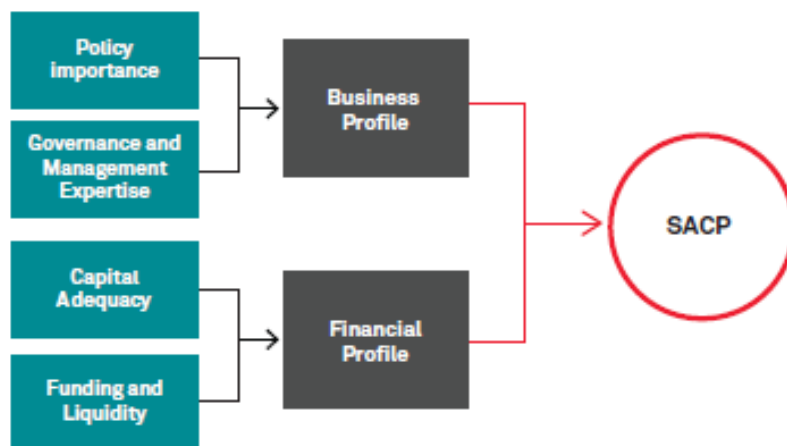


Table 3.1 contains the SACP ratings corresponding to the different combinations of business and financial profiles.¹⁵ The analysis of the financial profile, in turn, is the result of assessments of the capital adequacy as well as the funding and liquidity profile (Table 3.2).

¹⁴ S&P's 2016b and 2012.

¹⁵ In cases when the table presents a range of ratings, the choice between the two or three ratings is based on: the transition S&P expects in some of the sub-factors composing the business and financial profiles that is likely to strengthen or weaken the MDB's creditworthiness over time, and the agency's view of the MDB's credit standing relative to other MDBs with the same business and financial profiles, if the assessments of the sub-factors do not fully capture certain comparative factors. Peers are primarily defined based on the type and risk profile of their exposures (S&P 2016b).

Table 3.1 - Determining an MLI's SACP (S&P 2016)

Business Profile	Financial Profile						
	Extremely strong	Very strong	Strong	Adequate	Moderate	Weak	Very weak
Extremely strong	aaa	aaa/aa+	aa+/aa	aa/aa-	a+/a	a-/bbb+	bbb/bbb-
Very strong	aaa/aa+	aa+/aa	aa/aa-	a+/a	a/a-	bbb+/bbb	bb+/bb
Strong	aa+/aa	aa/aa-	a+/a	a/a-	bbb+/bbb	bbb/bbb-	bb/bb-
Adequate	aa/aa-	a+/a	a/a-	bbb+/bbb	bbb/bbb-	bb+/bb	b+/b
Moderate	a+/a	a/a-	bbb+/bbb	bbb/bbb-	bb+/bb	bb-/b+	b/b-
Weak	a-/bbb+	bbb+/bbb	bbb/bbb-	bb+/bb	bb/bb-	b+/b/b-	ccc+/ccc/ccc-
Very weak	bbb+/bbb	bbb/bbb-	bb+/bb	bb/bb-	b+/b/b-	ccc+/ccc/ccc-	cc

Table 3.2 - Assessing the financial profile (S&P 2016)

Funding and liquidity	Capital adequacy						
	Extremely strong	Very strong	Strong	Adequate	Moderate	Weak	Very weak
Very strong	Extremely strong	Extremely strong	Very strong	Strong	Adequate	Moderate	Weak
Strong	Extremely strong	Very strong	Strong	Adequate	Moderate	Weak	Very weak
Adequate	Very strong	Strong	Adequate	Moderate	Weak	Very weak	Very weak
Moderate	Strong	Adequate	Moderate	Weak	Very weak	Very weak	Very weak
Weak	Moderate	Moderate	Weak	Very weak	Very weak	Very weak	Very weak
Very weak	Weak	Weak	Very weak	Very weak	Very weak	Very weak	Very weak

The evaluation of capital adequacy is based on the RAC ratio, which compares an MDB's capital to its risk-weighted assets (RWAs). In particular, S&P uses a globally consistent measure of capital, adjusted common equity (ACE).¹⁶ To calculate ACE, S&P applies some adjustments necessary to account for MDBs' specific traits. For example, periodic general capital increases are typically scheduled to be paid in over a number of years. As a result, the methodology excludes the paid-in capital subscribed and not yet received, callable capital, receivables on past-due paid-in capital, and receivables on account of maintenance of value payments. Restricted currency holdings are also deducted from ACE.

To compute RWAs, specified risk weights are applied to the various exposures.¹⁷ The methodology used to determine RWAs before diversification and concentration adjustments is identical to the one used for banks to ensure comparability with MDBs' RAC ratios. S&P uses sovereign ratings for the risk weights of loans and other exposures to sovereigns, and the Banking Industry Country Risk Assessment economic risk scores of the countries to calculate the risk weights of lending to the private sector in those countries. Equities receive a risk weight based on the volatility of the markets in which they are invested, consistent with Standard & Poor's insurance and financial institutions capital frameworks.¹⁸

¹⁶ S&P, 2010.

¹⁷ The risk weights employed by S&P are declared as comparable to, but currently somewhat different from, Basel regulatory RWAs. The agency suggests that the two may move closer over time as Basel III rules are progressively implemented. In fact, as also Peraudin et. al (2016) illustrate, S&P's risk weights (see the last column of Table 6.2 below) are quite different in conception from the Basel risk weights, and it not fully clear why the two sets of risk weights should converge.

¹⁸ S&P, 2011.

Table 3.3 shows that assessments corresponding to different ranges of the RAC ratio can vary from ‘extremely strong’ to ‘very weak’.¹⁹ When the RAC ratio is borderline between two categories (i.e., diverging by less than 10% from a threshold in relative terms) S&P may adjust the assessment to the following (upper or lower) category, if qualitative forecasts point to a change in the RAC ratio during the rating timeframe. For instance, an ‘adequate’ RAC ratio of 9.7%, borderline with ‘strong’, can be raised to this latter category in the presence of a positive trend in the capital ratio. Conversely, a borderline RAC ratio of 7.3% can be assessed as ‘moderate’ in the case of an anticipated negative trend.²⁰

Table 3.3 - Assessing Capital And Earnings (S&P 2016)

Assessment	The RAC ratio is
Extremely strong	Above 23%
Very strong	Above 15% and up to 23%
Strong	Above 10% and up to 15%
Adequate	Above 7% and up to 10%
Moderate	Above 5% and up to 7%
Weak	Above 3% and up to 5%
Very Weak	Lower than 3%

The assessment of capital adequacy is then refined through the evaluation of the risk position analysis, i.e. of the specific risks beyond the standard assumptions (mainly those related to PCS and diversification / concentration). The above adjustments, some of which will be discussed in more detail in the following sections, are expressed in terms of additions to RWAs (e.g. penalizations for SNC) or subtractions from RWAs (benefits to take account of PCS). The comparison between the adjusted RAC ratio (i.e. the RAC ratio after concentration and PCS) and the unadjusted one, represents the cornerstone of the risk position analysis.²¹ For the sake of simplicity, we will base our estimates of potential increases in lending headroom starting from the adjusted version of the RAC ratio.

Based on the procedure described above, it is rather straightforward for any given combination of assessments of MDBs’ business and funding and liquidity profiles, to associate a given ‘adjusted’ RAC ratio (the pillar of the capital adequacy assessment) to a SACP rating level. Finally, adding extraordinary shareholder support (in terms of callable capital) to the SACP rating leads to the determination of the final issuer credit rating (ICR) of the institution.

As stated previously, callable capital is a peculiarity of most MDBs. It corresponds to a commitment by each shareholder to make additional capital available, but generally only when necessary to avoid a default on a MDB’s obligation. Callable capital is typically a multiple of paid-in capital and often also exceeds the institution’s equity. If a capital call is made, each

¹⁹ It is worth noting that in order to account for the generally high capitalization levels in the MLI sector, S&P has introduced a new category – extremely strong – which is not included among the criteria used for banks.

²⁰ S&P calibrates risk charges to their view of an ‘A’ stress scenario, as described in ‘Understanding Standard & Poor’s Rating Definitions’, published on 3 June 2009. In particular, an 8% RAC ratio indicates a level of capital able to withstand an ‘A’ level of stress and corresponds to an ‘adequate’ assessment of an MLI’s capital and earnings.

²¹ The adjusted RAC ratio analysis is then complemented by evaluations of ‘loss experience and risk management’ and ‘exposition to material risks not covered in the risk-adjusted capital framework’.

shareholder is responsible for providing the callable commitment up to the subscribed amount, even if other shareholders do not.

S&P believes that callable capital commitments are credible and represent a strong incentive for shareholders to support an MDB in periods of stress. However, in times of global financial stress it is uncertain whether and how many governments would be able or willing to meet their commitments to provide callable capital (as most MDBs include a number of governments with limited ability to pay). Moreover, the timeliness of payment could be an issue, given that for most sovereigns meeting a capital call would require legislative action. Finally, there is a risk of forbearance attitudes, since the Boards of Directors who theoretically should approve the capital call are appointed by the governments to which the call would be made; this makes it difficult to assess under what level of stress the call would actually be approved, how long the process would take and what impact non-payment by one member government would have on others.

As a solution, S&P has established the rule of adding to the numerator of the RAC ratio the callable capital from all shareholders that have foreign currency ratings equal to or higher than the issuer credit rating on the MDB. The denominator is unchanged. The RAC ratio enhanced by this additional capital serves to update the assessment of the capital adequacy and determine, assuming no change in the liquidity or funding profiles, the issuer credit rating (ICR) of the institution.

The inclusion of callable capital only from the shareholders rated at or above the issuer credit rating on the MDB is based on the consideration that the market conditions that could lead an MDB to the verge of default (and, thus, to a capital call) could involve its own shareholders being under similar stress with diminishing capacity to provide support. Such a diminishment would likely be reflected in the ratings of shareholders.²²

Lastly, and perhaps most importantly, S&P limits the maximum uplift stemming from callable capital to three notches from the SACP, due to uncertainties about the capital call procedure.

²² Another reason provided by S&P is that when the ICR on an MDB falls to or below the level of some previously excluded shareholders, callable capital ends up playing a stabilizing role. Indeed, under this rule if an MDB's creditworthiness deteriorates, the resilience of its best shareholders' ratings can compensate the institution's worsening financial profile.

4. Estimating lending headroom

Following the methodology adopted by S&P (2016b), for each MDB we push total exposures, and therefore RWAs, to the threshold (in terms of the RAC ratio) that would trigger an ICR downgrade. Chart 4.1 shows RAC ratios including callable capital (green bullets) and downgrade areas, given assessments on ‘business’ and ‘funding and liquidity’ profiles using 2015 as a reference year.²³ The distance between the two is a measure of lending space in terms of the RAC ratio. ICR ratings are triple-A for all MDBs, consistent with RAC ratios being above the red/yellow areas in the graph. The lighter green diamonds represent RAC ratios without callable capital, and thus are associated with SACP ratings.

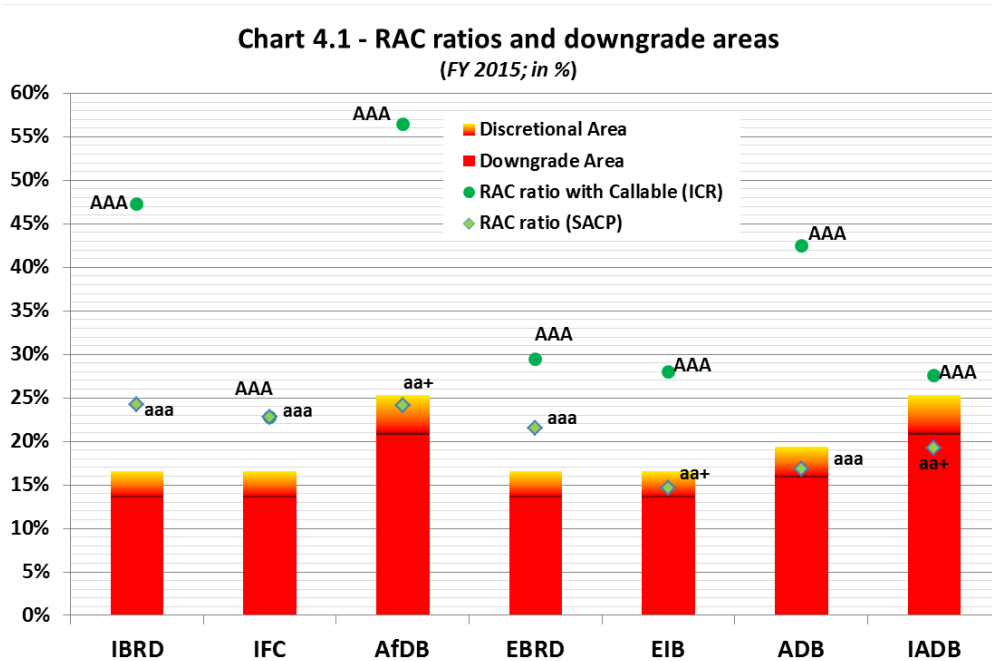
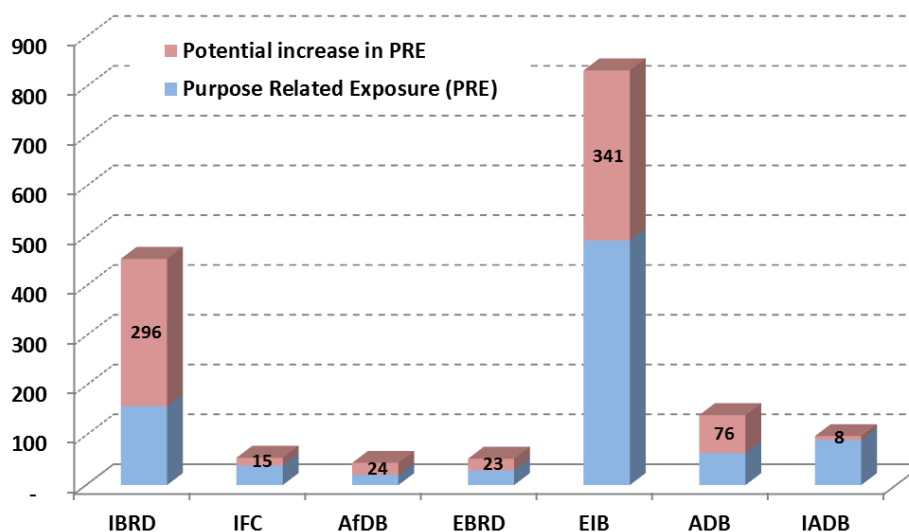


Chart 4.2 expresses lending headroom, i.e. the potential maximum increase in exposures, on top of current (FY 2015) development-related exposures. In estimating the potential increase in exposures we assume that all other factors remain unchanged. This implies the following three hypotheses: (i) assessments of other rating profiles (‘funding and liquidity’, ‘business’) do not change; (ii) credit ratings of shareholders and borrowers do not deteriorate; (iii) for each MDB, exposures’ distribution by borrower (identified by country, product and sector) remains unchanged.

The third assumption also allows us to consider as fixed the adjustments made to RWAs to take account of concentration/diversification and preferred creditor status. This is, of course, a simplifying assumption; in reality, any increase in exposures is likely to impact on all of the above, leading to a ‘consumption’ of lending headroom that is higher/lower than our hypothetical case of a ‘perfectly proportional’ increase.

²³ Thresholds are at 23% for the AfDB and IADB, and at 15% for the IBRD, IFC, EBRD and IFC. The ADB only has a threshold slightly above 15%, since calculations take account of the rule that corresponding SACP ratings cannot fall under ICR ratings by over three notches. This implies that if the ICR is required to be triple-A, SACP cannot be lower than AA-. ‘Discretional areas’ are designed between +10% and –10% of the threshold; in this case, being the RAC ratio borderline between two categories, S&P may change its assessment (upwards or downwards) based on forecasts that point to a variation in the RAC ratio during the rating timeframe. In order to estimate spare lending capacity, we push total exposure to the relative thresholds augmented by 10%.

Chart 4.2 - Potential increase in exposure
(FY 2015; USD billions)



On aggregate, the 7 institutions could increase development exposures by around USD 785 billion, or 88% with respect to 2015 levels, before risking losing their triple-A ICR ratings. The graph shows how this potential increase in exposures is distributed across MDBs. Consistent with S&P 2016b conclusions, some MDBs still have considerable potential for increasing development exposures (the IBRD, EIB), while others appear to be operating close to the limit (the IADB).

As also stressed in S&P's articles, the presence of still considerable lending buffers, at least for a number of institutions, does not imply that they should be encouraged to erode them straight away and reach the threshold for a downgrade. Lending headroom, indeed, serves a number of different purposes. First of all, the existence of a spare lending capacity prevents the RAC from rapidly falling into the downgrade area as the result of a generalized deterioration of economic and financial conditions. Secondly, it allows MDBs to continue fulfilling a countercyclical role – or simply avoid pro-cyclical behavior – in times of distress.²⁴ Finally, lending buffers are needed to accommodate the establishment of new lending instruments, such as contingent/emergency lending, policy-based lending for countries facing macroeconomic vulnerability, climate change related finance.

Ultimately, the size of lending buffers, with respect to a triple-A rating, depends on MDBs' strategic choices – i.e. what these institutions want to do – and on their level of risk tolerance – i.e. what probability of a downgrade they (and their shareholders) are willing to accept. In other words, given existing capital resources and top rating levels, more lending space allows MDBs to play a countercyclical role and widen the range of sectors of engagement, while reducing the risk of a downgrade.

In addition to these considerations, it is worth noting that demand for MDB financing is forecast to rise steeply in the next few years, in connection with the more ambitious 2030 Development

²⁴ While some cyclical demand for MDBs' resources is, in fact, observed, it is somewhat questionable whether countercyclical lending should be part of the role of MDBs (as opposed to, for example, the IMF). In any case, playing that countercyclical role implies that if lending temporarily rises to levels much higher than the historical average during times of financial distress, such as in the immediate aftermath of the global financial crisis, a lower-than-average financing pace should be accepted for some time afterwards.

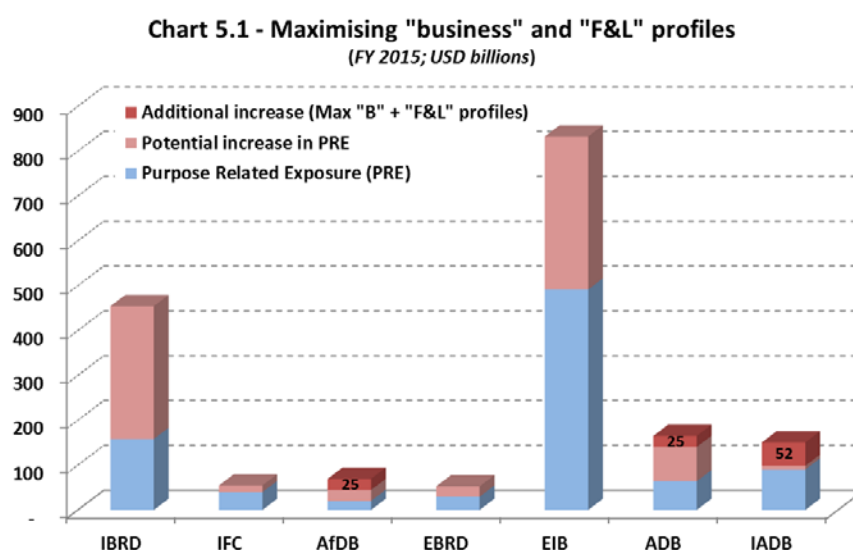
Agenda; at the same time, the growth of these institutions' equity is likely to be constrained by protracted low interest rates and lower feasibility of capital increases, due to recent political developments and mounting pressures on public budgets.

With these concerns in mind, maximizing MDBs' lending capacity has become an absolute priority at the current juncture. We now turn our attention to a few possible avenues for increasing lending headroom, beyond what has already been achieved and/or is being scrutinized under the G20 MDB balance sheet optimization initiative.

5. Maximising 'Business' and 'Funding and liquidity' profiles

In the previous section we estimated available lending headroom for each MDB by pushing total exposures to the threshold that would trigger an ICR downgrade. Evidently, such thresholds depend on S&P's assessments of the 'Business' and 'Funding and liquidity' profiles. In other words, improvements in these profiles may result in a reduction of capital required to determine the downgrade areas and, eventually, in an increase in lending space.

Chart 5.1 shows the impact on lending headroom of pushing valuations on both 'Business' and 'Funding and liquidity' profiles to maximum standards (i.e. Business profile = *Extremely strong* and Funding and liquidity profile = *Very strong*). The result is a widening of the potential increase in aggregate exposures of about USD 102 billion, from USD 785 to USD 887 billion (from +88% to about +100%).²⁵ The additional increase in potential lending space is not very large in aggregate terms, since most MDBs already enjoy top assessments of the above profiles; nonetheless, it is quite significant for the 3 MDBs (AfDB, ADB and IADB) that have larger margins for improvement.



²⁵ The same caveats apply here, since we make the simplifying assumption that it is possible to improve both 'Business' and 'Funding and liquidity' profiles to maximum standards without changing the current size and distribution of financial exposures by borrower category.

6. Better accounting for single name concentration (SNC) and preferred creditor status (PCS)

Several commentators, including Humphrey (2015), have observed recently that rating agencies' methodologies underestimate the financial strength of MDBs. In particular, critics argue that these methodologies do not take into proper account the many distinctive features that differentiate MDBs from commercial banks.²⁶

Given that MDBs' business model is crucially based on their ability to maintain a high credit standing, a conservative approach on the part of rating agencies ends up placing a significant constraint on the possibility these institutions have to expand their balance sheets. This is even more true due to the absence of a regulatory authority in charge of producing independent assessments with respect to which agencies can benchmark their valuations. The presence of a number of features that are either informal (like PCS) or are structurally different / have no perfect equivalent at commercial banks (like callable capital) are objectively difficult to capture with quantitative models, making the attribution of a credit rating to MDBs by no means an easy task.

In this section we wish to focus on the methods employed by S&P to take account of single name concentration (SNC) and preferred creditor status (PCS). It turns out that these methods affect RAC ratios quite significantly, through their impact on RWAs, with non-trivial consequences on MDBs' lending headroom.

	IBRD	IFC	AfDB	EBRD	EIB	ADB	IADB
Exposure (PRE)	158.4	39.8	20.3	29.6	491.4	64.1	90.3
RWAs before adjustments	149.6	171.1	38.7	109.6	425.2	64.5	86.9
Ind. & geo. diversification	-18.4	-18.7	-3.7	-11.3	-43.0	-10.0	-9.6
SNC	80.9	16.6	15.1	12.9	127.6	64.5	79.5
PCS	-50.6	-0.4	-4.8	-2.1	-14.4	-11.9	-25.9
High risk exposure cap	-1.9	-61.4	-8.0	-35.5	-26.2	-5.2	-0.1
RWAs after adjustments	159.6	107.2	37.2	73.6	469.2	101.9	130.8
Equity (ACE)	38.6	24.4	9.0	15.8	68.6	17.2	25.1
RAC ratio before adj. (%)	25.8	14.3	23.2	14.4	16.1	26.7	28.9
RAC ratio after adj. (%)	24.2	22.8	24.2	21.5	14.6	16.9	19.2
Var. in RAC ratio (p.p.)	-1.6	+8.5	+1.0	+7.1	-1.5	-9.8	-9.7

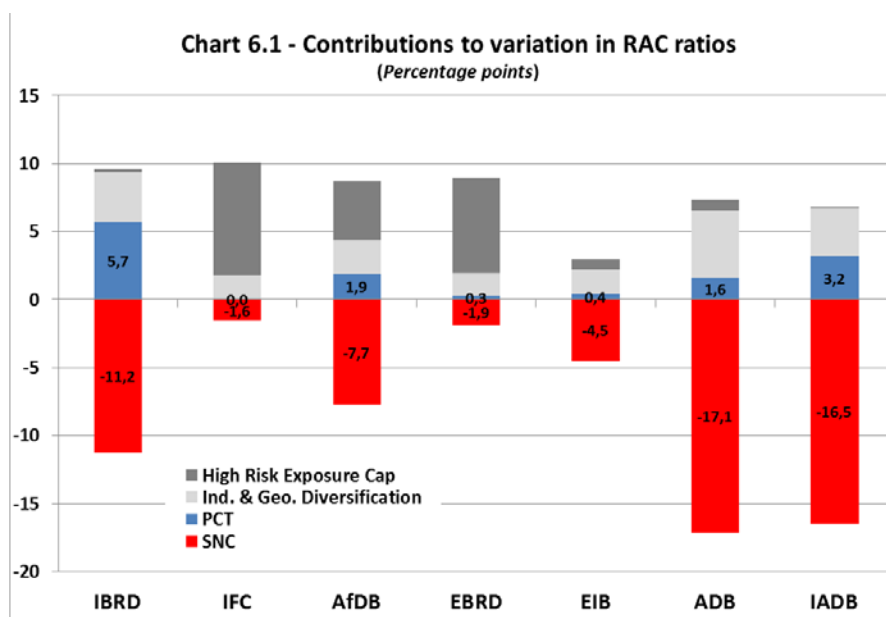
USD billion, percentages and percentage points (p.p.).
 Ind. & geo. Diversification: this is to remove penalization (to avoid double counting) for geographic concentration.
 High risk exposure cap: S&P caps the risk weight of high risk exposures (e.g., private equity) so that the capital allocated to such exposures does not exceed the exposed amount.
 Source: S&P, 2016. Data refer to 2015

As described in Section 3, S&P first measures RWAs as a weighted sum of assets, with weights dependent on borrowers' rating and jurisdiction (like for any other private bank); it then applies adjustments to allow for a few factors. Among such adjustments, those related to SNC and PCS play a preeminent role (see Table 6.1). SNC-related adjustments are 'added' to RWAs, and

²⁶ One reason for this might be found in the strong criticism of rating agencies in the wake of the global financial crisis, for granting high ratings to bonds – notably structured financial securities – that later proved to be much riskier (Humphrey, 2015). The renewed increase in public attention has led these agencies to review their methodologies for evaluating different classes of investment, including MDBs, with a view to making rating criteria both more transparent and more easily comparable across different asset classes. Comparability, in turn, has pushed rating agencies to evaluate MDBs as much as possible like private commercial financial institutions, with limited or insufficient attention to their many specificities.

therefore represent a penalization, while PCS-related adjustments are ‘subtracted’, thus representing a benefit. Note that for MDBs that have lending portfolios largely allocated to sovereign borrowers – like the IBRD, ADB and IADB – the SNC penalization ranges from 54% to over 100% of RWAs before adjustments.

Chart 6.1 shows the decomposition of the variation in the RAC ratio before and after adjustments (contained in the last row of Table 6.1). One should note that SNC absorbs 11.2 percentage points of the RAC ratio for the IBRD, and around 17 points of the RAC ratio for ADB and IADB. PCS related benefits, on the contrary appear relatively limited, in the order of 2.1 points of the RAC ratio on average across 6 institutions.²⁷



In order to assess the potential impact on the 7 MDBs’ lending headroom of potential changes in S&P’s rating methodology, we follow the approach suggested by Perraudin et al. (2016) and applied to the IADB. The authors criticize S&P’s methodology along four lines: (i) the sequential adjustment for different dimensions of diversification (country/region, sector, business line, individual obligor), (ii) the application of the diversification adjustments to RAC ratios that are not PCS-adjusted first, (iii) the order of magnitude of the adjustment in risk weights for PCS, (iv) the consistency of the methodology used to allow for SNC risk. Here we focus on the solutions suggested to address the last two issues (magnitude of PCS adjustments and consistency of SNC risk treatment) and try to replicate them, in an approximate but consistent way, for all major MDBs.

To compute the PCS-related adjustment for sovereign exposures, S&P uses the weights contained in Table 6.2, which depend both on the rating of the borrower and on the fraction of its multilateral debt in total external debt. Resorting to this latter criterion is aimed at assessing how PCS might influence loss experience. If all its debt is to multilateral institutions, a sovereign that wants to alleviate its debt burden through default will not be able to treat MDBs’ obligations as senior. By contrast, if only a fraction of its debt is to multilateral institutions, a sovereign will be able to treat it preferentially and still lighten its debt burden.

²⁷ Being specialized in private sector operations, IFC has no sovereign exposures.

Table 6.2 - Risk Weights for Government Exposures (%) (S&P 2012)

Sovereign long-term foreign currency credit rating	Share of multilateral debt in the total external debt			
	<25%	25%-50%	50%-75%	>75%
AA- and above	3	3	3	3
A+	3	3	3	5
A	3	3	5	9
A-	3	5	9	15
BBB+	5	9	15	26
BBB	9	15	26	40
BBB-	15	26	40	57
BB+	26	40	57	76
BB	40	57	76	99
BB-	57	76	99	125
B+	76	99	125	153
B	99	125	153	185
B-	125	153	185	219
CCC+	153	185	219	257
CCC	185	219	257	297
CCC-	219	257	297	340
CC	257	297	340	386
SD	297	340	386	428

More specifically, S&P uses the weights in the rightmost column as a benchmark, to calculate, for the sovereign exposures portfolio only, total RWAs unadjusted for PCS. It then subtracts RWAs computed using the weights in all the columns of the table. This positive difference – given that the inner risk weights are obviously lower than those in the far-right column – represents the PCS adjustment.²⁸ Another way to express the magnitude of this adjustment is through the ratio between the two aggregates (PCS-unadjusted vs PCS-adjusted); in 2015, for the 7 MDBs considered, this ratio ranged between 1.2 and 1.6.

In order to assess the validity of this approach, Perraudin et al. (2016) perform a Monte Carlo simulation using IADB’s Credit Risk Model (CRM) to observe the impact on portfolio volatility of adjusting for PCS. The portfolio used in the simulation is the sovereign government portfolio only. Importantly, in the simulation they assume the default probabilities of sovereign loans are reduced by 80%.²⁹ The result is that SG portfolio volatility drops by a factor of 3.04 (from 1,458 to 480), which is comparable to the ratio between ‘before-PCS’ and ‘after-PCS sovereign RWAs’ of 1.3 computed using S&P’s approach.³⁰

Ideally, one would like to have sufficiently detailed information on the SG portfolios of all MDBs in order to replicate the same analysis for each institution. This information being unavailable at this stage, we apply the same scaling factor (3.04) to the S&P sovereign RWA, which obviously leads to a much larger reduction (benefit) in RWAs attributable to PCS. The corresponding increase in RAC ratios leads to a widening of lending space. We are aware that this is a rough approximation, since the ratio is portfolio specific. Nonetheless, it may be grounded in the observation that the loss experiences at other MDBs have been comparable, if not more

²⁸ Table 6.2 shows the revised weights contained in the proposal circulated by S&P on July 6 2016 (‘Request For Comment: Bank Capital Methodology and Assumptions’). One should note that weights have been revised upward with respect to previous levels (S&P 2012).

²⁹ This is based on the observation that, of all the occasions in which sovereigns have defaulted on other debt since 1960, in only 11% of these cases there was a non-accrual event also for the IADB.

³⁰ For further details, see Perraudin et al. (2016).

favourable, with respect to those of the IADB.³¹ Note that we are also assuming that the credit risk model used by Perraudin et al. (2016) for the IADB is appropriate for all the MDBs considered in this paper.

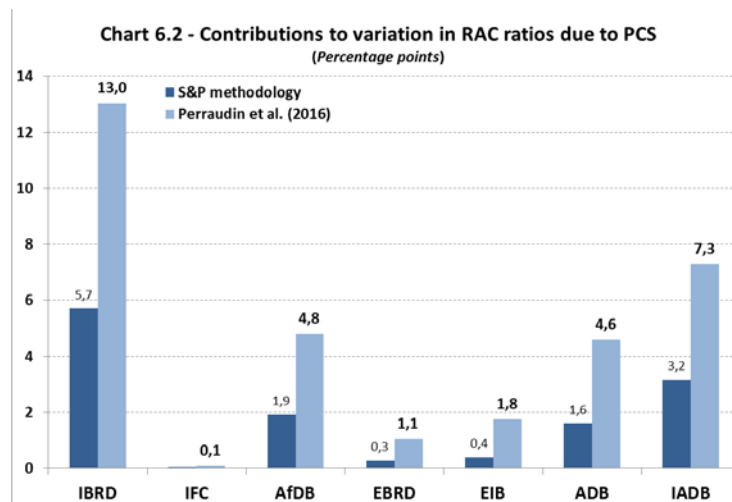
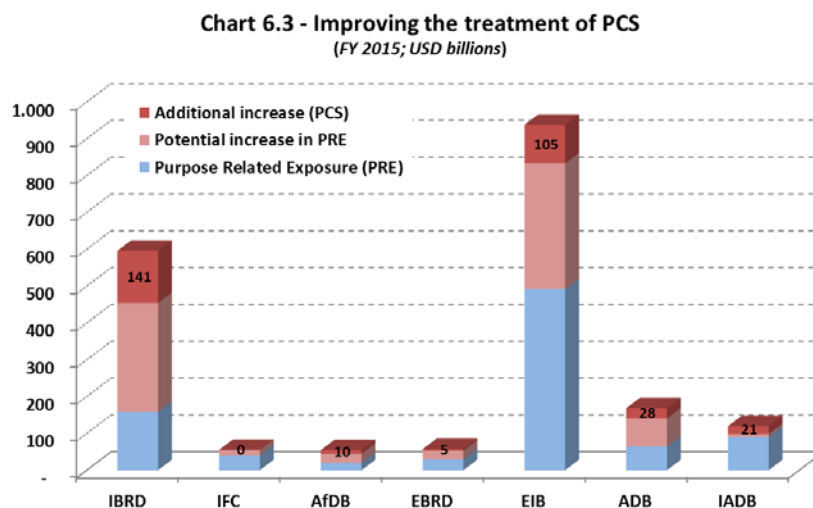


Chart 6.2 shows the contributions in percentage points of RAC ratios derived from PCS-related adjustments calculated using the 3.04 scaling factor, and compares them to the ones originating from the application of S&P’s methodology (also shown in Chart 6.1). The application of the new scaling factor, based on a more appropriate consideration of MDBs loss history, translates into a widening of the potential increase in aggregate exposures by about USD 310 billion, from USD 785 to USD 1,095 billion (from +88% to +122%). Chart 6.3 shows how this aggregate increase is distributed across the 7 institutions.³²



³¹ MDBs were interviewed informally in order to collect information on historical losses comparable to that provided in Perraudin et al. (2016). Though no institution could provide perfectly comparable answers, there is sufficient ground to believe that loss experiences are at least analogous, and in many cases more favourable, at other MDBs. As a result, by applying the same (approximate) scaling factor across all MDBs one might in fact end up obtaining a ‘conservative’ estimate for a number of them.

³² As before, our estimates assume that all other things are unchanged and triple-A ratings are preserved. One further caveat is due here: a significant growth in the exposure of MDBs would have the likely effect of increasing the share of multilateral debt in total external debt of borrower countries, therefore reducing the benefit from preferred creditor status (in other words, in Table 6.2 progressively more weights form the rightmost columns would be applied).

We now turn to the treatment of single name concentration (SNC). To adjust for SNC, S&P applies to total credit risk the formula originally described and tested by Gordy and Lütkebohmert.³³ As explained in Perraudin et al. (2016), this formula is based on an approximation to a default mode CreditRisk+ model, which assumes a very different distribution of losses from that otherwise adopted in the basic S&P methodology for deriving capital needs inclusive of diversification effects. Based on S&P's approach, the ratio of credit RWAs adjusted for SNC to the corresponding unadjusted aggregate ranges from 1.3 to 2.2 for our 7 MDBs.

Perraudin et al. (2016) propose the following alternative method. More consistently with the rest of S&P's rating approach, they develop a simple volatility adjustment for single name concentration which boils down to scaling base RWAs (unadjusted) using the coefficient below:

$$RWA \text{ adjusted for SNC} = \text{Base RWA} \times \sqrt{\frac{\rho + (1-\rho)\lambda}{\rho}}$$

The scaling coefficient depends on the factor risk share parameter ρ and λ , which is the Herfindahl index of shares of RWAs in individual asset classes. ρ is assumed to equal 0.20 (notice that the Basel single risk factor model assumes that corporate asset values have coefficients on common risk factors ranging from 0.12 to 0.24).³⁴ λ is estimated using IDB's top 20 sovereign (SG) and top 20 non-sovereign (NSG) single borrowers in terms of RWAs and is equal to 0.15 in 2014. Based on the above inputs, the authors estimate a scaling coefficient of 1.3, which implies an adjustment for SNC in the order of 30% of base RWA.

Similarly to what we did for PCS, we scale up the RWAs of all MDBs by 1.3, based on the assumption that, for each institution, the index of single name concentration is lower than that measured by Perraudin et al. (2016) for the IADB (0.15). Using 2015 data, indeed, the Herfindahl index calculated on the top 20 SG and top 20 NSG exposures is never above 0.13.³⁵

³³ See 'Granularity adjustment for Basel II', published by the Deutsche Bundesbank as a Discussion Paper, Series 2: Banking and Financial Studies, No. 01/2007 (January 2007).

³⁴ Perraudin et al. (2016) suppose that RWAs are proportional to total portfolio volatility and assume that each exposure has a random return $R_i = \sigma_i [\nu(\rho) \cdot f + \nu(1-\rho) \cdot \varepsilon_i]$ where: σ_i is the volatility of the individual position, f and ε_i are respectively the factor and idiosyncratic risk components and ρ reflects their relative contribution to total asset return risk. Notice that the scaling coefficient increases as the ρ parameter decreases.

³⁵ In most cases, due to the availability of data, we were forced to estimate Herfindahl indexes using total exposures rather than RWAs. Indexes were at 0.13 for the ADB and IADB, and between 0.05 and 0.007 for the remaining MDBs.

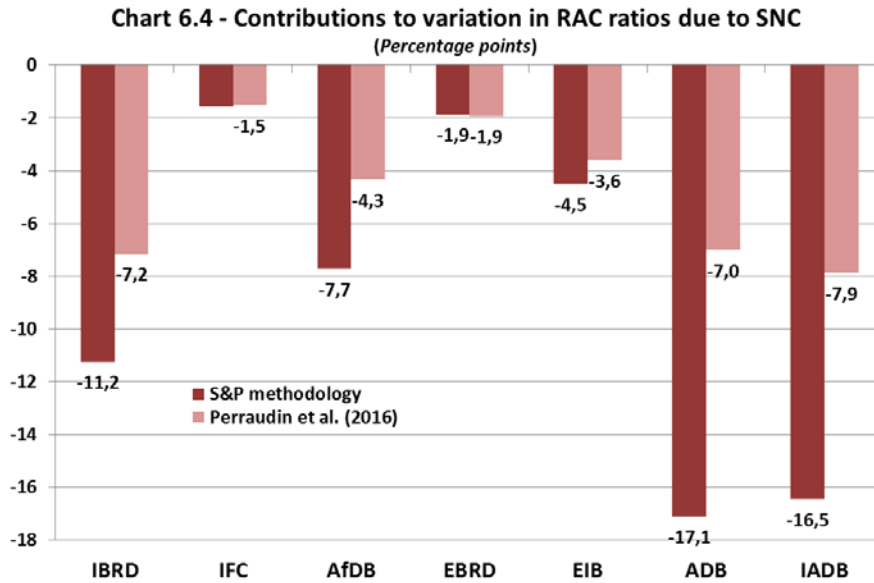
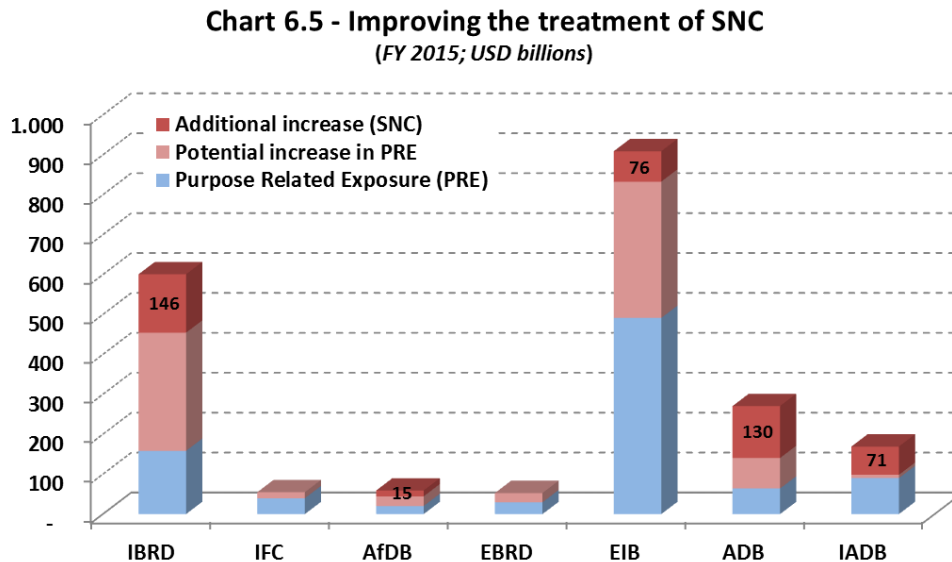


Chart 6.4 shows the penalizations in percentage points of the RAC ratio deriving from SNC calculated using the 1.3 scaling coefficient, and compares them to the ones originating from the application of S&P’s methodology.

The application of the new scaling factor, based on estimates of MDB’s credit portfolio concentration, translates into a widening of the potential increase in aggregate exposures of about USD 438 billion, from USD 785 to USD 1.223 billion (from +88% to +137%). Chart 6.5 shows how this aggregate increase is distributed across the 7 institutions.



7. Breaking the triple-A taboo

So far we have been taking the triple-A-rating as a binding constraint. Indeed, triple-A-ratings have traditionally been a key element of MDBs' business model, as it enables these institutions to: leverage capital and mobilize funding for achieving development missions; secure cost-competitive financing affordable to all borrowing member countries; and continue operating in times of financial stress (to avoid pro-cyclical behavior).

Additionally, the very prudent stance maintained over the years by MDBs might also reflect the highly risk-averse attitude of shareholders, probably more keen on shielding taxpayer resources from potential losses or capital calls than on maximizing these institutions' development effectiveness. Analogous political economy considerations might explain shareholders' preference in the past for resorting to capital increases, rather than operating with higher leverage ratios, whenever the growing volume of operations put pressure on an MDB's capital adequacy internal limits.

However, at a time when the number of large shareholders with triple-A-ratings is progressively diminishing, it might be the right moment to reconsider this strategic choice. Indeed, as is evident from Table 7.1, while in the year 2000 all G7 member states enjoyed triple-A rating levels (excluding Italy, which was rated AA), by 2016 Canada and Germany were the only two countries that were able to maintain this top valuation. Given that G7 countries provide more than 50% of aggregate capital subscriptions in the 7 MDBs, it could become more and more costly in terms of capital efficiency for these institutions to maintain triple-A ratings when their major shareholders are gradually losing that level of rating (and therefore their callable capital is excluded from the RAC ratio).

G7 country	Year 2000	Year 2016
Canada	AAA	AAA
Germany	AAA	AAA
France	AAA	AA
Italy	AA	BBB-
Japan	AAA	A+
UK	AAA	AA
US	AAA	AA+

Source: S&P

Targeting a lower than triple-A-rating would have the effect of widening lending headroom through two channels. First, it would lower downgrade thresholds; in particular, going from triple-A to one-notch lower (AA+), ICR RAC ratio central thresholds would fall from 23% to 15% for the AfDB and IADB, and from 15% to 10% for the remaining institutions.

Second, based on the S&P rating methodology, targeting a lower than triple-A-rating would permit the inclusion in the RAC ratio calculation of callable capital from more (and possibly also larger) shareholders. The downgrade of the UK following the result of the referendum on Brexit (June 2016), for example, has had the immediate effect of eroding the lending headroom of our 7 MDBs by a collective amount of USD 155 billion (Chart 7.1).

Chart 7.1 - Impact of Brexit
(FY 2015; USD billions)

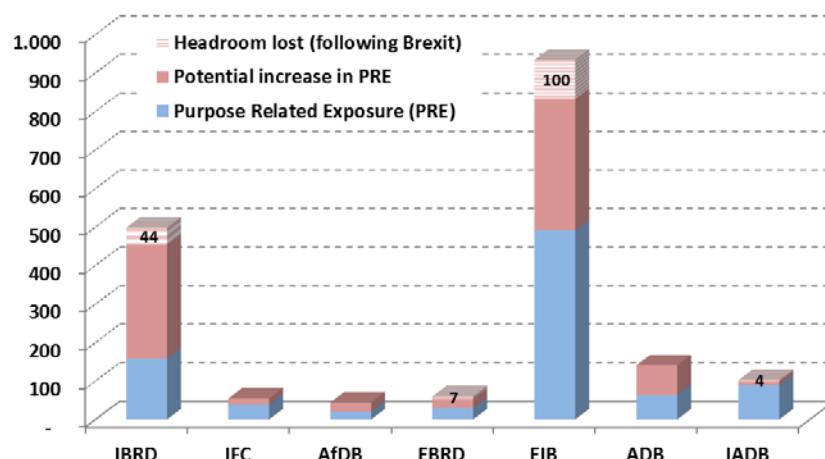


Table 7.2 contains callable capital from shareholder countries ordered by rating level. It shows, for instance, that targeting an ‘AA+’ rating would allow for including in the numerator of the RAC ratio the callable capital of shareholders such as Austria, Finland and, especially, the US.

Shareholder	S&P rating	IBRD	IFC	AfDB	EBRD	EIB	ADB	IADB
Australia	AAA	3.6	-	0.3	-	8.1	-	
Canada	AAA	6.6	3.2	0.9	-	7.3	6.1	
Denmark	AAA	2.0	1.0	0.3	5.5	0.5	0.3	
Germany	AAA	10.9	3.5	2.2	38.9	6.1	2.9	
Liechtenstein	AAA	-	-	0.0	-	-	-	
Luxembourg	AAA	0.3	0.2	0.1	0.3	0.5	-	
Netherlands	AAA	5.2	0.7	0.6	10.8	1.4	0.3	
Norway	AAA	1.5	1.0	0.3	-	0.5	0.3	
Singapore	AAA	0.6	-	-	-	0.5	-	
Sweden	AAA	2.2	1.3	0.6	7.2	0.5	0.5	
Switzerland	AAA	3.9	1.2	0.6	-	0.8	0.7	
TOTAL AAA		36.9	12.0	5.9	62.6	26.1	11.0	
Austria	AA+	1.7	0.4	0.6	5.4	0.5	0.2	
Finland	AA+	1.3	0.4	0.3	3.0	0.5	0.2	
US	AA+	43.4	5.5	2.6	-	21.7	45.4	
TOT AA+		46.4	6.3	3.5	8.4	22.6	45.9	
GRAND TOTAL		83.3	18.3	9.4	71.0	48.7	56.8	

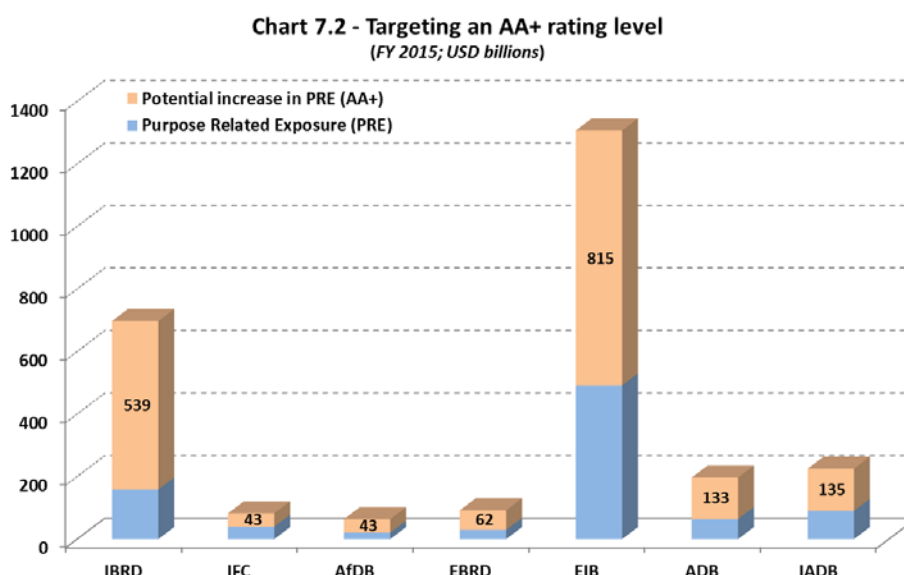
Source: MDBs Annual Reports. Data in USD billion. As of FY 2015. Conversion rates: USD/SDR =1.39 (for AfDB) and USD /EUR =1.09 (for EBRD and EIB).

At the same time, however, targeting a lower than triple-A rating could have a negative impact on the cost of funding for these institutions. The literature on the determinants of credit ratings and their impact (Cantor and Packer, 1996; Afonso et al. 2007), mainly related to the sovereign debt market, shows that ratings can be predicted quite well by a small set of observable economic fundamentals. Yet, there is evidence that rating agencies do provide the market with information additional to that available in public data, and therefore ratings do not independently affect spreads, though this result is stronger with regard to non-investment-grade issues. In the absence of an analysis specifically focused on MDBs, these results could lead one to believe that a hypothetical one-notch shift from triple-A to AA+, given the preservation

of generally strong fundamentals, would have a negligible impact on the cost of funding. This conclusion is likely to apply even more strongly in the current low-interest rate environment.³⁶

It is evident that targeting an ‘AA+’ rating level (instead of triple-A) would have a very sizeable impact on MDBs’ lending space. For instance, the callable capital subscribed by the US alone in the IBRD is equal to USD 43.4 billion, an amount considerably larger than the paid-in capital implicit in the three scenarios (USD 5, 15, 25 billion) under discussion for a general capital increase. More generally, the impact would be larger for those institutions in which the US has a relatively large shareholding weight. As shown in Table 7.2, the inclusion of callable capital from ‘AA+’ shareholders would increase by almost 90% the aggregate of ‘usable’ callable capital in the case of ADB, more than double it for the IBRD and more than triplicate it for the IADB.

Chart 7.2 shows the impact on lending headroom of targeting an ‘AA+’ rating by S&P. On aggregate, by accepting an AA+ rating the 7 institutions could expand their current lending headroom from USD 785 billion to USD 1,770 billion.³⁷



One can now replicate the same elaborations performed under the triple-A constraint in the previous sections using the AA+ constraint, and see how the different options – (i) maximizing the ‘Business’ and ‘Funding & liquidity’ profiles, (ii) improving the treatment of PCS and (iii) improving the treatment of SNC – would impact the size of the new (AA+) lending headroom.

The results are the following:

- (i) pushing valuations on both ‘Business’ and ‘Funding and liquidity’ profiles to maximum standards (i.e. Business profile = Extremely strong and Funding and liquidity profile = Very strong) would widen the potential increase in aggregate exposure by USD 115 billion, from USD 1,770 to USD 1,885 billion;

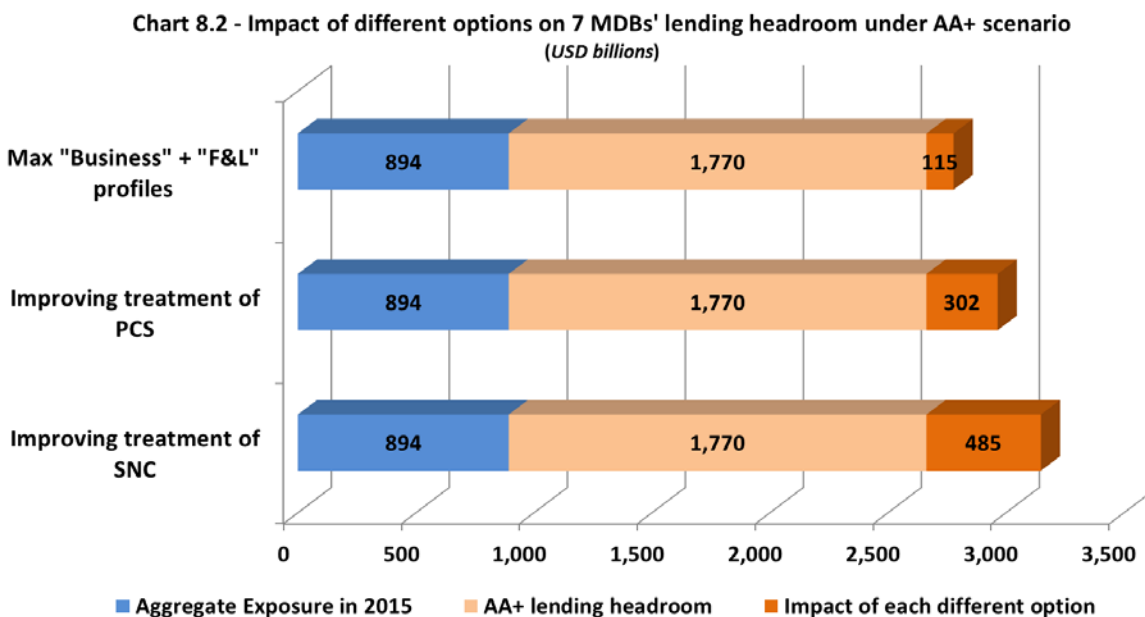
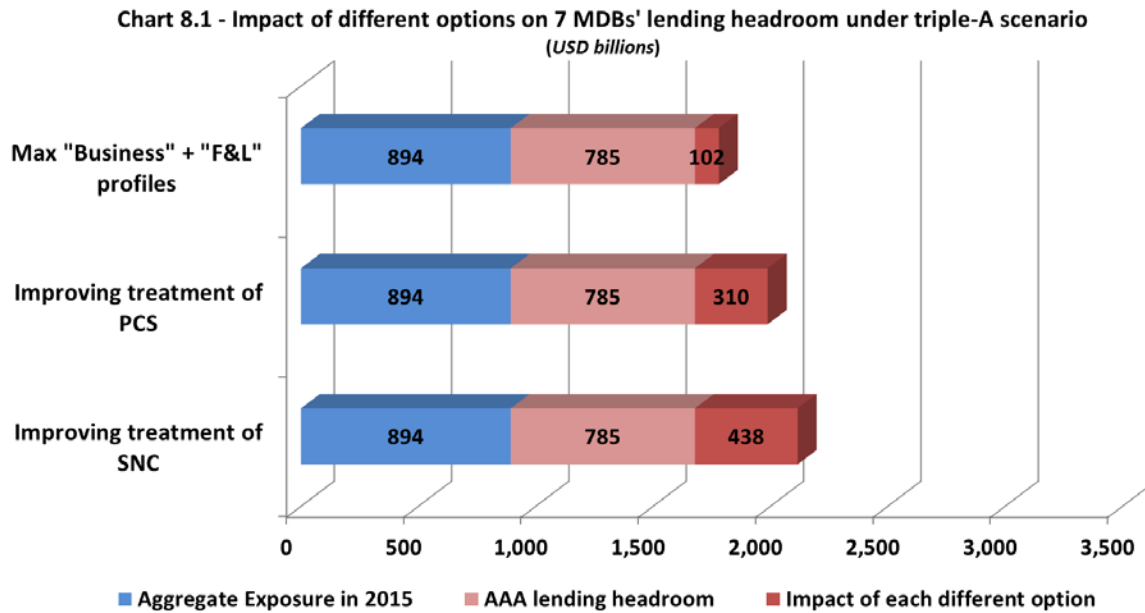
³⁶ As a further caveat, we wish to signal the possible existence of institutional or contractual rigidities, that might de facto impede existing MDBs from operating with lower than triple-A rating levels. Here we assume that no such rigidities exist.

³⁷ One could note that under this scenario, for a number of MDBs, the implied ICR RAC ratio would be well above the 10% (11%) threshold, due to the parallel requirement that the SACP cannot fall by more than 3 notches below the ICR credit rating. This means that, at the same time, each MDB’s SACP is constrained to be equal or higher than a+.

- (ii) Better accounting for PCS would translate into a widening of the potential increase in aggregate exposures by USD 302 billion, from USD 1,770 to USD 2,072 billion.
- (iii) Improving the treatment of SNC would translate into a widening of the potential increase in aggregate exposures by USD 485 billion, from USD 1,770 to USD 2,255 billion.

8. Conclusions

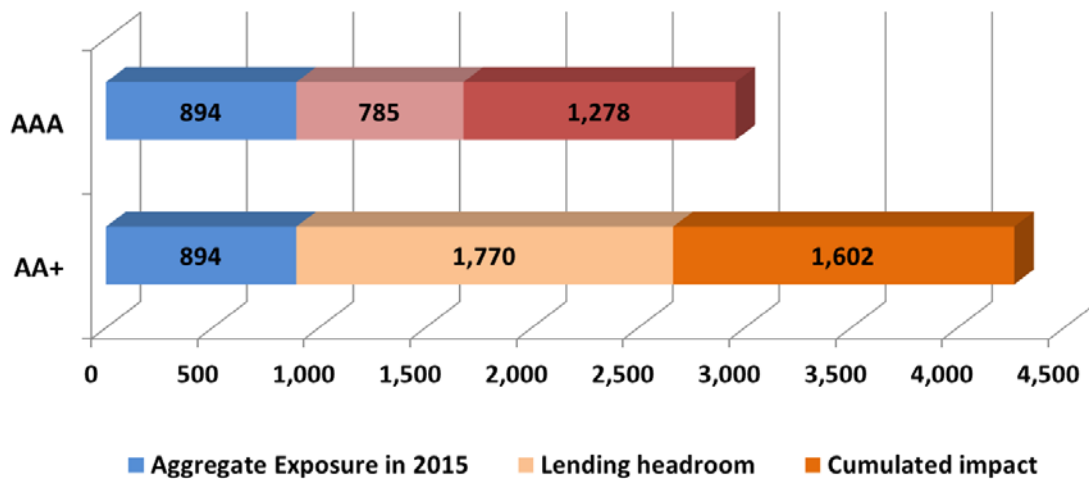
The estimates reported in this paper, together with the results presented in other recent studies – S&P (2016), Perraudin et al. (2016) – underline the following points. First, a number of options are still worth exploring in order to enhance capital efficiency and therefore to increase MDBs' lending capacity beyond (and in addition to) what is already under implementation within the G20 MDB Balance Sheet Optimization initiative. Charts 8.1 and 8.2 below summarize the aggregate impact of each single option presented in this paper under the triple-A and AA+ scenarios respectively.



Note that the calculated impacts (indicated in the charts above) are the effect of each single option considered separately. Chart 8.3 shows instead the cumulated impact of all three options, i.e. the simultaneous application of different correction coefficients for PCS and SNC, under the concurrent assumption of maximum valuations for the 'Business' and 'Funding and liquidity'

profiles. Given the positive multiplicative interaction among the three options, this cumulated impact on lending headroom (under both the triple-A and AA+ scenarios) is larger than the sum of the impacts of each option considered separately. As an important caveat, one should note that in estimating the cumulated impacts we make the conjectural assumptions that the simulated increases in exposures do not alter the original parameters in terms of portfolio risk concentration and probabilities of sovereign default to MDB debt.

Chart 8.3 - Cumulated impact of different options on 7 MDBs' lending headroom
(USD billions)



Second, the policy debate on enhancing MDBs' capital efficiency would greatly benefit from a refinement (and substantial convergence) of the analytical models used by rating agencies to assess these institutions' capital adequacy; this, by definition, would also require a greater degree of transparency.

Third, the potential increase in MDBs' lending capacity, deriving both from the G20 MDB Balance Sheet Optimization Action Plan and from the avenues indicated in this paper, cannot in any case match the estimated huge increase in the financing needs of the global development agenda (and infrastructure investments in particular). This points to the need to tap alternative sources of finance; the crowding-in of private sector resources will certainly be called on to play a relevant role in the years to come.

Finally, it is important to stress once again the many caveats associated with the above numbers. The *ceteris paribus* assumption is a non-realistic one, while the straightforward application of portfolio-specific coefficients (calculated for one MDB) to other institutions is a blunt simplification. With these considerations in mind, the results of this paper should be taken as an indication for further improvement of the MDBs capital efficiency. More accurate, possibly MDB-specific, research will be needed in order to obtain more precise estimates.

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