MOODY'S INVESTORS SERVICE

CREDIT OPINION

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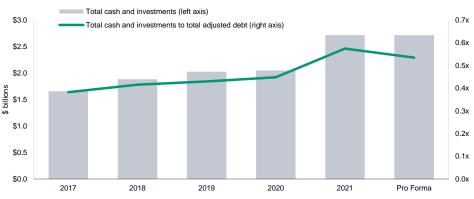
University of Massachusetts

Update to credit analysis

Summary

University of Massachusetts' (Aa2 stable issuer rating) credit profile reflects its large scale and scope of operations, inclusive of the flagship and multiple campuses, its strong relationship with an academic medical center and its excellent strategic positioning that incorporates disciplined fiscal oversight. UMass benefits from solid operating and capital support from the <u>Commonwealth of Massachusetts</u> (Aa1 stable), and significant research activity. Excellent financial policy and strategy incorporates solid operating performance, while navigating adverse financial impacts arising from the coronavirus pandemic. Tempering UMass' strengths are weaker total cash and investments to operations and total adjusted debt relative to peers, with continued capital needs and monitoring of two public-private partnerships. The fiscal 2022 partnership with the former Brandman University, now UMass Global, adds uncertainties around execution and financial risks. The university will continue to contend with historically modest philanthropic activity and expected declines in high school graduates in the university's core service area, though enrollment at most campuses remains healthy.

Exhibit 1 Strong growth in wealth supports planned increase in fiscal 2022 debt



Pro Forma reflects fiscal 2021 debt with new money of approximately \$352 million during fiscal 2022. Source: Moody's Investors Service

Credit strengths

- » Important role in Massachusetts public higher education, with sizable multi-campus \$3.4 billion scope of operations, serving 64,785 full-time equivalent (FTE) students
- » Solid, consistent operating and capital support from Aa1-rated Massachusetts
- » Strong fiscal discipline and oversight leading to good EBIDA margins and over 2x debt service coverage for fiscal 2021, with similar results projected in fiscal 2022
- » Excellent and growing research enterprise with \$552 million of research expenses in fiscal 2021

Credit challenges

- » Highly leveraged relative to wealth and operating revenue, with ongoing capital needs
- » Modest donor support relative to Aa2-rated institutions
- » Collective bargaining agreements and union contracts constrain expense flexibility
- » Highly competitive student demand and research funding environments

Rating outlook

The stable outlook reflects our expectation of continuing steady enrollment and positive operating performance, continued solid state support, and measured use of additional debt.

Factors that could lead to an upgrade

- » Substantial growth of reserves relative to debt and operations
- » Sustained and material improvement of operating cash flow and debt service coverage

Factors that could lead to a downgrade

- » Sustained decrease in debt service coverage to below 2x
- » Inability to sustain 0.4x coverage of total adjusted debt from total cash and investments
- » Material reduction of state support for operations or capital

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Key indicators

Exhibit 2

University of Massachusetts, MA	2017	2018	2019	2020	2021	Mec Pro Forma Publi	lian: Aa Rated ic Universities
Total Fall FTE Enrollment	64,530	65,347	66,003	66,070	64,785	64,785	4,947
Operating Revenue (\$Billion)	3.3	3.4	3.4	3.4	3.4	3.4	0.2
Annual Change in Operating Revenue (%)	2.2	2.3	0.7	0.5	-1.4	-1.4	-0.9
Total Cash & Investments (\$Billion)	1.7	1.9	2.0	2.0	2.7	2.7	0.4
Total Debt (\$Billion)	3.1	3.1	3.1	3.0	3.0	3.4	0.2
Total Cash & Investments to Total Adjusted Debt (x)	0.4	0.4	0.4	0.4	0.6	0.5	2.7
Total Cash & Investments to Operating Expenses (x)	0.5	0.6	0.6	0.6	0.8	0.8	2.0
Monthly Days Cash on Hand (x)	119	139	135	123	172	172	382
EBIDA Margin (%)	14.0	13.5	14.0	13.1	13.7	13.7	14.4
Total Debt to EBIDA (x)	6.7	6.7	6.6	6.7	6.5	7.3	4.9
Annual Debt Service Coverage (x)	2.2	2.1	2.2	2.0	2.2	2.2	2.8

Pro Forma reflects fiscal 2021 leverage with new money of approximately \$352 million during fiscal 2022. Source: Moody's Investors Service

Source. Moody Sinvestors Service

Profile

University of Massachusetts is a large public university system serving the Commonwealth of Massachusetts. The system includes five campuses: Amherst (flagship), Boston, Dartmouth, Lowell, and Worcester (medical school); and UMass Online. Included in UMass' operations is Commonwealth Medicine, a public, nonprofit healthcare consulting organization. Fiscal 2021 operating revenue was \$3.4 billion and fall 2021 enrollment was 64,785 full-time equivalent (FTE) students.

The University of Massachusetts Building Authority, the university's debt issuance arm, is a public instrumentality of the Commonwealth of Massachusetts and is empowered to construct dormitory, auxiliary, academic and other facilities for the university's campuses. The authority's financial data is consolidated within the university's audited financial statements as a blended component unit.

Detailed credit considerations

Market position: sound demand as large, diversified public higher education system; new online entity for fiscal 2022 The University of Massachusetts' student demand will remain sound because of its role as an essential provider of public higher education across multiple campuses, including the state's flagship public university, with sizable scale and scope of operations. However, fall 2021 enrollment of 64,785 FTE systemwide was down about 2%, with some variations among the campuses. Very good brand and strategic positioning incorporates softer net tuition revenue growth and some enrollment challenges due to demographic trends and the ongoing effects of the coronavirus pandemic. All campuses moved to in-person learning formats for fall 2021.

The university's initiative for increasing its online capacity and presence will grow with its September 2021 partnership with Brandman University, a California-based nonprofit online provider that was a component of <u>Chapman University</u>. The entity, renamed UMass Global, will be a blended unit of the university, and provides online educational services to approximately 20,000 students, including a range of adult learners. The ultimate credit impact will depend on the successful integration of the entities, which will occur over time.

University of Massachusetts maintains a sizable and growing research profile, which enhances its reputation and revenue diversity. Research activity, totaling \$552 million in fiscal 2021 or nearly 17% of expenses, is concentrated at the Amherst and Worcester campuses in biomedical, applied materials and sustainability areas.

Operating performance: management's financial accountability framework underpins steady operations

UMass will continue to face challenges stemming from ongoing disruptions related to the coronavirus pandemic, as well as demographic constraints, but disciplined fiscal oversight will limit significant adverse impact to operating performance. Historically strong and consistent state operating appropriations, comprising 25% of fiscal 2021 revenue, in addition to solid capital support, contribute to the university's excellent credit quality and also link the university closely to the state's credit quality. State support for a

portion of increased salary costs associated with collective bargaining units is favorable to the university's credit profile. Across the \$3.4 billion enterprise, the fiscal 2021 EBIDA margin was a sound 13.7% and provided 2.2x debt service coverage.

Wealth and liquidity: rising cash and investments, but lags peers

The system's financial reserve levels, while growing a significant 33% year-over-year in fiscal 2021, remain below peer levels when compared to both debt and operations. Donor-supported reserve growth is modest, with capital campaigns decentralized among the campuses. Cash and investments totaled \$2.7 billion for fiscal 2021 and covered operating expenses by 0.8x.

University and UMass Foundation assets are managed by the foundation's board, with oversight from a chief investment officer and assistance from a third party advisor. The combined endowment of \$1.2 billion at fiscal end June 30, 2021 was up 37% for the one year period. Assets allocation is in line with similarly sized endowments.

Liquidity

UMass' liquidity relative to operating expenses is modest relative to Aa2-rated peers, but generally improving based on its reserve policy, and sound given very limited calls on liquidity. Monthly liquidity of \$1.4 billion translated to 172 monthly days cash on hand for 2021, up from 120 days recorded for fiscal 2017. Liquidity access has been expanded with the fiscal 2021 establishment of a \$150 million revolving line of credit.

Leverage: elevated leverage and ongoing capital needs, but measured pace of debt issuance

The university's leverage is elevated relative to peers, but will remain manageable due to consistency of operating performance and prudent capital planning, acknowledging its excellent financial policy (see Exhibit 3). Fiscal 2021 total cash and investments covered total adjusted debt just 0.6x, declining to 0.5x on a pro forma debt basis.

Favorably, all of UMass' \$3 billion of direct debt at fiscal end 2021 is fixed rate and amortizing, aiding budget predictability. Other debtlike liabilities totaling \$1.7 billion include the unfunded pension liability (see Pensions and OPEB below), operating leases, and alternative financing arrangements representing two developer owned student housing projects. Total adjusted debt was \$4.7 billion for fiscal 2021, and rises to \$5.1 billion including UMass' planned new money Series 2022 financing.

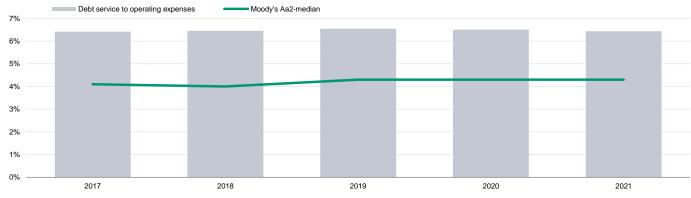


Exhibit 3

Source: Moody's Investors Service

The university's capital plan through fiscal year 2026 includes 100 projects with a total funding need of \$2 billion. To date 26% of the plan has been addressed. Nearly half of the funding is debt, with the remaining sourced from gifts, cash flow and state support. Favorably, the state has been an important capital funding partner, providing \$328 million in capital appropriations over the fiscal 2017-21 period. Beyond the university's planned Series 2022 bonds, the university plans on issuing about \$240 million of debt over the fiscal 2024-26 period.

The university has agreements with third party developers to operate student housing projects, which due to the nature of the projects on campus land, serving university constituents and eventually returning to the university, Moody's includes as alternative financing arrangements. Outstanding debt associated with these projects at the <u>UMass-Boston</u> and <u>UMass-Dartmouth</u> campuses, totaling

UMass debt service policy to remain below 7% of expenses is a mitigant to higher comparative debt burden

\$261.3 million, are included in UMass' adjusted debt. The holders of the privatized student housing bonds do not have legal recourse to the assets and revenue of UMass. Planning for a third PPP for housing at the Amherst campus has received Board approval. The campus along with the University of Massachusetts Building Authority (UMBA) is working with a third party to finalize the transaction.

The UMass-Boston and UMass-Dartmouth projects were open for fall 2021 and spring 2022 enrollment with full occupancy at the Boston project, but less at the Dartmouth project. As a result of the COVID-19 pandemic, and the change from on-campus to remote learning during the 2020-21 academic year, occupancy at the Boston project was significantly reduced. As a result, the UMass-Boston campus contributed \$457,000 to the facility through June 30, 2021. The Dartmouth project opened in the fall of 2020, while the campus was still closed and no contribution from the campus has been made to date.

Legal security

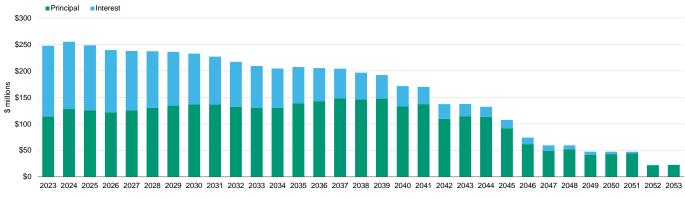
The bonds and commercial paper notes are special obligations of UMBA payable from payments made by the university under a Contract for Management and Services. Under the contract between the university and UMBA, the university is required to remit to the authority annually an amount sufficient to pay debt service and other costs associated with operating and maintaining the financed projects during the next year, referred to as the Certified Amount. The annual certified amount is payable from a variety of revenue streams, including all legally available revenues of the university and UMBA, including state appropriations, as well to have available Spendable Cash and Investments (formerly Unrestricted Net Assets). Fiscal 2021 spendable cash and investments totaled \$2.2 billion relative to the fiscal 2021 certified amount of \$246 million and pro forma fiscal 2022 certified amount of \$246 million.

Debt structure

Favorably, debt is predominantly fixed rate with regular amortization (see Exhibit 4).

Exhibit 4 Amortizing debt provides budget predictability

Pro forma debt service including planned Series 2022 1-3 bonds



Source: Moody's Investors Service and University of Massachusetts Building Authority

The university has two commercial paper programs with a combined \$200 million authorization. The Series 2013A CP notes are supported by an SBPA with <u>State Street Bank and Trust Company</u> and the Series 2013B CP notes are supported by an SBPA with <u>U.S.</u> <u>Bank National Association</u>. Both CP note SBPAs expire on August 12, 2022. Moody's does not rate the Series 2013A CP notes. The 2013-A1 CP had a balance of \$31 million as of fiscal year end 2021, which rose to \$118 million as of January 2022. UMass plans to refund the majority of its outstanding CP with a planned Series 2022 bond issue.

Debt-related derivatives

None

Pensions and OPEB

The university has moderate exposure to additional debtlike obligations through its participation in the Massachusetts State Employees Retirement System (SERS), which is a cost sharing multiple-employer retirement plan sponsored by the state. The Moody's threeyear adjusted net pension liability (ANPL) for the university is \$1.3 billion, and combined with other debt-like obligations and direct debt, represents 1.4x operating revenue for fiscal year 2021, slightly less than the Aa2-rated public university median of 1.5x. Pension contributions for those in the SERS plan are determined by the plan and made by the university. Fiscal 2021 pension contributions were a modest 1.1% of operating expenses, well below the public university median of 2.2%.

UMass participates in an OPEB program that is provided through the Commonwealth of Massachusetts. UMass' share of the net OPEB liability was reported at \$830 million for fiscal 2021.

ESG considerations

Environmental

Environmental considerations are not a key credit driver. According to Moody's ESG Solutions, the university's campuses in multiple regions of Massachusetts have a range of medium and high exposure to water stress, extreme rainfall and hurricanes. Sea level rise is a medium exposure at the UMass-Boston and UMass-Dartmouth campuses, while not a material risk for the inland campus locations. UMass' commitments to ensuring safe infrastructure, demonstrated by the renovation of the inadequate structure at the UMass-Boston campus, and maintenance of insurance policies and safety procedures, mitigate elevated environmental risks.

Social

Challenging demographic trends are a primary social consideration for the UMass campuses. The university's ability to focus on tuition affordability for its students aids in a continuing pipeline of students to date, with the exception of the Dartmouth campus. We expect enrollment growth challenges to persist over the coming years.

Governance

Excellent financial policy and strategy incorporates the university's essential role for the state's educational and research priorities, and associated excellent capital support, bolstered by strong fiscal autonomy and stability in core revenue streams. Active financial management reflects the system's strengthened internal controls, development of specific reserve requirements among the campuses and implementation a shared services structure that is adding expense efficiencies. UMass is in the midst of sizable philanthropic and branding initiatives, which would favorably enhance financial reserves over the long term.

Rating methodology and scorecard factors

The Higher Education rating 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, operating environment, and financial strategy on a qualitative basis, as described in the methodology.

Exhibit 5

University of Massachusetts, MA

Scorecard Factors and Sub-factors		Value	Score
Factor 1:	Scale (15%)		
	Adjusted Operating Revenue (USD Million)	3,362	Aaa
Factor 2:	Market Profile (20%)		
	Brand and Strategic Positioning	А	А
	Operating Environment	Aa	Aa
Factor 3:	Operating Performance (10%)		
	EBIDA Margin	14%	А
Factor 4:	Financial Resources and Liquidity (25%)		
	Total Cash and Investments (USD Million)	2,716	Aaa
	Total Cash and Investments to Operating Expenses	0.8	Aa
Factor 5:	Leverage and coverage (20%)		
	Total Cash and Investment to Total Adjusted Debt	0.5	А
	Annual Debt Service Coverage	2.2	Aa
Factor 6:	Financial Policy and Strategy (10%)		
	Financial Policy and Strategy	Aa	Aa
	Scorecard-Indicated Outcome		Aa3
-	Assigned Rating		Aa2

e. Debt may include pro forma data for n ed to be issued after the close of the fiscal year ed on most re ent fiscal vear ava

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

Leverage factors reflect new debt of approximately \$352 million during fiscal 2022.

Source: Moody's Investors Service

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