MOODY'S INVESTORS SERVICE

CREDIT OPINION

17 August 2018

Update

Rate this Research

RATINGS

The Co-operative Bank	Plc
-----------------------	-----

Domicile	United Kingdom
Long Term CRR	B3
Туре	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	(P)Caa1
Туре	Senior Unsecured MTN - Dom Curr
Outlook	Not Assigned
Long Term Deposit	Caa1
Туре	LT Bank Deposits - Fgn Curr
Outlook	Stable

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

Edoardo Calandro	+44.20.7772.1097
VP-Senior Analyst	
edoardo.calandro@mood	lys.com

Roland Auquier +33.1.5330.3341 AVP-Analyst

roland.auquier@moodys.com

Georgy Bellani Orvid +44.20.7772.1778 Associate Analyst georgy.bellaniorvid@moodys.com

Laurie Mayers +44.20.7772.5582 Associate Managing Director laurie.mayers@moodys.com

+33.1.5330.1029

Nick Hill

MD-Banking nick.hill@moodys.com

The Co-operative Bank Plc

Update to credit analysis following upgrade

Summary

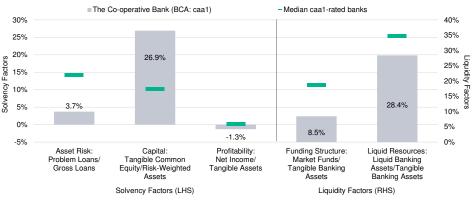
The Caal long-term deposit rating of <u>The Co-operative Bank Plc</u> reflects (1) the bank's caal standalone Baseline Credit Assessment (BCA); (2) its moderate loss-given-failure, which does not result in any uplift; and (3) our assessment of low probability of support from the <u>Government of United Kingdom</u> (Aa2 stable), which also does not result in any uplift.

The Co-operative Bank's BCA of caa1 is driven by the bank's persistent losses and very high operational risk, which are only partially mitigated by a low stock of problem loans, following a substantial reduction of legacy portfolios, and high capital ratios.

The outlook on The Co-operative Bank's long-term deposit ratings is stable. This reflects, on the one hand, the initiatives that are underway to gradually reduce the operational risk to which the bank is exposed, and the efforts from the bank's management to reduce costs and reach a sustainable level of profitability; on the other hand, the risk and uncertainties embedded in such plans.

Exhibit 1

Rating scorecard - Key financial ratios



Source: Moody's Banking Financial Metrics

Credit strengths

- » Low stock of problem loans
- » High capital ratios
- » Stable retail funding

Credit challenges

- » Weak profitability and inability to generate organic capital
- » High susceptibility of capital to stress
- » Very high operational risk
- » Largely monoline business
- » Lack of market access
- » Minimal loss absorption in the event of failure due to previous LME exercises

Rating outlook

The outlook on The Co-operative Bank's long-term deposit ratings is stable. This reflects, on the one hand, the initiatives that are underway to gradually reduce the operational risk to which the bank is exposed, and the efforts from the bank's management to reduce costs and reach a sustainable level of profitability; on the other hand, the risk and uncertainties embedded in such plans.

Factors that could lead to an upgrade

The Co-operative Bank's BCA could be upgraded following a return to a sustainable internal capital generation through earnings, improvements in the bank's IT infrastructure, and materially reduced operational risk.

An upgrade in the BCA would lead to an upgrade of the long-term deposit ratings. Substantial issuance of bail-in-able subordinate or senior debt, which would protect depositors from losses in a resolution scenario, could also lead to an upgrade of the long-term deposit ratings.

Factors that could lead to a downgrade

The Co-operative Bank's BCA could be downgraded following a failure of its IT transformation, evidence that the bank will not be able to return to a sustainable level of net profitability by 2020, or a lower level of junior deposits.

A downgrade of The Co-operative Bank's BCA would lead to a downgrade of the bank's long-term deposit ratings.

Key indicators

Exhibit 2

The Co-operative Bank Plc (Consolidated Financials) [1]

	12-17 ²	12-16 ²	12-15 ²	12-14 ²	12-13 ²	CAGR/Avg. ³
Total Assets (GBP billion)	24	27	29	38	43	-13.3 ⁴
Total Assets (EUR billion)	28	32	39	48	52	-14.7 ⁴
Total Assets (USD billion)	33	34	43	59	72	-17.6 ⁴
Tangible Common Equity (GBP billion)	1.4	0.8	1.1	1.8	1.6	-4.24
Tangible Common Equity (EUR billion)	1.5	0.9	1.5	2.3	2.0	-5.7 ⁴
Tangible Common Equity (USD billion)	1.9	0.9	1.7	2.8	2.7	-8.9 ⁴
Problem Loans / Gross Loans (%)	2.4	3.6	5.2	9.2	10.8	6.2 ⁵

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.

Tangible Common Equity / Risk Weighted Assets (%)	26.9	11.4	15.2	14.2	10.8	15.7 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	27.4	79.4	74.6	103.5	131.1	83.2 ⁵
Net Interest Margin (%)	1.0	0.8	0.9	0.9	0.7	0.9 ⁵
PPI / Average RWA (%)	-3.4	-5.9	-3.6	-2.3	-1.7	-3.4 ⁶
Net Income / Tangible Assets (%)	-0.7	-1.3	-1.8	-0.4	-3.0	-1.4 ⁵
Cost / Income Ratio (%)	167.4	254.9	197.5	167.5	150.6	187.6 ⁵
Market Funds / Tangible Banking Assets (%)	8.5	11.3	12.6	12.6	17.7	12.5 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	28.4	26.0	27.4	25.5	22.6	25.9 ⁵
Gross Loans / Due to Customers (%)	81.5	87.2	87.4	87.8	94.7	87.7 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 due to scale of reported amounts [4] Compound Annual Growth Rate (%) based on time period presented for the latest accounting regime [5] Simple average of periods presented for the latest accounting regime. [6] Simple average of Basel III periods presented

Source: Moody's Financial Metrics

Profile

The Co-operative Bank Plc is a UK-based commercial bank that provides banking and related financial products and services to retail and corporate customers only in the UK. The majority of its assets are residential mortgages, but the bank also provides loans to small and medium companies, credit cards, consumer loans, and investment products; most of funding is through its retail clients via current accounts and savings accounts. As of 31 December 2017, The Co-operative Bank had total consolidated assets of £24 billion.

The Co-operative Bank was established in 1872 as the Loan and Deposit Department of the Co-operative Wholesale Society. In January 2009, the bank announced a merger with Britannia Building Society (Britannia), the second-largest building society in the UK at the time. The transaction was completed on 1 August 2009.

In December 2014, The Co-operative Bank failed the Bank of England stress tests. In the following three years, The Co-operative Bank underwent two liability management exercises, which led to a substantially higher Common Equity Tier 1 (CET1) ratio, and in the creation of a new holding company, The Co-operative Bank Holdings Limited, which owns 100% of the The Co-operative Bank's shares. The largest shareholders of the holding are private equity firms and hedge funds; the main shareholder of the previous holding, The Co-operative Bank or in The Co-operative Bank Holding Limited.

Detailed credit considerations

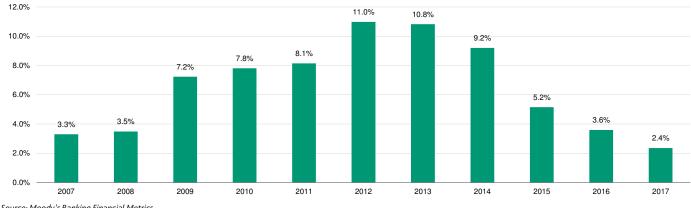
Low stock of problem loans, high operational risk

We assign an Asset Risk score of b1, seven notches below the a3 Macro Adjusted score, to reflect very high operational risk embedded in the bank's transformation plan, as well as the downside risks in the remaining non-core portfolio.

The Co-operative Bank's stock of problem loans has materially reduced; in December 2017 they accounted for 2.4% of gross loans, down from the 11% peak in 2012 (Exhibit 3). The reduction has been mainly driven by very large disposals made by the bank. In particular, a very weak residential mortgage portfolio, known as "Optimum", fell to less than £0.6 billion in December 2017 from its peak of £7.9 billion in 2013.

Exhibit 3

Problem loans have significantly reduced Problem loans as a percent of gross loans



Source: Moody's Banking Financial Metrics

However, there is still a very high operational risk embedded in The Co-operative Bank's transformation plan. In particular, the bank is working to update its IT systems to cope with changing behaviour by customers and an increase in technology-driven risks, in line with its competitors, while at the same time re-shaping its business model in line with the business plan. This costly transition could also result in large unexpected costs and/or disruption to service.

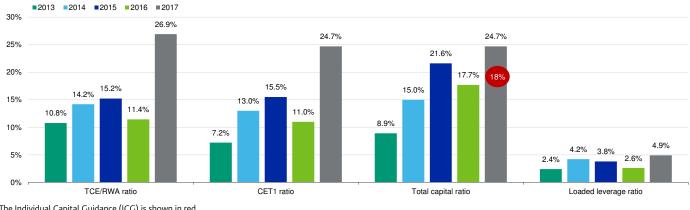
High susceptibility of capital to stress

The Co-operative Bank's Capital score is b1, 12 notches below the Macro Adjusted score of aa1, to reflect the bank's lack of internal capital generation, high operational risk, high regulatory capital requirements and vulnerability in a stressed scenario.

Capital has improved significantly in recent years. The Co-operative Bank completed a recapitalisation plan in 2017, which included the injection of new equity and the conversion of Tier 2 bonds into common shares. The recapitalisation, together with a material reduction in risk-weighted assets (RWA) primarily related to the disposal of a large portion of the Optimum portfolio, led to a material increase in the bank's capital ratios. Following the recapitalisation, The Co-operative Bank's total capital ratio (consisting purely of Common Equity Tier 1 capital) at end-2017 was 24.7% of RWAs (end-2016: 11.0%), well above the 18% Prudential Regulatory Authority's Individual Capital Guidance (ICG), which comprises the bank's Pillar 1 requirement of 8% of RWAs and its very high Pillar 2A capital requirement of 10% (Exhibit 4). In addition to its ICG, for 2018 The Co-operative Bank has a 2.375% combined buffer requirement, excluding any assessment buffer set up by the Bank of England's Prudential Regulation Authority (PRA), which is not disclosed.

Exhibit 4

Capital ratios have substantially improved The Co-operative Bank's capital metrics and requirements



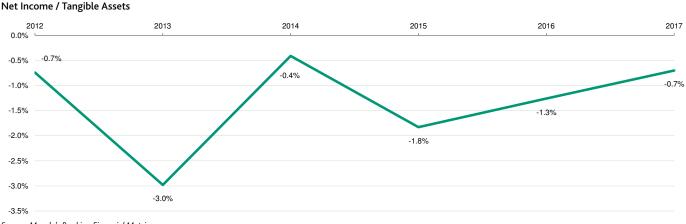
The Individual Capital Guidance (ICG) is shown in red. Source: Moody's Banking Financial Metrics

Notwithstanding these balance sheet improvements, The Co-operative Bank's business model is not yet sustainable given that the bank is not able to generate capital internally and has an exceptionally high cost income ratio reflecting third party costs incurred to support its transformation. This makes the bank particularly at risk in a stressed scenario; without a return to profit (see also next section), the bank's excess capital is likely to shrink towards its regulatory minimum over time.

Loss-making profile

We assign a Profitability score of caa3, in line with the Macro Adjusted score, to reflect The Co-operative Bank's persistent losses (Exhibit 5).

Exhibit 5 Loss-making profile

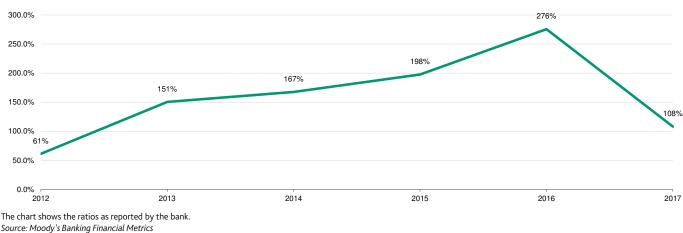


Source: Moody's Banking Financial Metrics

The Co-operative Bank will only likely be able to make sustainable profits from late 2019 or in 2020; for 2018, we expect The Cooperative Bank to continue to be loss-making, with a negative pre-provision profit. Our expectation is based on low asset growth and a persistently low interest rate environment, which is likely to depress the net interest income; the bank's largely monoline business model, which limits the sources of revenues other than net interest income; and its high cost base and the large investments required in its IT infrastructure.

As a result of the challenges listed above, we expect The Co-operative Bank's cost-to-income ratio, which has been above 100% for the past five years (Exhibit 6) to remain high, and pre-provision profit to remain negative in 2018.

Exhibit 6



High cost base impedes The Co-operative Bank's profitability Cost/Income ratio

Lack of market access

We assign a Funding Structure score of b2, ten notches below the Macro Adjusted score of a1, to reflect The Co-operative Bank's lack of access to the unsecured debt market.

Following the recent liability management exercises, as of December 2017 The Co-operative Bank has been mostly funded through deposits (£20.6 billion), while securitisations and covered bonds were limited (£0.6 billion); in February 2018, the bank also took c.£1 billion via the Bank of England's Term Funding Scheme (TFS). The reliance on wholesale funding is therefore low, at 8.5% of Tangible Banking Assets as of December 2017. We expect that, if needed, The Co-operative Bank will not easily be able to access the unsecured wholesale debt market, taking into account the bank's weak results and two previous liability management exercises.

The stock of liquid assets is high, at 28.4% of the bank's Tangible Banking Assets, which is equivalent to a Macro Adjusted score of a3. We assign a baa1 score, one notch below the Macro Adjusted score, to reflect our expectation that liquid assets will reduce as the bank starts growing its loan book after years of deleveraging.

Largely monoline business, high operational risk

The Co-operative Bank's financial profile score is b1.

We apply a negative qualitative adjustment reflecting lack of business diversification. Even though The Co-operative Bank provides a series of products to its retail clients, around 85% of the bank's loan book is composed of residential mortgages, which also provide 80% of revenues.

We also apply a two-notch negative adjustment for Corporate Behaviour, to take into account high operational risk in the bank's restructuring plan and the lack, at present, of a sustainable business model.

Support and structural considerations

Loss Given Failure analysis

The Co-operative Bank is subject to the UK implementation of the EU Bank Resolution and Recovery Directive (BRRD), which we consider to be an Operational Resolution Regime.

Our advanced Loss Given Failure (LGF) analysis assumes residual tangible common equity of 3% and losses post-failure of 8% of tangible banking assets, a 25% run-off in "junior" wholesale deposits, and a 5% run-off in preferred deposits. These are in line with our standard assumptions. Particular to The Co-operative Bank and other retail funded banks in the UK, we assume the proportion of deposits considered junior at 10%, relative to our standard assumption of 26%, due to largely retail-oriented depositor base of the bank.

Following the liability management exercises and repayment of senior unsecured debt, The Co-operative Bank no longer has unsecured debt instruments outstanding.

Our LGF analysis indicates that The Co-operative Bank's deposits are likely to face a moderate loss-given-failure rate driven by the residual equity that we expect in resolution, as well as the volume of deposits themselves; The Co-operative Bank does not have unsecured bail-in-able debt that would otherwise provide an additional loss absorbing cushion for deposits. As a result, deposits receive no notching uplift relative to the bank's BCA.

Government support considerations

We believe that there is a low likelihood of government support for The Co-operative Bank's wholesale deposits in the event of its failure, resulting in no uplift; this probability reflects the bank's minimal market share in the UK market and its non systemic nature relative to the country's largest banks.

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 (e.g., swaps), letters of credit, guarantees and liquidity facilities.

The Co-operative Bank's CR Assessment is positioned at B2(cr)/NP(cr).

The CR Assessment is two notches above the bank's standalone BCA of caa1. The uplift results from the small buffer against default provided to the operating obligations by the residual equity that we expect in resolution and by deposits, as The Co-operative Bank does not have bail-in-able debt. The main difference with our Advanced LGF approach used to determine instrument ratings is that the CR Assessment captures the probability of default on certain senior obligations, rather than the expected loss. Therefore, we focus purely on subordination and take no account of the volume of the instrument class.

The CR Assessment does not include any further uplift resulting from our expectations for low probability of government support.

Counterparty Risk Rating (CRR)

Moody's Counterparty Risk Ratings (CRRs) are opinions on 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 that 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.

The Co-operative Bank's CRR is positioned at B3/Not-Prime

The CRR is one notch above the bank's standalone BCA of caa1. The uplift derives from the buffer against default provided to the operating obligations by deposits, as the bank does not have bail-in-able debt.

The CRR does not include any further uplift resulting from our expectations for low probability of government support.

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 materially differ from what 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 7

The Co-operative Bank Plc

Macro	Factors
-------	---------

Macro Factors			
Weighted Macro Profile	Strong +	100%	

Factor	Historic Ratio	Macro Adjusted Score	Credit Trend	Assigned Score	Key driver #1	Key driver #2
Solvency						
Asset Risk						
Problem Loans / Gross Loans	3.7%	a3	\downarrow	b1	Operational risk	
Capital						
TCE / RWA	26.9%	aa1	$\leftarrow \! \rightarrow$	b1	Stress capital resilience	
Profitability						
Net Income / Tangible Assets	-1.3%	caa3	$\leftarrow \rightarrow$	caa3	Earnings quality	
Combined Solvency Score		baa1		b2		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking Assets	8.5%	a1	$\leftarrow \rightarrow$	b2	Lack of market access	
Liquid Resources						
Liquid Banking Assets / Tangible Banking Assets	28.4%	a3	\downarrow	baa1	Expected trend	
Combined Liquidity Score		a2		ba2		
Financial Profile				b1		
Business Diversification				-1		
Opacity and Complexity				0		
Corporate Behavior				-2		
Total Qualitative Adjustments				-3		
Sovereign or Affiliate constraint:				Aa2		
Scorecard Calculated BCA range				b3-caa2		
Assigned BCA				caa1		
Affiliate Support notching				0		
Adjusted BCA				caa1		

Balance Sheet	in-scope	% in-scope	at-failure	% at-failure
	(GBP million)	•	(GBP million)	
Other liabilities	3,042	12.5%	4,486	18.4%
Deposits	20,635	84.5%	19,191	78.6%
Preferred deposits	18,572	76.1%	17,643	72.3%
Junior Deposits	2,064	8.5%	1,548	6.3%
Equity	732	3.0%	732	3.0%
Total Tangible Banking Assets	24,409	100%	24,409	100%

Debt class	De Jure w	aterfall	De Facto v	De Facto waterfall		De Facto waterfall Notching		ching	LGF	Assigned	Additional Preliminary	
	Instrument volume + c subordination	ordinatio			De Jure De Facto		0	LGF notching	notching	Rating Assessment		
Counterparty Risk Rating	9.3%	9.3%	9.3%	9.3%	1	1	1	1	0	b3		
Counterparty Risk Assessment	9.3%	9.3%	9.3%	9.3%	2	2	2	2	0	b2 (cr)		
Deposits	9.3%	3.0%	9.3%	3.0%	0	0	0	0	0	caa1		
Senior unsecured bank debt	9.3%	3.0%	3.0%	3.0%	0	-1	0	0	0	caa1		

Instrument class	Loss Given	Additional	Preliminary Rating	Government	Local Currency	Foreign
	Failure notching	Notching	Assessment	Support notching	Rating	Currency
						Rating
Counterparty Risk Rating	1	0	b3	0	B3	B3
Counterparty Risk Assessment	2	0	b2 (cr)	0	B2 (cr)	
Deposits	0	0	caa1	0	Caa1	Caa1
Senior unsecured bank debt	0	0	caa1	0	(P)Caa1	

[1] Where dashes are shown for a particular factor (or sub-factor), the score is based on non-public information. Source: Moody's Financial Metrics

Ratings

Exhibit 8	
Category	Moody's Rating
THE CO-OPERATIVE BANK PLC	
Outlook	Stable
Counterparty Risk Rating	B3/NP
Bank Deposits	Caa1/NP
Baseline Credit Assessment	caa1
Adjusted Baseline Credit Assessment	caa1
Counterparty Risk Assessment	B2(cr)/NP(cr)
Senior Unsecured MTN -Dom Curr	(P)Caa1
Commercial Paper -Dom Curr	NP
Other Short Term -Dom Curr	(P)NP

Source: Moody's Investors Service

© 2018 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 ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND MOODY'S PUBLICATIONS MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. 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. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S 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. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S 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 AND MOODY'S 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 OR MOODY'S 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.

CREDIT RATINGS AND MOODY'S 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 the Moody's 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 SUCH RATING OR 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 rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS 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. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

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 rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

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

REPORT NUMBER 1132729

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

MOODY'S INVESTORS SERVICE