

CREDIT OPINION

1 June 2022

Update



RATINGS

CDB

	Rating	Outlook
Long-term Issuer	Aa1	STA
Short-term Issuer		

Contacts

Samar Maziad +1.212.553.4534 VP-Senior Analyst

samar.maziad@moodys.com

Serra Battal +1.212.553.0300

Associate Analyst serra.battal@moodys.com

Mauro Leos +1.212.553.1947

Associate Managing Director mauro.leos@moodys.com

CLIENT SERVICES

 Americas
 1-212-553-1653

 Asia Pacific
 852-3551-3077

 Japan
 81-3-5408-4100

 EMEA
 44-20-7772-5454

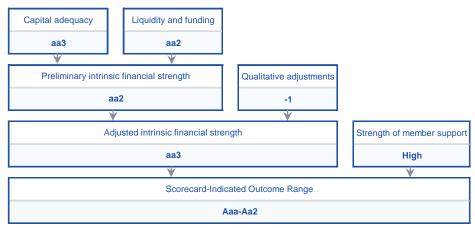
Caribbean Development Bank - Aa1 stable

Regular update

Summary

The credit profile of the <u>Caribbean Development Bank</u> (CDB) reflects its strong capital adequacy, high liquidity and sound asset performance supported by its preferred creditor status. The bank also benefits from strong financial support from borrowing and non-borrowing members. However, CDB's credit profile is constrained by high borrower concentration and the weak average credit quality of its borrowing member countries (BMCs), which could weaken further because of the impact of the coronavirus pandemic.

Exhibit 1
Caribbean Development Bank's credit profile is determined by three factors



Source: Moody's Investors Service

Credit strengths

- » Sound capital adequacy indicators
- » Strong financial support from borrowing and non-borrowing member countries
- » Robust liquidity and moderate, although rising, leverage

Credit challenges

- » Very high concentration of loans among a limited number of borrowers
- » Weak average borrower credit quality and difficult operating environment
- » BMCs are highly vulnerable to external shocks

Rating outlook

The stable rating outlook reflects our assessment that conservative risk management practices and continued compliance with the CDB's internal risk management guidelines will support maintenance of the bank's strong capital and liquidity metrics. The stable outlook also reflects the CDB's continued efforts to contain portfolio concentration through ongoing diversification efforts, and the slight improvement in the weighted average credit quality of its borrowing members. The bank's portfolio concentration is also contained by its existing single exposure limits, mitigating the credit risk and high regional concentration of its loan portfolio.

Factors that could lead to an upgrade

The rating could be upgraded if the average quality of the CDB's borrowers were to improve substantially and the concentration of its loan book were to decline significantly. Given the bank's mission to serve the Caribbean, coupled with the economic and financial challenges facing the region, we view this as unlikely in the medium term, notwithstanding management's plans to increase lending to its members that we rate at a higher level.

Factors that could lead to a downgrade

Downward rating pressure could emerge if the bank's capitalization or liquidity metrics were to deteriorate substantially. Such a deterioration could emerge as a result of significant losses or impairments on the bank's loan portfolio, or if the bank fails to comply with or weakens its prudential financial policies. Evidence of waning support from non-regional members and donors would likely also exert downward pressure on the rating.

Key indicators

Exhibit 2

CDB (Caribbean Development Bank)	2015	2016	2017	2018	2019	2020
Total Assets (USD million)	1,407.1	1,599.2	1,641.0	1,747.7	2,095.5	2,121.3
Development-related Assets (DRA) / Usable Equity [1]	113.2	113.2	117.4	128.9	133.5	136.7
Non-Performing Assets / DRA	0.5	0.5	0.5	0.6	0.2	0.1
Return on Average Assets	0.7	-0.8	-0.3	0.1	2.0	1.6
Liquid Assets / ST Debt + CMLTD	433.3	379.7	989.0	400.3	593.1	399.7
Liquid Assets / Total Assets	19.8	27.2	26.8	26.2	34.1	29.9
Callable Capital / Gross Debt	273.5	210.1	198.8	172.7	124.7	125.7

^[1] Usable equity is total shareholder's equity and excludes callable capital

Source: Moody's Investors Service

Profile

The Caribbean Development Bank (CDB) is a multilateral lending institution founded in 1969 and headquartered in <u>Barbados</u> (Caa1 stable). The bank's purpose is to contribute to the economic growth and development of its Caribbean member countries and to promote their economic cooperation and integration. The CDB has developed a niche in assisting less-developed Caribbean members, where often the bank is the only source of borrowing. With a loan portfolio of \$1.4 billion, the CDB is one of the smaller of the multilateral development banks (MDBs) we rate. Because of its relatively small size, the CDB focuses on having a greater economic impact in smaller countries than in larger economies where other MDBs can provide more funding. The CDB provides loans to its BMCs from its Ordinary Capital Resources (OCR) and from various other concessional funds that make up its Special Funds Resources (SFR), which was established to provide resources on concessional terms, primarily for poverty reduction and climate shocks.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the issuer/deal page on https://ratings.moodys.com for the most updated credit rating action information and rating history.

Detailed credit considerations

Our determination of a supranational's rating is based on three rating factors: capital adequacy, liquidity and funding, and strength of member support. For Multilateral Development Banks, the first two factors combine to form the assessment of intrinsic financial strength, as shown on the cover page graphic. Additional factors can affect the intrinsic financial strength, such as risks stemming from the operating environment or the quality of management. The strength of member support is then incorporated to yield a rating range. For more information, please see our Supranational Rating Methodology.

FACTOR 1: Capital adequacy score: aa3

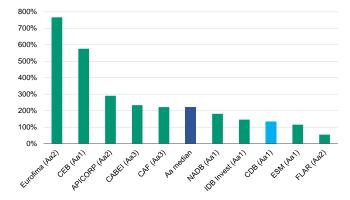
The CDB's "aa3" capital adequacy score reflects its "aa3" capital position and our expectation that leverage will remain stable over the coming years. The capital adequacy score also incorporates a "ba" development asset credit quality (DACQ), which reflects the CDB's regional developmental mandate and highly concentrated lending portfolio with high exposure to low-credit-quality sovereigns in the Caribbean. Nonetheless, the CDB's asset performance is assessed at "aaa" and remains very strong, with nonperforming assets (NPA) at only 0.1% of the total portfolio.

Capital adequacy will remain strong despite low DACQ

When assessing an MDB's capital adequacy, we look at the bank's loss absorption capacity provided by its own usable equity in the face of shocks that may impair its assets, measured by the leverage ratio – the ratio of development-related assets (DRA) to usable equity. The CDB's leverage ratio has risen marginally since 2017 after steadily declining between 2010 and 2016. Following the CDB's general capital increase in 2010, the bank's leverage improved steadily through 2016, outperforming both the Aa and Aaa medians. However, leverage rose to 137% in 2020, up from its 2016 low of 113%.

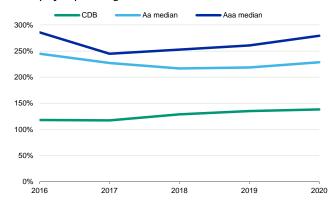
Relative to its peers, the CDB maintains a strong capital position. The CDB's development-related assets averaged only 133% of usable equity, one of the lowest leveraged MDBs among Aa-rated supranationals (see Exhibit 3). While we expect this ratio to increase over the next two to three years, it will likely remain comfortably below both the Aa and Aaa medians (see Exhibit 4).

CDB's leverage is below the median for Aa-rated peers
DRA/equity (%), 2018-20 average



Aa and Aaa medians use three-year averages. Sources: CDB and Moody's Investors Service

CDB's leverage has increased marginally since 2017
DRA/equity, in percentage terms



Sources: CDB and Moody's Investors Service

The bank maintains conservative limits on total lending and borrowing. The charter limits the total amount of outstanding loans, equity investments and guarantees to 100% of the bank's unimpaired subscribed capital and retained earnings, net of receivables from members, derivatives, and Japanese yen and Swiss franc borrowings. As of year-end 2020, outstanding loans were 56.3% of subscribed capital and net retained earnings, down from an average of more than 70% for 2006-10 because of the general capital increase.

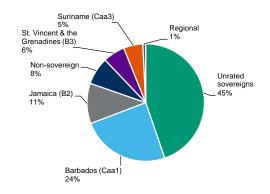
The CDB's comparatively low leverage is counterbalanced by the bank's low DACQ score, which is set at "ba" and primarily reflects the bank's high exposure to low-credit-quality borrowers. The CDB's weighted-average borrowing rating (WABR) improved slightly to Caa1 in 2020, up from Caa2 a year earlier, as the bank ramped up its lending operations to the <u>Bahamas</u> (Ba3 negative). Increased lending support for the Bahamas was driven by the government's increased need for concessional financing in the wake of the pandemic and

the CDB's ongoing portfolio diversification efforts. Despite this modest improvement, the overall credit quality of the CDB's loan portfolio remains low and will likely be constrained by the relatively low-rated sovereigns in the region. The CDB's low WABR underpins our DACQ score of "ba."

As a regional development bank, the CDB's mandate is limited to a region where several sovereigns have had decreasing creditworthiness, or in some cases have needed to restructure their debt obligations. Such is the case for some of the CDB's largest borrowers, including Barbados (19% of loans), Jamaica (B2 stable; 9%) and Belize (Caa3 stable; 9%), which together account for almost 40% of the CDB's lending operations (see Exhibit 5). Although all three sovereigns have recent histories of default, the CDB has consistently remained outside the perimeter of debt restructuring operations, a reflection of the bank's preferred creditor treatment.

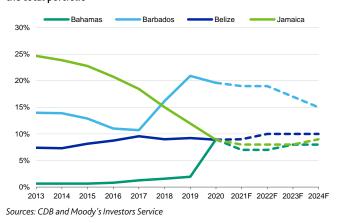
We expect lending to Barbados to continue to fall relative to the size of the total portfolio over the next few years as the CDB increases its support to other sovereigns in the region. However, the country is likely to remain the bank's largest borrower for the foreseeable future. Although Barbados' tourism-dependent economy was hit hard by the pandemic and the decrease in international tourism flows, the sovereign's early success with its International Monetary Fund program, favorable maturity profile and adequate foreign reserve buffer reduce the likelihood of a re-default on its private debt.

Exhibit 5
CDB's largest borrowers have lower ratings
Loans outstanding, as a percentage of the total (2020)



Sources: CDB and Moody's Investors Service

Exhibit 6 Diversification efforts will gradually reduce exposure to Barbados Loans outstanding to the four largest borrowers we rate, as a percentage of the total portfolio



Despite the aforementioned low borrower quality, the CDB's NPA were very low at 0.1% of the total loan portfolio in 2020, down from a recent high of 1.1% in 2012. These NPLs stem from two loans disbursed to a private-sector entity, the losses of which have been fully provided for and gradually recovered over the last few years. The CDB's low NPA ratio highlights the fact that even though some of its sovereign BMCs have defaulted on market debt, they are willing to remain current on their liabilities to the bank.

FACTOR 2: Liquidity and funding score: aa2

The CDB's "aa2" Liquidity and funding score, supported by the bank's strong liquidity coverage, is set at "aaa" and its quality of funding score is at "aa." The CDB's "aa2" Liquidity and funding score is in line with that of the Council of Europe Development Bank (CEB, Aa1 stable) and Eurofima (Aa2 stable).

CDB benefits from strong liquidity position

The CDB's liquidity coverage is strong in the event of stress, which would include inability on the part of the bank to tap into financial markets. The CDB's liquid resources ratio, which is the ratio of high-quality liquid assets to net outflow from uninterrupted net loan disbursements, debt repayment and administrative costs, scores "aaa" and reflects the bank's holding of enough assets to sustain its functioning for more than 18 months.

The CDB's liquidity position is strong relative to that of its peers. On average, total liquid assets covered its short-term and currently maturing long-term debt since 2015 more than four times, reflecting a relatively modest debt stock and a favorable maturity profile

(see Exhibit 7). Similarly, the CDB's stock of liquid assets accounted for about 30% of total assets over the last three years, in line with other Aa-rated MDBs with strong liquidity profiles (see Exhibit 8). Overall, liquidity has steadily improved since its refinancing operation in 2016, with liquid assets totaling \$633 million in 2020, up from \$435 million in 2016 (a 45% increase).

Exhibit 7
CDB's liquid assets provide strong coverage of current obligations and the debt stock

Liquid assets, as a percentage of short-term obligations and as a percentage of total debt

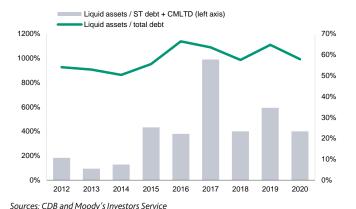
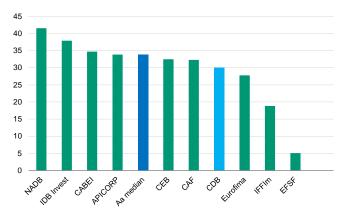


Exhibit 8

About one-third of CDB's total assets are liquid, in line with the Aa median

Liquid assets, as a percentage of total assets



Sources: CDB and Moody's Investors Service

Multiple currency bond placements at low interest rates indicate strong market access

We assess the CDB's quality of funding as "aa" because of demonstrated capital market access in multiple currencies and at low costs. The CDB's latest issuance in the capital markets took place in December 2019, when the CDB issued a €250 million, 20-year bond in the German market at an annual interest rate of only 0.875%. The issuance, which represents one of the bank's longest-dated borrowing thus far, marks the CDB's first foray into the German market and is an effort to further diversify its investor base. The 2019 transaction confirmed the CDB's continued market access at low cost to support its operations, and we expect it to continue to benefit from similarly advantageous pricing.

More recently, the CDB has relied on its revolving loans and lines of credit from partnerships with other MDBs. The CDB has two revolving loans from the European Investment Bank and the Inter-American Development Bank (IADB; Aaa stable). As of June 2021, the outstanding balance on IADB loan was about \$18 million out of the original balance of over \$53 million. It also has access to two lines of credit from the EIB (which expire in 2022-23), a \$115 million line and a \$65 million line designated specifically for climate change projects, the latter of which was drawn down to finance projects in 2020. As of June 2021, the outstanding balance on the credit lines from EIB were about \$109 million in total. Additionally, the CDB benefits from a \$33 million line of credit from Agence Francaise de Developpement (AFD) and a \$40 million line from a highly rated commercial bank, the latter of which has a maximum limit of \$75 million approved by the board. The CDB is seeking another counterparty to conclude an agreement for the unused balance to meet its diversification strategy.

Qualitative adjustments to intrinsic financial strength

In our credit assessment of MDBs, we also take into account several other factors such as an MDB's operating environment and the quality of its management, including risk management.

Operating environment

We apply a "-1" adjustment for the operating environment, reflecting the CDB's lending exposure to the Caribbean region, which represents a difficult macro-fiscal environment, with a number of highly indebted sovereigns facing persistently low growth, some of which have histories of default on private debt.

The CDB's operating environment has become even more difficult because of the region's regional vulnerability to the severe macroeconomic shock caused by the pandemic, which continues to have a deeply negative impact on economic activity and the fiscal

profiles of the region's tourism-dependent economies. While we expect asset performance to remain sound, the severe shock could undermine the CDB's track record of low NPA.

Quality of management

The CDB has conservative liquidity management policies and effective risk management practices, as discussed under the Liquidity and Funding Score section. We make no adjustment for the quality of management.

FACTOR 3: Strength of member support score: High

We assess the CDB's Strength of member support as "High." The ability of the bank's membership to provide support — as proxied by the Ba2 weighted-average shareholder rating (WASR) — is modest in our view, because of the balance between the CDB's high concentration of low-credit-quality shareholders from inside the region and the participation of relatively high-credit-quality sovereigns from outside the region, such as <u>Canada</u> (Aaa stable) and the <u>UK</u> (Aa3 stable). We also consider the fact that the CDB's members have a very strong willingness to support the entity if required because of the important role of the CDB as a key development partner in the region.

The CDB's member base consists of borrowing regional developing members and non-borrowing members from inside and outside the region. Although some of the borrowing members face significant credit challenges, the CDB's non-regional members are comparatively highly rated, which supports the bank's Ba2 weighted-average shareholder rating, a proxy for the ability of its membership base to provide extraordinary support to the bank, should it become necessary.

Shareholders' contractual support has diminished in recent years, but remains strong

As is the case with most MDBs, the CDB benefits from callable capital (CC), which can be used to pay down debt if called. Shareholders' willingness to provide contractual support is high, as denoted by the CDB's large CC buffer, which provides full coverage of the bank's total debt stock. However, CC coverage of debt has diminished in recent years as the bank took on leverage to support the growth of its loan portfolio, with CC falling to 125% of total debt in 2020, down from a high of 250% in 2014. Nonetheless, the CDB's CC coverage is in line with the Aa median (see Exhibit 9). The credit quality of the CC buffer has also diminished over the last decade and remains below the Aa median because some of its investment-grade shareholders, such as Trinidad and Tobago (Ba2 stable), Brazil (Ba2 stable) and the Bahamas, moved below investment grade (see Exhibit 10).

 $^{\rm Exhibit\,9}$ CDB's CC is more than sufficient to cover its entire debt stock ... CC, as a percentage of total debt

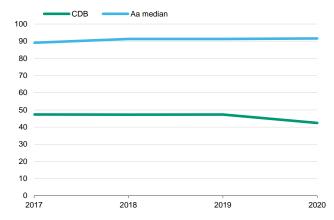


Sources. CDB and Moody Strivestors Service

Exhibit 10

... but the credit quality of its membership base remains below Aa median

Investment grade CC, as a percentage of total CC



Sources: CDB and Moody's Investors Service

Demonstrated willingness to provide non-contractual support confirms our assessment

While the ability of many of its members to provide financial support may be limited, CDB shareholders' willingness to support the bank is very strong. The bank is a key development partner in the region and has a special relationship with its BMCs, which collectively hold most of the bank's capital and, therefore, play an important role in determining its strategic direction. This influence drives their support for the institution and distinguishes it from many other MDBs.

Strong willingness to provide support is reflected in the May 2010 \$1 billion general capital increase and the relatively high share of paid-in capital. The 2010 capital increase, the fourth since the bank's creation, increased subscribed capital by 150%. The capital increase was originally intended to enable the bank to finance a planned increased lending in its 2010-14 strategic plan, but lending plans were scaled back considerably as a result of the lingering effects of the 2008 global financial crisis on the region's economies.

Membership's non-contractual support for the CDB is also evidenced through regular donations to the bank's Special Development Fund (SDF), the principal pool of concessional resources available to CDB to assist BMCs in addressing poverty, sustainable development, governance, capacity development, gender inequalities, environmental sustainability, climate change, disaster risk management, and regional cooperation and integration. In February 2021, contributors approved the 10th cycle of the SDF (SDF 10) for \$383 million, just under half of which would be funded through donations by member countries for the 2021-24 period. The top five contributors to SDF 10 are: Canada (\$59.7 million; 32% of donor contributions), the UK (\$26.5 million; 14%), Germany (\$13.7 million; 7%), Jamaica (\$13 million; 7%) and Trinidad and Tobago (\$11.3 million; 6%). While the Ordinary Capital Resources are funded by a combination of debt and equity, the Special Development Fund (SDF), which is one of the largest pool of concessionary resources, is replenished every four years through a mix of the SDF's internally resources, member countries and other external contributors.

Non-regional members have also demonstrated a strong willingness to support the CDB during times of stress. In 2018, the UK and Canada, two of the CDB's founding members, stepped up to provide the bank with \$40 million to help fund recovery efforts in the region following Hurricanes Irma and Maria in 2017. Furthermore, the amount of financial support that would be necessary to support the CDB in times of stress is small in terms of the UK and Canada's financial resources because of the size of the CDB. With only \$1.4 billion in assets, it is one of the smaller MDBs among those we rate.

ESG considerations

CARIBBEAN DEVELOPMENT BANK's ESG Credit Impact Score is Neutral-to-Low CIS-2

Exhibit 11
ESG Credit Impact Score

Neutral-to-Low

NEGATIVE : POSITIVE IMPACT : IMP

Source: Moody's Investors Service

CDB's neutral-to-low credit impact score (**CIS-2**) reflects neutral-to-low exposure to social and governance risks, as well as moderately negative exposure to environmental risks. Resilience is supported by CDB's committed shareholder base, in addition to financial support from non-regional members and other funding sources from non-regional DFIs, which is often channeled through the CDB as an active MDB in the region.

Exhibit 12 ESG Issuer Profile Scores



Source: Moody's Investors Service

Environmental

CDB's environmental issuer profile score is moderately negative (**E-3**). This reflects primarily exposure to physical climate risk because of portfolio concentration in a region that is subject to extreme weather events, which may weaken the CDB's asset quality. CDB's top sovereign borrowers have high environmental risk scores denoting the fact that they are prone to severe physical climate-related shocks.

Social

CDB's neutral-to-low social issuer profile score (**S-2**) reflects strong customer relations with its borrowers and its financial relevance to the region where its lending products have effectively addressed specific needs of its members.

Governance

CDB's governance issuer profile score of neutral-to-low (**G-2**) is based on conservative risk management policies that have proved effective in limiting and managing risks associated with its lending portfolio. Risk management practices also mitigate some of the CDB's portfolio exposure to climate risk.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on www.moodys.com. To view the latest scores, please click here to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

All of these considerations are further discussed in the "Detailed credit considerations" section above. Our approach to ESG is explained in our cross-sector methodology <u>General Principles for Assessing ESG Risks</u>. Additional information about our rating approach is provided in our <u>Supranational Rating Methodology</u>.

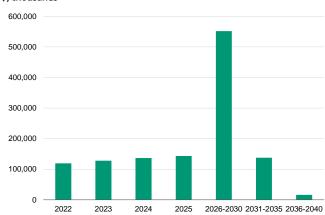
Recent developments

CDB's performance in the first six months of 2021 remained in line with its historical trends

Total loans outstanding decreased slightly to \$1.296 billion in the first six months of 2021 from \$1.332 billion in December 2020. The maturity schedule of loans outstanding are highly skewed to 2026-30, with 42% of all loans maturing in that period (see Exhibit 13). At the same time, 37% of total borrowings as of June 2021 are due between 2025 and 2029, balancing the maturities (see Exhibit 14). As of June 2021, CDB's total borrowings as a percentage of its borrowing limit decreased to 72.3% from 79.5% in December 2020.

Exhibit 13

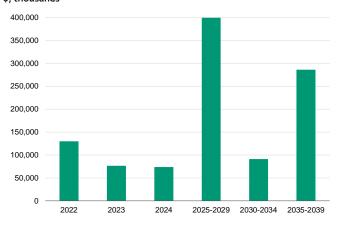
Maturity schedule of total loans outstanding \$, thousands



Excludes maturity of \$31,000 in 2040-41 because of size. Source: Caribbean Development Bank

Exhibit 14

Maturity schedule of total borrowings outstanding \$, thousands



Excludes maturity of \$1.8 million in 2040-43 because of size. Source: Caribbean Development Bank

In addition to the lines of credit from EIB to fund climate risk-related projects, CDB is expanding its focus on environmental, social and governance considerations. On 4 March, CDB and the European Union (EU) signed a €14 million program called Caribbean Action for Resilience Enhancement (CARE). While the funding will be from the EU, CDB will be responsible for implementing disaster risk management and building climate resilience in BMCs.

SOVEREIGN AND SUPRANATIONAL MOODY'S INVESTORS SERVICE

Rating methodology and scorecard factors

actor 1: Capital adequacy (50%)		aa3	aa3
Capital position (20%)		aa3	
Leverage ratio	aa3		
Trend	0		
Impact of profit and loss on leverage	0	······································	
Development asset credit quality (10%)	;······	ba	
DACQ assessment	ba		
Trend	0	,,	
Asset performance (20%)	;······	aaa	
Non-performing assets	aaa		
Trend Excessive development asset growth	0		
· · · · · · · · · · · · · · · · · · ·	ii	_	
actor 2: Liquidity and funding (50%)		aa2	aa2
iquid resources (10%)		aaa	
Availability of liquid resources	aaa		
Trend in coverage outflow	0		
Access to extraordinary liquidity	0	,	
Quality of funding (40%)		aa	
reliminary intrinsic financial strength			aa2
Other adjustments			-1
Operating environment	-1		
Quality of management	0		
djusted intrinsic financial strength			aa3
actor 3: Strength of member support (+3,+2,+1,0)		High	High
ability to support - weighted average shareholder rating (50%)		ba2	
Villingness to support (50%)			
Contractual support (25%)	aaa	aaa	
Strong enforcement mechanism Payment enhancements	0		
Non-contractual support (25%)		Very High	
scorecard-Indicated Outcome Range			Aaa-Aa2
ating Assigned			Aa1

Supranational Entities rating methodology.

Moody's Investors Service Source: Moody's Investors Service

Moody's related publications

- » Issuer In-Depth: Caribbean Development Bank Aa1 stable: Annual credit analysis, 1 June 2021
- » Rating Methodology: Multilateral Development Banks and Other Supranational Entities, 28 October 2020

To access any of these reports, click on the entry above. Note that these references are current as of the date of publication of this report and that more recent reports may be available. All research may not be available to all clients.

Related websites and information sources

- » Moody's Supranational web page
- » Moody's Sovereign and supranational rating list
- » Caribbean Development Bank

MOODY'S has provided links or references to third party World Wide Websites or URLs ("Links or References") solely for your convenience in locating related information and services. The websites reached through these Links or References have not necessarily been reviewed by MOODY'S, and are maintained by a third party over which MOODY'S exercises no control. Accordingly, MOODY'S expressly disclaims any responsibility or liability for the content, the accuracy of the information, and/or quality of products or services provided by or advertised on any third party web site accessed via a Link or Reference. Moreover, a Link or Reference does not imply an endorsement of any third party, any website, or the products or services provided by any third party.

© 2022 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved. CREDIT RATINGS ISSUED BY MOODY'S CREDIT RATINGS AFFILIATES ARE THEIR CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MATERIALS, PRODUCTS, SERVICES AND INFORMATION PUBLISHED BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") MAY INCLUDE SUCH CURRENT OPINIONS. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT OR IMPAIRMENT. SEE APPLICABLE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S CREDIT RATINGS. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS, NON-CREDIT ASSESSMENTS ("ASSESSMENTS"), AND OTHER OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES, MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS. ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL. WITH DUE CARE. MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE. HOLDING, OR SALE,

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.com under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1329447

CLIENT SERVICES

 Americas
 1-212-553-1653

 Asia Pacific
 852-3551-3077

 Japan
 81-3-5408-4100

 EMEA
 44-20-7772-5454

