Case Western Reserve University, OH

Update to credit analysis following upgrade to Aa3

Summary

Case Western Reserve University, OH’s (Aa3/stable) (“CWRU”) strong credit quality is underpinned by its excellent brand and strategic position, supporting a solid student market and a sizable research enterprise. Additionally supporting CWRU’s credit strength is its substantial wealth, with total cash and investments totaling over $2.3 billion in fiscal 2021. Operating performance, which historically lagged peers, has improved despite pandemic related operating challenges. An offsetting credit consideration is relatively low capital investment in recent years resulting in a rising age of plant. The university has identified material additional capital needs, although it should be able to fund them through a diverse mix of funding sources given philanthropy and strengthened cash flow. Other credit factors considered include thinner liquidity compared with peers, solid expense management, a diverse revenue base, a modest pension liability, and a competitive operating environment for students and research awards.

On November 9, 2021, Moody’s upgraded the university’s issuer and debt ratings to Aa3 with a stable outlook from A1 with a positive outlook.

Exhibit 1

CWRU’s total wealth and operating size compares favorably to peers

Credit strengths

» Considerable wealth with over $2.3 billion in total cash and investments in fiscal 2021

» Excellent strategic positioning, bolstered by strategic partnerships, supporting a strong student market and solid research enterprise

» Sizable and diverse scope of operations with a large research profile and total operating revenue of about $934 million

» Strong philanthropic support with three-year average gift revenue of $121 million
Credit challenges
» Highly competitive student market and significant competition for federal research funding, which are the university's two key revenue streams
» A large portion of CWRU's wealth is permanently restricted, somewhat limiting financial flexibility
» Elevated age of plant over 18 years points towards potential capital needs

Rating outlook
The stable outlook reflects Moody's expectations of continued EBIDA margins above 10% with debt service coverage of over 2x. It also reflects Moody's expectations that CWRU will maintain a favorable leverage profile as it moves forward with future capital projects.

Factors that could lead to an upgrade
» Significant increase in wealth and wealth to operating expenses compared with peers
» Continued improvement in EBIDA margins over multiple years

Factors that could lead to a downgrade
» Deterioration of strategic partnerships with the Cleveland Clinic and University Hospitals
» Erosion of EBIDA margins over multiple years
» Significant increase in leverage

Key indicators
Exhibit 2
CASE WESTERN RESERVE UNIVERSITY, OH

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total FTE Enrollment</td>
<td>10,917</td>
<td>11,073</td>
<td>11,072</td>
<td>10,891</td>
<td>11,233</td>
<td>11,233</td>
</tr>
<tr>
<td>Total Operating Revenue ($000)</td>
<td>878,052</td>
<td>881,439</td>
<td>925,830</td>
<td>942,776</td>
<td>933,695</td>
<td>933,695</td>
</tr>
<tr>
<td>Annual Change in Operating Revenue (%)</td>
<td>5.0</td>
<td>0.4</td>
<td>5.0</td>
<td>1.8</td>
<td>-1.0</td>
<td>1.3</td>
</tr>
<tr>
<td>Total Cash &amp; Investments ($000)</td>
<td>1,726,918</td>
<td>1,808,068</td>
<td>1,847,534</td>
<td>1,831,838</td>
<td>2,340,508</td>
<td>2,340,508</td>
</tr>
<tr>
<td>Total Debt ($000)</td>
<td>506,918</td>
<td>496,973</td>
<td>483,765</td>
<td>511,915</td>
<td>466,294</td>
<td>313,773</td>
</tr>
<tr>
<td>Total Cash &amp; Investments to Total Adjusted Debt (x)</td>
<td>2.8</td>
<td>3.1</td>
<td>3.1</td>
<td>2.6</td>
<td>3.9</td>
<td>4.5</td>
</tr>
<tr>
<td>Total Cash &amp; Investments to Operating Expenses (x)</td>
<td>2.0</td>
<td>2.1</td>
<td>2.0</td>
<td>2.0</td>
<td>2.7</td>
<td>4.9</td>
</tr>
<tr>
<td>Monthly Days Cash on Hand (x)</td>
<td>176</td>
<td>184</td>
<td>186</td>
<td>179</td>
<td>231</td>
<td>435</td>
</tr>
<tr>
<td>EBIDA Margin (%)</td>
<td>11.9</td>
<td>9.9</td>
<td>11.4</td>
<td>11.9</td>
<td>15.7</td>
<td>15.6</td>
</tr>
<tr>
<td>Total Debt to EBIDA (x)</td>
<td>4.9</td>
<td>5.7</td>
<td>4.6</td>
<td>4.6</td>
<td>3.2</td>
<td>6.3</td>
</tr>
<tr>
<td>Annual Debt Service Coverage (x)</td>
<td>3.0</td>
<td>2.3</td>
<td>2.9</td>
<td>3.1</td>
<td>4.2</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Source: Moody's Investors Service

Profile
Case Western Reserve University is the largest comprehensive private research university in Ohio, with sizeable operations of over $930 million and enrollment of over 11,000 FTE students. The university is located in University Circle, a 550-acre concentration of more than 50 educational, medical, cultural, religious, and social service institutions at the eastern edge of Cleveland.
Detailed credit considerations

Market profile: comprehensive research university with strong partnerships, sizable operations, and a solid student market

An excellent strategic position will continue, anchored by CWRU strong strategic partnerships and prominent STEM and healthcare programs, bolstering its research and academic profile nationally. Favorable student demand at both the undergraduate and graduate levels continues, driven by the university’s strong reputation in the sciences, technology, engineering, and math (STEM). Since fall 2011, total enrollment is up an impressive 27% to 11,233 full-time equivalent (FTE) students in fall 2021. This growth occurred while many other institutions, particularly in the Midwest, suffered significant declines. Further, net tuition per student has increased annually since fiscal 2014, up a strong 7% in fiscal 2021.

Educational programs and research are bolstered by collaborated efforts with nearby medical institutions, the Cleveland Clinic (Aa2/stable) and University Hospitals (A2/stable). In summer 2019, CWRU and Cleveland Clinic opened the jointly owned Health Education Campus, a sprawling academic and research focused campus. Importantly, CWRU recently signed a ten-year affiliation agreement with University Hospitals, extending its primary teaching hospital agreement.

CWRU has a sizable scope of operations and maintains a large research profile with significant federally sponsored research, supporting an excellent operating environment. The university reported total operating revenue of over $930 million and grants and contracts of $329 million in fiscal 2021. Grants and contracts contracted in fiscal 2020 and fiscal 2021, with management reporting a decline in activity because of the pandemic. Favorably, management is projecting growth in future research activity, with the university receiving a $17.5 million state grant and $23 million grant from the Department of Education, which will fuel future research activity growth. Overall, revenue comes from a variety of sources, with the largest component, tuition, fees and auxiliaries, representing 39% of total revenue.

Operating performance: expense reduction efforts during the height of the pandemic improved operating performance

CWRU’s improved operating performance will continue with moderate revenue growth and manageable expense growth. Historically, CWRU’s operating performance lagged peers, with EBIDA margins consistently around 10-12%. During the pandemic, management took swift expense containment measures, including hiring and salary freezes, resulting in a solid 17.1% EBIDA. Though merit increases and hiring have resumed, management is maintaining other cost containment efforts and is projecting a similar operating surplus for fiscal 2022 while maintaining a 4.7% endowment spend.

Revenue grew modestly in fiscal 2021 despite a significant reduction of on-campus activities. Favorably, management is projecting an over 5% growth in revenue for fiscal 2022, driven by a return to near normalized operations on-campus and continued growth in net tuition revenue. CWRU, unlike a majority of Midwest privates, has witnessed favorable net tuition per student growth trends over the past five years, averaging nearly 4% growth per year.

Management reduced expenses in fiscal 2021, down 5.4% compared to 2020, in response to operating challenges brought on by the pandemic. Prior to the pandemic, management demonstrated a track record of maintaining manageable expense growth of just over 3% annual from fiscal 2015 through fiscal 2019. Management is projecting for expense growth of 5% for fiscal 2022, above historical levels, but below estimated revenue growth, as it resumes hiring and merit increases.

Wealth and liquidity: substantial wealth increased materially in fiscal 2021 because of investment returns; future growth will be driven primarily by philanthropy

The university’s considerable wealth will continue growing, primarily through strong philanthropic support, and is a key credit strength. Total cash and investments surged to over $2.3 billion at the end of fiscal 2021, driven by a robust investment return of nearly 32%. Total wealth provides strong coverage of total adjusted debt at 3.9x, but coverage of operating expenses at 2.7x is weaker than peers, which is primarily due to the university’s large research enterprise. Although overall wealth is robust, a large portion of the university’s wealth is restricted, with spendable cash and investments totaling approximately $1.3 billion.

Three-year average gift revenue is strong at $121 million (fiscal 2019 through 2021). The university is not currently in a fundraising campaign, but it’s prior campaign was highly successful, raising over $1.8 billion compared with an initial goal of $1 billion.
Liquidity
CWRU’s liquidity will remain adequate given its overall wealth. Monthly liquidity at the end of fiscal 2021 was $510 million, translating to 231 monthly days cash on hand. Supplementing liquidity is $150 million of available lines of credit for working capital and a $50 million line of credit for short-term liquidity for its investment pool. CWRU currently has $0 drawn from its various lines.

Leverage: affordable and manageable debt burden, but future capital plans may increase leverage
Leverage remains relatively low given the university’s robust wealth, but potential capital projects could increase debt. CWRU has made a concerted effort to pay down its direct debt, which has decreased by nearly $100 million since fiscal 2016. Total cash and investments cover total adjusted debt, including CWRU’s net pension liability and $40 million HEC obligation, a robust 3.9x. Total adjusted debt to EBIDA is sound at 4.0x.

Despite the opening of the jointly owned HEC, CWRU’s capital spending has not kept pace with depreciation over the past five years, resulting in an elevated age of plant of 18.5 years. Management has indicated capital projects under consideration total well over $400 million. Management has not determined how projects will be funded, but is expecting a large portion will be fundraised.

Legal security
Proposed and outstanding bonds are all general unsecured obligations of the university.

Debt structure
CWRU’s debt structure is somewhat complex, but manageable given a strong management team and available liquidity. Most of the university’s debt is in fixed rate mode with only Series 2019A bonds currently in variable rate mode. Series 2019A bonds will be fully refunded by Series 2021A and Series 2021B bonds, and after that refunding, only the Series 2021B bonds will be in variable rate mode. (Proposed Series 2021B bonds also have a proposed mandatory tender five years from the issuance date. Interest rate risk is mitigated by floating receipts on CWRU’s outstanding interest rate swap, resulting in a synthetic fixed rate.) CWRU’S debt does have a number of bullet payments, with a recently issued private placement adding a large bullet payment of $42 million in fiscal 2030. Series 2019C bonds are multimodal, long-term put bonds with a mandatory tender date of December 1, 2026. Management does anticipate refinancing large bullet payments before maturity.

Included in the university’s outstanding total adjusted debt is a $40 million obligation (originally $50 million) to cover its remaining share of the costs associated with the HEC. This amount will be paid for over the next four years. The university has established an internal reserve to cover this obligation.

Debt-related derivatives
CWRU currently has four floating-to-fixed interest rate swap agreements with a total notional amount of approximately $71 million. At its current rating level, the university posts collateral if the liability to CWRU exceeds $20 million. As of June 30, 2021 the liability was $13 million, well below the collateral posting threshold. Three of the swaps, with a total notional amount of approximately $35 million will expire in 2022. The remaining swap, with a notional amount of $35 million, has a termination date in 2034 and will be matched with the proposed Series 2021B bonds.

Pensions and OPEB
The university contributes to both a defined benefit plan (DB) and defined contribution plan (DC). The DB plan stopped being offered to employees hired after July 1, 2015. Total expenses for both plans totaled $23 million, down from the prior year due to a reduction in defined contribution expenses stemming from CWRU’s pandemic expense response.

Favorably, the university does not have other post-employment benefits (OPEB) expenses.

ESG considerations
Environmental
Environmental considerations are not material to CWRU’s credit profile at this time.

Social
CWRU’s ability to attract students from outside of the State of Ohio (Aa1/stable) and Midwest region mitigates social risk from state and regional population growth challenges. Students from the State of Ohio makeup approximately 17% of enrolled undergraduate
students, down from 27% in fiscal 2012, yet overall enrollment and net tuition per student has increased significantly during that period. The university has also fared well compared to most peers regarding international student enrollment which has remained relatively flat over recent years, making up just over 13% of enrolled students.

**Governance**

CWRU’s strong management team has led the university through a period of strengthening reputation and strategic positioning, consistent operating performance, and enhancement of important partnerships. Through successful marketing of its nationally known graduate STEM programs, CWRU has increased its undergraduate reputation markedly. Strong management credibility was demonstrated during the height of the pandemic, as CWRU made strategic expense reductions that led to improved operating performance in a challenging environment, while increasing net tuition per student and overall net tuition revenue.

Though operating performance lags peers, management has consistently achieved fairly steady performance, driven by sound budgeting practices. Additionally, the university’s financial team has made a concerted effort to lower debt structure and liquidity risks through strategic refinancings, lowering overall credit risk.

The university has strengthened its partnership with the Cleveland Clinic through its joint ownership of the Health Education Campus and reaffirmed its partnership with University Hospitals for the next decade. CWRU’s ability to manage these partnerships are important to the university’s excellent brand and strategic positioning.
Rating methodology and scorecard factors

The principal methodology used in this rating was Higher Education Methodology published in August 2021. The Higher Education Methodology includes a scorecard that summarizes the factors that are generally most important to higher education credit profiles. Because the scorecard is a summary and may not include every consideration in the credit analysis for a specific issuer, a scorecard indicated outcome may or may not match an assigned rating. We assess brand and strategic positioning, financial policy and strategy, and operating environment on a qualitative basis.

Exhibit 3
Case Western Reserve University, OH

<table>
<thead>
<tr>
<th>Scorecard Factors and Sub-factors</th>
<th>Value</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Factor 1: Scale (15%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted Operating Revenue (USD Million)</td>
<td>934</td>
<td>Aa</td>
</tr>
<tr>
<td><strong>Factor 2: Market Profile (20%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand and Strategic Positioning</td>
<td>Aa</td>
<td>Aa</td>
</tr>
<tr>
<td>Operating Environment</td>
<td>Aa</td>
<td>Aa</td>
</tr>
<tr>
<td><strong>Factor 3: Operating Performance (10%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EBIDA Margin</td>
<td>16%</td>
<td>A</td>
</tr>
<tr>
<td><strong>Factor 4: Financial Resources and Liquidity (25%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cash and Investments (USD Million)</td>
<td>2,341</td>
<td>Aa</td>
</tr>
<tr>
<td>Total Cash and Investments to Operating Expenses</td>
<td>2.7</td>
<td>A</td>
</tr>
<tr>
<td><strong>Factor 5: Leverage and coverage (20%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Cash and Investments to Total Adjusted Debt</td>
<td>3.9</td>
<td>Aa</td>
</tr>
<tr>
<td>Annual Debt Service Coverage</td>
<td>4.2</td>
<td>Aa</td>
</tr>
<tr>
<td><strong>Factor 6: Financial Policy and Strategy (10%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Policy and Strategy</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td><strong>Scorecard-Indicated Outcome</strong></td>
<td>Aa3</td>
<td></td>
</tr>
<tr>
<td><strong>Assigned Rating</strong></td>
<td>Aa3</td>
<td></td>
</tr>
</tbody>
</table>

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 Investors Service
MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements. Prior to assignment of any credit rating, 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 agreed to pay for credit rating opinions and services. MSFJ 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 for credit ratings opinions and services. Moody's Investors Service also maintain policies and procedures to address the independence of Moody's Investors Service credit ratings and credit rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold credit ratings from Moody's Investors Service and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at www.moodys.com 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 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 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, RE-DISTRIBUTED 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 to be reliable and accurate. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications. To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use 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 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, RE-DISTRIBUTED 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 to be reliable and accurate. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications. To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use 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 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, RE-DISTRIBUTED 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 to be reliable and accurate. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications. To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use 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 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, RE-DISTRIBUTED 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 to be reliable and accurate. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing its Publications. To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use 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.