

CREDIT OPINION

9 August 2024

Update

Send Your Feedback

RATINGS

University of Toronto

Domicile	Ontario, Canada
Long Term Rating	Aa1
Type	LT Issuer Rating
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

Adam Hardi, CFA +1.416.214.3636
Vice President-Senior Analyst
adam.hardi@moody's.com

Jonathan Holmes +1 647.417.6302
Ratings Associate
jonathan.holmes@moody's.com

Michael Yake +1.416.214.3865
Associate Managing Director
michael.yake@moody's.com

CLIENT SERVICES

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

University of Toronto (Canada)

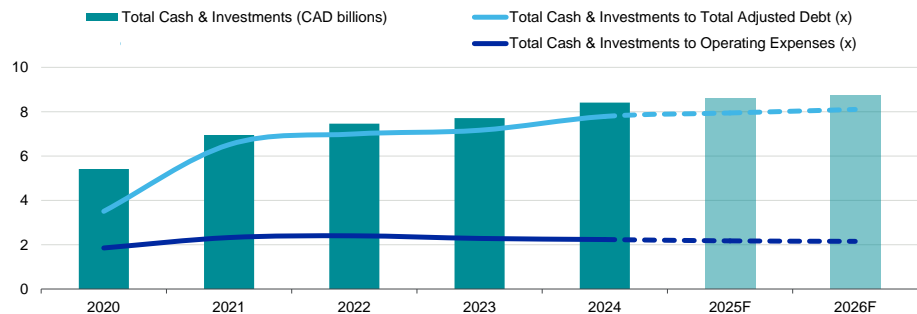
Update following rating affirmation

Summary

The credit profile of the [University of Toronto](#) (U of T, Aa1 stable) reflects its global brand recognition and flagship status as Canada's largest and top-ranked public post-secondary institution, resulting in consistently high student demand and research funding and highly successful fundraising results. Exceptional levels of cash and investments, including endowment funds, provide significant coverage of debt and expenses. The credit profile also reflects diversified revenue sources and a lower reliance on provincial grant funding than most Canadian peers, which partly shield it from provincial credit challenges including provincially mandated domestic tuition fee freezes. A high international student concentration and a 2-year federal cap on international students create revenue risk, although we expect enrolment demand to remain very strong in the next few years.

Exhibit 1

Growth in cash and investments ensures U of T maintains ample coverages of debt and expenses



Years ending April 30

Sources: University of Toronto and Moody's Ratings

Credit strengths

- » Exceptional wealth and liquidity and low leverage
- » Global brand recognition and research strength along with consistent enrolment growth
- » Very strong governance and management which underpin reputation

Credit challenges

- » Low EBIDA margins stemming from cost inflation and provincial policies
- » Challenges related to international student concentration and growth

Rating outlook

The stable outlook reflects our view that the university will be able to minimize the period of low EBIDA margins despite the constrained provincial funding environment and mandated limits on domestic tuition fee increases. This is supported by continued very strong student demand, management's revenue raising and cost-cutting initiatives and exceptional wealth and reserve levels. At the same time, we do not expect to see new debt accumulation, which will limit the rise in leverage.

Factors that could lead to an upgrade

The rating could be upgraded following a pronounced and sustained increase in operating margins, along with significant easing of provincial funding restrictions on tuition fees and an increase in provincial operating grants to the university.

Factors that could lead to a downgrade

The rating could be downgraded if there is an inability to substantially bolster EBIDA margins, which could stem from declining enrolment, including from international students, along with continued provincial tuition fee caps on domestic students, limited increases in operating grants to the university, or an inability to rein in expenditure growth. A material decline in cash and investment balances and investment returns, or a significant rise in leverage, would also contribute to downward rating pressure.

Key indicators

Exhibit 2

University of Toronto

Year ending April 30	2021	2022	2023	2024	2025F	2026F
Operating revenue (CAD millions)[1]	3,412.4	3,450.9	3,533.8	3,697.3	3,766.5	3,886.5
EBIDA margin (%)	19.4	17.2	12.3	5.9	2.9	3.0
Total cash and investments (CAD millions)	6,949.0	7,456.0	7,706.0	8,409.0	8,577.2	8,748.7
Total Cash & Investments to Total Adjusted Debt (x)	6.51	6.99	7.16	7.79	7.94	8.10
Total Cash & Investments to Operating Expenses (x)	2.32	2.40	2.28	2.23	2.17	2.15
Annual debt service coverage (x)	17.5	15.7	8.9	4.4	2.2	2.4

[1] Revenue is net of scholarship expenses.

Sources: University of Toronto and Moody's Ratings

Detailed credit considerations

Baseline credit assessment

On August 2, 2024, we affirmed U of T's aa1 baseline credit assessment (BCA) and Aa1 long-term issuer and senior unsecured debt ratings, with a stable outlook.

U of T's credit profile also reflects a moderate likelihood of extraordinary support coming from the [Province of Ontario](#) (Aa3 positive) in the event that the university faced acute liquidity stress.

Exceptional wealth and liquidity and low leverage

The university maintains exceptional levels of wealth and liquidity from continued growth in cash and investments. Adjusted total cash and investments, including endowments, stood at CAD8.4 billion at April 30, 2024, providing 7.8x coverage of total adjusted debt and 2.2x coverage of operating expenses, ratios which compare favourably against global peers. We expect that reserves will continue to be replenished from future operating surpluses and typically strong investment returns.

U of T's endowment portfolio is the largest among Canadian universities with a balance of CAD3.6 billion at April 30, 2024, representing a steady growth over the last five years, and a 9% growth relative to 2023. The endowment portfolio assets, along with the assets of a few other long-term funds, are invested in a pooled vehicle (Long-Term Capital Appreciation Pool). Despite overall strong returns, the pool's returns have exhibited some annual volatility.

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.moody's.com> for the most updated credit rating action information and rating history.

U of T's strengths have also been evident in its highly effective fundraising activities, leveraging its brand name and reputation to maintain a competitive advantage in attracting donations relative to peers, reaching nearly CAD2 billion already of its fundraising campaign (Defy Gravity) launched in 2021 with a goal of reaching CAD4 billion in donations over 10 years. The university receives significant donations and gifts for research and capital projects, which demonstrate its ability to capitalize on its brand name and profile and to generate sizeable philanthropic interest and donations despite competition for fundraising dollars both domestically and internationally.

Overall leverage is low relative to peers, with very strong debt affordability that exceeds most peers. The university last issued debentures in 2011 and we do not anticipate new debt issues over the next three years, as the university will instead look to finance capital projects from non-debt sources, including operating reserves, provincial and federal funding, and donations. Debt affordability, as measured by annual debt service coverage, stood at 4.4x at April 30, 2024, a level that is in line with most peers but has declined in recent years given falling EBIDA levels.

At the same time, pension-related pressures have significantly eased in the last three years. While U of T historically recorded large pension deficits with large unfunded pension liabilities, it transitioned to a jointly sponsored defined benefit pension plan (the University Pension Plan Ontario (UPP)) as of July 1, 2021, with several other universities. As of December 31, 2023, the UPP was in a surplus of CAD249.3 million. Under the UPP, U of T is required to fund any future deficits on the assets and liabilities transferred into the plan for the first 10 years, which could create funding pressure on the university, however subsequently the costs will be gradually shared equally between participating employers and employees in the UPP. U of T also maintains a pension risk contingency of CAD89 million (2023-24; with a gradual decline to CAD50 million by 2026-27) to mitigate potential future declines in the funded status.

Global brand recognition and research strength along with consistent enrolment growth

U of T is Canada's largest and top ranked public post-secondary institution and one of the top 20 global schools in international rankings, underpinning its international brand. The university operates through three campuses: its main campus in downtown Toronto (the St. George campus), Mississauga and Scarborough. The strength of its reputation is supported by an ability to attract top talent for faculty, strong levels of selectivity of students, and exceptional research strength.

Along with its affiliations, including several hospitals, U of T has consistently been at the top of Canadian universities in securing federal government research funding from the three granting councils and from other federal programs. U of T's research strength is also evident in the number of prestigious research chairs, including "Canada Research Chairs" and "Canada 150 Research Chairs" at the university.

U of T's excellent market profile and global recognition has contributed to very strong enrolment demand even in the face of provincial funding and enrolment constraints. The number of total full-time equivalent (FTE) students has grown consistently each year to 88,652 in 2023-24, up more than 7% over the last five years.

Very strong governance and management which underpin reputation

We view the university's management and governance characteristics as very strong. The success of U of T in maintaining a very strong balance sheet and balancing its core operational financial results while meeting academic goals is underpinned by developing and executing multi-year frameworks for academic and financial planning, along with an emphasis on a decentralized style of governance and decision making.

Each faculty is responsible for developing its own budget and for adhering to self-imposed revenue and expense targets. This allows the faculties to be more entrepreneurial in areas where they see greater demand and by extension generate positive operating results. At the same time, control over collective bargaining is done centrally, which takes a certain amount of expenditure control out of the hands of individual faculties.

The University of Toronto Asset Management Corporation (UTAM), a non-share capital corporation whose members are appointed by the university, manages the investment assets of the university's Long-Term Capital Appreciation Pool (which includes assets of the endowment fund) and the Expendable Funds Investment Pool (including short- to medium-term funds). UTAM has also committed to sustainable initiatives to achieve net zero carbon emissions associated with the endowment portfolio by no later than 2050.

Low EBIDA margins stemming from cost inflation and provincial policies

U of T currently faces a number of operating challenges as a result of operating and capital cost escalation, and constraints related to provincial actions which adversely impact the university's fiscal profile and contributed to a sustained period of declining EBIDA margins.

U of T's key expense pressure derives from cost escalation of operating expenses, including rising salaries and benefits which currently make up approximately 60% of total expenses, and capital expenses including higher construction, materials and labour costs. In addition, the Ontario government's repeal of its own Bill 124 in early 2024 following a court decision that deemed it unconstitutional has added further wage pressure for the university. Bill 124 previously capped salary increases for public sector workers at 1% annually for the fiscal years 2020, 2021 and 2022. The repeal required U of T to negotiate higher salary increases for its labour unions, resulting in retroactive payments, which contributed to the 13% increase in salaries and benefits for 2023-24 over the prior year. At this time, the province has not confirmed any reimbursement of these expenses.

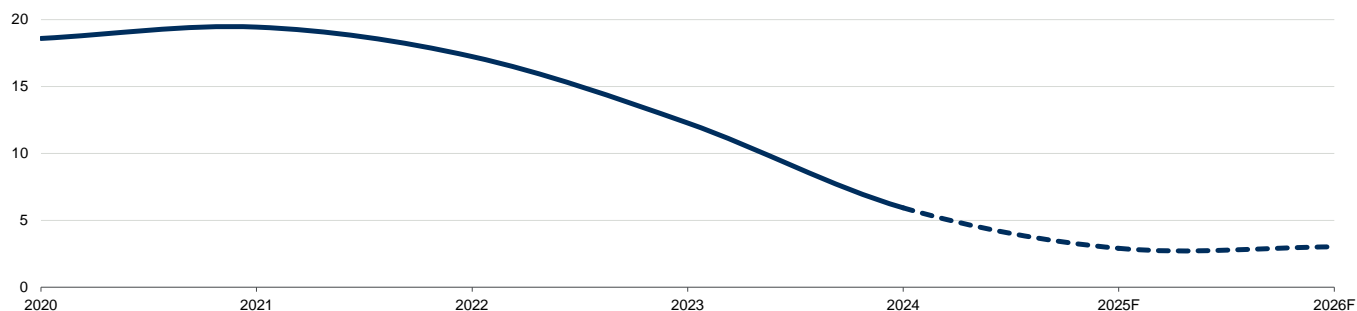
On the revenue side, limited growth in provincial operating grants, along with mandated freezes in domestic tuition rates over the last four years – which follows a mandated 10% reduction in 2019-20 - have resulted in modest shortfalls relative to budget forecasts. The mandated restrictions resulted in weaker tuition revenues for the university and weakened its ability to offset any international revenue pressure from domestic fees.

While higher than anticipated provincial grants and larger than average tuition fee increases in certain programs provide some offset, the combined impact of these challenges have contributed to a notable decline in EBIDA margins in recent years, falling to 5.9% in 2023-24 from 15.7% in 2021-22. We expect that EBIDA margins will improve starting in fiscal 2026 as the impacts of salary increases will have been fully absorbed, and given our view that the province will take action to either increase operating grants or ease some of the tuition restrictions.

Exhibit 3

EBIDA margins have constrained due to a combination of provincial actions and wage-driven expenditure growth

EBIDA margin (EBIDA as a % of total revenue)



Fiscal year ending April 30

Sources: University of Toronto and Moody's Ratings

The province is transitioning the framework for operating grants to universities to reflect a gradually increasing emphasis on performance metrics (relative to grants based on enrolment), where universities are benchmarked against their own past performance based on a number of indicators. Although the change could create some volatility in the amount of grants for U of T, we expect that the university will overall benefit from the new framework given its demonstrated ability to exceed its performance benchmarks. At the same time, U of T's lower reliance on provincial funding than the majority of rated domestic peers provides it with greater autonomy and flexibility to manage its finances and academic programs from own-source revenues.

Challenges related to international student concentration and growth

Although student demand for U of T's programs remains very strong relative to peers, a concentration in international students at around 30% total full-time equivalent (FTE) students exposes it to revenue concentration from a single region or country and to political risk from potential diplomatic tensions. Much of the historical international growth has come from Asia, and in particular from China, with the number of Chinese students representing around 58% of international students in 2023-24. The university made

efforts in recent years to diversify its international student population from the significant concentration in Chinese students, with strong international student growth from India, Indonesia, Turkiye, Brazil and Iran.

In January 2024 the federal government announced a 2-year cap on international student permits, resulting in a 35% reduction in the number of international students that will be permitted to enrol in first year undergraduate programs for the 2024-25 and 2025-26 academic years relative to 2023-24 levels. Allocations were provided to each province based on their share of Canada's population, with each province subsequently allocating places to each higher education institution. U of T estimates that the cap resulted in a modest revenue shortfall for 2024-25 (around 1% of revenue), although we expect enrolment demand to remain very strong in the next few years and help offset these risks.

Extraordinary support considerations

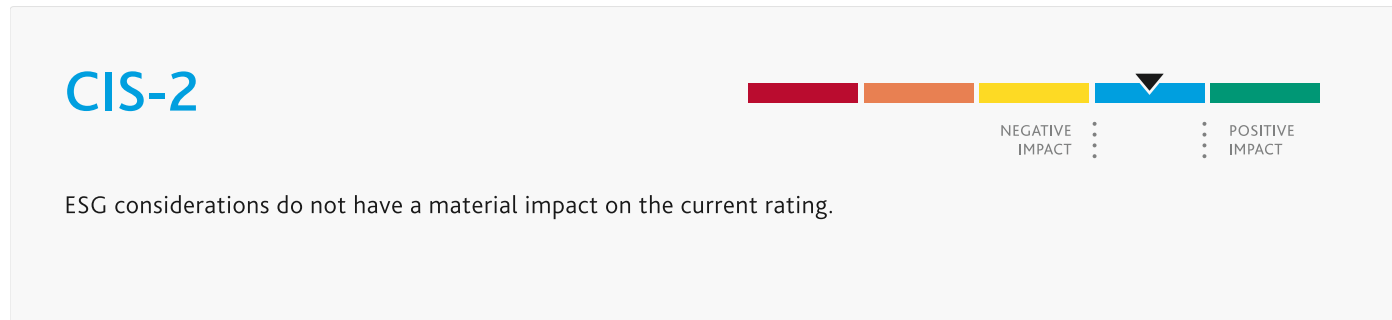
Moody's assigns a moderate likelihood of extraordinary support coming from the Province of Ontario in the event that the university faced acute liquidity stress.

ESG considerations

University of Toronto's ESG credit impact score is CIS-2

Exhibit 4

ESG credit impact score

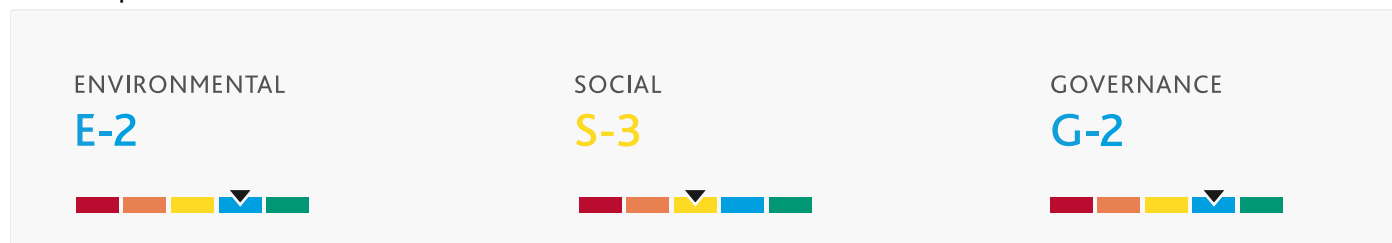


Source: Moody's Ratings

The **CIS-2** Credit Impact Score reflects a low impact of ESG considerations on U of T's ratings.

Exhibit 5

ESG issuer profile scores



Source: Moody's Ratings

Environmental

The **E-2** issuer profile score (IPS) reflects the university's low exposure to environmental risks as its infrastructure is built to withstand the typical range of weather patterns. While it owns land and buildings which may be subject to environmental risks (e.g., asbestos in older buildings or clean-up following construction), these risks are modest and the university proactively manages them through its operations and facilities maintenance.

Social

The **S-3** IPS reflects pressures from a decline in the university entrance-age population in Ontario and from tuition revenue declines given provincial funding policies designed to address affordability, both on tuition setting and support to students. U of T has a higher share of international students than most rated universities, which helps offset pressures from domestic tuition fees but exposes it to political and economic risk including immigration trends and changes in policies on immigration eligibility. These pressures are mitigated by strong selectivity ratios and solid enrolment demand.

Governance

The **G-2** IPS reflects management's credibility, track record and ability to anticipate and mitigate risks. A robust institutional framework and prudent financial planning also contributes to multi-year balanced budgets and strong operating results. The university puts strong emphasis on a decentralized style of governance and decision making, allowing for funding allocations between the university's departments. The organizational structure is typical of Canadian universities with strong oversight from the Governing Council and committees, although provincial representation on the board exposes the university to potential government intervention.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moody's.com. In order to view the latest scores, please click [here](#) to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Rating methodology and scorecard factors

The BCA of aa1 assigned by the rating committee is in line with the scorecard indicated outcome of aa1. For details of our rating approach, please refer to the [Higher Education](#) (July 2024) and [Government-Related Issuers](#) (January 2024) methodologies.

Exhibit 6

University of Toronto

(fiscal year ending April 30, 2024)

Scorecard Factors and Sub-factors	Value	Score
Factor 1: Scale (15%)		
Adjusted Operating Revenue (USD Million)	2,751	Aaa
Factor 2: Market Profile (20%)		
Brand and Strategic Positioning	Aaa	Aaa
Operating Environment	Aa	Aa
Factor 3: Operating Performance (10%)		
EBIDA Margin	5.9%	Baa
Factor 4: Financial Resources and Liquidity (25%)		
Total Cash and Investments (USD Million)	6,118	Aaa
Total Cash and Investments to Operating Expenses	2.2	Aaa
Factor 5: Leverage and coverage (20%)		
Total Cash and Investments to Total Adjusted Debt	7.8	Aaa
Annual Debt Service Coverage	4.4	Aaa
Factor 6: Financial Policy and Strategy (10%)		
Financial Policy and Strategy	Aa	Aa
Scorecard-Indicated Outcome		aa1
Assigned BCA		aa1

Data is based on most recent fiscal year available. Debt may include pro forma data for new debt issued or proposed to be issued after the close of the fiscal year.

For non-US issuers, nominal figures are in US dollars consistent with the Higher Education Methodology.

Source: Moody's Ratings

Ratings

Exhibit 7

Category	Moody's Rating
UNIVERSITY OF TORONTO	
Outlook	Stable
Baseline Credit Assessment	aa1
Issuer Rating	Aa1
Senior Unsecured -Dom Curr	Aa1

Source: Moody's Ratings

© 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 www.moody's.com under the heading "Investor Relations — Corporate Governance — Charter Documents - Director and Shareholder Affiliation Policy."

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 Clasificadora 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.

CLIENT SERVICES

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