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CREDIT OPINION
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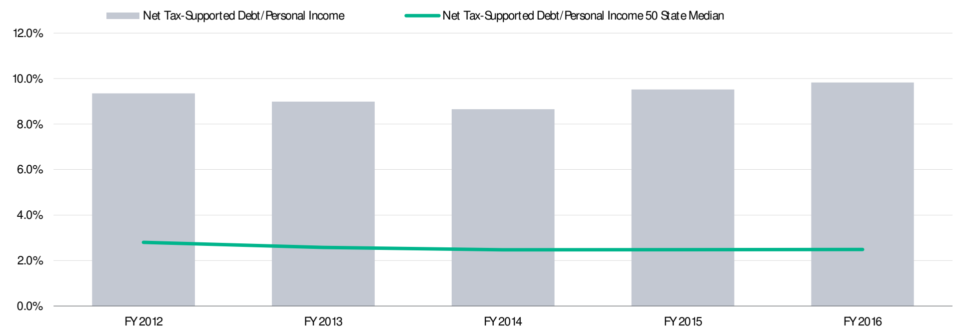
Massachusetts (Commonwealth of)

Update to credit analysis

Summary

Massachusetts (Aa1 stable) benefits from a growing economy, anchored by the healthcare and technology sectors, and will continue to outperform the US and its northeast peers. Its strong financial management in recent years has resulted in balanced budgets and adequate liquidity. Debt and pension liabilities are among the highest in the nation, though these figures include borrowing and benefits for local governments.

Exhibit 1
Massachusetts debt burden significantly exceeds national median



Source: Massachusetts FY12-FY16 CAFRs; Moody's Investors Service

Credit strengths

» Strong financial management practices, particularly willingness to close budget gaps quickly through spending cuts, revenue increases and use of reserves

» Adequate reserves and the commonwealth's commitment to maintain them at healthy levels

» An economic base characterized by high wealth and high levels of educational attainment

Credit challenges

» State debt ratios that are among the nation's highest and large adjusted net pension liabilities

» Spending pressure stemming from high health care and other social services costs and maintenance of the statewide transportation system

» Budgetary burden of growing pension contributions as the commonwealth seeks to address its large unfunded pension liabilities

Rating outlook

The stable outlook reflects our expectation that the commonwealth will continue its trend of strong financial management, taking proactive measures to close budget gaps as they emerge. Reliance on one-time budget solutions or decreased liquidity would be indications of deviating from these practices.

Factors that could lead to an upgrade

» Continued rebuilding of reserves and establishment of stronger constraints on their use

» Established trend of structural budget balance

» Reduced debt ratios relative to Moody's 50-state median

Factors that could lead to a downgrade

» Protracted structural budget imbalance

» Reserves or liquidity that falls below adequate levels

» Increased leveraging of the commonwealth's resources to pay debt service or further erosion in pension funding ratios

Key indicators

Exhibit 2

Massachusetts	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Operating Fund Revenues (000s)	27,886,200	29,133,206	30,863,081	32,946,934	33,414,744
Balances as % of Operating Fund Revenues	11.4%	10.1%	8.7%	7.7%	7.4%
Net Tax-Supported Debt (000s)	33,019,222	33,455,411	36,328,772	37,997,157	40,756,031
Net Tax-Supported Debt/Personal Income	9.3%	9.0%	8.7%	9.5%	9.8%
Net Tax-Supported Debt/Personal Income 50 State Median	2.8%	2.6%	2.5%	2.5%	2.5%
Debt/Own-Source Governmental Funds Revenue	103.3%	101.7%	104.8%	103.9%	107.9%
Debt/Own-Source Governmental Funds Revenue Median	37.4%	36.1%	35.8%	34.4%	32.7%
ANPL/Own-Source Govt Funds Revenue	231.7%	254.7%	206.3%	180.7%	201.5%
ANPL/Own-Source Govt Funds Revenue Median	94.2%	87.6%	81.8%	83.0%	82.2%
Total Non-Farm Employment Change (CY)	1.6%	1.7%	2.0%	2.0%	1.8%
Per Capita Income as a % of US (CY)	129.2%	128.5%	128.4%	130.1%	131.4%

Source: Massachusetts FY12-FY16 CAFRs; US Census; BLS; Moody's Investors Service

Profile

The Commonwealth of Massachusetts is the 15th largest state by population, boasting an estimated 6.8 million residents in 2016. Its gross domestic product, reaching $505.8 billion, ranks 11th among the states. Per capita income was 131.4% of the national average in 2016, the 2nd highest.

Detailed credit considerations

Economy

Massachusetts economic growth will outperform the US and its northeast peers given continued employment gains, population growth and high wealth levels. Year-over-year job growth was 1.9% through October, compared to 1.4% for the nation. Year-over-year wage and salary growth of 5.8% significantly outpaced the national rate of 2.7%. Massachusetts' job growth is reflected in its low unemployment rate of 3.7% in October 2017 compared to 4.1% for the U.S. The education and health care sectors drive the Massachusetts economy, and reflect approximately 22.1% of employment as of October 2017.

Population grew by 3.8% between 2010 and 2016, boosted largely by foreign in-migration. This growth is below the US rate of 4.5% but well-above the northeast regional rate of 1.5% for the same period. The state estimates population will grow to nearly 7.0 billion residents by 2020 in part due to continued positive international immigration that offsets declining domestic migration.

Finances and liquidity

We expect the commonwealth's budget will remain substantially in balance in 2018 given recent revenue collection trends and the continued use of prudent budgeting practices. The fiscal 2018 budget was enacted in July 2017 and increases state spending by 1.7% over estimated fiscal 2017 spending, excluding the Medical Assistance Trust Fund and other certain transfers. The budget assumes tax revenues of $26.5 billion, 3.5% more than the revised fiscal 2017 year-end estimate, excluding certain large settlements. Total tax revenues in the first five months of fiscal year 2018 are trending above budgeted estimates and last year's collections at 2.1% and 4.8%, respectively. The increases are primarily driven by income tax collection gains.

The commonwealth closed fiscal 2017 with tax revenues exceeding the previous year's collections by 1.4%. The $25.6 billion figure fell below budgeted estimates, however, by $452 million or 1.7% through the end of the year, following a $175 million tax downgrade in October 2016. To offset a portion of the negative budget variances, the state reduced expenditures and implemented revenue options of $294 million in October, followed by another $95 million in December. Further year-end adjustments on the spending and revenue side brought the budget back into balance, and the commonwealth is reporting it ended the year in substantial balance, preserving the current stabilization fund balance.

LIQUIDITY

Massachusetts' liquidity will remain adequate following actions to rebuild its Stabilization Fund balance after draws during the economic downturn and suspending deposits of excess capital gains into the fund. The commonwealth ended fiscal 2017 with a balance of $1.30 billion. The budget projects a deposit of $70 million in fiscal 2018, with the fund anticipated to grow to $1.37 billion by the end of the fiscal year.

The commonwealth is required to deposit the entire year-end surplus and any tax revenue from excess capital gains into the Stabilization Fund, with 5% of the amount deposited then transferred to the State Retiree Benefits Trust Fund and 5% transferred to the commonwealth's Pension Liability Fund. The commonwealth is also required to deposit certain one-time settlements and judgments into the Stabilization Fund. The deposit of excess capital gains revenues into the Stabilization Fund was suspended in fiscal 2015 and fiscal 2016 to help close operating deficits. There were no transfers in 2017 as collections did not exceed the statutory threshold.

Debt and pensions

The commonwealth's high but well-managed debt burden reflects its focus on funding necessary maintenance, modernization and growth capital plans at both the state and local level. Net tax-supported debt reached $40.8 billion as of Moody's 2017 state debt medians report, comprised primarily of general obligation bonds (56%) but also includes sales tax backed debt for other underlying entities (25%).

The state's debt levels ranked second-highest among the 50 states on a per-capita basis, exceeded only by Connecticut (A1 stable). Debt is elevated in part due to the Commonwealth's practice of financing projects for local governments, including a robust school district capital bonding program ($5.9 billion) and debt for the Massachusetts Bay Transportation Authority ($5.0 billion).

Per the governor's fiscal 2018 five-year capital investment plan, the state expects to issue nearly $2.3 billion of general obligation bonds in 2018, including the current issuance. The commonwealth already has issued $350 million of Commonwealth Transportation Fund debt as part of the plan. Going forward, the commonwealth projects a level GO bonding target of $2.3 billion in new money to address capital needs.

DEBT STRUCTURE

As of November 2017, Massachusetts has $3.6 billion of floating rate general obligation debt outstanding, or 8.8% of fiscal 2016 net tax supported debt, with $2.0 billion of this amount unhedged. Liquidity facilities contain a mix of three- and five-year term-out provisions that, considering the strength of Massachusetts' market access, should provide ample time to refinance, if necessary.

DEBT-RELATED DERIVATIVES

The Commonwealth's closely managed derivatives portfolio is manageable due to liquidity that is sufficient to handle unforeseen circumstances related to its swap agreements. The agreements are floating-to-fixed hedges with a total notional amount of $1.7 billion across general and special obligation debt. The mark-to-market value was -$193.1 million as of November 30, 2017. Agreements contain provisions favorable to the Commonwealth and do not reflect collateral posting requirements, which somewhat limits the Commonwealth's ability to refinance the transactions those swaps are associated with. The Commonwealth plans to continue to increase the amount of its unhedged floating rate debt portfolio over the next several years in an effort to better align asset and liability interest rate risks.

PENSIONS AND OPEB

Based on the Commonwealth's fiscal 2016 pension data, we have calculated that its adjusted net pension liability (ANPL) was $65.2 billion, or 201.5% of revenues. The 50-state median ANPL to revenues is 82.2%, and Massachusetts ranks sixth highest in this ratio. The commonwealth participates in three pension plans, of which the most significant is the State Teachers Contributory Retirement System. Massachusetts is among the handful of states that take responsibility for directly funding teacher pensions. Moody's ANPL reflects certain adjustments made to improve comparability of reported pension liabilities.

The Commonwealth contributes more than the full amount of its actuarially determined contribution, about $1.9 billion in fiscal 2016. However, the state's contributions were 65.7% of our “tread water” benchmark, which is the payment covering the year's newly accrued service costs and interest on the NPL. Massachusetts law requires that the schedule of pension contributions be updated every three years. Pursuant to a new triennial schedule adopted in January 2017, pension transfers will increase by approximately 8.9% until the final amortization payment in fiscal 2036. The new plan reverses a negative aspect of a pension reform enacted in 2012 that pushed the pension funding horizon to 2040. That reform also increased the retirement age for most state employees, eliminated early retirement subsidies, increased the period for calculating retirement benefits from an average of three years to five years, and eliminated double-dipping. It also prohibits the Commonwealth from making less than the annual payment required by the new schedule if investment returns exceed expectations.

The Commonwealth's other post-employment benefits (OPEB) accrued liability, assuming no pre-funding and a blended discount rate of 3.63%, was approximately $19.4 billion as of January 1, 2017. The liability falls to $10.2 billion assuming pre-funding and a discount rate of 7.75%. Massachusetts dedicates future tobacco settlement monies to its OPEB trust fund, phased-in starting in fiscal 2013.

The state's combined debt service, pension and OPEB contributions in fiscal 2016 were 20.0% of own-source governmental revenues, increasing to 23.1% if the state made it's tread water contribution. The high fixed costs are partly attributable to the Commonwealth's absorption of certain costs covered by local governments in most other states. High fixed costs reduce the share of discretionary spending and the budgetary flexibility. The prior pension reform and the increased contributions result in higher fixed costs but will help to reduce Massachusetts' long-term liabilities.

Governance

The commonwealth's financial best practices are generally very strong. Per statute, the Secretary of Administration and Finance is required to develop a consensus tax revenue forecast for the ensuing fiscal year with the house and senate committees of ways and means by January 15 of each year, before budget recommendations are developed. Subsequently, the secretary certifies the accuracy of the consensus revenue forecast two times per year and prepares new estimates if the estimate starts to diverge materially from actual collections.

The governor has executive authority to cut expenses without legislative approval resulting from a revenue shortfall. The commonwealth also conducts a debt affordability analysis and reports its audited financial results on a timely basis. Budget enactments have also been timely, and the commonwealth's financial flexibility is strong. There are no constitutional caps on revenue raising or spending increases. The commonwealth is subject to ballot initiatives, though per the state constitution, initiative petitions are subject to repeal or amendment by the legislature and initiative petitions that become statute can be amended like any other state law.

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