

CREDIT OPINION

17 November 2020

Update

 Rate this Research

RATINGS

Credit Bank of Moscow

Domicile	Moscow, Russia
Long Term CRR	Ba2
Type	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	Ba3
Type	Senior Unsecured - Fgn Curr
Outlook	Stable
Long Term Deposit	Ba3
Type	LT Bank Deposits - Fgn Curr
Outlook	Stable

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

Petr Paklin +7.495.228.6051
VP-Senior Analyst
petr.paklin@moodys.com

Victoria Voronina +7.495.228.6113
Associate Analyst
victoria.voronina@moodys.com

Lev Dorf +7.495.228.6056
AVP-Analyst
lev.dorf@moodys.com

Yaroslav Sovgyra, +7.495.228.6076
CFA
Associate Managing Director
yaroslav.sovgyra@moodys.com

Credit Bank of Moscow

Update following rating action

Summary

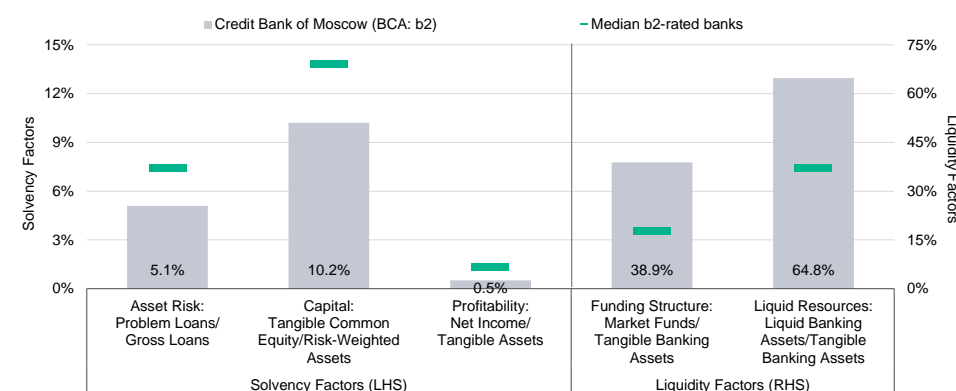
On 10 November 2020, we affirmed the Ba3 long-term deposit ratings as well as senior unsecured foreign-currency debt ratings of [Credit Bank of Moscow](#) (CBM) with a stable outlook. Concurrently, we affirmed the bank's b2 Baseline Credit Assessment (BCA) and Adjusted BCA, as well as its Ba2(cr) long-term Counterparty Risk Assessment (CR Assessment) and Ba2 Counterparty Risk Ratings (CRRs).

The Ba3 deposit ratings of CBM are based on the bank's BCA of b2 and a high probability of support from the [Government of Russia](#) (Baa3 stable), which results in two notches of uplift. The bank's BCA of b2 reflects its elevated risk profile owing to its high concentrations in the loan portfolio, reverse repos and customer deposits; and modest recurring profitability, suppressed by significant low-yielding assets. These weaknesses are counterbalanced by strong liquidity buffer and good capital adequacy. The bank's strengths are also moderated by the economic slump in Russia this year, caused by low oil prices and the global spread of the coronavirus, which will exert pressure on its asset quality and profitability.

Exhibit 1

Rating Scorecard - Key financial ratios

As of 30 June 2020



Source: Moody's Financial Metrics

Credit strengths

- » High likelihood of government support
- » Robust liquidity buffer
- » Solid franchise in the Moscow area, one of the wealthiest regions in Russia

Credit challenges

- » Modest asset quality, which is further aggravated by high concentrations in the loan book
- » Moderate bottom-line profitability, strained by a low net interest margin (NIM) and high credit costs
- » Risk governance weaknesses stemming from its elevated risk appetite

Outlook

The stable outlook is driven by our expectation that the negative impact of the coronavirus pandemic and the deterioration of the operating environment on the bank's financial profile over the next 12-18 months will be limited and its solvency metrics will remain commensurate with the current ratings.

Factors that could lead to an upgrade

CBM's BCA and ratings could be upgraded if:

- » there were a sustained improvement in the bank's solvency metrics, in particular, its capitalisation, or
- » the bank reduced its concentrations in its loan portfolio, reverse repos and customer deposits, indicative of enhanced risk governance

Factors that could lead to a downgrade

- » CBM's BCA could be downgraded if there were a sharp deterioration in the operating environment in Russia that would lead to a substantial decline in the bank's liquidity or loss-absorption capacity.
- » The bank's supported ratings could be downgraded if the government's capacity or propensity to render support to systemically important banks were to diminish.

Key indicators

Exhibit 2

Credit Bank of Moscow (Consolidated Financials) [1]

	06-20 ²	12-19 ²	12-18 ²	12-17 ²	12-16 ²	CAGR/Avg. ³
Total Assets (RUB Billion)	2,752.3	2,423.5	2,145.9	1,888.2	1,568.0	17.4 ⁴
Total Assets (USD Billion)	38.6	39.0	30.9	32.8	25.7	12.4 ⁴
Tangible Common Equity (RUB Billion)	174.2	170.2	145.4	135.8	101.9	16.5 ⁴
Tangible Common Equity (USD Billion)	2.4	2.7	2.1	2.4	1.7	11.5 ⁴
Problem Loans / Gross Loans (%)	5.1	5.2	4.3	11.6	6.8	6.6 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	10.2	11.4	10.5	11.6	9.4	10.6 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	19.3	18.6	16.4	51.0	32.0	27.4 ⁵
Net Interest Margin (%)	1.9	1.9	2.3	2.6	3.0	2.3 ⁵
PPI / Average RWA (%)	2.8	1.0	2.9	3.9	4.5	3.1 ⁶
Net Income / Tangible Assets (%)	0.5	0.3	1.1	1.0	0.7	0.7 ⁵
Cost / Income Ratio (%)	34.6	61.6	36.9	29.5	25.6	37.7 ⁵
Market Funds / Tangible Banking Assets (%)	38.9	34.0	30.3	38.9	46.3	37.7 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	64.8	64.3	64.1	56.0	58.1	61.5 ⁵
Gross Loans / Due to Customers (%)	62.5	57.9	56.5	93.5	99.3	73.9 ⁵

[1] All figures and ratios are adjusted using Moody's standard adjustments. [2] Basel III - fully loaded or transitional phase-in; IFRS. [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

Credit Bank of Moscow (CBM), incorporated in 1992, is a universal commercial bank based in Russia. The bank provides a wide range of banking products and services to corporate and retail customers, and reported total assets of RUB2.8 trillion (\$39.3 billion) as of 30 June 2020. As of the same date, CBM was the sixth-largest bank in Russia with a market share of around 3% in terms of standalone assets, and served more than 1.9 million retail and 20,000 corporate clients. The bank has a visible franchise in Moscow and the Moscow region, one of the wealthiest regions in Russia.

CBM's largest shareholder is Concern Rossium LLC, a holding company largely owned by Roman Avdeev, with 59.8% of its share capital as of 30 June 2020. Among the minority shareholders are Russian institutional investors and international financial institutions such as [European Bank for Reconstruction & Development](#). (Aaa stable, 3.6%).

Recent credit developments

Since March 2020, the Russian economy has been facing difficulties because of a sharp decline in oil prices and the pandemic. We forecast the country's GDP to contract by 5.5% in 2020 and return to a slow 2.2% growth in 2021.

The difficult operating environment has resulted in financial hardship for a wide range of banks' borrowers. In particular, small and medium-sized enterprises in the segments of passenger transport, tourism, nonfood retail, cafes, restaurants, hotels and others were affected. Concurrently, individuals employed in the aforementioned sectors also faced financial difficulties. Larger corporates, in general, remain more resilient to the current economic slump; however, they also face a decline in revenue because of weakened domestic and global demand. These factors have led to a deterioration in banks' solvency metrics, in particular, asset quality and profitability, which prompted us to [change Russia's banking system outlook to negative from stable](#).

In response to these pressures, the Russian President, the Government of Russia and the Central Bank of Russia (CBR) introduced a large set of measures to counter the economic effects of the pandemic on the domestic economy and the banking system. The package, inter alia, includes an array of regulatory forbearance measures for banks, which will remain in effect until 30 June 2021.

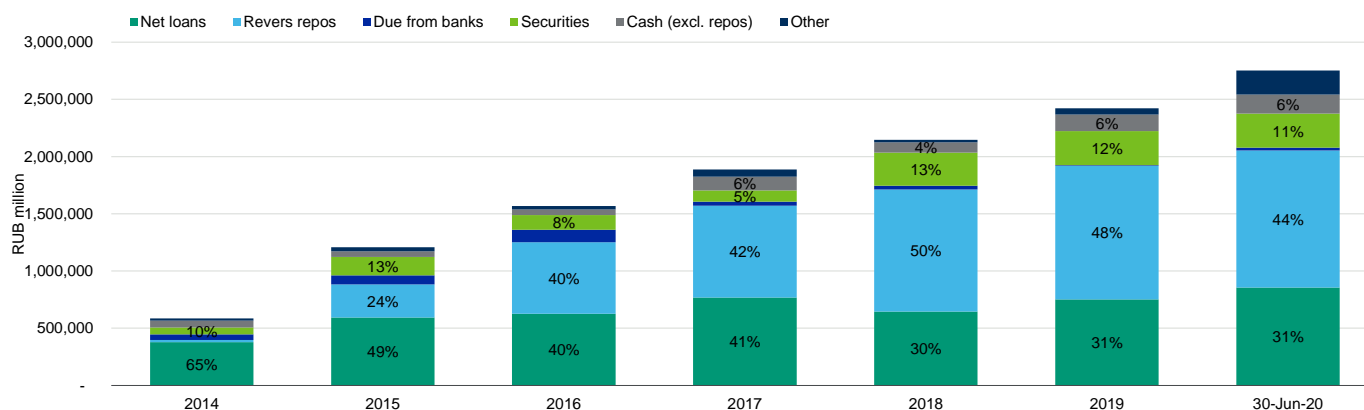
Detailed credit considerations

Balance sheet is dominated by liquid assets, largely in the form of reverse repos

Since 2015, the bank's asset structure has shifted towards a higher share of reverse repos and a lower share of net loans (see Exhibit 3). This shift was driven by the inflow of foreign-currency deposits from large companies, as well as interbank funding.

Exhibit 3

CBM's balance sheet is dominated by reverse repos



Sources: Moody's Investors Service and the bank's IFRS reports

As of 30 June 2020, CBM's reverse repos amounted to 44% of its total assets. These transactions are well structured and secured by high-quality collateral eligible for repo with the CBR and, therefore, have zero impact on the bank's risk-weighted assets (RWA). At the same time, they abnormally expand CBM's balance sheet, eroding the bank's financial metrics and ratios. We understand that repo transactions are carried out with a small number of contractors, which implies a high concentration.

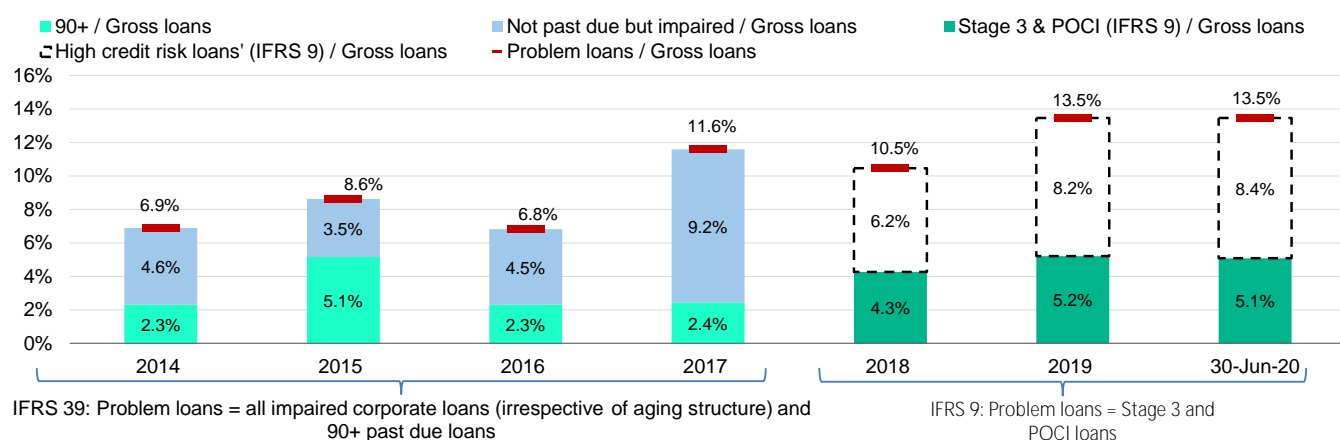
Modest asset quality, further aggravated by high concentrations in the loan book

We assigned an Asset Risk score of b2, which on the one hand reflects the bank's vulnerable loan book quality and downside risks from the economic recession in Russia, and on the other hand material share of low credit risk reverse repos portfolio (44% of total assets at mid-2020).

The bank's net loan book accounted for a modest 31% of total assets as of mid-2020 with problem lending (defined as stage 3 and purchased and originated credit impaired loans) amounting to 5.1% of gross loans and 119% covered by loan-loss reserves (year-end 2019: 5.2% and 103%, respectively). Beyond these problem loans, CBM had exposures to a highly leveraged car dealer, a hotel business, and equity investments in a loss-making pharmacy chain which together amounted to RUB52 billion or 30% of the bank's tangible common equity (TCE) as of mid-2020. Nevertheless we consider these riskier exposures to be moderate and materially reduced relative to their level three years earlier, when we estimated the bank had high-risk assets not treated as overdue or impaired equivalent to 73% of TCE.

Exhibit 4

Credit risk in the loan portfolio has been high since year-end 2017



Sources: Moody's Investors Service and the bank's IFRS reports

CBM's strong bias towards the corporate segment gives rise to concentration risks. As of year-end 2019 (the latest available data), the 10 largest borrowers accounted for 44% of gross loans and 215% of tangible common equity, notably higher than the Russian sector average. Furthermore, in recent years, the bank's business was skewed towards financing oil refining, production and trading, which resulted in a significant industry concentration. In the first six months of 2020, amid the steep drop and high uncertainty in oil prices, exposure to these sectors increased by 20% and their share in gross loans approached 50%. Although the bank focuses on high-quality borrowers, the single-name and industry concentrations in the loan book imply high susceptibility to event risk in case of a large borrower default or a sector-specific adversity.

Good capitalization amid profitable activity and modest business growth

As of 30 June 2020, CBM reported Moody's-adjusted TCE/RWA ratio of 10.2%. A decline from 11.4% as of year-end 2019 was mainly attributable to the inflation of RWA as a result of rouble depreciation. At its current levels, the bank's capital is below that of its similarly rated global peers, and there is the risk of its capital decreasing further because of the recent weakening of the local currency and the bank's suppressed internal capital generation capacity. Moreover CBM's large reverse repo transactions result in relatively high nominal leverage, with a TCE/Total Assets ratio of 6.3% as of mid-2020.

The weakness in CBM's capital position is partially mitigated by the shareholders' commitment to support the bank's capital needs. In Q4 2019, CBM received RUB14.7 billion of equity via secondary public offering (SPO), which strengthened the bank's balance sheet and bolstered up its business growth. Another RUB14.4 billion was contributed to the bank's capital in 2017 via SPO.

In terms of regulatory requirements, CBM continued to report capital adequacy ratios well above the minimum thresholds, with a 9.4% core Tier 1 ratio, a 12.0% Tier 1 capital ratio and a 19.0% total capital adequacy ratio (CAR) as of 1 July 2020. CBM's capital adequacy metrics should be considered in the context of its relatively high distressed and high-credit-risk lending; high nominal leverage, given the

material share of the reverse repo transactions; and double leverage at its parent holding company, Concern Rossium, which we estimate at 1.5x as of year-end 2019.

We expect the bank's TCE/RWA ratio will remain broadly flat over the next 12-18 months and assign a Capital score of b3, which is two notches below the historical score and reflects negative adjustment owing to high nominal leverage.

Margin pressure weighs on bottom-line profitability

Over the next 12-18 months, we expect the bank's profitability to face pressure from the difficult operating environment in Russia. The economic recession and reduced business activity will hurt both corporate and retail borrowers' debt service capacity, while repayment reliefs offered to affected customers and lower interest rates will weigh on NIM. In addition, loan-loss provisioning charges, which jumped in H1 2020, will remain high as the economic disruption takes a toll on the bank's asset quality. The assigned Profitability score of b3 reflects the above-mentioned considerations.

CBM reported a net income of RUB9.1 billion in H1 2020, more than threefold as much as in the same period a year earlier. In accordance with our standard approach, we adjusted this figure downward by including the coupon on perpetual bonds in interest expenses. As a result, adjusted net income was RUB7.2 billion, which translates into a return on average assets of 0.5% (full-year 2019: RUB8.1 billion and 0.4%, respectively). All figures and ratios cited below are calculated on the basis of the adjusted data.

The bank's NIM¹ narrowed to 1.9% in 2019 and remained flat in H1 2020. For comparison, it was 2.3% in 2018 and 2.6% in 2017. At these levels, CBM's NIM is half that reported by the other banks that we rate, which is mainly a result of a large share of low-margin reverse repo transactions on the bank's balance sheet (44% of assets). Nevertheless, these transactions make a considerable contribution to the net financial result, given the lack of associated provisioning charges and the material size of the portfolio (about RUB1.2 trillion in H1 2020).

After a temporary increase in 2019, CBM's cost-to-income ratio normalised at 35%. However, the bank's bottom-line profitability was adversely affected by a sharp increase in provisioning charges as indicated by a loan-loss provisions-to-average gross loan ratio of 3.4% in H1 2020 (annualised) versus 1.0% in 2019 and 0.3% in 2018. We expect credit costs to stay high in the next 12-18 months.

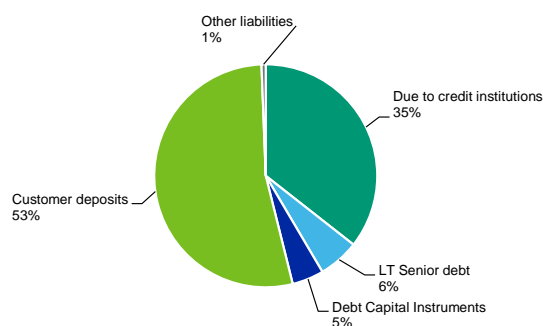
A sizeable liquidity buffer offsets the risk of unexpected, highly concentrated deposit withdrawals

CBM is largely funded by local deposits; however, their share decreased to 53% of the bank's total liabilities as of 30 June 2020 from 58% as of year-end 2019 and 60% as of year-end 2018. Customer deposits are dominated by corporate deposits (63% of the total amount), which results in a high single-name concentration. As of December 2019 (the latest available data), the 10 largest depositors accounted for 51% of the total customer deposits (2018: 64%). As of the same date, about 45% of all customer accounts (predominantly corporate) were denominated in foreign currency.

Exhibit 5

The share of market funding is elevated largely because of reverse repos on the asset side

As of 30 June 2020



Sources: Moody's Investors Service and the bank's IFRS reports

Concentrated foreign-currency-denominated corporate deposits, as well as interbank deposits (36% of total liabilities as of 30 June 2020, up from 29% as of year-end 2019), are the sources of funding for reverse repo transactions on the asset side. This implies that any outflow

of large corporate deposits is offset either by a reduction in reverse repos or by additional interbank borrowings, given the high credit quality of the securities received as collateral under reverse repos.

As repo deals materially distort the balance sheet, we adjust market funding by the amount of interbank borrowings that financed the reverse repo transactions, and assign a Funding Structure score of ba2.

After adjusting the liquidity buffer (65% of assets as of 30 June 2020) for the amount of reverse repos, we estimate the adjusted liquidity ratio to be 37% of the bank's adjusted total assets (year-end 2019: 31%). We expect the bank to maintain sound liquidity and hold ample liquid assets in the next 12-18 months and assign a Liquidity score of ba1.

Environmental, social and governance (ESG) considerations

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

The most relevant social risks for banks in Russia arise from the country's adverse demographics, which affect the banks' customer bases and weigh on the growth prospects of both the banking system and the broader economy (for more details, see [Commonwealth of Independent States: Divergence in working-age population trends will shape credit profiles](#), 9 July 2018). We also regard the pandemic as a social risk under our environmental, social and governance (ESG) framework because of the substantial implications for public health and safety.

Governance is highly relevant for CBM, as it is to all entities 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. For Russian banks, we have identified key-person and related-party risks as the key governance risks. These risks are manifested in, but are not limited to, heavy related-party loan concentrations and banks' high dependence on single individuals for business, which often give rise to weak corporate governance and lax underwriting standards. Fraud and weak risk management have recently caused multiple bank closures and restructurings in Russia.

Governance risks are largely internal rather than externally driven for CBM. The one-notch downward adjustment for corporate behaviour reflects our view that the bank's creditworthiness is increasingly affected by the elevated risk appetite, in particular high concentrations in the loan book, customer deposits and reverse repos portfolio, the latter of which exceeded 44% of the bank's total assets as of 30 June 2020.

Support and structural considerations

Government support

In 2017, the CBR designated CBM as a systemically important bank. This status gives the bank the right to apply for a committed credit line facility from the CBR, which can be used both to meet its liquidity coverage ratio requirement (even if the line is not used) and for liquidity support, in case of need. In particular, the CBR now has the capacity to promptly provide liquidity in the form of an extraordinary liquidity facility to large banks, should it be required.

We assign global local-currency deposit ratings of Ba3/Not Prime to CBM after incorporating the high probability of government support into the bank's ratings. This results in two notches of uplift to the bank's senior unsecured debt and deposit ratings from its BCA of b2.

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 (1) consider only the risk of default rather than both the likelihood of default and the expected financial loss suffered in the event of default, and (2) 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.

CBM's CR Assessment is positioned at Ba2(cr)/Not Prime(cr)

The CR Assessment is one notch above CBM's senior unsecured and deposit ratings, reflecting our view that the probability of the bank's default on its counterparty obligations is lower than that of senior unsecured debt and deposits. We believe senior obligations represented by the CR Assessment will more likely be preserved to limit contagion, minimise losses and avoid disruption to critical functions.

Counterparty Risk Ratings (CRRs)

CRRs are opinions of the ability of entities to honour the uncollateralised portion of non-debt counterparty financial liabilities (CRR liabilities) and also reflect the expected financial losses in the event such liabilities are not honoured. CRR liabilities typically relate to transactions with unrelated parties. Examples of CRR liabilities include the uncollateralised portion of payables arising from derivative transactions and the uncollateralised 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.

CBM's CRRs are positioned at Ba2/Not Prime

CBM's global CRRs are Ba2/Not Prime, one notch above the bank's deposit ratings, reflecting our view that the CRR liabilities are not likely to default at the same time as when the bank fails and will more likely be preserved to minimise banking system contagion, minimise losses and avoid the disruption of critical functions.

Subordinated debt ratings

The Caa2(hyb) rating assigned to CBM's notes is based on its standalone creditworthiness and is positioned three notches below the bank's b2 Adjusted BCA (one notch below to reflect the high loss severity and a further two notches below to reflect the higher payment risk associated with the non-cumulative coupon skip mechanism, as well as the probability of bankwide failure). The analysis also takes into consideration the full or partial write-down feature, in combination with the Tier 1 notes' subordinated claim in liquidation.

Note on data

Unless noted otherwise, data in this report is sourced from company reports and Moody's Banking Financial Metrics. All figures are based on our own chart of account and are adjusted for analytical purposes. Please refer to the document titled [Financial Statement Adjustments in the Analysis of Financial Institutions](#), published on 9 August 2018.

Methodology and scorecard

About Moody's Bank Scorecard

Our scorecard is designed to capture, express and explain in summary form our Rating Committee's judgement. When read in conjunction with our research, a fulsome presentation of our judgement is expressed. As a result, the output of our scorecard may materially 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

Credit Bank of Moscow

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	6.5%	b2	↓↓	b2	Expected trend	Quality of assets	
Capital							
Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in)	10.2%	b1	↔	b3	Expected trend	Nominal leverage	
Profitability							
Net Income / Tangible Assets	0.5%	b1	↔	b1	Expected trend		
Combined Solvency Score		b1		b2			
Liquidity							
Funding Structure							
Market Funds / Tangible Banking Assets	34.0%	b2	↑↑	ba2	Market funding quality		
Liquid Resources							
Liquid Banking Assets / Tangible Banking Assets	64.3%	baa2	↓↓	ba1	Asset encumbrance		
Combined Liquidity Score		ba2		ba2			
Financial Profile				b1			
Qualitative Adjustments				Adjustment			
Business Diversification				0			
Opacity and Complexity				0			
Corporate Behavior				-1			
Total Qualitative Adjustments				-1			
Sovereign or Affiliate constraint				Baa3			
BCA Scorecard-indicated Outcome - Range				b1 - b3			
Assigned BCA				b2			
Affiliate Support notching				0			
Adjusted BCA				b2			
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	b1	2	Ba2	Ba2	
Counterparty Risk Assessment	1	0	b1 (cr)	2	Ba2(cr)		
Deposits	0	0	b2	2	Ba3	Ba3	
Senior unsecured bank debt	0	0	b2	2		Ba3	
Dated subordinated bank debt	-1	-2	caa2	0		Caa2 (hyb)	

[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
CREDIT BANK OF MOSCOW	
Outlook	Stable
Counterparty Risk Rating	Ba2/NP
Bank Deposits	Ba3/NP
Baseline Credit Assessment	b2
Adjusted Baseline Credit Assessment	b2
Counterparty Risk Assessment	Ba2(cr)/NP(cr)
Senior Unsecured	Ba3
Subordinate	Caa2 (hyb)

Source: Moody's Investors Service

Endnotes

[1](#) As per Moody's Banking Account & Ratio Definitions.

© 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.moody.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

1253179