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CREDIT OPINION
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Massachusetts (Commonwealth of)

Credit analysis following initial assignment to unemployment insurance trust fund special obligation bonds

Summary

The credit profile of the Massachusetts special obligation revenue bonds (unemployment insurance trust fund) is supported by the strong security features of the bonds, the commonwealth's covenant to actively manage the assessment rate supporting debt service and the large and resilient Massachusetts economy. On June 28 we assigned an initial rating of Aa1 to Massachusetts' $2.7 billion issuance of special obligation bonds for its unemployment insurance trust fund.

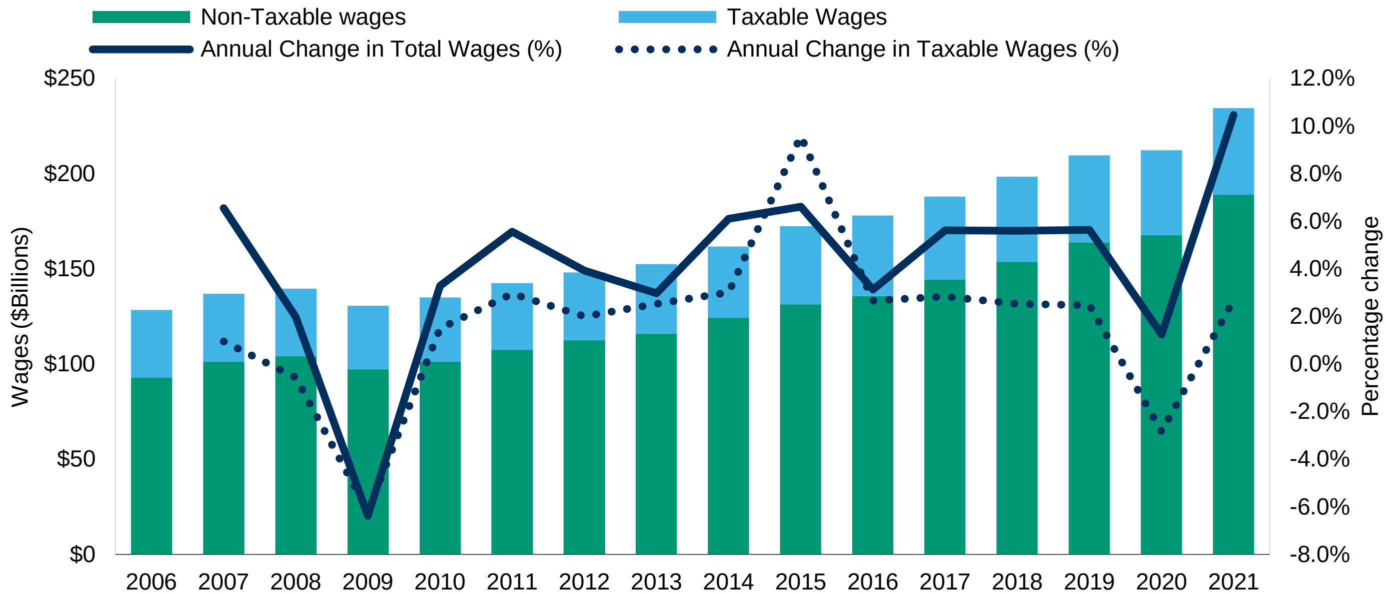
The bonds are paid from a pledge of a special assessments levied on substantially all employers in the commonwealth of Massachusetts, covering a taxable wage base of nearly $46 billion. The assessment is set at a rate that will generate semiannual debt service coverage of at least 1.25 times. While the covenanted debt service coverage ratio is narrow relative to other special tax credits, the history of resiliency in the employment base through economic cycles (see Exhibit 1) and the security features in place to ensure timely payment support the high rating.

Security features enhancing the credit profile include intra-year retained revenues, which act as a partial year liquidity reserve, the requirement to adjust the levy annually (with no prohibition on making midyear adjustments), and the ability to contribute additional revenues if needed. While legislation can be changed in the future, the commonwealth's non-impairment covenant in place while bonds are outstanding is an added credit strength.

Exhibit 1

Large taxable wage base exhibits modest declines and quick recovery through economic downturns

Reflects total taxable wages for private experience-rated contributory employers (at least 3 years operational businesses)



Taxable wages are first $15,000 per employee

Source: Commonwealth of Massachusetts

Credit strengths

» Gross pledge of COVID-19 special assessments levied on majority of employers in the commonwealth

» Commonwealth required to assess levy annually so that assessment revenues produce at least 1.25x debt service coverage

» Segregation of assessment revenue from commonwealth general fund, non-impairment covenant, revenues not subject to appropriation

» Closed loop of funds, excess pledged funds required to be used for bond redemption

» Commonwealth may pledge additional revenues if needed from a broad range of sources

Credit challenges

» The COVID-19 special assessments are a newly created revenue stream with a brief collection history; though state unemployment taxes have a strong collection history

» Funds do not flow directly to the trustee

» No debt service reserve fund requirement, though intra-year retained revenues create liquidity reserve that covers half the year (June to December)

» The bonds mature over 10 years, a time horizon long enough that a recession and employment contraction would feasibly occur while the bonds are outstanding.

Rating outlook

Massachusetts' stable outlook reflects our expectation that the commonwealth will continue its trend of strong financial management as it continues to navigate through the economic impacts of the coronavirus pandemic, including the significant revenue and labor market recovery, as well as inflationary pressures, coming out of the pandemic.

Factors that could lead to an upgrade

» An upgrade of Massachusetts' issuer rating

Factors that could lead to a downgrade

» A downgrade of Massachusetts' issuer rating

» Unanticipated decrease in coverage levels as a result of severe economic contraction, coupled with lack of adjustment to assessments or lack of additional revenues pledged

Key indicators

Exhibit 2

Commonwealth of Massachusetts Unemployment Trust Fund Revenue Bonds			
Credit Background			
Pledged Revenues	Special assessments		
Legal Structure			
Additional Bonds Test	1.25x; $7B max issuance		
Open or Closed Lien	Open		
Debt Service Reserve Requirement	None		
Coverage			
MADS coverage	1.25x minimum		
Trend Analysis			
	2021	**2022**	**2023 (projected)**
UITF bonded debt outstanding ($mil)	$0	$0	$2,700
Revenues ($mil) (assessment year)	$150	$150	$891
Minimum coverage (x)	N/A	N/A	1.25x

Projected 2023 revenues assumes 1.25x coverage on projected annual debt service (1/15/23 and 7/15/23 payments)
Source: UITF revenue bond documents, Moody's Investors Service

Profile

The Commonwealth of Massachusetts is the 15th largest state by population, with about 7 million residents as of the 2022 census. Its 2022 gross domestic product, reaching $637 billion, ranks 12th among the states. Per capita income was 130% of the national average in 2022, highest in the US.

Detailed credit considerations

Tax base and nature of the pledge

The primary source of revenues pledged to the payment of debt service on the unemployment trust fund (UITF) special obligation bonds are the COVID-19 special assessments authorized under the Unemployment Improvement Act that was signed into law in April 2021. Assessments are levied on the first $15,000 of wages per employee and apply only to private experience-rated contributory employers, which means employers that have been in business for at least three years and contribute to state unemployment taxes. The fixed dollar amount of taxable wages can change, and was last adjusted in 2014 when it was increased from $14,000.

The taxable wage base supporting debt service is large and diverse, which contributes to only modest volatility through economic cycles. Over 184,000 employers make up the base paying assessments which represents over 73% of employers in the commonwealth and over 77% of wages. Contributory employers are spread across a diversity of industries, the largest of which is professional and technical services, accounting for 22% of private sector wages in 2021. The taxable wage base as of 2021 was nearly $46 billion, and has grown an average of 1.6% annually since 2006. Volatility has been relatively modest and the base exhibits quick recovery following economic downturns (see Exhibit 1). During the Great Recession, taxable wages fell 6.2% in 2009, but started growing again the following year and reached the pre-recession peak by 2012. During the 2020 pandemic-driven economic downturn, the taxable wage base declined 2.8% and recovered by 2021.

However, a key credit strength is the commonwealth's covenant to reset the assessment rate annually to produce at least 1.25 times semiannual debt service coverage. This means that while the taxable wage base may slightly decline again while the bonds remain outstanding, revenues will be set to produce adequate coverage. Based on projected annual debt service in 2023 of $680 million, the assessment levy would need to be a little over 1% to generate enough for debt service and coverage. For comparison, the state unemployment taxes (SUTA) and solvency assessment, in aggregate, have ranged on average from 3.1%-5% of taxable wages since 2006.

Debt service coverage and revenue metrics

The special assessments are a relatively new revenue stream, which were first levied in 2021. While no debt service will be due until 2023, the commonwealth started out with $150 million in set total assessments in 2021 and 2022 and collection rates have been strong given assessments are levied alongside regular SUTA taxes. The assessment levy will be set to produce at least 1.25 times semiannual debt service coverage, and there is no cap to the levy.

Further, coverage of debt service is theoretically greater than the levy covenant because of the fact that, if the Commonwealth receives from an employer an amount that is less than the full amount due from such employer quarterly, then the cash amount received from such employer shall be applied first to the quarterly special assessment due from such employer before being applied to SUTA taxes.

Additionally, the commonwealth may contribute additional non-specified revenues to cover debt service, if needed.

Liquidity

There is no debt service reserve requirement associated with the unemployment trust fund bonds. Liquidity directly backing the bonds is derived from the debt service coverage, and the intra-year retained revenues described in the legal security section below.

Debt and legal covenants

Upon issuance, there will be approximately $2.7 billion in UITF special obligation revenue bonds outstanding. The act authorizing the debt issuance and assessment levy allows for up to $7 billion in revenue bonds to be issued, with a deadline of 2025, though there is no need to issue additional UITF debt. The 2022 issuance will repay the $1.7 billion in outstanding federal advances, and will fund a deposit of $850-$900 million to pay future unemployment benefits.

Legal security

The UITF revenue bonds are special limited obligations of the commonwealth, payable from the pledged funds, which largely consist of special assessments levied on Massachusetts employers.

As long as the UITF bonds are outstanding, the commonwealth has covenanted to hold the assessments in a separate fund, named the Special Contribution Unemployment Contribution Trust Fund (UCTF), and will not divert pledged funds out of this account. The transfer of the pledged assessments to the Special Contribution UCTF, and the payment of debt service, is not subject to appropriation by the Massachusetts legislature. Additionally, the commonwealth has covenanted not to impair the pledge over the life of the bonds and further to set the special assessment rate annually to generate revenues that will produce 1.25 times semiannual debt service coverage. The special assessments are levied on experience-rated private, contributory employers, which means private employers that have been in business for 3 years and contribute to regular state unemployment taxes.

There is no debt service reserve fund associated with the bonds, but additional liquidity to support debt service is available if needed. The bond documents require the commonwealth to hold back revenues during the period of June through December each year equal to 10% of the January 15 debt service payment. The midyear liquidity is the intra-year retained revenues, and provides a partial year ongoing reserve. Assuming sufficient revenues are available for the January and July payments, excess revenues will be used to repay

Series B maturities early. Finally, if needed, additional revenues may be pledged to cover debt service, which could include a broad source of revenues legally available to the commonwealth.

Debt structure

Bond principal is scheduled to mature over 10 years, through 2033, but will likely be fully retired earlier given a closed loop of funds, and a requirement to repay bonds early with assessment revenue collected in excess of debt service and the required intra-year retained revenues.

Of the $2.7 billion in total issuance, approximately $1.98 billion in Series A bonds will be non-callable, and $722 million in Series B bonds will be subject to early redemption with excess funds.

Debt-related derivatives

There are no debt-related derivatives associated with the unemployment trust fund bond program.

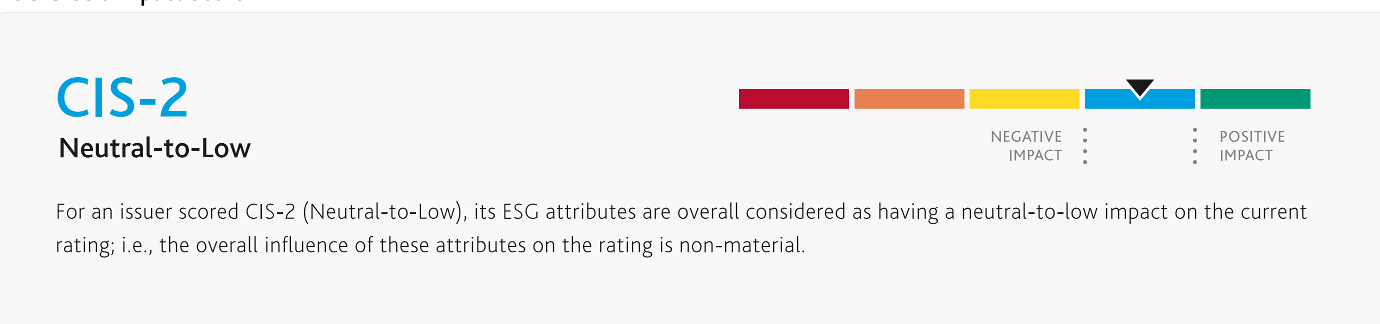
Pensions and OPEB

Pension and other post-employment benefit liabilities are not a major factor in the special tax methodology. Massachusetts does carry high liabilities related to retirement benefits. Please see the most recent credit opinion.

ESG considerations

MASSACHUSETTS (COMMONWEALTH OF)'s ESG Credit Impact Score is Neutral-to-Low CIS-2

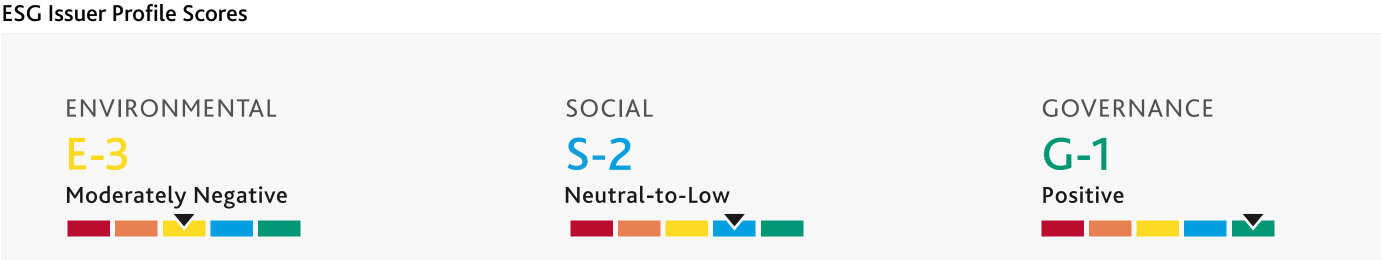
Exhibit 3
ESG Credit Impact Score



Source: Moody's Investors Service

Massachusetts' ESG Credit Impact Score is neutral-to-low (**CIS-2**) reflecting moderately negative exposure to climate risks, neutral-to-low exposure to social risks and a positive governance profile.

Exhibit 4
ESG Issuer Profile Scores



Source: Moody's Investors Service

Environmental

Massachusetts' E issuer profile score is moderately negative (**E-3**). The primary driver of the score is the commonwealth's exposure to physical climate risks, namely hurricanes and resulting flooding. Other factors in our assessment of Massachusetts' environmental risks are considered to have a neutral to low impact on its credit profile. The commonwealth is far along in transitioning its energy generation to renewable sources, and its economy is largely reliant industries that are not carbon-intensive, nor do they rely on the natural capital of the commonwealth.

According to Moody's ESG solutions, almost all of the state's projected population over the next twenty years, and 95% of state GDP are exposed to hurricanes, and about half of the state's 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 the commonwealth's vulnerability to these physical climate risks.

Social

While Massachusetts benefits from a highly educated workforce, high income levels and labor force participation significantly higher than the nation, it is likely to continue its trend of lagging population growth, reflected in its S issuer profile score of neutral-to-low (**S-2**). The state population is aging, too. The median age in the commonwealth is now 39.6 years, exceeding the national median age of 38.2 years. The state's percentage of working age residents is 39%, approximating the rate of the US, but this portion of the population has been shrinking. The number of prime working age residents, or people 25 to 54 years old, declined by 0.8% between 2000 and 2020. This is a contrast to the US 1.1% growth rate of working age residents over the same period.

Governance

Massachusetts' governance practices are generally very strong, reflected in its positive G issuer profile score (**G-1**). These practices include consensus revenue estimating, multiyear financial plans/five year forecast. Late budgets are common in Massachusetts, but the 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.

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