

CREDIT OPINION

23 December 2020

Update

 Rate this Research

RATINGS

BRAC Bank Limited

| | |
|-------------------|--|
| Domicile | Bangladesh |
| Long Term CRR | Ba3 |
| Type | LT Counterparty Risk Rating - Fgn Curr |
| Outlook | Not Assigned |
| Long Term Debt | Not Assigned |
| Long Term Deposit | Ba3 |
| Type | LT Bank Deposits - Fgn Curr |
| Outlook | Negative |

Please see the [ratings section](#) at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

Contacts

| | |
|---|---------------|
| Joyce Ong Analyst joyce.ong@moodys.com | +65.6311.2608 |
| Alex Hang Associate Analyst alex.hang@moodys.com | +65.6398.3714 |
| Tengfu Li Analyst tengfu.li@moodys.com | +65.6311.2630 |
| Eugene Tarzimanov VP-Sr Credit Officer eugene.tarzimanov@moodys.com | +65.6398.8329 |
| Graeme Knowd MD-Banking graeme.knowd@moodys.com | +65.6311.2629 |

BRAC Bank Limited

Update following rating upgrade

Summary

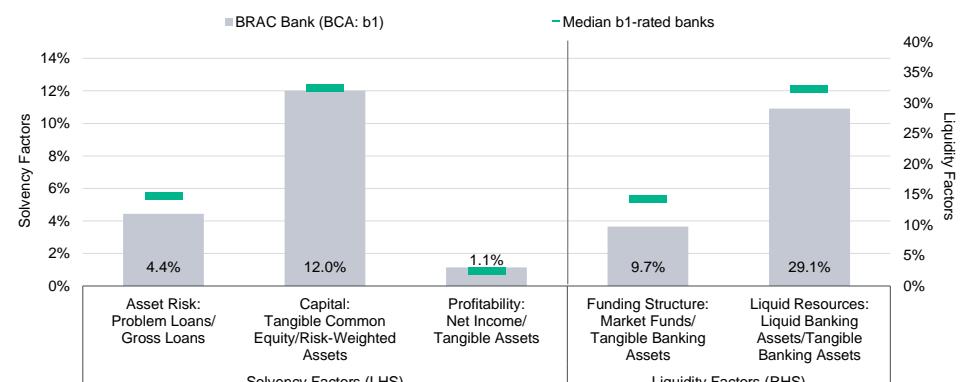
On 9 December 2020, [BRAC Bank Limited](#)'s (BRAC Bank) foreign-currency long-term deposit rating was upgraded to Ba3 from B1.

BRAC Bank's Ba3 long-term deposit rating includes one notch of uplift from the bank's b1 Baseline Credit Assessment (BCA). The rating uplift is based on our assumption of a moderate probability of support from the [Government of Bangladesh](#) (Ba3 stable), taking into consideration the bank's small market share, as well as the government's propensity and ability to support the banking system.

BRAC Bank's b1 BCA reflects the bank's good asset quality compared with those of its industry peers; robust profitability and strong capitalization, driven by its competitive advantage in the higher-yielding small and medium-sized enterprise (SME) segment; and strong funding structure and good liquidity.

Exhibit 1

Rating Scorecard - Key financial ratios



Credit strengths

- » Strong funding and liquidity, supported by its good reputation and sizable distribution network
- » Strong capital base, which is highest among the Bangladeshi banks we rate

Credit challenges

- » Growing asset risk because of the disruptions caused by the coronavirus pandemic
- » Strained core profitability because of the lending interest rate cap and slower loan growth amid the coronavirus pandemic

Outlook

The outlook on BRAC Bank's rating is negative, underpinned by our expectation that the deterioration in credit conditions because of the coronavirus outbreak will weigh on the bank's asset quality and profitability over the next 12-18 months.

Factors that could lead to an upgrade

Given the negative outlook, BRAC Bank's BCA and rating are unlikely to be upgraded over the next 12-18 months. Nevertheless, the outlook could be revised to stable if there is a steady improvement in the bank's asset quality. Higher profitability and capitalization, driven by greater operational efficiency or lower funding costs because of an enlarged deposit franchise, will also support a revision to a stable outlook.

Factors that could lead to a downgrade

BRAC Bank's BCA and rating could be downgraded if there is a significant deterioration in its asset quality, profitability and capitalization.

Key indicators

Exhibit 2

BRAC Bank Limited (Consolidated Financials) [1]

| | 12-19 ² | 12-18 ² | 12-17 ² | 12-16 ² | 12-15 ² | CAGR/Avg. ³ |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|------------------------|
| Total Assets (BDT Million) | 405,068.5 | 349,375.0 | 299,268.1 | 260,308.9 | 223,184.9 | 16.1 ⁴ |
| Total Assets (USD Million) | 4,771.4 | 4,164.2 | 3,598.1 | 3,311.8 | 2,844.0 | 13.8 ⁴ |
| Tangible Common Equity (BDT Million) | 37,631.6 | 32,373.9 | 24,606.4 | 20,023.3 | 17,887.0 | 20.4 ⁴ |
| Tangible Common Equity (USD Million) | 443.3 | 385.9 | 295.8 | 254.7 | 227.9 | 18.1 ⁴ |
| Problem Loans / Gross Loans (%) | 4.4 | 3.6 | 4.1 | 5.1 | 5.9 | 4.6 ⁵ |
| Tangible Common Equity / Risk Weighted Assets (%) | 12.0 | 11.6 | 10.1 | 9.3 | 9.3 | 10.5 ⁶ |
| Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%) | 24.8 | 21.0 | 25.1 | 32.1 | 33.6 | 27.3 ⁵ |
| Net Interest Margin (%) | 5.5 | 5.5 | 5.7 | 6.1 | 5.7 | 5.7 ⁵ |
| PPI / Average RWA (%) | 3.0 | 3.6 | 4.1 | 4.2 | 4.1 | 3.8 ⁶ |
| Net Income / Tangible Assets (%) | 1.1 | 1.6 | 1.8 | 1.6 | 1.1 | 1.4 ⁵ |
| Cost / Income Ratio (%) | 67.8 | 64.2 | 60.1 | 57.2 | 59.1 | 61.7 ⁵ |
| Market Funds / Tangible Banking Assets (%) | 9.7 | 12.3 | 13.7 | 14.4 | 14.9 | 13.0 ⁵ |
| Liquid Banking Assets / Tangible Banking Assets (%) | 29.1 | 27.4 | 27.1 | 24.7 | 25.3 | 26.7 ⁵ |
| Gross Loans / Due to Customers (%) | 89.6 | 95.9 | 98.0 | 102.6 | 105.2 | 98.2 ⁵ |

[1] All figures and ratios are adjusted using Moody's standard adjustments. [2] Basel III - fully loaded or transitional phase-in; LOCAL GAAP. [3] May include rounding differences because of the scale of reported amounts. [4] Compound annual growth rate (%) based on the periods for the latest accounting regime. [5] Simple average of periods for the latest accounting regime.

[6] Simple average of Basel III periods.

Sources: Moody's Investors Service and company filings

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

Profile

BRAC Bank Limited (BRAC Bank) was established in 2001 as a private commercial bank based in Bangladesh, listed on both the Dhaka Stock Exchange and the Chittagong Stock Exchange in 2007. The lender has developed a competitive advantage in SMEs and has established a strong domestic presence, supported by 456 SME offices, 187 branches, 378 agent banking outlets and 373 ATMs as of the end of September 2020. Moreover, the bank is a market leader in the mobile financial services industry with its subsidiary, bKash Limited (bKash), which provides electronic payment and remittance services.

The bank is majority owned by BRAC (44.3%), the world's largest nongovernmental organization that supports various social and environmental causes. BRAC is also one of the pioneers of microfinance, and its expertise provides BRAC Bank with a competitive advantage in the SME segment. Given BRAC's good reputation, BRAC Bank will be less susceptible to corporate governance issues that are faced by its industry peers.

Detailed credit considerations

Temporary improvement in problem loan ratio will be reversed as the moratorium ends

BRAC Bank's consolidated nonperforming loan (NPL) ratio declined to 3.2% as of 30 September 2020 from 4.4% as of year-end 2019. There was a significant improvement in the reported NPL ratio because the blanket loan moratorium imposed by the Bangladesh Bank (BB), in force since March 2020, has restricted banks from classifying loans as nonperforming until 31 December 2020, limiting the visibility of the actual problem loans in the system. We expect BRAC Bank's stock of problem loans to increase after the moratorium ends, similar to that of other banks in Bangladesh. Nevertheless, BRAC Bank's NPL ratio remains low compared with that of its peers we rate.

BRAC Bank does not have a significant amount of rescheduled loans¹ that are still classified as performing. These loans constituted 0.7% of its total loans as of the end of September 2020, slightly higher than 0.5% as of year-end 2019.

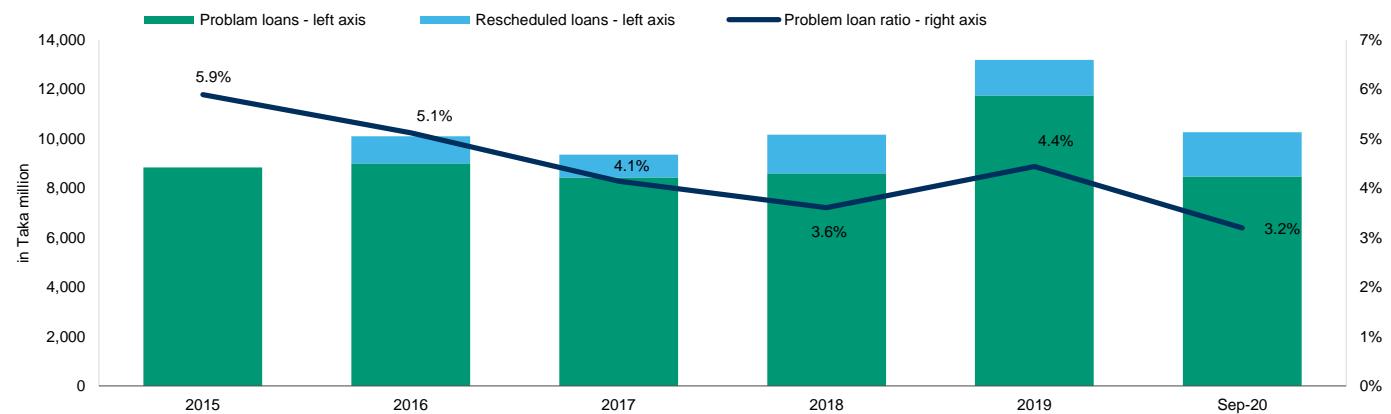
BRAC Bank's asset quality will continue to be strained because of disruptions caused by the coronavirus pandemic. The bank has a significant exposure to SMEs (50% of total loans as of 30 September 2019) and consumer loans (18%), and these borrowers tend to have limited buffers to withstand prolonged cash flow crunch. BRAC Bank also has sizable exposure to the ready-made garment (RMG) and textile sectors (13% of total loans portfolio), which are facing demand disruptions in their key export markets because of the coronavirus pandemic.

Nevertheless, the bank's strong presence in the SME segment will mitigate the heightened risks of its loan portfolio to some extent. Most of its SME borrowers operate essential services focusing on the domestic market in Bangladesh and are less susceptible to demand disruptions in countries where Bangladesh exports. At the same time, BRAC Bank's strong physical presence, with 456 dedicated SME offices spanning across various locations in Bangladesh, has allowed decentralized credit underwriting and more effective monitoring and collections from its SME borrowers. The high share of SME loans also renders the bank less vulnerable to single party concentration risks compared with its Bangladeshi peers. As a result, the NPL ratio of this segment is relatively low at only 1.9% as of 30 September 2020.

Exhibit 3

BRAC Bank's NPL ratio will increase as the moratorium ends

Problem loans as percentage of gross loans



1: Rescheduled loans are loans that are restructured and classified as performing.

2: NPL ratio does not include rescheduled loans.

Source: Moody's Investors Service

The bank maintains robust loan-loss buffers. As of 30 September 2020, BRAC Bank's loan-loss coverage improved to 122% from 83% as of year-end 2019 because of lower reported NPLs and to some extent, because the bank set aside more provisions in anticipation of higher problem loans after the moratorium period.

The b2 Asset Risk score incorporates the growing asset risk because of the disruptions caused by the coronavirus pandemic.

Capitalization is adequate, but will deteriorate because of strained profitability

BRAC Bank's capitalization is the highest among the Bangladeshi banks that we rate, supported by strong internal capital generation and a conservative dividend policy. The bank's Moody's-adjusted tangible common equity (TCE)/adjusted risk-weighted assets (RWA) or TCE ratio under Basel III capital norms increased to 12.0% as of year-end 2019 from 11.6% as of year-end 2018.

The bank's reported Common Equity Tier 1 (CET1) capital ratio declined to 13.9% as of the end of September 2020 from 15.0% as of year-end 2019 because growth in RWA outpaced that of internal capital generation². Although loan growth slowed to 0.4% in the first nine months of 2020 compared with 11% in 2019, its RWA increased 9% in the first 9 months of 2020 because of increase in holdings of government securities as well as new unrated SME loans that offset lower corporate loans during the same period. BRAC Bank's CET1 ratio remains well above the asset-weighted average of 10.1% of its peers we rate, despite the decline in the first 9 months of 2020.

We expect BRAC Bank's capitalization to remain strained in the next 12-18 months as internal capital generation weakens because of higher credit costs and lower interest income amid the coronavirus pandemic. Slower loan growth will somewhat relieve the strain on capitalization resulting from weaker profit.

The b2 Capital score reflects the above considerations.

Higher credit costs arising from the disruptions caused by the coronavirus pandemic and lower loan yield because of the interest rate cap will strain profitability

BRAC Bank's consolidated return on assets fell to 0.7% (annualized) in the first nine months of 2020 from 1.0% (annualized) in the first nine months of 2019, driven by a 21% annualized decline in net interest income and continued high operating expenses at the growing subsidiary bKash. The decline in net interest income was partially offset by a 148% annualized increase in investment income, mainly from government securities against the backdrop of lower bond yields. On a standalone basis, BRAC Bank's return on total assets was 1.0% (annualized) in the first nine months of 2020, down from 1.4% (annualized) as of same period in 2019.

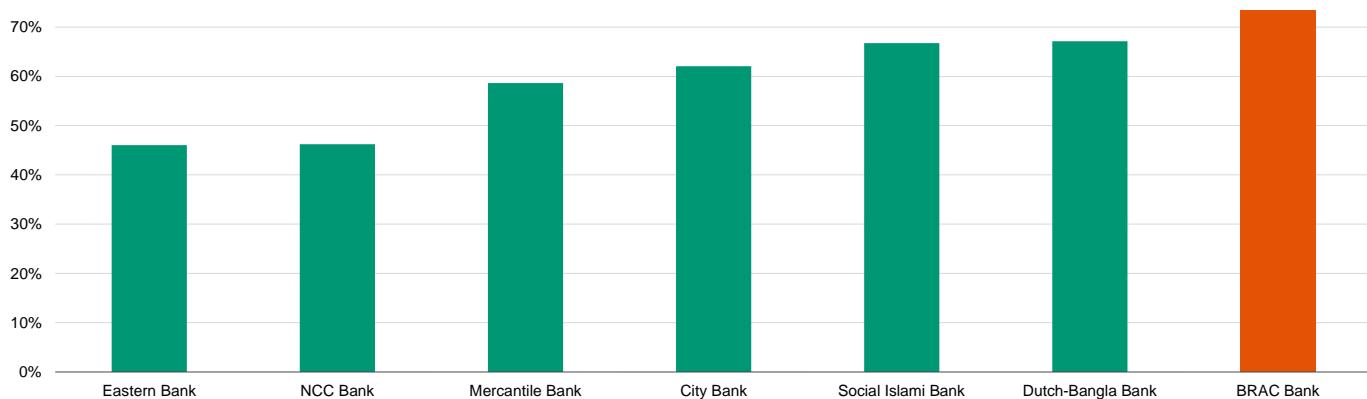
BRAC Bank's subsidiary, bKash, has been loss-making and will continue to spend heavily on marketing, promotions and IT infrastructure to expand its market share in the mobile payment space. It will take time for bKash to start making profits from its heavy investments.

As a result, BRAC Bank's consolidated operating expenses will continue to rise, straining its profitability. In the first nine months of 2020, the bank's consolidated cost-to-income ratio increased to 73% from 69% in the same period in 2019.

Exhibit 4

BRAC Bank's cost-to-income ratio was the highest among the banks we rate in Bangladesh

Total operating expenses as a percentage of total operating income



Data for the first nine months of 2020 are unaudited.

Source: Moody's Investors Service

BRAC Bank's interest rate spread has traditionally been among the highest in the industry, supported by the high proportion of loans to the higher-yielding SME segment. However, this advantage was curtailed by the lending rate cap of 9% imposed by BB since 1 April 2020. The bank's weighted-average lending rate declined to 8.7% as of 31 October 2020 from 12.7% as of 31 March 2020. Nevertheless, the bank was able to maintain a relatively robust interest rate spread because of its good access to low-cost deposits. Its weighted-average deposit rate decreased to 3.4% as of 31 October 2020 from 5.3% as of 31 March 2020. As a result, its interest rate spread remained better than those of its peers at 5.3% as of 31 October 2020, down from 7.4% as of 31 March 2020 but well above the average of 3.0% for private-sector banks in Bangladesh. We expect the interest rate spread and net interest margin to stabilize in the next 12-18 months, as the bank continues to reduce reliance on expensive term deposits and re-price deposits to lower rates.

The bank's credit costs as a percentage of average gross loans increased to 1.0% (annualized) in the first nine months of 2020 compared with 0.5% (annualized) in the first nine months of 2019. We expect the rising asset risks because of the disruptions caused by the coronavirus pandemic to exert further upward pressure on the bank's credit cost.

The Profitability score of b2 reflects our expectation that the bank's profitability will deteriorate over the next 12-18 months.

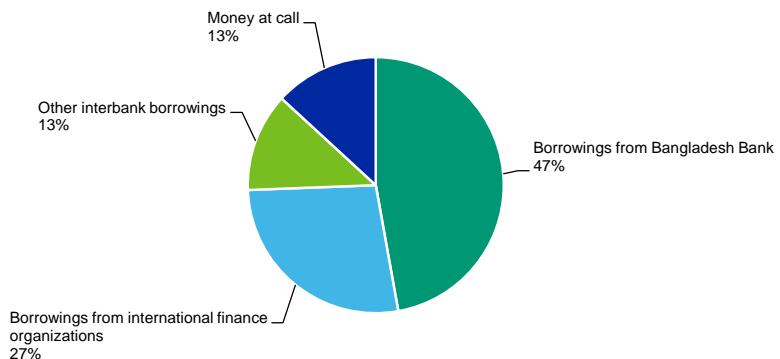
Robust funding and liquidity, backed by an established domestic franchise

BRAC Bank is primarily funded by deposits, which constituted 75% of the bank's tangible assets as of 30 September 2020, increasing from 73% a year earlier. Apart from having a reputable brand name, the bank's domestic franchise is also supported by a sizable network of branches and ATMs, a leading mobile platform (bKash), and a growing agent banking network. As a result, the bank has strong access to current and savings accounts, which tend to be stickier than term deposits and borrowings. Its current and savings accounts as a percentage of total customer deposits was 57% as of the same date.

BRAC Bank's loan-to-deposit ratio decreased to 81% as of the end of September 2020, compared with 90% a year-end 2019, helped by muted loan growth. At the same time, customer deposits grew by 10%.

The bank's funding profile has been improving over the years, with market fund as a percentage of tangible banking assets declining to 8.6% as of 30 September 2020 from 9.7% as of 2019 and 12.3% as of year-end 2018, because of lower reliance on interbank borrowings and growing deposit base. At the same time, 74% of the bank's market funds as of 30 September 2020 are from stable sources such as the central bank and multilateral institutions like [International Finance Corporation](#)(Aaa stable), up from 53% as of year-end 2019. BRAC Bank also obtains concessional funding from the local central bank that are disbursed to eligible domestic exporters and SMEs, and these accounted for 47% of BRAC Bank's total market funds as of the end of September 2020.

Exhibit 5

BRAC Bank's market funds comprised mainly borrowings from BB and international finance organizations

Data for September 2020 are unaudited.

Source: Moody's Investors Service

The adjusted Funding score of ba3 reflects BRAC Bank's good deposit franchise, as well as the stable funding provided by the local central bank and multilateral institutions.

BRAC Bank maintains a robust liquidity buffer. The bank's liquid assets ratio, excluding bKash customers' mobile wallets held in trust accounts, was 23% as of 30 September 2020, improving slightly from 21% as of year-end 2019. On a consolidated basis, BRAC Bank's liquid assets as a percentage of tangible assets improved to 33.6% as of the end of September 2020 from 29.1% as of year-end 2019. Liquidity support measures by BB will help alleviate the potential liquidity squeeze because of cash flow crunches caused by the coronavirus pandemic.

We expect the bank's liquidity to remain stable, reflected by the Liquid Resources score of b2.

BRAC Bank's BCA is based on Bangladesh's Weak- Macro Profile

BRAC Bank operates mainly in Bangladesh, which has a Weak- Macro Profile.

Bangladesh has a moderately diversified economy, which is largely driven by exports from the RMG sector. The country's history of steady growth performance is underpinned by large remittance inflow and the role of local microfinance institutions, which have promoted financial inclusion that offsets the low level of per capita income. The government's financial position has also been stable because it has consistently received concessional financing from the International Monetary Fund to offset weak revenue and finance its fiscal deficits. The country is moderately susceptible to event risks, driven by its deeply polarized domestic politics.

The country's banking system is characterized by high credit concentration and a high degree of market fragmentation. The state-owned banks together accounted for around 20% of the advances in the system as of the end of June 2020, and there is a fair degree of competition among private commercial banks. In addition, the persistent weakness in underwriting standards and growing trend of regulatory forbearance will lead to a further deterioration in credit conditions.

Environmental, social and governance considerations

In line with our general view for the banking sector, BRAC Bank has a low exposure to environmental risks (see our [environmental heat map](#) for further information) and moderate exposure to social risks (see our [social heat map](#) for further information).

The rapid and widening spread of the coronavirus pandemic, deteriorating global economic outlook, falling oil prices and asset price declines are creating a severe and extensive credit shock across many sectors, regions and markets. The Bangladeshi banking system has been one of the sectors weakened by the shock, especially given the persistent weaknesses in underwriting standards and high credit concentrations in large domestic corporates. We regard the coronavirus pandemic as a social risk under our environmental, social and governance (ESG) framework, given the substantial implications for public health and safety.

Governance is highly relevant for BRAC Bank, as it is to all participants in the banking industry. Corporate governance weaknesses can lead to a deterioration in a bank's credit quality, while governance strengths can benefit its credit profile. Governance risks are largely internal rather than externally driven. We do not have any particular concern around BRAC Bank's governance, as the bank has an appropriate risk management framework commensurate with its risk appetite. Nonetheless, corporate governance remains a key credit consideration and requires ongoing monitoring.

Support and structural considerations

Government support considerations

BRAC Bank's Ba3 long-term local-currency deposit rating includes a one-notch uplift from the bank's b1 BCA, based on our assumption of a moderate probability of government support. Our support assumption is based on the bank's small market share, but balanced by the government's willingness and ability to support the bank. The bank's B1 long-term foreign-currency deposit rating does not benefit from government support because of the country's deposit ceiling.

Counterparty Risk (CR) Assessment

CR Assessments are opinions of how counterparty obligations are likely to be treated if a bank fails and are distinct from debt and deposit ratings in that they consider only the risk of default rather than both the likelihood of default and the expected financial loss, and apply to counterparty obligations and contractual commitments rather than debt or deposit instruments. The CR Assessment is an opinion of the counterparty risk related to a bank's covered bonds, contractual performance obligations (servicing), derivatives (for example, swaps), letters of credit, guarantees and liquidity facilities.

BRAC Bank's CR Assessment is positioned at Ba3(cr)/NP(cr)

The CR Assessment, before government support, is positioned one notch above BRAC Bank's Adjusted BCA of b1. We then assign government support assumptions, in line with our support assumptions on deposits and senior unsecured debt. Such assignments reflect our view that any support provided by governmental authorities to a bank, which benefits senior unsecured debt or deposits, is very likely to benefit operating activities and obligations reflected by the CR Assessments as well. Such a view is consistent with our belief that governments are likely to maintain the banks' operations as a going concern to reduce contagion and preserve the banks' critical functions.

Counterparty Risk Ratings (CRRs)

CRRs are opinions of the ability of entities to honor the uncollateralized portion of non-debt counterparty financial liabilities (CRR liabilities) and also reflect the expected financial losses in the event that such liabilities are not honored. CRR liabilities typically relate to transactions with unrelated parties. Examples of CRR liabilities include the uncollateralized portion of payables arising from derivatives transactions and the uncollateralized portion of liabilities under sale and repurchase agreements. CRRs are not applicable to funding commitments or other obligations associated with covered bonds, letters of credit, guarantees, servicer and trustee obligations, and other similar obligations that arise from a bank performing its essential operating functions.

BRAC Bank's local- and foreign-currency CRRs are positioned at Ba3/NP

We consider Bangladesh a nonoperational resolution regime. For nonoperational resolution regime countries, the starting point for the CRRs is one notch above the bank's Adjusted BCA, to which we then typically add the same notches of government support as applied to the CR Assessment.

Methodology and scorecard

About Moody's Bank Scorecard

Our scorecard is designed to capture, express and explain in summary form our Rating Committee's judgment. When read in conjunction with our research, a fulsome presentation of our judgment is expressed. As a result, the output of our scorecard may significantly differ from that suggested by raw data alone (though it has been calibrated to avoid the frequent need for strong divergence). The scorecard output and the individual scores are discussed in rating committees and may be adjusted up or down to reflect conditions specific to each rated entity.

Rating methodology and scorecard factors

Exhibit 6

BRAC Bank Limited

Macro Factors

| Weighted Macro Profile | Weak - 100% | | | | | | |
|---|-------------|----------------|---------------|----------------|------------------------|---------------|---------------|
| Factor | | Historic Ratio | Initial Score | Expected Trend | Assigned Score | Key driver #1 | Key driver #2 |
| Solvency | | | | | | | |
| Asset Risk | | | | | | | |
| Problem Loans / Gross Loans | 4.4% | b2 | ↓ | b2 | Quality of assets | | |
| Capital | | | | | | | |
| Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in) | 12.0% | b2 | ↓ | b2 | Expected trend | | |
| Profitability | | | | | | | |
| Net Income / Tangible Assets | 1.1% | b2 | ↓ | b2 | Expected trend | | |
| Combined Solvency Score | | b2 | | b2 | | | |
| Liquidity | | | | | | | |
| Funding Structure | | | | | | | |
| Market Funds / Tangible Banking Assets | 9.7% | ba3 | ↑ | ba3 | Deposit quality | | |
| Liquid Resources | | | | | | | |
| Liquid Banking Assets / Tangible Banking Assets | 29.1% | b2 | ↔ | b2 | Stock of liquid assets | | |
| Combined Liquidity Score | | b1 | | b1 | | | |
| Financial Profile | | | | b2 | | | |
| Qualitative Adjustments | | | | Adjustment | | | |
| Business Diversification | | | | 0 | | | |
| Opacity and Complexity | | | | 0 | | | |
| Corporate Behavior | | | | 0 | | | |
| Total Qualitative Adjustments | | | | 0 | | | |
| Sovereign or Affiliate constraint | | | | Ba3 | | | |
| BCA Scorecard-indicated Outcome - Range | | | | b1 - b3 | | | |
| Assigned BCA | | | | b1 | | | |
| Affiliate Support notching | | | | 0 | | | |
| Adjusted BCA | | | | b1 | | | |

| Instrument Class | Loss Given Failure notching | Additional notching | Preliminary Rating Assessment | Government Support notching | Local Currency Rating | Foreign Currency Rating |
|------------------------------|-----------------------------|---------------------|-------------------------------|-----------------------------|-----------------------|-------------------------|
| Counterparty Risk Rating | 1 | 0 | ba3 | 0 | Ba3 | Ba3 |
| Counterparty Risk Assessment | 1 | 0 | ba3 (cr) | 0 | Ba3(cr) | |
| Deposits | 0 | 0 | b1 | 1 | Ba3 | Ba3 |
| Senior unsecured bank debt | 0 | 0 | b1 | 1 | Ba3 | Ba3 |

[1] Where dashes are shown for a particular factor (or sub-factor), the score is based on non-public information.

Source: Moody's Investors Service

Ratings

Exhibit 7

| Category | Moody's Rating |
|-------------------------------------|----------------|
| BRAC BANK LIMITED | |
| Outlook | Negative |
| Counterparty Risk Rating | Ba3/NP |
| Bank Deposits | Ba3/NP |
| Baseline Credit Assessment | b1 |
| Adjusted Baseline Credit Assessment | b1 |
| Counterparty Risk Assessment | Ba3(cr)/NP(cr) |
| Issuer Rating | Ba3 |
| ST Issuer Rating | NP |

Source: Moody's Investors Service

Endnotes

- 1** Rescheduled loans refer to nonperforming loans that were classified as performing after the Bangladesh Bank granted approvals for banks to reschedule the payment terms and interest rates.
- 2** Internal capital growth refers to an increase in the bank's capital through net income less any paid-out dividends.

© 2020 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 INVESTORS SERVICE, INC. AND/OR ITS CREDIT RATINGS AFFILIATES ARE MOODY'S 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 INVESTORS SERVICE 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 MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S INVESTORS SERVICE 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 \$2,700,000. 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 JPY125,000 to approximately JPY250,000,000.

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

REPORT NUMBER

1256369

Contacts

| | | | |
|---|---------------|--|---------------|
| Alex Hang <i>Associate Analyst</i> alex.hang@moodys.com | +65.6398.3714 | Graeme Knowd <i>MD-Banking</i> graeme.knowd@moodys.com | +65.6311.2629 |
| Tengfu Li <i>Analyst</i> tengfu.li@moodys.com | +65.6311.2630 | Joyce Ong <i>Analyst</i> joyce.ong@moodys.com | +65.6311.2608 |
| Eugene Tarzimanov <i>VP-Sr Credit Officer</i> eugene.tarzmanov@moodys.com | +65.6398.8329 | | |