

CREDIT OPINION

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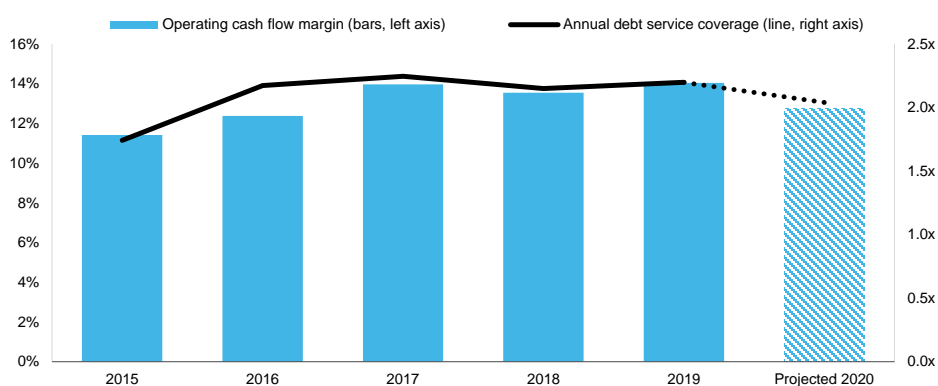
University of Massachusetts

Update to credit analysis

Summary

[University of Massachusetts](#) (Aa2 stable) strong credit quality stems from its large scale and scope of operations, inclusive of the flagship and multiple campuses across Massachusetts, its strong relationship with an academic medical center and its excellent strategic positioning that incorporates strengthened fiscal oversight. Credit strengths are also drawn from solid operating and capital support from the [Commonwealth of Massachusetts](#) (Aa1 stable), significant research activity and growing net tuition revenue. These factors will provide UMass with sufficient runway to manage through near-term operating volatility associated with the coronavirus pandemic. UMass remains challenged by weaker spendable cash and investments to operations and debt at 0.5x and 0.5x, respectively, relative to peers, with continued capital needs and monitoring of two public-private partnerships. The university will continue to contend with historically modest philanthropic activity and expected declines in high school graduates in the university's core service, though enrollment at most campuses remains healthy.

Exhibit 1

Projected fiscal 2020 operating performance nearly in line with prior years' reflects strong financial discipline to manage coronavirus impacts


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 66,003 full-time equivalent (FTE) students
- » Solid, consistent operating and capital support from Aa1-rated Massachusetts
- » Strong fiscal discipline and oversight leading to good operating cash flow margins and over 2x debt service coverage for fiscal 2019, with similar results projected in fiscal 2020
- » Growing enrollment, net tuition revenue and research activity

Credit challenges

- » Low spendable cash and investments to debt and operations and modest fundraising relative to peers
- » Collective bargaining agreements and union contracts constrain expense flexibility
- » Moderately high debt burden and extensive capital needs, including managing rising investment in public-private partnerships
- » Highly competitive student demand and competitive research funding environments

Rating outlook

The stable outlook reflects our expectation of continuing steady enrollment and positive operating performance, continued solid state support, and modest 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

- » Realization of more material downside risks associated with the coronavirus pandemic, driving heightened revenue pressure
- » Sustained decrease in debt service coverage to below 2.0x including a decline in spendable cash and investments to debt below 0.4x
- » Reduction of state support for operations or capital

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Key indicators

Exhibit 2

University of Massachusetts, MA

	2015	2016	2017	2018	2019	Pro Forma 2019	Median: Aa Rated Public Universities
Total Fall FTE Enrollment	63,333	63,978	64,530	65,347	66,003	66,003	30,062
Operating Revenue (\$000)	2,861,473	3,219,260	3,289,330	3,365,547	3,390,137	3,390,137	1,282,865
Annual Change in Operating Revenue (%)	-1.4	12.5	2.2	2.3	0.7	0.7	4.2
Total Cash & Investments (\$000)	1,559,144	1,483,807	1,655,974	1,885,013	2,023,664	2,023,664	1,582,410
Total Debt (\$000)	2,954,159	2,855,910	3,055,930	3,065,672	3,118,388	3,346,456	690,511
Spendable Cash & Investments to Total Debt (x)	0.4	0.4	0.4	0.5	0.5	0.5	1.5
Spendable Cash & Investments to Operating Expenses (x)	0.4	0.4	0.4	0.4	0.5	0.5	0.7
Monthly Days Cash on Hand (x)	110	92	119	139	135	135	157
Operating Cash Flow Margin (%)	11.4	12.4	14.0	13.5	14.0	14.0	11.8
Total Debt to Cash Flow (x)	9.0	7.2	6.7	6.7	6.6	7.0	4.1
Annual Debt Service Coverage (x)	1.7	2.2	2.2	2.1	2.2	2.0	2.8

Note: Pro Forma 2019 reflects fiscal 2019 data incorporating new money debt from the Series 2020-1, 2020-2 and planned 2020-4 bonds, as well as principal amortizations during fiscal 2020. Total debt also includes privatized student housing public-private partnerships (PPPs).

Source: Moody's Investors 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 2019 operating revenue was \$3.4 billion and fall 2019 enrollment was 66,003 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 profile: sound demand as large, diversified public higher education system

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.

Overall enrollment across the UMass campuses for fall 2020 is down a modest 0.5%, which is more favorable than the budgeted 5.0% decrease. Similar to most US universities, UMass was budgeting around an enrollment decline due to multiple economic, as well as public health and safety uncertainties stemming from the coronavirus pandemic. All of the UMass campuses remain in remote learning delivery modes, with certain exceptions for on-campus instruction (primarily in-person labs). The preliminary fall 2020 FTE count is 65,669, compared to 66,005 in fall 2019. By campus, enrollment remained relatively flat, with the exception of UMass-Dartmouth where the preliminary student count decreased by 3.6%, though less than the budgeted 10.2%.

The university's initiative for increasing its online capacity and presence will grow with its announced June 2020 partnership with Brandman University, a California-based nonprofit online provider that was a component of [Chapman University](#) (A2 stable). Brandman currently provides online educational services to approximately 24,000 students, including a range of adult learners. UMass expects that the final terms of the strategic partnership with Brandman will be agreed upon by the end of calendar 2020, with online classes commencing in calendar 2021. The ultimate credit impact will depend on the successful integration of the entities, which will occur over time.

University of Massachusetts maintains a sizable research profile, which enhances its reputation and revenue diversity. Research activity, totaling \$488 million in fiscal 2019 (14% of expenses), is concentrated at the Amherst and Worcester campuses in biomedical, applied materials and sustainability areas.

Operating performance: financial accountability framework underpins strong fiscal oversight and addressing budget gaps

UMass' improved multi-campus fiscal oversight and multiyear planning for financial stability has been essential to manage the financial disruptions associated with the coronavirus pandemic. However, uncertainty around spring campus reopenings and state funding will impact current budget projections for fiscal 2021.

The estimated fiscal 2020 operating cash flow margin of around 13% is slightly below fiscal 2019's 14% margin, with debt service coverage of 2.0x compared to 2.2x in fiscal 2019. The total impact to fiscal 2020 operations because of coronavirus-related disruptions was \$114 million, with the gap closed by a combination of cost containment measures, hiring freezes, workforce furlough and reductions, and CARES Act funding, among other solutions.

For fiscal 2021, the university is currently addressing a \$335 million gap due primarily to auxiliary revenue reductions associated with virtually all students in remote learning mode for fall 2020. To date, as a result of ongoing expense reductions and efficiencies, the gap is estimated at a limited \$5 million. Higher enrollment that originally budgeted has helped limit the budget gap, though flat tuition and fees for fiscal 2021, and lost auxiliary revenue for at least the fall semester will constrain growth in student charges.

Historically strong and consistent state operating appropriations, comprising 23% of fiscal 2019 revenue and roughly similar for fiscal 2020, in addition to solid capital support, contribute to the university's excellent credit quality but also link the university closely to the state's credit quality. The university is currently planning around a 10% reduction in state appropriations for fiscal 2021, though the state is not expected to pass its budget until October 2020. UMass received \$3.0 million in CARES Act Governor's Emergency Education Relief (GEER) funding in fiscal 2021.

Operating appropriations, including amounts for fringe benefits, rose a substantial 26% during the fiscal 2015-19 period. Although the university's financial flexibility is constrained by agreements with collective bargaining units negotiated at the state level, the state favorably has funded a share of increased salary costs. Capital support totaled a significant nearly \$400 million over the fiscal 2015-19 period.

Very good revenue diversity, reflecting student charges, state support and research activity enhance UMass' operating profile, continuing into fiscal 2020. Student charges, comprising 41% of fiscal 2019 operating revenue of \$3.4 billion, were up a strong 21% over the fiscal 2015 to fiscal 2019 period.

Wealth and liquidity: stable wealth despite coronavirus disruptions

The system's financial reserve levels, while adequate, will remain below peer levels when compared to both debt and operations. Donor-supported reserve growth is modest relative to peers, with capital campaigns decentralized among the campuses. Improved philanthropic activity would bolster growth in cash and investments, complementing stable operating cash flow and favorable focus to rebuild reserves.

Cash and investments totaled \$2.0 billion for fiscal 2019, up 30% over fiscal 2015. Fiscal 2019 spendable cash and investments of \$1.56 billion covered operating expenses by 0.47x, less than the Aa2-median of 0.7x.

Favorably, management projects nearly similar levels of cash and investments relative to operating expenses for fiscal 2020, reflecting no use of reserves for operations. Current fiscal 2021 budget projections limit use of reserves or liquidity to balance operations. The university is evaluating the addition of a \$150 million line of credit for to provide additional liquidity, though legislative approval is required. UMass is seeking approval at the upcoming October legislative session.

University and UMass Foundation assets are managed by the foundation board, with oversight from a chief investment officer and assistance from a third party advisor. The combined endowment of \$1.0 billion at fiscal end June 30, 2020 was up 3.3% for the one year period. Assets allocation is in line with similarly rated peers.

Liquidity

UMass' liquidity relative to operating expenses is modest relative to Aa2-rated peers, but generally improving based on a newly implemented reserve policy. Monthly liquidity of \$1.12 billion translated to 135 monthly days cash on hand for 2019, significantly improved from the 92 days recorded for fiscal 2016. Fiscal 2020 liquidity is likely to be similar. Though monthly liquidity is less than the Aa2-median of 164 days, relatively stable operating performance, a mostly fixed rate debt portfolio and limited other expected calls on liquidity mitigate unexpected liquidity use.

Leverage: elevated leverage with planned fall 2020 issuance to provide near term budgetary relief

The university's leverage is elevated relative to rated peers. With lower wealth levels than peers, spendable cash and investments covered fiscal 2019 debt of \$3.1 billion by just 0.5x, well below the Aa2-rated median of 1.3x. Favorably, the university maintains a debt policy such that aggregate debt service will not exceed 8% of expenditures and projects remaining at or below 7% through fiscal 2025. The system also has strong management oversight for its detailed capital planning and approval process that fully integrates campus master plans and five-year forecasts.

With fiscal 2021 operations highly uncertain because of coronavirus-relative disruptions and the state budget not yet passed, the university has opted to fund its November 1, 2020 principal payment of roughly \$93 million with a portion of a planned fall 2020 new issue. While funding a principal payment from debt rather than operations would normally be considered credit negative, the plan provides favorable cash flow relief.

The fiscal 2019-23 capital plan totals \$2.1 billion. Though borrowing plans and timing are not currently firm, the system expects to issue up to \$400 million. Favorably, the state has been an important capital funding partner, providing nearly \$400 million in capital appropriations over the fiscal 2015-19 period. Additional capital funding is derived from operating cash flow, future debt, gifts and third party developers. UMass makes principal payments of roughly \$100 million annually, with the current schedule reducing 54% of outstanding debt within 15 years. A portion of the university's outstanding debt profile includes a \$200 million Series 2013A and 2013B Commercial Paper (CP) program. Currently, there is no outstanding CP, as it was taken out by the Series 2020-1 and 2020-2 refunding bonds.

Our value for total debt at fiscal 2019 of \$3.3 billion includes \$262 million attributable to privatized student housing projects at the [UMass-Boston](#) and [UMass-Dartmouth](#) campuses. The university has expanded its use of public-private partnerships (PPPs) as an alternative to finance revenue-generating projects. The first project was completed at the UMass Boston campus for its first housing facility comprised of 1,087 beds, opening in fall 2018. A second project at the UMass Dartmouth campus, for 1,210 beds in a two-building housing facility opened this fall 2020. Planning for a third PPP at the Amherst campus for housing projects has been temporary halted because of coronavirus-related priorities. Though these project level financings are non-recourse to the campuses and the university, because of strategic linkages of the projects to the UMass campuses through cooperation agreements, we incorporate the debt within the overall debt profile. The UMass-Boston and UMass-Dartmouth projects are open in fall 2020, but with very limited occupancy because classes are virtually all online. To date, the university and campuses have not provided any funding to the project owners to offset revenue reductions.

Legal security

The bonds and commercial paper notes are special obligations of the University of Massachusetts Building Authority (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 revenue of the university and UMBA, including state appropriations, as well as unrestricted net assets. For fiscal 2019, spendable cash and investments totaled \$1.56 billion relative to the certified amount of approximately \$236 million. While certified figures for fiscal 2020 are not yet available, relative amounts are expected to be similar.

Tender features of the university's Series 2011-1 variable rated bonds are supported by a standby bond purchase agreement (SBPA) with [Wells Fargo Bank, NA](#), which expires on August 12, 2022. The Series 2013B CP notes are supported by an SBPA with [US Bank NA](#), that expires August 12, 2022.

Debt structure

Favorably, debt is predominantly fixed rate with regular amortization. A manageable 9% of the university's fiscal 2019 debt was issued in a variable-rate mode, and much of it is swapped to fixed interest rates. At fiscal end 2019, the university's unrestricted monthly liquidity covered demand debt a good 2.5x.

Liquidity facilities and swaps are well diversified across different counterparties. Tender features of the university's Series 2011-1 variable rated bonds are supported by a standby bond purchase agreement (SBPA) with Wells Fargo Bank, NA which expires on August 12, 2022.

The university has two commercial paper programs with a combined \$200 million authorization. The Series 2013A CP notes are supported by an SBPA with [State Street Bank and Trust Company](#) and the Series 2013B CP notes are supported by an SBPA with US Bank NA. Both CP note SBPAs expire on August 12, 2022. Moody's does not rate the Series 2013A CP notes.

Debt-related derivatives

The university has three interest rate swaps in place to hedge the interest rates of its variable rate debt. The counterparties are [Citibank NA](#), [UBS AG](#) and [Deutsche Bank AG](#). Under the swaps, the authority is not required to post collateral at its current rating level. The counterparties can terminate the swaps if the authority's long-term unsecured senior debt rating is withdrawn, suspended or falls below Baa2 (or the equivalent from another credit rating agency). As of August 31, 2020, the swaps had a combined notional value of \$284 million and a combined mark to market swap liability of \$72.5 million.

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 three-year adjusted net pension liability (ANPL) for the university is \$1.19 billion, and combined with pro forma debt, represents 1.4x operating revenue for fiscal year 2019, on par with the Aa2-rated public university median of 1.4x. Pension contributions for those in the SERS plan are determined by the plan and made by the university. Fiscal 2019 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 \$719 million for fiscal 2019.

ESG considerations

Environmental

According to Moody's affiliate, Four Twenty Seven, the university's campuses in multiple regions of Massachusetts have a range of medium and high exposure to water stress, extreme rainfall and hurricanes. Heat stress exposure is low. 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.

Social

We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. Campus' facilities were closed in spring 2020 and instruction pivoted to remote learning formats for the remainder of spring and all summer. For fall 2020, instruction remains remote for most classes and housing is limited to those with limited alternatives. UMass' current budget incorporates bringing all students on campus in the spring. Changes to this budget scenario will prompt midyear expense adjustments.

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

Leadership's strong and improved oversight and budgetary controls, as well as cohesive road map strategies, are key strengths for UMass' multi-campus, multi-discipline enterprise. UMass is governed by a large 22-member board of trustees, of which 17 are appointed by the Governor of Massachusetts. All but the five student members are appointed for five-year terms and are eligible to be reappointed for an additional five-year term. Decisions regarding the university's campus expansions using public-private partnerships

and the plan for more significant online presence will be guided by a well-vetted strategic plan. Ongoing careful strategic capital budgeting will limit significant weakening of the university's outsized leverage.

Excellent strategic positioning incorporates the university's essential role for the state's educational and research priorities, and associated excellent capital support, bolstered by improved fiscal autonomy and stability in core revenue streams. Favorably, the system office has upgraded internal controls, developed specific reserve requirements among the campuses and is rolling out a shared services structure that will increase prospects for expense efficiencies. UMass is in the midst of sizable philanthropic and branding initiatives, which would favorably enhance financial reserves over the long term.

The university's budgeting flexibility is tempered by the presence of collective bargaining units and unions. Union contracts are negotiated by the state, though fiscal adjustments are often not fully covered by state funding, leaving the university to fill the budget gap. In addition, due to legal constraints, the university has been unable to expand liquidity access with lines of credit, an important budgeting tool during this period of uncertainty around coronavirus impacts. The university has been working to address this limitation with state legislators in the upcoming fall 2020 session.

Rating methodology and scorecard factors

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 strategic positioning on a qualitative basis, as described in the methodology.

Exhibit 3

University of Massachusetts, MA

Scorecard Factors and Sub-factors	Value	Score
Factor 1: Market Profile (30%)		
Scope of Operations (Operating Revenue) (\$000)	3,390,137	Aaa
Reputation and Pricing Power (Annual Change in Operating Revenue) (%)	0.7	Ba3
Strategic Positioning	Aa	Aa
Factor 2: Operating Performance (25%)		
Operating Results (Operating Cash Flow Margin) (%)	14.0	Aa2
Revenue Diversity (Maximum Single Contribution) (%)	41.2	Aa2
Factor 3: Wealth & Liquidity (25%)		
Total Wealth (Total Cash & Investments) (\$000)	2,023,664	Aa1
Operating Reserve (Spendable Cash & Investments to Operating Expenses) (x)	0.5	A1
Liquidity (Monthly Days Cash on Hand)	135	A1
Factor 4: Leverage (20%)		
Financial Leverage (Spendable Cash & Investments to Total Debt) (x)	0.5	A1
Debt Affordability (Total Debt to Cash Flow) (x)	7.0	Aa2
Scorecard-Indicated Outcome		Aa2
Assigned Rating		Aa2

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.

Note: Leverage values reflect fiscal 2019 data incorporating new money debt from the Series 2020-1, 2020-2 and planned 2020-4 bonds, as well as principal amortizations during fiscal 2020. Total debt also includes privatized student housing public-private partnerships (PPPs).

Source: Moody's Investors Service

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