CREDIT OPINION
13 October 2016

New Issue - Moody's Assigns Aa2 to Vanderbilt University, TN Series 2016A; Outlook Positive

Summary Rating Rationale
Moody's Investor's Service has assigned a Aa2 rating to Vanderbilt University, TN's proposed $141 million Taxable Revenue Bonds (The Vanderbilt University) Series 2016 to be issued through the Health and Educational Facilities Board of the Metropolitan Government of Nashville and Davidson County, TN. The outlook is positive. At the same time we have affirmed the Aa2 rating on Vanderbilt University's bonds along with the P-1 rating on its commercial paper program.

The Aa2 rating reflects Vanderbilt’s excellent student market, sponsored research prowess, considerable wealth and prospects for ongoing donor support. These credit strengths are counterbalanced by indirect exposure to patient care revenue after the recent reorganization, and strong competition for students.

The P-1 rating on the commercial paper program reflects the university’s long-term rating, strong liquidity and able treasury management under its self liquidity program.

Exhibit 1
Spendable Cash & Investments Provides Greater Cushion to Debt and Expenses Following Reorganization in April 2016

Spendable Cash & Investments are $3.8 billion for FY 2016 and Pro Forma
Source: Moody's Investors Services
Credit Strengths
» Strong student demand for comprehensive academic offerings
» Considerable wealth with $5 billion of total cash and investments
» Solid prospects for ongoing donor support
» Academic reputation aided by large research enterprise

Credit Challenges
» Significant indirect exposure to more volatile healthcare enterprise at 23% of total revenue in FY 2016
» Competition from reputational peers includes those with much higher wealth per student
» Total gifts per student lags Aa1-rated peers

Rating Outlook
The positive outlook is predicated on expectations of ongoing success with academic medical center reconfiguration including the strong operating performance and growing liquidity at the university’s clinical partner, Vanderbilt University Medical Center (VUMC). The outlook also assumed the maintenance of the university’s core credit strength including the maintenance of a substantial cushion of total cash and investments relative to debt and expenses.

Factors that Could Lead to an Upgrade
» Evidence of VUMC’s ongoing credit health including strong operating performance and accumulation of liquidity
» Increasing flexible reserves combined with solid operating performance at the university

Factors that Could Lead to a Downgrade
» Slowed growth of wealth relative to peers
» Decline in credit health of VUMC
» Reduction in operating cash flow performance
Key Indicators

Exhibit 3
VANDERBILT UNIVERSITY, TN

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2016 Pro Forma</th>
</tr>
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<tbody>
<tr>
<td>Total FTE Enrollment</td>
<td>12,171</td>
<td>12,229</td>
<td>12,143</td>
<td>12,060</td>
<td>12,085</td>
<td>12,085</td>
</tr>
<tr>
<td>Operating Revenue (5000)</td>
<td>3,734,533</td>
<td>3,704,338</td>
<td>3,711,740</td>
<td>4,152,458</td>
<td>1,259,375</td>
<td>1,259,375</td>
</tr>
<tr>
<td>Annual Change in Operating Revenue (%)</td>
<td>1.7</td>
<td>-0.8</td>
<td>3.8</td>
<td>6.0</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>Total Cash &amp; Investments (5000)</td>
<td>4,985,819</td>
<td>5,173,781</td>
<td>5,574,393</td>
<td>5,868,323</td>
<td>5,009,687</td>
<td>5,009,687</td>
</tr>
<tr>
<td>Total Debt (5000)</td>
<td>1,371,939</td>
<td>1,319,128</td>
<td>1,275,999</td>
<td>1,222,339</td>
<td>299,980</td>
<td>394,890</td>
</tr>
<tr>
<td>Spendable Cash &amp; Investments to Total Debt [x]</td>
<td>2.9</td>
<td>3.1</td>
<td>3.5</td>
<td>3.9</td>
<td>12.7</td>
<td>9.6</td>
</tr>
<tr>
<td>Spendable Cash &amp; Investments to Operating Expenses [x]</td>
<td>1.1</td>
<td>1.1</td>
<td>1.2</td>
<td>1.2</td>
<td>3.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Monthly Days Cash on Hand (x)</td>
<td>181</td>
<td>201</td>
<td>220</td>
<td>218</td>
<td>654</td>
<td>654</td>
</tr>
<tr>
<td>Operating Cash Flow Margin (%)</td>
<td>12.5</td>
<td>10.8</td>
<td>10.3</td>
<td>11.0</td>
<td>17.6</td>
<td>17.6</td>
</tr>
<tr>
<td>Total Debt to Cash Flow [x]</td>
<td>2.9</td>
<td>3.3</td>
<td>3.2</td>
<td>2.7</td>
<td>1.4</td>
<td>1.8</td>
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</table>

Pro forma debt includes impact of $141 million Series 2016, $140 million commercial paper and redemption of Series 2012B floating rate notes. Annual Change in Operating Revenue for 2016 and 2016 Pro Forma is based on comparison of Unrestricted Total revenues and other support in university financial statements.

Source: Audited financial statements and Moody's Investors Service

Recent Developments

On April 29, 2016 Vanderbilt University closed on the legal and financial restructuring of its $3 billion patient care enterprise. The recently formed Vanderbilt University Medical Center (A3 stable) will operate the hospitals and clinics, clinical departments and physician practice plan that were previously part of Vanderbilt University.

While the university’s patient care enterprise risk transfer is substantial, it is not complete. Overall, the legal and financial restructuring is credit positive for Vanderbilt University. While the university retains indirect exposure to VUMC’s operating health, it has jettisoned $2.9 billion of direct healthcare risk. In addition, the separation will allow the governing boards of the two organizations to focus on their distinct primary missions.

Detailed Rating Considerations

Market Profile: Comprehensive Research University with Excellent Demand

Vanderbilt’s diverse academic programs and solid reputation will continue to translate into very strong student demand. Demand for academic programs when combined with its financial strength and exceptional strategic planning provide the university with excellent strategic positioning.

Net tuition per student has grown steadily, reaching $23,198 in fiscal 2016. Vanderbilt increasingly competes with other top private universities across the U.S. Those top competitors typically have more than twice the wealth per student than Vanderbilt, allowing them greater ability to fund merit and need based student aid.

The university’s sizeable research enterprise remains stable, with significant exposure to federal funding. Grant and contract revenue totaled $234 million in fiscal 2016, not including the research activities of VUMC. Similar to other research universities, Vanderbilt faces the challenge of an increasingly competitive federal research funding environment and likely increased reliance on private funding and internal support.

Operating Performance: Healthy Performance As Revenue Mix Changes

The reorganization of VUMC favorably altered the university’s operating performance and revenue diversity. In fiscal 2015 before restatement, 68% of the university’s $4 billion of operating revenue came from patient care, in fiscal 2016 the largest revenue source became tuition and auxiliaries at 33% of operating revenue.

The university’s operating health, however, will remain tethered to the fiscal health of the separate VUMC. The affiliation agreement between the university and the new not-for-profit includes various flow of funds and exchanges. On a combined basis these revenue sources comprised 23% of the university fiscal 2016 revenue base.
The reconfigured university has more favorable operating cash flow performance, moving to a 18% cash flow margin in fiscal 2016 from 11% in fiscal 2015. Vanderbilt’s practice of spending less than 5% of trailing average of endowment value translates into stronger operating performance under Moody’s approach. Investment income as a portion of overall revenue will move from 6% to 20%.

Prospects for solid operating performance over time are also bolstered by management’s close attention to overhead costs. Concerted efforts to rein in the costs of support functions and enhance administrative efficiency should continue to support both solid operating performance and programmatic investments.

**Wealth and Liquidity: Growth Supported by Good Philanthropy**

Vanderbilt is well poised to continue to increase its wealth through donor support, prudent investment management and retained surpluses. Total cash and investments were $5 billion at fiscal year end 2016, underpinning the Aa2 rating and providing a substantial buffer. Favorably, over $3.7 billion of the university’s cash and investments are spendable.

With engaged alumni and a solid track record of donor support, the university will continue to fund incremental program investments made possible through philanthropy. Total gift revenue was $120 million in fiscal 2016. This is a strong level but below some of the university’s competitive peers.

Vanderbilt has continued to invest in its facilities and plans to use a portion of the Series 2016A bond proceeds to finance student housing improvements.

Vanderbilt’s well diversified endowment had a negative 4.3% return in fiscal 2016. Endowment liquidity remains solid with 44% of the $4.2 billion pool available within one quarter. Unfunded commitments as of June 30, 2016 were approximately 13% of the total pool.

**Liquidity**

With a variety of potential liquidity demands from university operations, self liquidity debt, swap collateral posting and private capital commitments, Vanderbilt maintains strong liquidity. Monthly liquidity of $1.9 billion translates to a strong 654 monthly days cash on hand.

As of September 30, 2016, Vanderbilt had $810 million of discounted daily liquidity, providing strong coverage of $140 million of pro forma commercial paper backed by the university’s self-liquidity program. The amount outstanding on September 30, 2016 was $85 million. In addition to its internal liquidity, Vanderbilt has two dedicated lines of credit in place for a combined $300 million of external liquidity; one of those lines may also be used for general corporate purposes.

**Leverage: Debt Substantially Reduced Post Reorganization**

The reorganization materially reduced Vanderbilt’s financial leverage. With limited plans for additional debt, we expect the university leverage to remain highly manageable. Pro forma debt of $394 million includes the Series 2016A bonds as well as $140 million of commercial paper expected early in calendar 2017, a portion of which will redeem the Series 2012B floating rate notes.

**Debt Structure**

Since 2010 the university has continued to reduce debt structure related risks. Variable rate debt including commercial paper comprises 36% of pro forma debt. The current plan of finance will smooth out three Series 2009A bullet maturities, providing more regularity to debt service commitments.

**Debt-Related Derivatives**

Vanderbilt’s swap exposure has been significantly reduced though the exercise of termination options, with $216 million of remaining fixed-payer swaps as of fiscal 2016. Collateral posting requirements have also reduced and were $30 million as of September 21, 2016. Following the close of FY 2016, the university exercised its termination option for $500 million notional of basis swaps. Additional fixed payer swaps with a $100 million notional amount total have been targeted for termination based on market conditions. The remaining derivative risks are partially mitigated by management’s close attention to liquidity management and modeling of exposure to potential changes in LIBOR.

**Pensions and OPEB**

Vanderbilt’s eligible employees participate in a defined contribution plan. The university’s manageable contributions were $16 million in fiscal 2016, just over 1% of operating expenses.
Governance and Management: Leadership Stability and Strategic Planning Enhance Profile
Vanderbilt University’s governance and management should continue to enhance its credit strength. The strategic planning involved in the decision to proceed with the reorganization of the medical center is emblematic of a broader approach to position the university for long-term strength. A recently completed strategic planning process reaffirmed the university’s commitment to offer both a highly residential undergraduate education as well as remaining a leading research university.

Key management positions have remained stable. While the reorganized medical center not-for-profit has a separate board, some key members of Vanderbilt University’s leadership also have roles on the new corporation’s board. The assessment of the ties and the working relationship of the two organizations will help inform our assessment of the degree of risk transfer under the reorganization.

Legal Security
Debt repayment is a general unsecured obligation of the university.

Use of Proceeds
Proceeds from the Series 2016 bonds will be used for partial advance refunding of the Revenue Bonds, Series 2009A bonds and to provide approximately $75 million of proceeds to support the university ongoing residential college student housing facility investments. Additionally, proceeds will be used to pay costs of issuance.

Obligor Profile
Vanderbilt University is a private research university located in Nashville, Tennessee. Total full-time equivalent (FTE) enrollment for the university’s comprehensive array of undergraduate, graduate, and professional programs stood at 12,085 in fall 2016. Undergraduate students comprised approximately 57% of the University’s total FTE enrollment.

Methodology
The principal methodology used in this rating was Global Higher Education published in November 2015. The additional methodology used in the commercial paper rating was Rating Methodology for Municipal Bonds and Commercial Paper Supported by a Borrower’s Self-Liquidity published in January 2012. Please see the Rating Methodologies page on www.moodys.com for a copy of these methodologies.

Ratings

Exhibit 4

<table>
<thead>
<tr>
<th>Issue</th>
<th>Rating</th>
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<tbody>
<tr>
<td>Taxable Revenue Bonds (The Vanderbilt University) Series 2016</td>
<td>Aa2</td>
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Rating Type: Underlying LT
Sale Amount: $141,000,000
Expected Sale Date: 10/26/2016
Rating Description: Revenue: 501c3 Unsecured General Obligation

Source: Moody’s Investors Service
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Contacts
Dennis M. Gephardt 212-553-7209
VP-Senior Credit Officer dennis.gephardt@moodys.com

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