S&P Global
Ratings

RatingsDirect®

Massachusetts; Appropriations; CP; General Obligation; General Obligation Equivalent Security; Joint Criteria; Miscellaneous Tax; Non-School State Programs; Note; Sales Tax; School State Program

Primary Credit Analyst:
John A Sugden, New York (1) 212-438-1678; john.sugden@spglobal.com

Secondary Contact:
David G Hitchcock, New York (1) 212-438-2022; david.hitchcock@spglobal.com

Table Of Contents

Rationale

Outlook

Governmental Framework

Financial Management

Economy

Budgetary Performance

Debt And Liabilities

Massachusetts; Appropriations; CP; General Obligation; General Obligation Equivalent Security; Joint Criteria; Miscellaneous Tax; Non-School State Programs; Note; Sales Tax; School State Program

Credit Profile		
Massachusetts St Coll Bldg Auth State Enhancement		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	A+/Stable	Affirmed
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Boston Hsg Auth, Massachusetts		
Massachusetts		
Boston Hsg Auth (Massachusetts) APPROP		
Long Term Rating	A/Stable	Downgraded
Massachusetts Bay Transp Auth, Massachusetts		
Massachusetts		
Massachusetts Bay Transp Auth (Massachusetts)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded

Rationale

S&P Global Ratings has lowered its ratings on the Commonwealth of Massachusetts' approximately $22 billion of parity general obligation (GO) bonds outstanding to 'AA' from 'AA+' and its rating on Boston Housing Authority housing project bonds, West Broadway Homes IV project, series 2003, supported by the commonwealth, to 'A' from 'A+'. S&P Global Ratings lowered its ratings on the Massachusetts Qualified Bond Act (Massachusetts General Law, Chapter 44A) and Massachusetts State College Building Authority state aid intercept program bonds, which move in tandem with the state GO rating, to 'AA-' from 'AA'. In addition, S&P Global Ratings lowered its rating on the Massachusetts Bay Transportation Authority's bonds to 'AA' from 'AA+', reflecting the reliance on transfers from the commonwealth. The outlook on all ratings is stable.

The downgrade reflects what we view as the commonwealth's failure to follow through on rebuilding its reserves as stipulated through its own fiscal policies aimed at mitigating the state's propensity for revenue volatility. On balance we view the commonwealth's modest reserves, tendency to experience revenue volatility, elevated debt levels, and below-average pension funded ratio as commensurate with a 'AA' rating. Despite above-national average economic growth through a prolonged period of economic expansion, the state has not demonstrated a commitment to its adopted budget reserve policies, upon which our 2011 upgrade to 'AA+' was predicated, in part. We therefore view it as a missed opportunity that the state has opted against building its reserve according to its policies and leaves it on a course to experience greater fiscal stress in the event of an economic downturn or if federal funding were capped or trimmed in a material way. The state's reserves peaked at fiscal 2012 levels and, after declining through 2014, balances have stagnated in the years since. However, we recognize the state benefits from world-class institutions of higher education, the commonwealth's workforce attracts growth-oriented research and development industries that enable its economy to consistently grow at a faster rate the nation's, but from a credit standpoint it has not insulated itself from an economic slowdown or other outside uncertainties that a higher rated issuer would do during a period of economic expansion.

At the same time, S&P Global Ratings assigned its 'AA' rating and stable outlook Massachusetts' $100 million GO bonds consolidated loan of 2017 series C, $400 million GO bonds consolidated loan of 2017 series D, and $284.85 million GO refunding bonds of 2017 series D.

Factors supporting the 'AA' GO rating include what we view as Massachusetts':

- Deep and diverse economy, which continues to outperform the nation on several economic indicators;
- High wealth and income levels
- Timely monitoring of revenues and expenditures and swift action when needed to make adjustments, with a general focus on structural solutions to budget balance;
- Strong financial, debt, and budget management policies, including annualized formal debt affordability statements, and multiyear capital investment planning; and
- Modest budget stabilization fund (BSF) balance.

S&P Global Ratings believes the commonwealth's high debt burden and relatively high and growing unfunded pension and other postemployment benefit (OPEB) liabilities are offsetting considerations to the current rating. Although we believe the commonwealth has been taking steps to more actively manage these liabilities with a focus on cost control and reform in recent years, Massachusetts' total postretirement liabilities remain high and we expect they will continue to be a source of budgetary pressure as growth in required contribution outpaces revenue growth. Furthermore, the commonwealth's mechanism for adjusting its contribution every three years, in our view, delays its response to weakening trends and pushes out funding. We also note that growth in the state's Medicaid spending (MassHealth) is also outpacing revenue growth and will remain a source of ongoing budgetary pressure absent the implementation of measures to bring its growth more in line with revenue growth. Furthermore, changes to Medicaid funding at the federal level, if adopted, could place additional pressure on the state's finances and ability to maintain current service levels. The commonwealth estimates that the impact of the House-passed healthcare reform legislation could translate to $1 billion in additional costs to the state starting in 2020.

We understand that the proceeds from the consolidated loan of 2017 series C and D are to be used to fund various capital projects included in the commonwealth's five-year capital improvement plan (CIP). The series 2017C bonds are structured as interest-only payments until 2022. The series 2017D bonds are structured with interest-only payments through fiscal 2033. The series 2017D bonds are being issued to advance-refund bonds outstanding with projected net present value savings of more than $25 million.

Massachusetts' economy has recovered steadily, outpacing national and regional trends by most measures. Real state

GDP rose 2.02% in 2016, compared with 1.54% for the nation. The commonwealth's average annual unemployment rate in 2016 was 3.7% compared with 4.9% for the nation. The state unemployment rate has inched up slightly to 3.9% as of April 2017, but remains low compared with 4.4% for the nation, and reflects growth in the labor force that is outpacing employment growth. Employment growth following the financial crisis was strong relative to that of other states and the commonwealth regained its pre-recession employment peak in 2013, according to the Bureau of Labor Statistics. However, IHS Global Insight Inc. forecasts slightly lower state employment growth in 2017, 2018, and 2019 at 0.7%, 0.8%, and 0.7%, respectively, in those years, compared with its forecast of 1.4%, 1.4%, and 1.2% for the U.S. in those years, respectively. In our view, Massachusetts' economic fundamentals and key anchors, which center on higher education, technology, and health care, should contribute to continued expansion. Income growth has also been strong relative to that of other states, with 2016 per capita personal income ranked second in the U.S. behind that of Connecticut, at 131% of the U.S. average.

Despite a prolonged period of economic expansion and generally positive revenue trends, Massachusetts continues to operate with thin operating margins and has needed several rounds of midyear budget adjustments over the past three years to address a combination of revenue shortfalls and spending pressures. The commonwealth identified budget gaps in October and December and, in March, the governor approved supplemental appropriations of $144 million. Not unlike many other highly income tax-dependent states, Massachusetts experienced a revenue shortfall in April. Year-to-date collections as of April were $462 million, or 2.2% below benchmark. Slightly better-than-expected collections in May have reduced the revenue shortfall to $439 million, but nevertheless, the state has to close the current budgetary gap with less than one month left in the fiscal year. Massachusetts anticipates revenues to be $375 million to $575 million below its revised revenue projection of October 2016. Although management has not indicated which measures it will take to close the current budgetary gap over the next month, we expect it will close portions of the gap with one-time measures. Currently, the commonwealth projects ending fiscal 2017 with a BSF balance of $1.3 billion, or 3.1% of operating expenditures and transfers, but could reduce that to the extent that it is not able to address the remaining shortfall through other measures.

The governor's fiscal 2018 budget, as proposed, makes progress toward eliminating Massachusetts' reliance on one-time revenues, makes a deposit into the BSF, and increases unrestricted aid to locals at the same rate as consensus tax revenue growth. For fiscal 2018, the commonwealth is projecting 3.8% growth in total revenues and 3.3% growth in spending from fiscal 2017. The revenue forecast assumes an income tax reduction to 5.05% from 5.10%, effective Jan. 1, 2018. In his budget, the governor proposes a new BSF formula that would deposit half of the expected annual excess capital gains amount during the fiscal year with half of all above-budget tax revenues deposited at fiscal year-end, as opposed to the current formula that only makes a deposit at the end of the year in connection with capital gains tax revenues alone. For fiscal 2018, the estimated deposit into the BSF is $98 million and would bring the BSF to $1.4 billion, or 3.2% of budgeted expenditures. The budget also includes $95 million in one-time revenues from the acceleration of sales tax receipts, an amount equivalent to the estimated deposit into the BSF. While we believe the revenue forecast is in line with positive economic growth in the commonwealth, we note that revenues for April, which is a significant month for collections at 12% of total annual revenues, fell 7.8% short of estimates. Year-to-date revenues as of May are $439 million, or 1.9% below forecast. Other budgetary pressures for fiscal 2018 and beyond include MassHealth expenses that are budgeted to grow at a faster rate than revenues and that have been one of main sources of midyear budget adjustments. Furthermore, there is substantial uncertainty as to the impact of changes in federal funding policy, in particular regarding Medicaid, and how that might affect the state's finances. The budget also includes the state's pension payment based on the updated funding contribution schedule, which increased by 8.9% annually, a pace that well exceeds revenue growth. Although we recognize that Massachusetts has made budgeting its fixed costs a priority, we also view the growth in these areas as placing increased pressure on the state's ability to maintain structural balance. The House and Senate each passed their own versions of a fiscal 2018 budget. The budget bills total $40.3 billion for the House and $40.4 billion for the Senate, excluding Medical Assistance Trust Fund transfers. The House and Senate are currently in conference to negotiate their differences and arrive at a final budget, subject to the governor's veto. According to management, the House and Senate budget bills project lower Medicaid caseload growth and lower assumed employer contributions for employees on subsidized coverage. Furthermore, the bills, currently being reconciled, do not include reforms to state employee health coverage reforms proposed by the governor. The budget bills as proposed include $95 million in one-time accelerated sales tax revenue collections and $15 million in trust fund sweeps. Although revenue estimates for fiscal 2018 have yet to be updated, management expects to reduce revenue projections for the year based on fiscal 2017 performance, adding to the challenges of balancing the budget and, in our opinion, increasing the likelihood of the use of additional one-time measures to close the budgetary gap.

At fiscal year-end 2016, state general fund revenues were $482 million short of the revised 2016 budget forecast year-to-date. Management took action to address revenue shortfalls through spending restrictions, payroll caps, use of unneeded fund balances, acceleration of revenue collections (reimbursements), and other year-end closing measures including supplemental appropriations proposed by the governor on July 14, which required legislative approval. Massachusetts attributed fiscal 2016 budget shortfalls to legislative spending overrides of the governor's budget vetoes, a two-day state sales tax holiday, and lower-than-estimated business and individual income tax revenues because of increased tax refunds and lower-than-expected payments with returns and estimated payments. It also indicated that fiscal 2016 general fund expenditures are slightly exceeded budgeted appropriations, both in Medicaid and non-Medicaid areas, although higher federal cost reimbursements offset most of the increased Medicaid-related expenditures. Total budgeted expenditures and other uses exceeded total budgeted revenues and other uses by $89 million or 0.5% of expenditures. At fiscal year-end 2016, operating funds balances, including the BSF, were $1.48 billion and only 3.6% of budgeted expenditures and other uses based on state projections.

On a generally accepted accounting principles (GAAP) basis, Massachusetts ended fiscal 2016 (the most recent audited year) with an available assigned and unassigned general fund balance of $1.28 billion, plus a BSF balance of $1.29 billion. This led to a combined balance that we view as still strong at 6.6% of general fund expenditures and transfers out, but down from 7.5% in fiscal 2015.

By most measures, we believe Massachusetts' debt burden remains high compared with that of other states. At fiscal year-end 2016, we calculate GO debt of $21.7 billion and total tax-supported debt of $35.4 billion, producing total tax-backed debt per capita of $5,199, and 8.0% of personal income. Planned debt issuance remains within the parameters of the commonwealth's debt affordability policy and bond cap. A capital and debt affordability committee includes seven voting and eight nonvoting members from the legislature and is charged with formally reviewing the capital investment plan and providing an estimate of debt authorization for each year to stay within certain debt parameters. Massachusetts' current capital plan calls for $2.19 billion of capital debt issuance in fiscal 2017, similar to the amount in last year's capital plan for fiscal 2016. We calculate fiscal 2016 total tax-backed debt service at 7.3% of general governmental spending, a level we view as moderately high.

Other long-term liabilities are also large, in our opinion. We believe Massachusetts' share of the combined net pension liability for state employees' and teachers' retirement systems of $37.7 billion as of the Jan. 1, 2016, valuation date, or $4,451 per capita, and 7.3% of personal income, is high. The aggregate funded ratio dropped to 57.3% from 60.7% in fiscal 2015 and the three-year average declined to 62% from 63% in fiscal 2015. Massachusetts continues to fully fund its actuarial annual determined contribution based on its own methodology, which is on a lagged statutory basis; on a GAAP basis, it has not fully funded its annual required contribution (ARC) since fiscal 2011. A decline in the commonwealth's actuarial pension funded ratio as of the Jan. 1, 2016, actuarial valuation date was primarily due to lower actuarial return assumptions, which we believe show conservative management of pension liabilities.

In our opinion, Massachusetts' unfunded OPEB is also moderately high, at $16.3 billion as of Jan. 1, 2016, net of $760.4 million of actuarial assets in an OPEB trust fund, or $2,402 per capita. Massachusetts intends to make payments to the OPEB trust fund with 5% of excess capital gains tax distributed to the BSF (although this requirement was suspended in fiscal 2015), and a portion of tobacco settlement money that increases in 10% increments each year. In fiscal 2016, the incremental tobacco money increase to the OPEB trust was suspended with the commonwealth contributing 30% of tobacco settlement money, or approximately $77 million, to the OPEB trust fund.

The commonwealth's combined budgetary debt service, pension payments, and OPEB payments were about 12% of budgeted expenditures in fiscal 2016. For fiscal 2017, combined budgetary debt service, pension payments, and OPEB payments increase to 12.7% of budgeted expenditures and other uses.

Based on the analytic factors we evaluate for states, on a scale of '1.0' (strongest) to '4.0' (weakest), we have assigned a composite score of '1.9' to Massachusetts, which is consistent with a 'AA' indicative rating.

Outlook

The stable outlook reflects our view that Massachusetts' strong economic growth and proactive management will allow it to continue to manage its budgetary pressures, even amid midyear budget shortfalls, albeit with some continued use of one-time measures to balance the budget. At the current rating level, we expect the commonwealth to maintain relatively stable, although somewhat limited, reserves. We further expect it to take measures to manage the impacts of potentially increased Medicaid costs should healthcare reform legislation negatively affect revenues.

Upside scenario

Should the commonwealth demonstrate a renewed commitment to building its reserves during periods of economic growth, absent rising long-term liability funding pressures, we could raise our rating.

Downside scenario

The rating could see further downward pressure if the commonwealth fails to maintain near-structural balance during periods of economic expansion. Among the factors that could further pressure the rating are increased Medicaid costs, reduced funding, and growing fixed costs in excess of revenue growth leading to significant structural imbalance and greatly diminished reserves.

Governmental Framework

State finance law requires that the governor submit a balanced budget and the House and Senate each produce a balanced budget. The final general appropriation act must also be balanced. If there is a revenue shortfall, the governor is required by section 9C of Chapter 29 to reduce agency appropriations or recommend a transfer from the BSF.

Massachusetts has autonomy to raise taxes and has adjusted its tax structure. Medicaid accounts for about 35% of total spending while direct local aid accounts for about 13% of originally budgeted 2016 spending. Funding levels for major program areas have been adjusted as needed. Massachusetts voters have approved revenue growth limitations, but these have not negatively affected operations or limited flexibility, in our view. More significant measures to reduce or eliminate major tax sources have been on the ballot but not approved.

The commonwealth is authorized to issue GO debt, special obligation debt, and federal grant anticipation notes. There is a statutory limit on debt outstanding and a policy limitation as stipulated by the commonwealth's debt affordability policy published annually with its capital improvement plan, which is designed to limit debt service on Massachusetts' direct debt to no more than 8% of budgeted revenues. These limitations have not impaired flexibility to manage capital and infrastructure requirements. There is no statutory priority for funding debt, but debt service payments are not subject to the warrant requirement applicable to other state spending, and we understand that the comptroller and other state officials have developed procedures to prioritize payments and debt service is given the highest priority among various payment obligations.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '1.5' to the commonwealth's governmental framework.

Financial Management

Financial management assessment: 'Strong'

S&P Global Ratings maintains a strong financial management assessment (FMA) score for Massachusetts. In our framework, an FMA of strong indicates that practices are strong, well embedded, and likely sustainable. Many of the commonwealth's management practices related to debt and financial management are embedded in statute.

Highlights include the following:

- Massachusetts uses internal resources and outside economic forecasting firms to develop a consensus revenue forecast. It has regularly performed monthly revenue estimates and quarterly budget reviews. Legislation approved in 2008 requires that revenue reports be submitted semimonthly to the legislature.
- A five-year CIP (administrative intent, not binding) coordinates every facet of debt issuance. The CIP includes a detailed debt affordability analysis that officials update each year.

The commonwealth has detailed and frequently reviewed investment policies managed through the office of the treasurer. Quarterly cash flow projections are prepared and submitted to the legislature.

Massachusetts has a statutorily established BSF that prescribes a mechanism for funding, as well as funding levels;

however, the mechanism has been weakened in the past few years by the decision to adjust deposit thresholds and suspend required transfers into the fund. Statute requires the deposit of 100% of consolidated net surplus in any given year into the BSF. The statute also provides that the BSF's maximum amount cannot exceed 15% of the current year's revenues. The commonwealth must use any excess for tax reduction. A change in 2010 directed capital gains tax revenues of more than $1 billion to the fund, although the state has suspended this in the past two years. Legislation from 2012 indexes the capital gains amount to growth in U.S. GDP. The statute also directs 5% of the excess to the state retiree benefits trust fund and the pension liability fund. We believe this measure has the benefit of enhancing the fund while decreasing budget reliance on this cyclical revenue source. Nevertheless, the commonwealth diverted to the general fund in fiscal years 2015 and 2016 excess capital gains tax that would otherwise have gone to the BSF. A revised threshold and lower collections in fiscal 2017 eliminate the potential for a transfer in fiscal 2017. Some judgments and settlements must also be deposited to the fund, although this requirement was modified in fiscal 2015 so that only settlements and judgments exceeding the average of the total for the preceding five fiscal years would be transferred to the BSF.

There are statutory limits on debt issuance. For direct debt, there is a limit allowing the issue of up to 105% of the previous year's limit. In addition to the aforementioned statutory requirement, the governor's office adheres to an administrative bond cap (debt service capped at 8% of budgeted revenues), which sets the annual limit on debt issuance. The treasurer's office maintains debt management and swap policies that we view as comprehensive. Officials also introduced an asset-liability management policy in fiscal 2014.

The commonwealth has detailed and frequently reviewed investment policies managed through the office of the treasurer. Quarterly cash flow projections are prepared and submitted to the legislature.

Budget management framework

Once the budget is approved, the Secretary of Administration and Finance (A&F) monitors expenditures, at least quarterly, and receives regular monthly updates on revenue receipts. The A&F secretary is required to formally update revenue projections and submit them to the legislature in October. If officials expect projected revenues to be insufficient to meet appropriations, A&F certifies this and, pursuant to statute (section 9C of Chapter 29), the governor is required to reduce allotments, or submit proposals to raise additional revenues or to make appropriations from the BSF to restore balance. Budget adjustments have historically been implemented regularly and on time, and deficits are not carried forward.

Massachusetts is a voter-initiative state. Although there have been initiatives that limit the overall growth in state tax revenue and a limit on the amount of bonds outstanding and debt service appropriations, these have not substantially altered Massachusetts' ability to manage its budget or fund debt service in our opinion. While more recent ballot initiatives to reduce or eliminate major tax sources of the state were not approved, the legislature can amend an initiative, and a recent initiative rolled back inflation indexing for a gas tax. An initiative to add an extra 4.0% income tax to annual income of more than $1 million a year received enough signatures for the legislature to consider placing it on the November 2018 ballot. This year's legislature gave the initiative its initial approval in May 2016, and it will be placed on the 2018 ballot assuming 25% of the next legislature also approves it, which we believe is likely.

The commonwealth provides a relatively high level of service, in our opinion. Adjustments have been made to programs but reductions to areas such as education have been limited.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '1.0' to Massachusetts' financial management framework.

Economy

Massachusetts' labor market fared relatively well in 2016. Unemployment rates have declined at a steady pace due to positive employment trends. The average annual unemployment rate for 2016 was 3.7%, which was below the 5.3% rate for the nation, while the state unemployment rate as of September 2016 had fallen to 3.6%, compared with 4.9% for the nation. The U.S. Census Bureau population estimate for Massachusetts in 2015 is 6.8 million, a 0.7% increase from 2014, and a 6.1% increase over the past 10 years, compared with 8.8% for the nation. Population growth has outpaced the region since 2007 but continues to lag the nation and we expect this trend to continue. The commonwealth's age dependency ratio of nonworking age population to working age population at 55.7% in 2015 was better than that of the nation (60.7%).

Massachusetts has always had high income levels. Per capita personal income increased to $61,032 in 2015, or 128% of the national level--a ratio the commonwealth has held consistently for the past seven years. We expect that income will remain well ahead of that of other states based on the nature of the jobs being created and the pace of expansion. IHS Global Insight projects state gross product to rise 1.5% in 2016, 2.2% in 2017 and 2018, and 1.9% in 2019, at rates slightly under, but comparable with its forecast for the U.S. In 2016, gross state product per capita was 131% of that of the nation.

The economy has diversified and education and health services now make up the primary employment sectors, accounting for 21.8% of total nonfarm employment in 2015 according to the Bureau of Labor Statistics, compared with 15.5% for the nation. This is followed by trade and transport (16.3% versus 19.0% nationally) and professional business services (15.3% versus 13.8%). Cyclical sectors, such as manufacturing and construction, represent only 7.2% and 4.0% of employment, respectively. The increasing role of services in the economy reflects growth in research laboratories, computer software, management consulting, other business services, and health care. Higher education anchors, a high level of federal research funding, and venture capital give the commonwealth a leading edge in emerging industries, such as biotechnology, software, communications equipment, and surgical instruments. In addition, its defense-related industries continue to perform well. Massachusetts ranks eighth out of the 50 states by value of federal defense and research contract awards. It is unclear how proposed increased spending at the federal level would affect the state's economy.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '1.4' to Massachusetts' economy.

Budgetary Performance

The state has established a formal BSF under statutory law that receives excess capital gains taxes over a threshold amount, indexed for inflation. A threshold of $1 billion was in effect for fiscal years 2011, 2012, and 2013. Since then, the threshold is subject to annual adjustment to reflect the average annual rate of growth in U.S. GDP over the preceding five years. Under statutory law, tax revenues collected from capital gains income during a fiscal year that exceed the threshold are required to be transferred to the BSF, with 5% of the amount so deposited then transferred to the State Retiree Benefits Trust Fund (for OPEB) and an additional 5% transferred to the commonwealth's pension liability fund. However, in fiscal years 2015 and 2016, capital gains taxes that would have otherwise flowed to the BSF paid general fund budget expenditures. The enacted 2016 budget assumed the fiscal 2016 capital gains collections threshold (suspended in that fiscal year) to be approximately $1.09 billion, with the excess diverted to the general fund instead of the BSF to be approximately $300 million. Although the governor's fiscal 2017 budget proposal included partially resuming a $206 million deposit of capital gains to the BSF, this was still $150 million short of the original statutory formula for deposit of excess capital gains tax. Furthermore, based on revisions to the commonwealth's revenue estimates, Massachusetts does not anticipate making a transfer of excess capital gains unless these exceed current revenue estimates. It estimates the BSF will increase by roughly $11 million to $1.303 billion at the end of fiscal 2017 based on investment earnings, assuming no use of the BSF, to close out fiscal 2017; this is down from estimates of $1.528 billion in the governor's proposed budget.

The governor approved the fiscal 2017 budget on July 8, 2016. The enacted budget is based on a revenue estimate that was lowered by $636 million to $26.23 billion (from $26.86 billion) to account for weaker tax collections in fiscal 2016. At $26.23 billion, revenues in fiscal 2017 were expected to grow by a more modest 3.8% from estimated actual collections in fiscal 2016. Total revenues available, including federal reimbursements, beginning fund balances, and interfund transfers total $40.8 billion. Total budgeted expenditures and other uses are $40.9 billion and exceed available revenues by approximately $88 million. In our view, the budget was nearly balanced with some limited use of one-time revenues, but recent supplemental appropriations and revenue shortfalls could challenge structural balance with only one month left in the fiscal year to offset them. Even though Massachusetts is in the eighth year of economic recovery and experiencing positive revenue trends, and despite policies that were intended to more aggressively build up reserves to help the commonwealth manage through revenue downturns, in our view, budget worries remain regarding growth in MassHealth spending and the slow build-up of the BSF during a period of positive revenue growth.

The BSF reached a peak of $2.335 billion at fiscal year-end 2007, before being drawn down to $670 million at fiscal year-end 2010 during the Great Recession. The commonwealth subsequently began using judgments and settlement and other surpluses to build up the fund again to $1.65 billion at fiscal year-end 2012. The BSF balance stood at $1.25 billion at fiscal year-end 2015, or 3.2% of operating expenditures, following a $124 million deposit after the end of the fiscal year from surplus operating revenues into the BSF, offset by budgeted fiscal 2015 BSF draws, for a net increase of $4 million in the BSF. We believe the commonwealth is somewhat exposed to cyclical swings in capital gains tax revenue, which Massachusetts projects will constitute about 5% of fiscal 2017 tax revenues.

We view Massachusetts' liquidity as strong, with the help of annual cash flow note borrowing. The commonwealth does not engage in interfund borrowing. It currently projects to end fiscal 2017 with a general fund cash balance of $2.5 billion, and estimates its month-end cash low point in fiscal 2017 will have been February 2017, with a $1.5 billion general fund cash balance. In fiscal 2017, the commonwealth issued $1.5 billion in revenue anticipation notes, maturing in April, May, and June 2017. Cash flow notes must be repaid by the end of the fiscal year. Fiscal 2016 ended with a non-segregated general fund cash position of $2.4 billion. For fiscal 2017, the commonwealth currently projects ending fiscal 2017 with $2.57 billion in non-segregated cash.

We view Massachusetts' revenue sources as diverse. Income tax was 57% of operating funds tax revenues in fiscal 2016 on a budgetary basis, and sales tax was 24%.

We believe the commonwealth's revenue forecasting is good. Massachusetts prepares quarterly revenue updates and uses a consensus revenue forecast for budgeting purposes. We believe that state budgeting has historically been done with an eye toward long-term structural balance. However, we believe that Massachusetts is a high service state, with expenditures that may be difficult at times to reduce. In particular, Medicaid plus health and human services spending accounts for 50% of the fiscal 2017 total budget expenditures, while operating funds' debt service accounts for about 6%. Pension funding costs from operating funds in fiscal 2017 are estimated at $2.2 billion, or 5.2%, while OPEB costs for current retirees are about another 1%. For fiscal 2018, the pension contribution is scheduled to increase by 8.9% to $2.394 billion, or 5.5% of the total budget. Tax-supported debt service is 5.6% of budgeted expenditures, and OPEB 1.1%.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '2.0' to Massachusetts' budgetary performance.

Debt And Liabilities

We calculate total GO bond proceeds outstanding at fiscal year-end 2016, the most recent audited year, at $20.8 billion, and total tax-supported debt at $34.5 billion, including debt issued by state authorities and supported by the statewide sales tax, as well as debt of state agencies supported by annual state contract assistance payments. The commonwealth reports it had $22 billion of GO debt outstanding as of Jan. 1, 2017. By most measures, Massachusetts' debt burden remains high compared with that of other states. The variable-rate portfolio is 17% of total GO debt, and the commonwealth actively manages this under formal debt policies. About $1.6 billion, or 8% of state GO debt, consists of unhedged variable-rate bonds, with the remainder of the variable-rate debt's interest rates synthetically fixed through interest rate swaps. Massachusetts has a multiyear asset liability management program that could increase its exposure to unhedged variable-rate debt. However, there are no major plans in the near future to significantly expand its unhedged portfolio. In the past several years, the overall portfolio of variable-rate debt has diversified, and put risk has fallen significantly, in our opinion. The commonwealth also has about $914 million of direct placement debt, whose structure we do not believe creates an unusual risk to the state. Tax-backed debt per capita is high, in our view, at what we calculate as $5,199 at fiscal year-end 2016 and 8.0% of personal income. We also calculate combined total tax-backed debt service to operating expenditures as high at 7.3% on a GAAP basis.

The current five-year CIP projects debt service is to remain below the commonwealth's calculation of 8% of budgeted revenues through fiscal 2022. A state debt and capital affordability committee conducts an annual debt affordability study. The committee includes seven voting members and eight nonvoting members from the legislature and is charged with formally reviewing the CIP and providing an estimate of debt authorization for the year. The current CIP for fiscal 2017 calls for $2.26 billion of bonding, about level with that of recent years, as part of a fiscal 2018 total capital budget of $4.4 billion. Our debt calculation includes special tax bonds supported by statewide tax sources in the ratios we use to assess total tax-supported debt.

Massachusetts continues to gradually lower its investment return assumption, which we view as positive, but which translates into further declines in its combined funded ratio and increased funding needs. An actuarial valuation of the commonwealth's total pension obligation suggests a combined pension funded ratio of 56% funded as of Jan. 1, 2016, from 61% in January 2015 based on market value of assets. The total actuarial funded ratio (using actuarial value of assets) declined to 56.7% from 59.0% in 2015. The funded ratio remains far below the actuarial 78.6%-funded ratio in 2008, before the Great Recession. Based on Massachusetts' actuarial calculation (not Governmental Accounting Standards Board [GASB]), the commonwealth's primary government unfunded pension liability was $37.9 billion for the combined state employees, teachers, and Boston teachers' pension funds, and up from $33.4 billion, as of Jan. 1, 2015. We calculate this is $5,548 per capita, and 8.9% of personal income, which we consider high. For our analysis, we calculate the three-year average funded level at 62% (2014-2016) using GASB 68 reporting. Massachusetts attributes the relatively low funded ratio to recognition of previous-year investment losses and lowering the investment return assumption to 7.50% in 2016 from 7.75%, which we view as more conservative, optional transfer of Optional Retirement Program members into Massachusetts State Employee Retirement System, and the adoption of an employee retirement incentive program. Weaker-than-assumed market performance and changes to the systems' assumed rate of return, while bringing assumed rates of return more in line with the average for other plans across the nation, have resulted in increased contributions if the state is expected to remain on track to fully amortize its liabilities by 2040. The new assumed rate of return of 7.5% remains is below the Pension Retirement Investment Trust's 9.2% five-year and the 5.1% 10-year average returns.

Massachusetts' ARC calculation assumes amortization of the commonwealth's unfunded actuarial liability on a 4% annual increasing basis to reach full amortization of its unfunded liability by fiscal 2040. However, from a funding standpoint, Massachusetts has continued to calculate its contribution by setting funding targets based on percentage increases to contributions rather than adjusting for increases necessary to keep level amortization of the liability. This translates into a slightly more back-loaded amortization of the liability. Furthermore, the commonwealth continues to establish its contribution levels on a three-year lagged budgetary basis. Although actuarial valuations are conducted each year, this policy of only adjusting funding every three years provides greater budgetary predictability at the expense of more timely funding adjustments in recognition of known assumption changes, such as revised assumed rate of return and demographic assumptions. The state recently updated its contribution projections with the annual increase in contribution rising to 8.9% from 7% annually through 2036. Based on the state's projections, despite these increased contributions, the funded ratio on an actuarial basis remains at 57%. In fiscal 2016, the commonwealth contributed 77% of ARC to its two main employees' retirement system, down from 81% in fiscal 2014, but up from 75% in fiscal 2015. For fiscal 2017, it has budgeted to fund $2.2 billion, or 72%, of the $3.06 billion ARC. As part of our revised criteria, we look to the ratio of active-to-inactive members to determine how mature the system is and how it compares with the national average. For Massachusetts State Retirement Board and Massachusetts Teachers' Retirement System, the ratio of actives to retirees is 1.6 and 1.4, respectively, and in line with the 1.5 national average. Experience studies are only conducted every six years as per statute, which we view as a weakness. Although the commonwealth updates portions of the studies more frequently, this is not done on a set schedule, but rather as needed.

Massachusetts had a $16.3 billion unfunded actuarial accrued OPEB liability as of Jan. 1, 2016, which we consider sizable, at $4,451 per capita, but down from $16.3 billion recorded in 2012, as various reform measures were phased in and OPEB trust fund deposits have been made. The commonwealth has dedicated tobacco settlement revenues toward its OPEB trust fund to provide a permanent funding source, which we consider a credit positive, although trust fund deposits were made from other sources recently. The portion of tobacco settlement money dedicated to the OPEB trust fund is scheduled to increase in 10% increments each year, until it reaches 100%, although in fiscal 2016 the incremental increase was suspended. In fiscal 2016, the commonwealth contributed 30% of tobacco settlement money, or approximately $77 million, to the OPEB trust fund. For fiscal 2017, the commonwealth suspended the 10% increase and instead funded the transfer at 10% of tobacco settlement money or $25.7 million, a substantial decline from prior-year requirements. The governor proposed an amendment that would bring the fiscal 2017 contribution back to 30% or $76 million; however, the legislature did not adopt this proposal. The trust had assets of $760.4 million as of Jan. 1, 2016.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '3.5' to Massachusetts' debt and liability profile.

Ratings Detail (As Of June 9, 2017)		
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Brockton GO st qual rfdg bnds		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Central Berkshire Regl Sch Dist GO bnds		
Long Term Rating	AA-/Stable	Downgraded
Fall River GO (AGM)		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Fitchburg GO state qualified muni purp loan of 2016 bnds ser 2016 due 09/01/2027		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Gateway Regl Sch Dist SCHSTPR		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Gill-Montague Regl Sch Dist qualified GO bnds		
Long Term Rating	AA-/Stable	Downgraded
Greater Lowell Regl Voc Tech Sch Dist GO st qual sch		
Long Term Rating	AA-/Stable	Downgraded
Unenhanced Rating	NR(SPUR)	
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Greenfield GO		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	AA-/Stable	Affirmed

Ratings Detail (As Of June 9, 2017) (cont.)		
Hampshire Regl Sch Dist GO st qual rfdg bnds		
Long Term Rating	AA-/Stable	Downgraded
Haverhill GO st qual deficit fin BANs ser 2016 dtd 09/01/2016 due 09/01/2017		
Short Term Rating	SP-1+	Affirmed
Hinsdale GO I - Non Sch St prog		
Long Term Rating	AA-/Stable	Downgraded
Holyoke GO state qual rfdg bnds		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	A+/Stable	Affirmed
Holyoke GO st qual rfdg bnds ser 2017 due 09/01/2027		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Lawrence st qual GO deficit financing BANs		
Short Term Rating	SP-1+	Affirmed
Lawrence st qual GO deficit fin BANs ser 2017A dtd 03/01/2017 due 03/01/2018		
Short Term Rating	SP-1+	Affirmed
Lawrence st qual GO deficit fin BANs ser 2017B dtd 03/01/2017 due 09/01/2017		
Short Term Rating	SP-1+	Affirmed
Lawrence GO BANs		
Short Term Rating	SP-1+	Affirmed
Lawrence GO (Non Sch Prog)		
Long Term Rating	AA-/Stable	Downgraded
Lawrence GO		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A/Stable	Affirmed
Lowell GO		
Long Term Rating	AA-/Stable	Downgraded
Unenhanced Rating	NR(SPUR)	
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Lowell GO st qual mun purp loan bnds ser 2015 due 09/01/2035		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Lowell GO st qual rfdg bnds		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Lowell GO (AGM)		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Lowell NONSCHSTPR		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed

Ratings Detail (As Of June 9, 2017) (cont.)		
Lynn GO		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	A+/Stable	Affirmed
Lynn GO st qual sch bnds ser 2016 due 09/01/2038		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Massachusetts Bay Transp Auth sr sales tax		
Long Term Rating	AA/Stable	Downgraded
Massachusetts Bay Transp Auth sr sales tax (AGM) (MBIA)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts Bay Transp Auth CP		
Short Term Rating	A-1+	Affirmed
Massachusetts Bay Transp Auth CP		
Short Term Rating	A-1+	Affirmed
Massachusetts Bay Transp Auth CP		
Short Term Rating	A-1+	Affirmed
Massachusetts Bay Transp Auth SALESTAX		
Long Term Rating	AA/A-1+/Stable	Downgraded
Massachusetts CP		
Short Term Rating	A-1+	Affirmed
Massachusetts CP A		
Short Term Rating	A-1+	Affirmed
Massachusetts CP B		
Short Term Rating	A-1+	Affirmed
Massachusetts GO bnds consolidated loan ser 2016I due 12/01/2035		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO bnds consolidated loan ser 2016J due 12/01/2046		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO VRDBs - C		
Long Term Rating	AA/A-2/Stable	Downgraded
Massachusetts GO VRDBs 2000A		
Long Term Rating	AA/A-1/Stable	Downgraded
Massachusetts GO VRDBs 2000B		
Long Term Rating	AA/A-1/Stable	Downgraded
Massachusetts GO VRDBs 2006A		
Long Term Rating	AA/A-1+/Stable	Downgraded
Massachusetts GO (wrap of insured) (ASSURED GTY & AMBAC) (SEC MKT)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts GO (wrap of insured) (FGIC & BHAC) (SEC MKT)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded

Ratings Detail (As Of June 9, 2017) (cont.)		
Massachusetts GO (AGM) (SEC MKT)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts GO (BAM) (SECMKT)		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed
Massachusetts GO (BAM) (SECMKT)		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed
Massachusetts GO (BAM) (SEC MKT)		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed
Massachusetts GO (FGIC)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts GO (MBIA) (Assured Gty)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts St Coll Bldg Auth proj rev bnds		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Massachusetts St Coll Bldg Auth misc tax		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Massachusetts St Coll Bldg Auth misc tax		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Massachusetts GO		
Long Term Rating	AA/Stable	Downgraded
Methuen GO st qual mun purp loan bnds		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Methuen GO State Qualified Sch Prj Loan CH 70B Bonds due 09/01/2034		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	AA-/Stable	Affirmed

Ratings Detail (As Of June 9, 2017) (cont.)		
Mohawk Trail Regl Sch Dist st qual go sch bnds		
Long Term Rating	AA-/Stable	Downgraded
New Bedford GO st enhancement prog		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	AA-/Stable	Affirmed
New Bedford GO st qual mun purp loan bnds ser 2017 due 03/01/2045		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
New Bedford GO State Enhancement Prog		
Long Term Rating	AA-/Stable	Downgraded
Unenhanced Rating	NR(SPUR)	Withdrawn
Underlying Rating for Credit Program	AA-/Stable	Affirmed
North Adams NONSCHSTPR		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	A/Stable	Affirmed
Pittsfield st qual GO mun purp ln bnds		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Affirmed
Pittsfield st qual GO mun purp loan bnds		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	A+/Stable	Affirmed
Revere GO (ASSURED GTY)		
Unenhanced Rating	AA-(SPUR)/Positive	Downgraded
Underlying Rating for Credit Program	AA-/Positive	Affirmed
Revere GO		
Long Term Rating	AA-/Positive	Affirmed
Underlying Rating for Credit Program	AA-/Positive	Affirmed
Revere GO		
Long Term Rating	AA-/Positive	Affirmed
Underlying Rating for Credit Program	AA-/Positive	Affirmed
Rockland Twn GO st qual mun purp ln bnds ser 2015		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Salem NONSCHSTPR		
Long Term Rating	AA/Stable	Affirmed
Southern Worcester County Regional Vocational School District		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Springfield GO qual sch construction bnds (State Qualified) due 06/01/2027		
Long Term Rating	AA-/Stable	Downgraded

Ratings Detail (As Of June 9, 2017) (cont.)		
Springfield GO st qual mun purp loan bnds ser 2017 due 09/01/2036		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Springfield GO st qual rfdg bnds ser 2015		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Springfield GO St Qual Mun Purpose Loan of 2015 Bnds		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Springfield GO St Qual Mun Purpose Loan of 2015 Bnds		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Springfield NONSCHSTPR		
Long Term Rating	AA-/Stable	Downgraded
Underlying Rating for Credit Program	AA-/Stable	Affirmed
Springfield (Non-School State Prog) (AGM)		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Taunton GO state qual bnds		
Long Term Rating	AA-/Stable	Downgraded
Winchendon st qual GO mun purp loan bnds ser 2015 dtd 11/16/2015 due 12/01/2032		
Long Term Rating	AA-/Stable	Affirmed
Underlying Rating for Credit Program	A+/Stable	Upgraded
Central Berkshire Regl Sch Dist GO		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Chelsea non sch st		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Fall River Non Sch ST Prgm		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Lawrence GO		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Massachusetts Bay Transp Auth sr sales tax		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts GO		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts St Coll Bldg Auth State Enhancement		
Underlying Rating for Credit Program	A+/Stable	Affirmed
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded

Ratings Detail (As Of June 9, 2017) (cont.)		
Ralph C. Mahar Regl Sch Dist GO		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Springfield Non Sch St Prgm		
Unenhanced Rating	AA-(SPUR)/Stable	Downgraded
Massachusetts Bay Transp Auth, Massachusetts		
Massachusetts		
Massachusetts Bay Transp Auth (Massachusetts) var rate gen transp sys bnds 2000A-1 & A-2 ser dtd 03/09/2000 RMKTD dtd 09/30/2011 due 03/01/2030		
Long Term Rating	AA/A-2/Stable	Downgraded
Massachusetts Bay Transp Auth (Massachusetts) GO		
Long Term Rating	AA/Stable	Downgraded
Massachusetts Bay Transp Auth (Massachusetts) GOEQUIV		
Long Term Rating	AA/A-1/Stable	Downgraded
Massachusetts Bay Transp Auth (Massachusetts) GO (AGM)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts Bay Transp Auth transp sys bnds (Massachusetts)		
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts Dept of Transp, Massachusetts		
Massachusetts		
Massachusetts Dept of Transp (Massachusetts) GO		
Long Term Rating	AA/A-1/Stable	Downgraded
Unenhanced Rating	NR(SPUR)	
Massachusetts Dept of Transp (Massachusetts) GO		
Long Term Rating	AA/Stable	Downgraded
Massachusetts Dept of Transp (Massachusetts) GO VRDO 2010A-1		
Long Term Rating	AA/A-1+/Stable	Downgraded
Massachusetts Dept of Transp (Massachusetts) GO VRDO 2010A-2 A-7		
Long Term Rating	AA+/A-1	Affirmed
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts Dept of Transp (Massachusetts) GO VRDO 2010B		
Long Term Rating	AA/Stable	Downgraded
Massachusetts Dept of Transp (Massachusetts) JOINTCRIT		
Long Term Rating	AA+/A-1	Affirmed
Unenhanced Rating	AA(SPUR)/Stable	Downgraded
Massachusetts Dept of Transp (Massachusetts) Metropolitan hwy sys rfdg bnds (Massachusetts) ser 2016A dtd 12/20/2016 due 01/01/2035		
Long Term Rating	AA/Stable	Affirmed
Massachusetts Dept of Transp (Massachusetts) VRDBs 2010A-7		
Long Term Rating	AA/A-1+/Stable	Downgraded
Massachusetts Development Finance Agency, Massachusetts		
Massachusetts		
Massachusetts Dev Fin Agy (Massachusetts) GO		

Ratings Detail (As Of June 9, 2017) (cont.)		
Long Term Rating	AA/Stable	Downgraded
Univ of Massachusetts Bldg Auth, Massachusetts		
Massachusetts		
University of Massachusetts Bldg Auth (Massachusetts) GO		
Long Term Rating	AA/A-2/Stable	Downgraded
Univ of Massachusetts Bldg Auth (Massachusetts) GOEQUIV		
Long Term Rating	AA/A-1+/Stable	Downgraded

Many issues are enhanced by bond insurance.