

CREDIT OPINION

3 July 2023

Update

Send Your Feedback

RATINGS

Ticino, Republic and Canton of

Domicile	Switzerland
Long Term Rating	Aa2
Type	LT Issuer Rating - Fgn Curr
Outlook	Stable

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

Contacts

Emanuela Colzani +33.1.5330.3392
 Analyst
 emanuela.colzani@moodys.com

Ester Berlot +49 69.70730.921
 Associate Analyst
 ester.berlot@moodys.com

Massimo Visconti, +39.02.9148.1124
 MBA
 VP-Sr Credit Officer/Manager
 massimo.visconti@moodys.com

CLIENT SERVICES

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

Republic and Canton of Ticino (Switzerland)

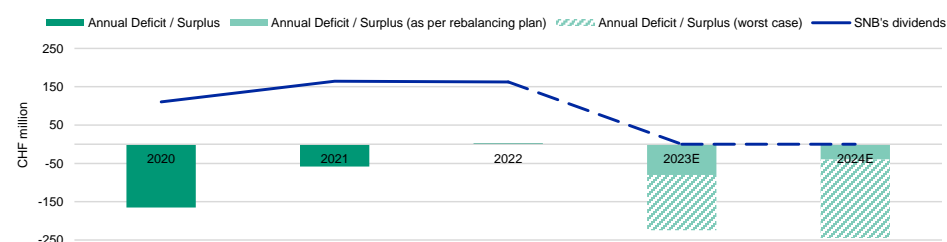
Update to credit analysis

Summary

The credit profile of the [Republic and Canton of Ticino](#) (Ticino or the canton, Aa2 stable) is underpinned by its wealthy economy, very strong governance and high degree of fiscal flexibility, which supports solid financial results. To rebalance its financial performance by 2025 — hurt by the pandemic-induced revenue deterioration and growing expenditures — the canton is implementing a spending review. The expected dividend shortfall from the Swiss National Bank (SNB) makes the rebalancing plan increasingly ambitious, but Ticino's stance towards fiscal consolidation remains strong. The canton's credit profile also reflects its conservative debt management and good access to financial markets, which mitigate risks stemming from its moderate debt burden, high financing needs and large contingent liabilities. The ratings also factor in a moderate likelihood of support from the [Government of Switzerland](#) (Aaa stable) if the canton were to face acute liquidity stress.

Exhibit 1

The SNB dividend shortfall challenges Ticino's plan to rebalance its financial performance



2023-24E: estimate. Worst case is based of data from *Preconsuntivo 2023* (as of June '23) with no dividends from SNB and *Piano Finanziario 2024* (as of Dec '22), assuming no dividends from SNB also in 2024.

Source: Issuer and Moody's Investors Service

Credit strengths

- » Strong stance towards fiscal consolidation, driven by a constitutional requirement in terms of financial equilibrium
- » A high degree of fiscal flexibility, combined with sound management practices
- » A wealthy economy

Credit challenges

- » Increasing debt levels, although manageable
- » Sizeable exposure to contingent liabilities

Rating outlook

The stable outlook reflects Ticino's resilience and wealthy economy, which will support the canton's financial performance. The objective of a return to a balanced financial performance is further supported by the canton's very strong management and governance practices.

Factors that could lead to an upgrade

A combination of the following could have positive rating implications: a positive gross operating balance (GOB), amounting to and stabilising at a double-digit percentage of operating revenue; and a sustained reduction in leverage.

Factors that could lead to a downgrade

Negative pressure on the rating could be exerted by one or a combination of the following: a significant deterioration in the canton's operating performance sustained over time; a substantially higher-than-expected net direct and indirect debt (NDID)-to-operating revenue ratio; and significant financial pressure arising from contingent liabilities. Although not likely, a sovereign downgrade could also result in a downgrade of Ticino's rating.

Key indicators

Exhibit 2

Republic and Canton of Ticino

Year ending 31 December

	2020	2021	2022	2023E	2024E
Net Direct and Indirect Debt as a % of Operating Revenues	88.1%	96.8%	101.6%	107.8%	109.0%
Financing Surplus (Deficit) as % of Total Revenues	-8.8%	-5.3%	-4.8%	-7.7%	-4.8%
Gross Operating Balance as a % of Operating Revenues	-2.0%	1.0%	3.0%	-0.4%	1.5%
Interest Payments as a % of Operating Revenues	0.6%	0.5%	0.5%	0.7%	0.7%
Intergovernmental Revenues as a % of Total Expenses	30.7%	32.6%	29.8%	32.6%	32.8%
Capital Expenses as a % of Total Expenses	9.2%	8.9%	10.3%	10.4%	9.0%
GDP per capita as a % of national average	104.2%	104.7%	105.6%	106.5%	107.4%

2023-24E: Moody's estimate. The Financing Surplus (Deficit) does not correspond to the Annual Deficit / Surplus used by the canton and reported in Exhibit 1.

Sources: Issuer and Moody's Investors Service

Detailed credit considerations

The credit profile of the Republic and Canton of Ticino, as expressed in its Aa2 stable rating, combines a Baseline Credit Assessment (BCA) of aa2 and a moderate likelihood of extraordinary support from the Swiss Confederation in the event the canton faces acute liquidity stress.

Baseline Credit Assessment

Strong stance towards fiscal consolidation, driven by a constitutional requirement in terms of financial equilibrium

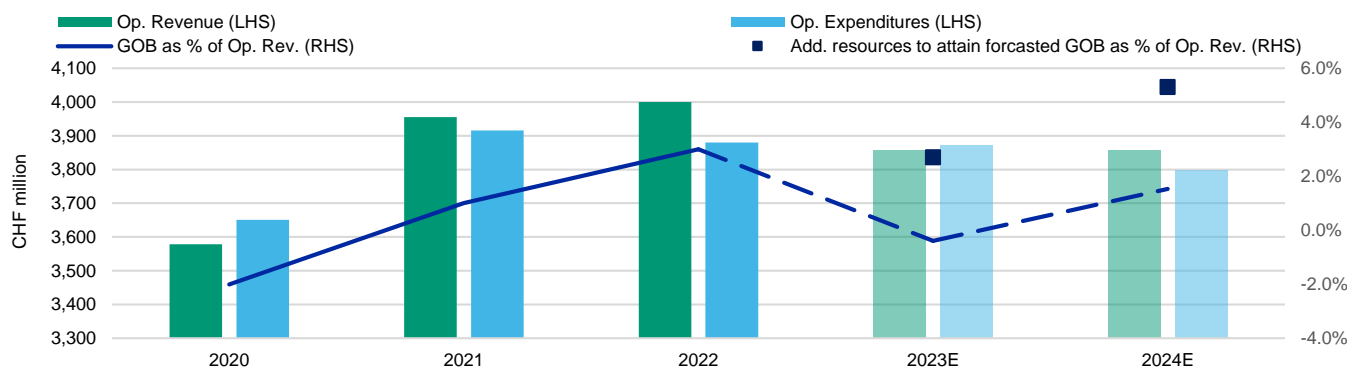
In 2022, Ticino's GOB increased to 3% of operating revenue from 1% in 2021, mainly driven by higher-than-expected dividends from the Swiss National Bank (SNB)¹. Growing tax receipts also supported this result. Over 2023-24, the canton will implement a spending review — mainly focused on personnel spending, costs of goods and services, and transfers — to rebalance its financial performance, hurt by the pandemic-induced revenue deterioration and growing expenditures. Ticino targets a gradual reduction in annual deficit (to CHF80 million in 2023 and CHF40 million in 2024) to attain a balanced financial performance by 2025, an objective that is embedded in cantonal constitution and law. The expected shortfall in dividend distribution by SNB² makes this rebalancing plan increasingly ambitious. In the worst case scenario based on available issuer's forecasts³ and assuming no dividends from SNB also in 2024, to attain the annual targets, the canton would need more than CHF140 million of additional resources in 2023 and CHF200 million in 2024, corresponding to 4%-5% of operating revenue. We expect Ticino to record GOB/operating revenue of -0.4% in 2023 and an annual deficit of CHF120 million, partly exceeding the planned target (-CHF80 million). If the rebalancing plan is respected in 2024, the GOB should represent 1.5% of operating revenue. Spending review measures will be disclosed in the 2024 budget (to be made public in the

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.

second semester 2023). Our expectations are conditional to the effective implementation of the spending review and to the volume of realised tax receipts. They are underpinned by Ticino's strong stance towards fiscal consolidation and its successful track record in restoring financial equilibrium, reflected in its positive governance issuer profile score (G-1), which recognises the canton's very strong management and governance practices.

Exhibit 3

Future operating performance is conditional to the effective implementation of the spending review. Targets are ambitious.



2023-24E: Moody's estimate. 2023 numbers are based on the expectation of an annual deficit of CHF120 million, above the target of -CHF80 million set by the canton.

Sources: Issuer and Moody's Investors Service

A high degree of fiscal flexibility, combined with sound management practices

Ticino benefits from a high degree of fiscal flexibility, which supports solid financial results. The canton, like its national peers, has ample autonomy in setting tax rates, and the cantonal law provides for an adjustment of the fiscal coefficient to meet financial targets, if other measures, such as spending review or other revenue increase, are not sufficient. Ticino also benefits from a robust intercantonal revenue equalisation system, which provides stability to the cantons' finances. Tax receipts account for the highest proportion of operating revenue (60% in 2022), followed by transfers (30%) and other revenue (10%). Moreover, the canton has strong flexibility on the expenditure side, even if social spending is a sizeable and a rigid budget item with cost pressures associated with an ageing population.

Ticino's financial management is sound. Financial planning is strong with in-year monitoring, fiscal targets are defined and typically met, and the degree of transparency is high. Debt and investment management are conservative and based on clear guidelines. The debt structure is simple with long-term debt mainly consisting of bonds at fixed rate. Ticino's debt management targets a smooth amortisation profile, avoiding very long tenors, with a cap of CHF250 million per year on long-term debt repayment. Ticino takes a proactive approach to treasury management. Treasury budgets are carefully planned and monitored during the year taking into consideration scheduled liquidity inflows and outflows.

A wealthy economy

Ticino is a medium-sized canton, located in the southern part of Switzerland. It shares its border with the [Region of Lombardy \(Italy\)](#) (Baa2 negative), the wealthiest region in Italy. Ticino benefits from a wealthy and diversified economy, which supports solid fiscal results. The canton's GDP accounts for 4% of national GDP. GDP per capita is slightly above the Swiss average (around 105%), which is higher than the European average. The cantonal economy is mainly driven by the service industry (77% of the cantonal value added), followed by manufacturing. Wholesale, financial activities, information technology and tourism are relevant in the tertiary sector, while electromechanical and pharmaceutical chemical industries have a leading role in the secondary sector. Life science and high tech are increasing in importance. The economic strategy is focused on promoting innovation and attracting new businesses, and benefits of the presence of important universities and renowned research institutions.

After the pandemic-induced economic contraction (Swiss real GDP decreased by 2.5% in 2020), the Swiss economy recovered gradually (Swiss real GDP growth rate of 4.2% and 2.1% in 2021 and 2022, respectively) supporting the cantonal fiscal results, while Ticino's exposure to the impact of the Russia-Ukraine military conflict is relatively low. We expect a real GDP growth rate of 0.8% at the national level in 2023.

Increasing debt levels, although manageable

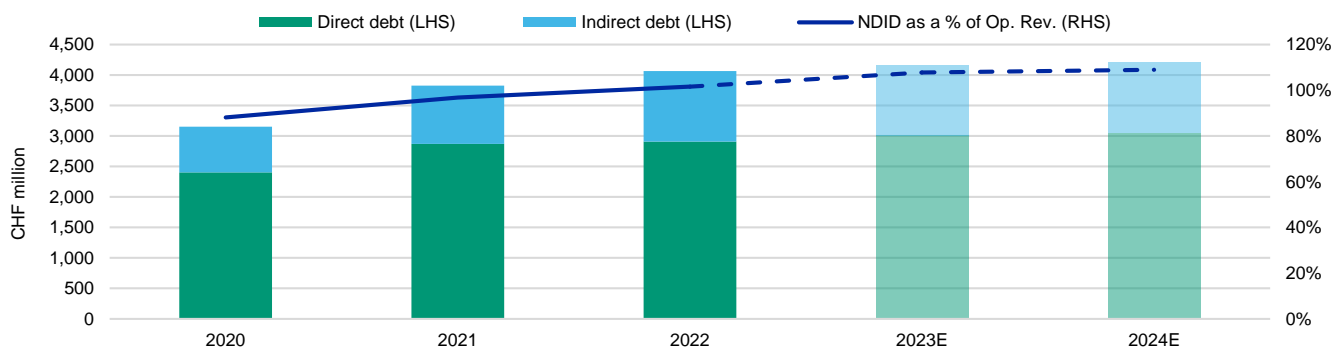
In 2022, Ticino's NDID amounted to around CHF4 billion and slightly exceeded 100% of operating revenue. We expect Ticino's NDID to remain above 100% of its operating revenue in 2023 and 2024, given its sustained investment plan and low expected GOB (Exhibit 4). With an average interest rate of 1% on long-term debt (as of May 2023) and a simple debt profile, the canton's debt burden will remain manageable despite the current context of growing interest rates. As of year-end 2022, long-term direct debt accounted for 49% of Ticino's NDID, short-term direct debt for 23% and indirect debt for 28%.

Direct debt amounted to CHF2.9 billion, largely in line with the level in 2021. Short-term borrowing needs remain high and continue to exceed the cantonal threshold of short-term debt below 20% of direct debt⁴, a credit negative. The canton uses short-term debt to finance in-year cash flow imbalances as a result of inflow-outflow mismatches and its sustained investment plan⁵. Good access to financial markets and careful cash monitoring support the canton's cash position and mitigate risks stemming from low levels of cash on hand (1.1% of operating revenue in 2022). Given the current context of increasing interest rates, the canton is considering reviewing its debt strategy, and it has already subscribed two credit lines (amounting to CHF200 million in total) to replace more expensive short-term debt.

Indirect debt mainly consists of liabilities related to the cantonal pension fund (Istituto di Previdenza del Cantone di Ticino [IPCT]). Because Ticino guarantees the future payments of IPCT to its beneficiaries, we include in indirect debt the amortising financial liability granted since 2013 to IPCT (CHF388.5 million as of year-end 2022) and our estimate of the additional coverage to reach the 80% minimum coverage ratio⁶ (CHF477.2 million estimated in 2022). We incorporate the remaining part of the pension deficit in contingent liabilities (see "Sizeable exposure to contingent liabilities"). To reduce the pension fund imbalances in 2022, the canton aimed at allocating to IPCT CHF700 million (funded through a long-term debt issuance by the canton)⁷. Because of the changed conditions in capital markets, this project was put on hold. We also include in indirect debt the financial debt of the cantonal hospital (Ente Ospedaliero Cantonale [EOC]), which represents around 23% of Ticino's indirect debt.

Exhibit 4

NDID exceeded 100% of operating revenue, but remains manageable



2023-24E: Moody's estimate. From FY2021, we include in indirect debt the financial debt of the cantonal hospital (EOC).

Sources: Issuer and Moody's Investors Service

Sizeable exposure to contingent liabilities

Ticino's contingent liabilities represented 5.1x of operating revenue in 2022 and mainly comprise the cantonal bank BancaStato's obligations. BancaStato is an autonomous institution under public law, which aims to promote Ticino's economic development through mortgage lending and asset management. Its activities cover all the operations of a universal bank. Ticino owns 100% of BancaStato and provides a full deficiency guarantee on the bank's liabilities (4.4x of operating revenue in 2022). We assess the risks associated with these liabilities to be moderate, reflecting the bank's solid credit profile and close supervision by FINMA (the Swiss Financial Market Supervision Authority).

Ticino's exposure to contingent liabilities is also derived from its fully owned electricity wholesaler Azienda Elettrica Ticinese (AET). AET's institutional mandate is to guarantee the procurement of electricity for the canton at competitive prices. AET's leverage represented around 26% of the cantonal operating revenue in 2022 (9% in 2021) and it increased significantly driven by higher short-term debt to face margin calls and working capital outflow related to higher energy prices. In 2022, AET's financial results became

negative, driven by the drought-induced lower hydroelectric production and higher energy prices resulting in higher costs to buy energy from international markets. We will monitor how AET's performance will evolve in 2023 and its capacity to face the energy sector's current challenges.

Finally, we view as a contingent liability Ticino's exposure to the remaining unfunded part of IPCT (to attain a 100% coverage ratio, see "Increasing debt levels, although manageable"), which corresponds to around 40% of its operating revenue. The cantonal pension fund deficit is large (CHF2.4 billion in 2021, last available data⁸); nevertheless, as Ticino can change the pension levels retroactively with a law, this could lead to lower disbursement — thereby reducing liabilities — in case of need. To reduce the pension fund imbalances, IPCT plans to gradually decrease the conversion rate of retirement savings from 6.17% to around 5% starting from 2024. More details about this measure and potential compensations are currently under discussion.

Ticino's good access to financial markets and conservative debt management largely mitigate the risks stemming from its moderate debt levels and large contingent liabilities. Should contingent liabilities expand, the value of cantonal guarantees will grow proportionally, a credit negative.

Extraordinary support considerations

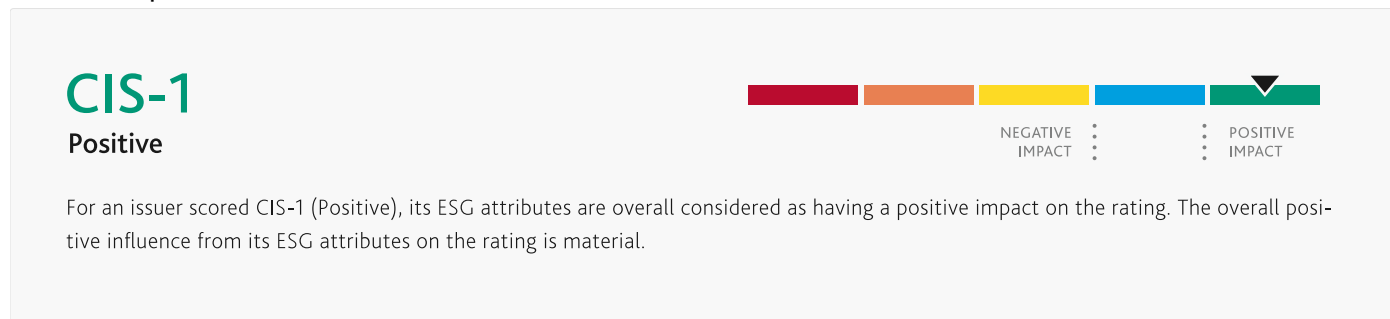
Ticino has a moderate likelihood of receiving extraordinary support from the Swiss Confederation. This reflects Swiss cantons' ample autonomy, and the strongly decentralised relationship between the cantons and the Swiss Confederation.

ESG considerations

Republic and Canton of Ticino's ESG Credit Impact Score is Positive CIS-1

Exhibit 5

ESG Credit Impact Score



Source: Moody's Investors Service

Ticino's positive ESG Credit Impact Score (**CIS-1**) reflects a very strong governance profile and neutral-to-low exposure to environmental and social risks.

Exhibit 6

ESG Issuer Profile Scores



Source: Moody's Investors Service

Environmental

Ticino's environmental issuer profile score (**E-2**) factors in its neutral-to-low exposure to environmental risks such as carbon transition, water management, natural capital and waste and pollution. Ticino has a moderately negative exposure to physical climate risks, due to increasingly volatile weather conditions and rising temperatures. Climate change-related environmental trends may cause losses in productivity, weigh on investment and put pressure on cantonal revenue base.

Social

Ticino's social issuer profile score (**S-2**) reflects the canton's high level of education and overall strong levels of public health and safety. Residents benefit of a good access to basic services. Labor and income indicators are favorable, reflecting a diversified service-based economy and a low unemployment rate. Ticino is moderately negatively exposed to demographics challenges, due to population ageing. We foresee a persistently high, although manageable, future demand for healthcare and social services with implications on public spending. Housing is viewed as moderately negative given the elevated housing prices across the territory.

Governance

Ticino's highly transparent and very strong management and governance practices are captured by a positive governance issuer profile score (**G-1**). Strong stance towards fiscal consolidation, driven by a constitutional requirement in terms of financial equilibrium, will endure and will contribute to Ticino's ability to meet and even exceed its fiscal targets. Sound debt management, based on clear guidelines, combined with very good access to financial markets, support liquidity and mitigate risks stemming from its moderate debt levels and contingent liabilities, which will remain manageable.

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 [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 assigned BCA of aa2 is close to the scorecard-indicated BCA of aa1. The one-notch differential reflects the potential pressure that might arise from the canton's contingent liabilities.

The scorecard-indicated BCA outcome of aa1 reflects an Idiosyncratic Risk score of 2 (presented below) on a 1-9 scale, where 1 is the strongest relative credit quality and 9 the weakest; and a Systemic Risk score of Aaa, as reflected in the Swiss bond rating (Aaa stable).

For details about our rating approach, please refer to [Rating Methodology: Regional and Local Governments](#), published on 16 January 2018.

Exhibit 7

Republic and Canton of Ticino Regional and Local Governments

Baseline Credit Assessment – Scorecard	Score	Value	Sub-factor Weighting	Sub-factor Total	Factor Weighting	Total
Factor 1: Economic Fundamentals				2.40	20%	0.48
Economic Strength [1]	3	105.1%	70%			
Economic Volatility	1		30%			
Factor 2: Institutional Framework				1	20%	0.20
Legislative Background	1		50%			
Financial Flexibility	1		50%			
Factor 3: Financial Position				4.50	30%	1.35
Operating Margin [2]	5	1.7%	12.5%			
Interest Burden [3]	1	0.5%	12.5%			
Liquidity	1		25%			
Debt Burden [4]	7	101.6%	25%			
Debt Structure [5]	7	33.8%	25%			
Factor 4: Governance and Management				1	30%	0.30
Risk Controls and Financial Management	1					
Investment and Debt Management	1					
Transparency and Disclosure	1					
Idiosyncratic Risk Assessment						2.33(2)
Systemic Risk Assessment						Aaa
Scorecard-Indicated BCA Outcome						aa1
Assigned BCA						aa2

[1] Local GDP per capita as a percentage of national GDP per capita.

[2] Gross operating balance/operating revenue.

[3] Interest payments/operating revenue.

[4] Net direct and indirect debt/operating revenue.

[5] Short-term direct debt/total direct debt.

Source: Moody's Investors Service, fiscal 2022

Ratings

Exhibit 8

Category	Moody's Rating
TICINO, REPUBLIC AND CANTON OF	
Outlook	Stable
Baseline Credit Assessment	aa2
Issuer Rating	Aa2
Senior Unsecured -Dom Curr	Aa2

Source: Moody's Investors Service

Endnotes

- 1 Ticino received a dividend of CHF162.6 million in 2022, compared with CHF137 million forecasted. This increase was driven by the positive performance recorded by the Swiss National Bank in 2021.
- 2 In 2023, SNB will not distribute dividends because of the loss recorded in 2022, and it could opt for a more cautious approach to profit distribution in the future, which may result in no or low dividends in 2024.
- 3 Worst case is based of data from *Preconsuntivo 2023* (as of June 2023) with no dividends from SNB and *Piano Finanziario 2024-2026* (as of December 2022), assuming no dividends from SNB also in 2024.
- 4 Ticino already exceeded the cantonal threshold (share of short-term debt below 20% of direct debt) in 2021 to pre-finance long-term debt repayment and a loan to BancaStato, and in 2020 to cover the tax deferral granted during the pandemic.
- 5 In 2022, capital spending reached a record high level with CHF320 million of financing needs, compared with the average of CHF259 million between 2019 and 2021.
- 6 The 80% minimum coverage ratio is required by the federal law on pension funds.
- 7 IPCT was expected to invest this amount and to cover with the investment proceeds the unfunded pension liabilities and the interest costs of the cantonal debt issuance of CHF700 million.
- 8 In 2021, the pension fund coverage ratio was 69.6%, below the annual target of 70.9% set in the rebalancing plan. The rebalancing plan entered into force in 2013 to progressively achieve an 85% coverage ratio by 2052.

© 2023 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 BY MOODY'S (COLLECTIVELY, "PUBLICATIONS") 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 PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. AND/OR ITS AFFILIATES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS DO NOT COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS, ASSESSMENTS AND OTHER OPINIONS AND PUBLISHES ITS PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS, AND PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS OR PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER.

ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

MOODY'S CREDIT RATINGS, ASSESSMENTS, OTHER OPINIONS AND PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the credit rating process or in preparing its Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY CREDIT RATING, ASSESSMENT, OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any credit rating, agreed to pay to Moody's Investors Service, Inc. for credit ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$5,000,000. MCO and Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service, Inc. and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moody.com under the heading "Investor Relations — Corporate Governance — Charter Documents - 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 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any credit rating, agreed to pay to MJKK or MSFJ (as applicable) for credit ratings opinions and services rendered by it fees ranging from JPY100,000 to approximately JPY550,000,000.

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

REPORT NUMBER 1366707

CLIENT SERVICES

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