

### CREDIT OPINION

15 February 2024

# **Update**



#### RATINGS

#### Israel Discount Bank Ltd.

Domicile	Tel Aviv, Israel
Long Term CRR	A2
Туре	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	A3
Туре	Senior Unsecured - Fgn Curr
Outlook	Negative
Long Term Deposit	A3
Туре	LT Bank Deposits - Fgn Curr
Outlook	Negative

Please see the <u>ratings section</u> at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

#### Contacts

Alexios Philippides +357.2569.3031 VP-Senior Analyst alexios.philippides@moodys.com

Corina Moustra +357.2569.3003 Lead Ratings Associate

corina.moustra@moodys.com

Henry MacNevin +44.20.7772.1635 Associate Managing Director henry.macnevin@moodys.com

Nick Hill +33.1.5330.1029

MD-Financial Institutions nick.hill@moodys.com

# Israel Discount Bank Ltd.

Update following ratings downgrade

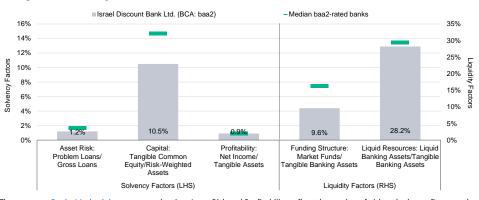
### Summary

<u>Israel Discount Bank Ltd.</u> (IDB)'s A3 long-term deposit ratings reflect (1) the bank's baa2 Baseline Credit Assessment (BCA); and (2) two notches of rating uplift based on our assessment of a very high probability of support from the <u>Government of Israel</u> (A2 negative), in case of need.

IDB's baa2 BCA reflects its favourable deposit-based funding structure along with comfortable liquidity, currently low problem loans and strengthened recurring profitability supported by efficiency gains and robust business growth potential.

IDB's standalone BCA also reflects relatively modest but stable capital buffers, with a tangible common equity (TCE)/risk-weighted assets (RWAs) ratio of 10.5% as of September 2023, below similarly-rated international peers mainly reflecting Bank of Israel's (BoI) more conservative risk-weighting and additional downside risks from a significant exposure concentration to the property market.

Exhibit 1
Rating Scorecard - Key financial ratios



These are our <u>Banks Methodology</u> scorecard ratios. Asset Risk and Profitability reflect the weaker of either the latest figure or the three-year and latest figure average. Capital is the latest reported figure. Funding Structure and Liquid Resources reflect the latest fiscal year-end figures.

Source: Moody's Investors Service

## **Credit strengths**

- » Stable deposit-based funding structure and comfortable liquidity
- » Asset quality has been strong
- » Strengthened ongoing profitability, supported by enhanced efficiency
- » Very high likelihood of government support, in case of need

# **Credit challenges**

- » Given the crystallisation of geopolitical risks, asset quality will likely deteriorate and profitability will decline
- » Exposure concentration in real estate is also a downside risk
- » Modest risk-weighted capitalisation, but moderate leverage
- » Operating cost base remains higher relative to peers

#### **Outlook**

The negative outlook on the long-term deposit ratings captures both the negative outlook on the Government of Israel's rating and the potential for a significantly more negative impact on the economy in the event of an escalation in the ongoing conflict, which could lead to the bank's standalone fundamentals being impacted more severely.

### Factors that could lead to an upgrade

» There is a limited scope for an upgrade of the bank's deposit ratings given the negative outlook. We could stabilise the outlook on the bank's ratings in case the outlook on the sovereign rating changes to stable and/or downside risks to the economy and the bank subside.

### Factors that could lead to a downgrade

- » The deposit and senior unsecured debt ratings could be downgraded if both the sovereign rating and the standalone BCA is downgraded.
- » The bank's BCA could be downgraded in case of a prolonged and wider conflict that could have a significant impact on the standalone fundamental, or if the bank's performance proves more volatile than in previous conflicts and economic crises.

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.

### **Key indicators**

Exhibit 2
Israel Discount Bank Ltd. (Consolidated Financials) [1]

	09-23 <sup>2</sup>	12-22 <sup>2</sup>	12-21 <sup>2</sup>	12-20 <sup>2</sup>	12-19 <sup>2</sup>	CAGR/Avg. <sup>3</sup>
Total Assets (ILS Million)	399,202.0	376,754.0	335,088.0	293,969.0	259,823.0	12.1 <sup>4</sup>
Total Assets (USD Million)	104,860.0	106,774.6	107,913.6	91,556.3	75,223.8	9.3 <sup>4</sup>
Tangible Common Equity (ILS Million)	28,884.0	26,051.0	21,068.0	18,189.3	18,127.0	13.2 <sup>4</sup>
Tangible Common Equity (USD Million)	7,587.1	7,383.0	6,784.9	5,665.0	5,248.1	10.3 <sup>4</sup>
Problem Loans / Gross Loans (%)	0.9	0.7	1.4	1.9	1.2	1.2 <sup>5</sup>
Tangible Common Equity / Risk Weighted Assets (%)	10.5	10.3	9.6	9.1	9.6	9.8 <sup>6</sup>
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	7.1	5.6	13.1	17.2	11.1	10.8 <sup>5</sup>
Net Interest Margin (%)	2.9	2.5	2.1	2.1	2.4	2.4 <sup>5</sup>
PPI / Average RWA (%)	3.2	2.5	1.9	1.9	2.0	2.3 <sup>6</sup>
Net Income / Tangible Assets (%)	1.1	0.9	0.9	0.5	0.7	0.85
Cost / Income Ratio (%)	47.5	54.7	62.8	61.7	63.0	57.9 <sup>5</sup>
Market Funds / Tangible Banking Assets (%)	12.1	9.6	8.0	8.5	6.2	8.9 <sup>5</sup>
Liquid Banking Assets / Tangible Banking Assets (%)	26.4	28.2	30.3	29.1	24.6	27.7 <sup>5</sup>
Gross Loans / Due to Customers (%)	89.0	84.4	83.8	86.5	92.5	87.3 <sup>5</sup>

<sup>[1]</sup> 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

#### **Profile**

IDB is the fourth-largest banking group in Israel by assets with a 16% market share and total consolidated assets of NIS399 billion (around \$105 billion) as of September 2023. IDB also had a 15% market share in deposits and 17% in loans as of the same date.

Domestically, IDB provides a full range of banking services out of its 173 branches in Israel as of September 2023. IDB has the largest international operations among Israeli banks, mainly carried out through Israel Discount Bank of New York (IDB New York), its US subsidiary, which focuses on mid-sized companies and private banking. IDB New York operates branches in New York, Florida and California and has representative offices in Latin America and in Israel.

The bank's other key subsidiaries include Mercantile Discount Bank, a niche bank specialising in retail, small and medium-sized and municipal banking, and Israel Credit Cards (ICC), its 71.8% owned credit card company.

IDB is currently the only Israeli bank to consolidate a credit card company, after the two-largest Israeli banks were required to divest their own credit card units. A decision by the Minister of Finance was taken in January 2023 that effectively requires IDB to divest of its controlling stake in ICC. ICC's contribution to IDB's consolidated net profit for 2022 amounted to around 5%.

IDB was incorporated in 1935. The bank's common stock trades on the Tel Aviv Stock Exchange (ticker: DSCT).

#### Source of facts and figures cited in this report

Unless noted otherwise, we have sourced data relating to systemwide trends and market shares from the central bank. Bank-specific figures originate from the banks' reports and are based on our own chart of accounts and may be adjusted for analytical purposes. Please refer to <u>Financial Statement Adjustments in the Analysis of Financial Institutions</u> published on 1 February 2024. We do not use the Bank of Israel's exchange rates in converting figures from Israeli shekel into US dollars, so US dollar figures may differ from bank reported figures.

### **Detailed credit considerations**

#### Strong asset quality that will likely deteriorate

IDB's asset quality will deteriorate from strong levels because of the impact of the ongoing military conflict. The bank is proactively provisioning against downside scenarios. Additionally to risks from geopolitical tensions and similarly to other Israeli banks, the bank's exposure to <a href="Israelis real estate market">Israelis real estate market</a> is also a downside risk for its asset quality. The bank's higher than peer-average loan growth in recent years (loans grew by a compound annual rate of 10% over the period 2017-2022) that drives some unseasoned risk and its

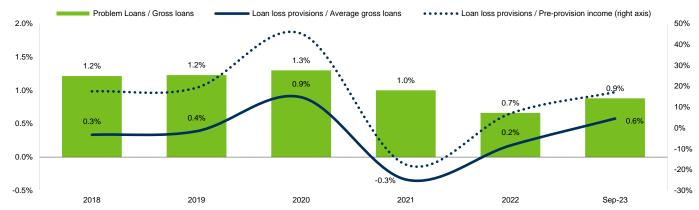
previous through-the-cycle performance that had been relatively weaker than its peers, but also the ongoing reduction in asset risk are also reflected in our assessment.

IDB's problem loans (defined as non-accruing loans and accruing loans that are more than 90 days overdue) to gross loans were a low 0.9% as of September 2023 (see Exhibit 3). Credit costs (loan loss provision expenses to average gross loans) increased to 0.6% in the nine months ending September 2023 from very low levels in 2021 and 2022, mainly driven by group provisions booked in the third quarter of 2023 to reflect the potential impact of the war on its borrowers. In 2024, we expect IDB's credit costs to remain above the historical average of 0.47%<sup>1</sup>, which includes an entire economic cycle but also a smaller historical proportion of lower-risk housing loans. Once IDB no longer consolidates a credit card company, its credits costs will likely be lower and further aligned with the domestic peer average.

Exhibit 3

IDB's asset quality has been strong, with a low level of problem loans and contained credit losses in recent years

Evolution of problem loans and credit costs



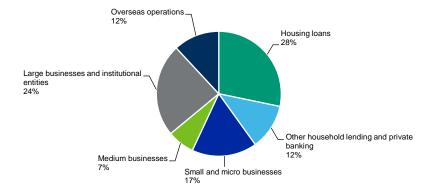
For 2020 and 2021, problem loans were adjusted in this chart to remove a predominantly government-backed exposure that was more than 90 days overdue Sources: Bank's financial statements; Moody's Investors Service

Asset risk in IDB's loan portfolio has been reducing, reflecting an increasing share of relatively lower-risk residential mortgages<sup>2</sup> that are a key strategic focus for the bank and accounted for 28% of the bank's loan book as of September 2023 (see Exhibit 4), compared to 20% at end-2018. Also, in recent years, the bank tightened its credit standards both in retail and business lending, eliminated exposures to holding companies and reduced borrower concentrations.

Exhibit 4

IDB's loan book is fairly diversified by customer type

Loan book breakdown as of September 2023 (supervisory operating segments)



Source: Bank's financial results

Sector concentration to real estate is high. Beyond mortgages, lending to the construction and real estate sector made up 15% of IDB's gross loans as of September 2023, although lower than larger peers. The bank's exposure grew by a high 12% year-over-year as of September 2023 because of strong demand. IDB's asset quality is, therefore, susceptible to the risk of a sharp property price correction together with reduced ability of borrowers to service their loans. The real estate sector, already affected by higher interest rates and lower demand prior to the outbreak of the conflict, is also vulnerable to a sustained disruption in activity.

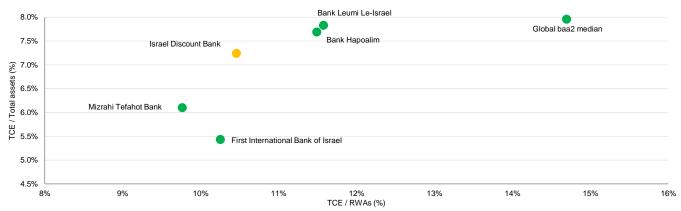
Residential projects where risk is mitigated by close oversight made up 38% of the total credit risk in the sector as of September 2023. Income generating properties were 23% credit risk in the sector. A significant part, around 20%, of credit risk in the sector was for the acquisition of land for construction where projects will take several years to complete.

#### Modest risk-weighted capitalisation, but moderate leverage

IDB's risk-weighted capitalisation is modest. But, although risk-weighted capital metrics are below global peers, the bank's loss-absorption buffers are supported by conservative regulatory risk-weights that result in higher loss-absorption buffers and drive stronger leverage. For example, mortgages are risk-weighted according to their loan-to-value, resulting in an average risk weight of over 50% in Israel, which is higher than the 35% risk weight normally used in the standardised approach. The bank's capital ratios are also significantly more stable compared to banks globally that use a model based approach in calculating credit RWAs.

IDB's TCE/RWAs capital ratio was 10.5% as of September 2023, below the global median (see Exhibit 5). The bank's Basel III leverage ratio was 6.4% as of September 2023, above the 4.5% minimum regulatory requirement that applied at that time. Its TCE-to-total assets ratio was 7.2% as of the same period.

Exhibit 5
IDB's risk-weighted capitalisation is lower than global peers driven by conservative risk weights
Risk-weighted capitalisation and leverage of Israeli banks and the global median



Source: Moody's Investors Service

IDB also reported a Common Equity Tier 1 (CET1) ratio of 10.4% as of September 2023, substantially exceeding the 9.2% minimum regulatory requirement and also the bank's own internal minimum threshold of 9.75%.

Similarly to other periods of high volatility and in line with the Bol's guidance, IDB adjusted down its dividend and distributed 15% of profits in the third quarter of 2023 against a dividend distribution policy of up to 40% of net profits in each quarter. Through adjustments in earnings distributions, capital raising and RWAs management, IDB has demonstrated its ability to maintain steady capital ratios over time.

#### Strengthened ongoing profitability, which will decline from recent high levels

IDB's ongoing profitability is moderate and had consistently improved in recent years, closing the gap with its domestic peers. IDB's profitability benefitted from the bank's several cost initiatives and faster business growth than the rest of the banking system. Process improvements at IDB have reduced time to market and a number of digital initiatives can capture a broader share of the population than the bank's current clientele. Revenue growth alongside cost control have led to <a href="efficiency gains">efficiency gains</a> that support sustainable profitability strengthening internal capital generation, resiliency at times of stress and the bank's ability to resist growing competition.

**FINANCIAL INSTITUTIONS** MOODY'S INVESTORS SERVICE

In the coming quarters, profitability will decline from recent exceptionally high levels because of elevated cost of risk, subdued credit growth and support measures to customers affected by the conflict. The authorities' planned increase in bank taxes for 2024 and 2025 will also weigh on the bank's bottom-line. Gradually lower interest rates, the BoI cut its policy rate by 25 basis points to 4.5% in January 2024, and moderating CPI will also restrain financing income. But still overall high interest rates will be supportive of a healthy net interest margin and robust revenues.

IDB reported net income equivalent to 1.1% of tangible assets in the nine months ending in September 2023 and 0.9% in 2022, up from an average of 0.7% between 2017 and 2019 (see Exhibit 6). Stronger profits were driven by strong revenue growth because of loan growth, a widening net interest margin, high CPI benefiting returns from the bank's net long CPI position (deriving mainly from CPI-linked mortgages) and one-off items4.

 Pre provision income / average total assets Net income / tangible assets · · · · · · Net interest margin 3.5% 2.9% 3.0% 2.4% 2.5% 2.4% 2.5% 2.1% 2.0% 1.5% 1 1% 0.9% 0.9% 1.0%

0.5%

2020

Exhibit 6 IDB's profitability is moderate, having steadily improved in recent years

2022 and 9M 2023 profits benefited from exceptional items, such as the sale of properties

0.7%

0.5% 0.0% 0.7%

2019

The bank's net interest margin widened to 2.9% in the nine months ending in September 2023, from 2.5% in 2022 and 2.1% from in 2021 because rate hikes allowed the bank to unlock the value from its low-cost core deposit base. Even before the conflict and the recent policy rate cut, we expected the net interest margin to peak in mid-2023 because of a gradual shift from current accounts to costlier time deposits. The bank's non-interest bearing deposits accounted for 23% of total deposits as of September 2023 compared to 29% at end-2022.

2021

2022

9M 2023

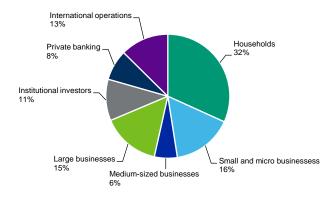
Operating costs declined to 2.0% of assets in the nine months ending in September 2023, from over 2.5% before 2018, and the bank's reported cost-to-income ratio improved to 48%. However, IDB's cost base remains higher than its domestic peers (partly because IDB still consolidates a credit card company), whereby operating costs averaged 1.2% of assets for the other four large banks in the same period.

#### Stable deposit-based funding structure and comfortable liquidity

IDB's credit profile benefits from a stable funding structure that is driven by a domestic deposit base, benefitting from the strong savings culture in Israel, and with low reliance on more confidence-sensitive market funding. Customer deposits comfortably fund the bank's loan portfolio with a net loans-to-deposits ratio of 88%. Furthermore, market funds accounted for a low 12% of tangible banking assets as of the same date<sup>5</sup>. The bank had around NIS16 billion (4% of total assets) of bonds and subordinated notes outstanding as of September 2023. These balances were mainly sourced from the local capital market, which IDB successfully tapped recently, and allow for better matching of the bank's assets and liabilities maturities.

Granular household (excluding private banking) and small business deposits accounted for 48% of total deposits as of September 2023 (see Exhibit 7). Our assessment also considers that foreign deposits, which could be more vulnerable to an institution-specific loss in depositor confidence, made up 13% of total deposits as of September 2023. Nevertheless, deposits from institutional investors were 11% of total deposits, considerably lower than peers. We note that both domestic and foreign deposits had remained stable during past systemic shocks in Israel.

Exhibit 7
Granular retail deposits make up a large part of IDB's deposit base
Breakdown of deposits by segment as of September 2023



Figures do not add up to 100% due to rounding. Source: Bank's financial statements

The bank maintains comfortable liquidity buffers at 26% of tangible banking assets as of September 2023. Cash and interbank balances accounted for 14% of assets, with securities accounting for an additional 13%. The securities portfolio primarily comprises Israeli government securities at 62% of total, and to a lesser extent mortgage-backed and asset-backed securities of US government agencies (20% of total), while 4% of the securities portfolio were investments in shares. IDB reported a solid liquidity coverage ratio at 136% and a net stable funding ratio of 121% as of September 2023, significantly above the 100% minimum requirement for each.

#### **ESG** considerations

Israel Discount Bank Ltd.'s ESG credit impact score is CIS-2

Exhibit 8
ESG credit impact score



Source: Moody's Investors Service

IDB's **CIS-2** indicates that ESG factors are not material to the current ratings because a high level of government support mitigates the impact from ESG risks, which have lately increased (especially social risks) because of the military conflict and the high customer relations risks in Israel.

Exhibit 9
ESG issuer profile scores



Source: Moody's Investors Service

#### **Environmental**

IDB faces moderate exposure to environmental risks, mainly because of its portfolio exposure to carbon transition risks as a diversified bank and one of Israel's five largest banks with a significant corporate exposure. In line with its peers, IDB faces growing business risks and stakeholder pressure to meet broader carbon transition goals. IDB is engaging in further developing its climate risk and relevant portfolio management capabilities and increasing its green financing.

#### Social

IDB faces high social risks, related to societal and demographic trends as well as from customer relations. The current military conflict may cause a severe disruption of the economy and impact the bank's financial performance, depending on its duration and scale. However, a relatively young and growing population in Israel affords business opportunities for the bank. Further, IDB faces high customer relations risk because of the considerable focus on consumer protection in Israel, exposing banks to potential fines from regulators and litigation from customers. High cyber and personal data risks are mitigated by a sound IT framework.

#### Governance

IDB faces overall low governance risks. The bank's financial strategy is transparent and conservative, under the oversight of a proactive and hands-on regulator, and its risk management is in line with industry practices and commensurate with its universal banking model. The bank also provides timely and detailed external reporting. However, the bank's US subsidiary is under increased scrutiny and has entered into consent orders with its US regulators to address identified compliance shortcomings and to enhance its policies, procedures, controls and staffing levels. The orders include a look-back review of past transactions. We will monitor the outcome of this process and any risks that may emerge.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click <a href="here">here</a> to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

# Support and structural considerations

#### **Government support considerations**

IDB's A3 deposit ratings incorporate two notches of government support uplift from the bank's baa2 Adjusted BCA because of our expectation of a very high probability of extraordinary support from the Israeli authorities. This assessment is based on IDB's systemic importance as one of the country's five-largest banking groups and the Israeli government's long standing practice of supporting systemically important banks in case of need.

#### Counterparty Risk (CR) Assessment

#### IDB's CR Assessment is A2(cr)/P-1(cr)

Prior to government support, the CR Assessment is positioned one notch above the bank's baa2 Adjusted BCA, reflecting our view that its probability of default is lower than that of deposits. Senior obligations represented by the CR Assessment will be more likely preserved to limit contagion, minimise losses and avoid disruption of critical functions. The CR Assessment also benefits from government support uplift, in line with our support assumptions on deposits.

### **Counterparty Risk Ratings (CRRs)**

### IDB's CRR is A2/P-1

For jurisdictions with a non-operational resolution regime, like Israel, the starting point for the CRR is one notch above the bank's Adjusted BCA. The CRRs also benefit from two notches of government support uplift.

### Methodology and scorecard

### **About Moody's Bank Scorecard**

Our Bank 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 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.

**FINANCIAL INSTITUTIONS** MOODY'S INVESTORS SERVICE

# Rating methodology and scorecard factors

Exhibit 10

Israel Discount Bank Ltd.

Macro Factors						
Weighted Macro Profile Strong	- 100%					
Factor	Historic Ratio	Initial Score	Expected Trend	Assigned Score	Key driver #1	Key driver #2
Solvency						
Asset Risk						
Problem Loans / Gross Loans	1.2%	a2	$\downarrow\downarrow$	baa3	Sector concentration	Expected trend
Capital						
Tangible Common Equity / Risk Weighted Assets (Basel III - transitional phase-in)	10.5%	ba1	$\leftrightarrow$	ba1	Capital retention	
Profitability						
Net Income / Tangible Assets	0.9%	baa3	$\downarrow$	ba1	Expected trend	
Combined Solvency Score		baa2		ba1		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking Assets	9.6%	a3	$\leftrightarrow$	baa1	Deposit quality	
Liquid Resources						
Liquid Banking Assets / Tangible Banking Assets	28.2%	baa2	$\leftrightarrow$	baa2	Expected trend	
Combined Liquidity Score		baa1		baa1		
Financial Profile				baa3		
Qualitative Adjustments				Adjustment		
Business Diversification				0		
Opacity and Complexity	0					
Corporate Behavior	0					
Total Qualitative Adjustments	0					
Sovereign or Affiliate constraint				A2		
BCA Scorecard-indicated Outcome - Range	baa2 - ba1					
Assigned BCA				baa2		
Affiliate Support notching	0					
Adjusted BCA				baa2		

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	baa1	2	A2	A2
Counterparty Risk Assessment	1	0	baa1 (cr)	2	A2(cr)	
Deposits	0	0	baa2	2	A3	A3
Senior unsecured bank debt	0	0	baa2	2		A3

<sup>[1]</sup> 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 11

Category	Moody's Rating			
ISRAEL DISCOUNT BANK LTD.				
Outlook	Negative			
Counterparty Risk Rating	A2/P-1			
Bank Deposits	A3/P-2			
Baseline Credit Assessment	baa2			
Adjusted Baseline Credit Assessment	baa2			
Counterparty Risk Assessment	A2(cr)/P-1(cr)			
Senior Unsecured	A3			
Source: Moody's Investors Service				

#### **Endnotes**

- 1 The cost of risk average is for the period in the run-up to the pandemic of 2006-2019. Credit costs in 2020 reflected the impact of the pandemic.
- 2 For housing loans risks are mitigated by (1) banks' full recourse to borrowers and a strong repayment culture; (2) a low level of housing debt at around 30% of GDP as of September 2023; and (3) macroprudential measures that enforce tight underwriting standards and which include a loan-to-value limit of 75% for sole dwellings and 70% for the rest but for non-investment purposes, a monthly repayment cap at 50% of a borrower's monthly salary and a limit on the variable-rate part of the mortgage at two-thirds of the loan. Higher risk-weights for the calculation of regulatory capital metrics for mortgages with higher loan-to-value and repayment ratios also encourage tighter underwriting.
- 3 On 15 October 2023, the Bol set out a comprehensive outline to support bank customers during this period, which was later expanded.
- 4 These relate to profits from the sale of properties as part of the relocation of the bank's head offices and operations to a different central location.
- 5 Based on Moody's estimate for the bank's quarterly figures, given lack of breakdown between senior and subordinated debt. Subordinated debt is not included in Moody's definition of market funding.

© 2024 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 OR OTHERWISE MADE AVAILABLE BY MOODY'S (COLLECTIVELY, "MATERIALS") 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 MATERIALS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S MATERIALS 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 MATERIALS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS 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 OR OTHERWISE MAKES AVAILABLE ITS MATERIALS 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 MATERIALS 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 MATERIALS 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. FOR CLARITY, NO INFORMATION CONTAINED HEREIN MAY BE USED TO DEVELOP, IMPROVE, TRAIN OR RETRAIN ANY SOFTWARE PROGRAM OR DATABASE, INCLUDING, BUT NOT LIMITED TO, FOR ANY ARTIFICIAL INTELLIGENCE, MACHINE LEARNING OR NATURAL LANGUAGE PROCESSING SOFTWARE, ALGORITHM, METHODOLOGY AND/OR MODEL.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND MATERIALS 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 credit rating process or in preparing its Materials.

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. 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, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at <a href="https://www.moodys.com">www.moodys.com</a> under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation

Moody's SF Japan K.K., Moody's Local AR Agente de Calificación de Riesgo S.A., Moody's Local BR Agência de Classificação de Risco LTDA, Moody's Local MX S.A. de C.V, I.C.V., Moody's Local PE Clasificadora de Riesgo S.A., and Moody's Local PA Calificadora de Riesgo S.A. (collectively, the "Moody's Non-NRSRO CRAs") are all indirectly wholly-owned credit rating agency subsidiaries of MCO. None of the Moody's Non-NRSRO CRAs is a Nationally Recognized Statistical Rating Organization.

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 India only: Moody's credit ratings, Assessments, other opinions and Materials are not intended to be and shall not be relied upon or used by any users located in India in relation to securities listed or proposed to be listed on Indian stock exchanges.

Additional terms with respect to Second Party Opinions (as defined in Moody's Investors Service Rating Symbols and Definitions): Please note that a Second Party Opinion ("SPO") is not a "credit rating". The issuance of SPOs is not a regulated activity in many jurisdictions, including Singapore. JAPAN: In Japan, development and provision of SPOs fall under the category of "Ancillary Businesses", not "Credit Rating Business", and are not subject to the regulations applicable to "Credit Rating Business" under the Financial Instruments and Exchange Act of Japan and its relevant regulation. PRC: Any SPO: (1) does not constitute a PRC Green Bond Assessment as defined under any relevant PRC laws or regulations; (2) cannot be included in any registration statement, offering circular, prospectus or any other documents submitted to the PRC regulatory authorities or otherwise used to satisfy any PRC regulatory disclosure requirement; and (3) cannot be used within the PRC for any regulatory purpose or for any other purpose which is not permitted under relevant PRC laws or regulations. For the purposes of this disclaimer, "PRC" refers to the mainland of the People's Republic of China, excluding Hong Kong, Macau and Taiwan.

REPORT NUMBER

1396688

### **CLIENT SERVICES**

 Americas
 1-212-553-1653

 Asia Pacific
 852-3551-3077

 Japan
 81-3-5408-4100

 EMEA
 44-20-7772-5454

