

CREDIT OPINION

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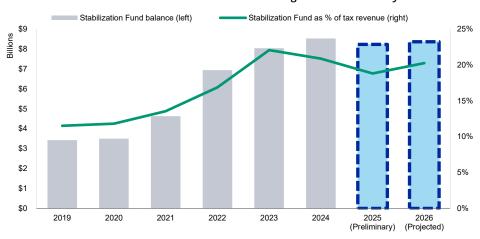
Massachusetts (Commonwealth of)

Update to credit analysis

Summary

The Commonwealth of Massachusetts' (Aa1 stable) credit is supported by a robust economic base, with high income and education levels, which helps meet the demands of comparatively heavy long-term liabilities. Pension contribution needs will add to coming years' spending pressure. As in other states, unfolding federal policy changes may impose economic or fiscal pressure, for example, by reducing federal support for Medicaid, the federal-state cost sharing health insurance plan for low-income and disabled people. The Commonwealth Stabilization Fund balance remained robust at \$8.2 billion as of June 30, 2025, which should provide a buffer against income tax revenue fluctuations resulting from economic or financial market downturns. Massachusetts' governance framework is strong, including sound financial and budgetary management practices that serve it well during recessions. The state's GO bonds, supported by a pledge of the state's full faith and credit, are rated at the same level as the issuer rating.

Exhibit 1
Stabilization Fund should remain near a record level through the current fiscal year



Stabilization Fund balance shown as a share of total (i.e., before transfers to the Massachusetts Bay Transportation Authority and Massachusetts School Building Authority) annual tax revenue.

Source: Commonwealth of Massachusetts information statements.

Credit strengths

- » Large economy focused on technology, healthcare, education and related sectors that pay above-average wages
- » Reserve fund balance at or near record levels that provides a substantial buffer against economic downturns

» Strong financial management and a practice of quickly closing budget gaps through spending cuts, revenue increases and use of reserves if necessary

Credit challenges

- » Combined debt and pension liabilities that are among the highest in the state sector relative to revenue, resulting in elevated fixed costs that limit fiscal flexibility
- » Demographic profile weakened by negative domestic migration and aging population, offset by strong immigration trends
- » Exposure to rising costs for pension funding and government programs such as Medicaid

Rating outlook

Massachusetts' stable outlook is supported by strong financial management and the state's financial reserves, which will accommodate moderating revenue growth even if spending pressures intensify and will help fill budget gaps that could emerge in an unexpected economic downturn.

Factors that could lead to an upgrade

- » Leverage that moderates in relation to the sector median, reducing the gap by approximately one-third
- » Fiscal sustainability measures that signal long-term capacity to maintain a Stabilization Fund balance equal to at least 15% of revenue

Factors that could lead to a downgrade

- » Protracted structural budget imbalance leading to repeated draws on financial reserves or other nonrecurring measures
- » Leverage that grows to more than 300% of revenue, combined with underperforming revenue and economic growth trends

Key indicators

Exhibit 2

	2020	2021	2022	2023	2024	State Medians (2024)
Economy						
Nominal GDP (\$billions)	592.9	650.3	696.3	737.9	778.5	331.0
Real GDP, annual growth	-1.0%	6.6%	1.7%	1.2%	2.3%	2.4%
RPP-adjusted per capita income as % of US	120.1%	121.7%	118.5%	119.5%	118.6%	97.8%
Nonfarm employment, annual growth	-8.4%	3.8%	4.0%	1.2%	0.1%	1.2%
Financial performance						
Available balance as % of own-source revenue	18.0%	24.2%	30.1%	31.4%	35.3%	42.3%
Net unrestricted cash as % of own-source revenue	14.8%	34.7%	40.4%	34.0%	35.0%	71.6%
Leverage						
Total long-term liabilities as % of own-source revenue	356.0%	377.6%	303.7%	247.4%	227.7%	90.9%
Adjusted fixed costs as % of own-source revenue	17.4%	16.5%	13.1%	13.6%	13.1%	5.3%

Source: US Bureau of Economic Analysis, US Bureau of Labor Statistics, audited financial statements, Moody's Ratings adjustments

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Profile

The Commonwealth of Massachusetts is the 16th-largest state by population, with an estimated 7.14 million residents as of 2024, according to the US Census Bureau. Its gross domestic product, at \$778.5 billion in 2024, ranks 12th among the states, according to the US Bureau of Economic Analysis.

Detailed credit considerations

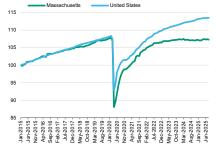
Economy

Massachusetts' economy remains a key credit strength, supported by solid real GDP growth that is in line with the nation. Although employment growth has been anemic (Exhibit 3), the state benefits from above-average labor force participation, which is a positive social factor. Unemployment has remained low, ranging between 3% and 4% for most of the past three years. High per-capita income is yet another positive economic feature (Exhibit 5).

Exhibit 3

Labor market performance has lagged the US

Monthly change in total nonfarm employment



Source: US Bureau of Labor Statistics

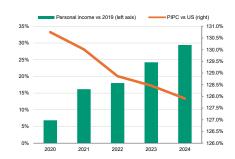
indexed to January 2015

Exhibit 4
Real GDP growth on pace with US
Quarterly real GDP growth indexed to Q1 2015



Source: US Bureau of Economic Analysis

Exhibit 5
High per capita personal income remains a strength



Personal income per capita, unadjusted, by calendar year Source: US Bureau of Economic Analysis

Supporting the state's income and wealth are high-paying economic sectors – including scientific research and development and computer systems design – that benefit from technologies developed in connection with Harvard University (Aaa stable), the Massachusetts Institute of Technology (Aaa stable) and other public and private institutions. The state's computer technology, biotechnology, robotics and other research and development fields attract a highly educated workforce. As of 2023, the share of residents 25 and over with a bachelor's degree was 48%, higher than any other state. Federal policy changes, including research funding constraints and escalation of endowment taxes, pose risks to this key economic sector.

Financial performance

The state's enacted budget anticipates essentially flat tax revenue in fiscal 2026, which started July 1 (collections are projected to decline 0.2%). Based on reported receipts in the year's first four months, actual revenue is 4.4% (or \$550 million) above the prior year's levels, incorporating performance that has been strong for income taxes, weak for corporate and business taxes and tepid for sales and use tax. The state faces a risk that US tax changes enacted in the federal reconciliation legislation will reduce its fiscal 2026 collections, because of federal provisions incorporated in the state's tax laws.

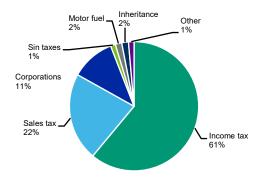
The state's relatively new 4% "Fair Share" surtax on individual incomes exceeding \$1 million, levied in addition to the base 5% flat income tax, has greatly outperformed expectations. In fiscal 2024, the first full year it was in effect, the surtax generated \$2.46 billion, compared with \$1 billion in the budgetary forecast. For fiscal 2025, the state originally forecast \$1.3 billion of surtax revenue, but collected almost \$3 billion.

Surtax proceeds are restricted to education and transportation. A \$550 million annual Fair Share revenue portion, allocated to the Commonwealth Transportation Fund under fiscal 2026 budget legislation, will expand infrastructure bonding capacity, benefiting the Massachusetts Department of Transportation, the Massachusetts Bay Transportation Authority and local governments.²

Economic conditions benefiting the state's wealthiest residents will therefore support the state's ability to fund core infrastructure and service needs. At the same time, reliance on income taxes (Exhibit 6) and on the high-income taxpayers who pay not only the surtax but also substantial capital gains taxes, will increase the state's exposure to financial market downturns.

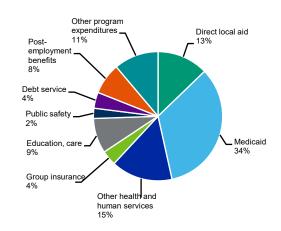
Drivers of spending increases will notably include Medicaid, for which the state's total expenditures (including both program and administrative) rose at a 4.9% compound annual growth rate from fiscal 2021 through 2025. While federal budget reconciliation reduced federal policy uncertainty for states, it contained federal Medicaid funding cuts – expected to be realized through work requirements, state financing restrictions and other measures – that will tend to increase states' costs in coming years.

Exhibit 6
Income and sales tax account for more than four-fifths of tax revenue
Fiscal 2025 (Preliminary)



Budgeted operating funds, statutory basis Source: Commonwealth of Massachusetts Information Statement

Exhibit 7 Expenditures of budgeted operating funds Fiscal 2025 (preliminary)



Source: Commonwealth of Massachusetts Information Statement

Liquidity

As in other states, strengthening liquidity in recent years resulted from better-than-expected tax revenue after the pandemic-driven downturn. Using strong capital gains tax collections, the state built up its Stabilization Fund (or rainy day fund), as shown in Exhibit 1. The fund receives 90% of state capital gains tax revenue above a certain level (\$1 billion, subject to annual inflation adjustment).

The fund's balance declined 3.5% in fiscal 2025 as the state implemented legislation that, under some circumstances, provides for transfer of the fund's interest earnings to a debt reduction fund (the Commonwealth Federal Matching and Debt Reduction Fund); the apparent decrease reflected a transfer that, because of when the legislation was enacted, occurred in 2025 but was related to the prior year. Further growth in the Stabilization Fund is possible; Massachusetts in 2024 increased its allowable balance to 25.5% of total budgeted revenue from 15%.

Massachusetts' available fund balance relative to revenue in fiscal 2024 was on par with the median for Aa1-rated states: 35.3%. Notably, current reserve levels are far larger than the state historically has maintained and are sufficient to absorb a substantial economic downturn or revenue loss caused by federal policy changes. Strong cash balances have precluded the need for external cash-flow borrowing since fiscal 2021. Additional liquidity sources include a \$500 million line of credit, which has no outstanding balance and expires in March 2026.

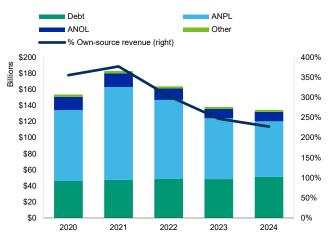
Leverage

Massachusetts' leverage incorporates unfunded retirement benefits and bonded debt that are high as a share of revenue compared with other states. The state's leverage ratio⁴ based on data from the fiscal 2024 financial reporting cycle was about 228%, the fifth highest among states and more than double the sector median (almost 87%).

Elevated leverage reflects a practice of borrowing on behalf of several governmental entities, including transit and education, and fully covering teacher pensions. The state's net tax-supported debt amounts to 87% of own-source revenue, higher than any other state except Connecticut (Aa2 stable). The state's efforts to moderate liabilities have included stronger pension contributions (see below).

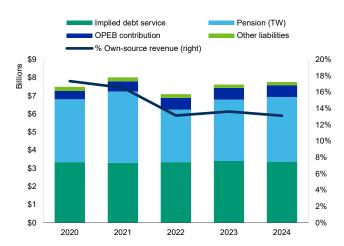
Exhibit 8

Despite recent declines, leverage remains high in relation to revenue



Source: Audited financial report data with Moody's Ratings adjustments

Exhibit 9 Fixed costs including pension tread water payments are elevated



Source: Audited financial report data with Moody's Ratings adjustments

Legal security

The state pledges its full faith and credit support to General obligation bonds, and specific revenue streams to its limited obligations special tax bond programs (Exhibit 10).

Debt structure

Net tax-supported debt will likely remain elevated, as the commonwealth keeps pace with planned capital investments. General obligation bonds account for most of the debt.

Exhibit 10

Net tax-supported debt as of fiscal 2024

Security	Fiscal 2024 outstanding (000s)	Pledge	Rating
GO and GO related			
GO	\$31,090,757	Commonwealth full faith and credit	Aa1
Contract Assistance	\$3,065,931	Commonwealth full faith and credit	Aa1
MBTA Prior Obligations	\$87,975	Commonwealth full faith and credit	Aa1
Capital Leases	\$927,606		N/A
Revenue			
MSBA sales tax (senior and subordinate)	\$5,719,461	Dedicated statewide sales tax	Aa1/Aa2
Commonwealth Transportation Fund	\$4,371,554	Gas taxes and registry fees	Aa1
GANs	\$334,744	Federal highway funds and sub- lien on gas taxes and registry fees	Aa2
Convention Center	\$397,245	Hotel occupancy tax; rental car surcharge; sales tax and sightseeing surcharge	Aa3
MBTA sales tax and assessment (senior and sub)	\$5,354,444	Dedicated statewide sales tax and/or dedicated statewide assessments	Aa2/Aa3
Total net tax-supported debt	\$51,349,717		

As of April 2025, MBTA bonds backed by the state's full faith and credit had been economically defeased. Source: Massachusetts ACFR, MSBA and MBTA ACFRs, Moody's Ratings.

Debt-related derivatives

The Massachusetts Department of Transportation, a component unit of the commonwealth, is engaged in several interest rate swaps. Under these agreements, the DOT pays a fixed rate and receives a variable rate. As of June 30, 2024, the agreements had an aggregate fair value of \$2.25 million.

Pensions and OPEB

Massachusetts is responsible for K-12 teacher pensions in addition to state employees, which partly explains its high ANPL to revenue ratio compared with other states. In this year's <u>ranking</u>, the state's ANPL was 117% of own-source revenue, compared with the 45% sector median. The state ranks ninth-highest if other states' ANPLs are adjusted to assume a similar practice of shouldering teacher plan burdens. The state's ANOL as a share of revenue is about 20%, more moderate than its ANPL ratio, but still higher than the 4.5% sector median.

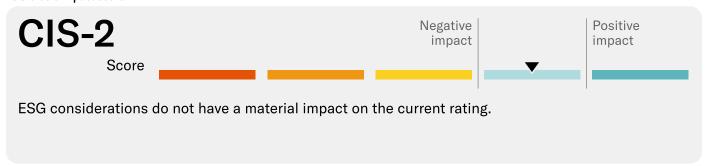
The state's pension contributions in fiscal 2023 and 2024 exceeded the "tread water" amounts, ending a period in which pension contributions fell below the tread water amounts.

From the fiscal 2021 reporting cycle through 2024, increased pension contributions, strong investment performance and market conditions driving up interest rates have led to a 40% decline in Massachusetts' ANPL. State ANPLs have generally fallen in recent years because of the combination of investment performance and higher discount rates, which reduce the present value of liabilities.

ESG considerations

Massachusetts (Commonwealth of)'s ESG credit impact score is CIS-2

Exhibit 11
ESG credit impact score



Source: Moody's Ratings

Massachusetts' ESG Credit Impact Score reflects moderately negative exposure to climate risks, neutral-to-low exposure to social risks and a positive governance profile.

Exhibit 12
ESG issuer profile scores



Source: Moody's Ratings

Environmental

Massachusetts' environmental issuer profile score factors in exposure to physical climate risks, particularly hurricanes and resulting flooding. Other environmental risks have a neutral to low impact on Massachusetts' credit profile. The commonwealth is far along

in transitioning its energy generation to renewable sources, and its economy relies largely on industries that are neither carbon-intensive nor dependent on the commonwealth's natural capital. Hurricane risk affects 95% of state GDP, and about half of state GDP is vulnerable to flooding. The vast majority of the commonwealth's economic activity is concentrated along its coastline, particularly in the city of Boston (Aaa stable), which drives up vulnerability to physical climate risks.

Social

Massachusetts' issuer profile score incorporates a highly educated workforce, high income levels, and labor force participation significantly higher than the nation, offset by weak demographic metrics that include lagging population growth. The state's population is somewhat older (median age is 40.3 years, compared with the US median of 39.2 years). The state's prime working-age population, defined as people 25 to 54 years old, peaked in 2001, although the percentage of residents in this age range is slightly better than the nation's (39% compared with 38%).

Governance

Massachusetts' governance practices are generally very strong, including consensus revenue estimating and publishing multiyear debt affordability plans. Delayed budget adoption is common in Massachusetts, although notably in 2025, the budget for fiscal 2026 was enacted only a few days late. Budget delays typically result from a multilayered approval process that requires three separate budgets to be combined into one final document. Interim budgets are put in place to ensure continuing operations and payment of debt service.

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 <u>US States and Territories methodology</u> includes a scorecard, which summarizes the rating factors generally most important to state and territory 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 map closely to the actual rating assigned.

Exhibit 13
US States and Territories scorecard
Commonwealth of Massachusetts

	Measure	Weight	Score
Economy			
Resident Income (PCI Adjusted for RPP / US PCI)	118.6%	15%	Aaa
Economic Growth (5-year CAGR real GDP - 5-year CAGR US real GDP)	-0.3%	15%	Aa
Financial performance			
Financial performance	Aaa	20%	Aaa
Governance/Institutional Framework			
Governance/Institutional Framework	Aaa	20%	Aaa
Leverage			
Long-term liabilities ratio (adjusted long-term liabilities / own-source revenue)	227.7%	20%	Α
Fixed-costs ratio (adjusted fixed costs / own-source revenue)	13.1%	10%	Aa
Notching factors			
Very limited and concentrated economy	N/A		
Scorecard-Indicated Outcome			Aa1
Assigned rating			Aa1

Sources: Massachusetts ACFR, MSBA and MBTA ACFRs, Moody's Ratings; US Bureau of Economic Analysis.

Endnotes

- 1 The state has levied this surtax since January 2023, after voters approved it in November 2022. The \$1 million threshold, annually adjusted, was set at \$1.083 million for tax year 2025.
- **2** How these funds would be pledged to existing or new security types has not yet been determined.
- 3 The required conditions are a Stabilization Fund balance exceeding 10% of the state's total budgeted revenue for the preceding fiscal year and an annual increase in the fund's balance in the most recent fiscal year. The 2025 transfer was \$420.7 million.
- 4 The ratio is derived from the sum of bonded debt, adjusted net pension liabilities (ANPLs), other post-employment benefits (OPEB), and other liabilities, divided by the state's own-source revenue.
- 5 The tread water indicator is the cost for a government to prevent its reported unfunded liabilities from growing, under its actuarial assumptions.

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