

RatingsDirect®

Summary:

**Massachusetts
Boston Housing Authority;
Appropriations; CP; General
Obligation; General Obligation
Equivalent Security**

Primary Credit Analyst:

David G Hitchcock, New York + 1 (212) 438 2022; david.hitchcock@spglobal.com

Secondary Contact:

Scott Shad, Centennial (1) 303-721-4941; scott.shad@spglobal.com

Table Of Contents

Rating Action

Stable Outlook

Credit Opinion

Related Research

Summary:

Massachusetts

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Credit Profile		
US\$500.0 mil GO bnds cons ln ser 2021C due 09/01/2051		
<i>Long Term Rating</i>	AA/Stable	New
US\$250.0 mil GO rfdg bnds ser 2021A		
<i>Long Term Rating</i>	AA/Stable	New
Massachusetts GO		
<i>Long Term Rating</i>	AA/Stable	Affirmed
Boston Hsg Auth, Massachusetts		
Massachusetts		
Boston Hsg Auth (Massachusetts) APPROP		
<i>Long Term Rating</i>	A/Stable	Affirmed

Rating Action

S&P Global Ratings assigned its 'AA' long-term rating to the Commonwealth of Massachusetts' \$500 million general obligation (GO) bonds consolidated loan of 2021, series C, and \$250 million GO refunding bonds, 2021 series A.

At the same time, S&P Global Ratings affirmed its 'AA' rating on the commonwealth's GO debt outstanding and its 'A' long-term rating on the Boston Housing Authority's series 2003 housing project bonds (West Broadway Homes IV project), supported by a commonwealth annually appropriated state-operating subsidy, subject to the terms of a trust agreement. Additionally, S&P Global Ratings affirmed its 'A-1+' short-term rating on Massachusetts' GO-secured commercial paper.

The outlook on all long-term ratings is stable.

Massachusetts' full faith and credit are pledged to the GO bonds and commercial paper.

The consolidated series 2021C bonds will fund various capital projects as part of the commonwealth's ongoing long-term capital plan, while the 2021A GO refunding bonds will refund two series of outstanding various rate demand notes.

Credit overview

Massachusetts' finances did well through the pandemic-related recession with the aid of a strong budget stabilization fund (BSF) going into the downturn, and adopted budgets with conservative revenue forecasts. The state also

benefited from a strong base of upper-income individuals, who were less affected by the recession than lower-income workers, and continued to provide strong income tax returns. The state's BSF equaled 7.3% of operating expenditures and other uses at the end of fiscal 2019, while strong revenues in fiscal 2020 before the pandemic hit in March 2020 enabled the state to maintain a similar BSF balance at fiscal year-end June 30, 2020, although with only a very small operating surplus. The state did not pass a final fiscal 2021 budget until December 2020, almost six months into the fiscal year, utilizing successive short-term interim budgets while it re-evaluated its revenue forecast. The final enacted 2021 budget assumed 11.4% less tax revenue than the commonwealth's pre-pandemic 2021 projection, as well as budgeting a substantial drawdown in the BSF. However, tax revenues and federal aid came in much better than expected, and preliminary fiscal 2021 tax collections grew strongly above both the prior-year level and the budgeted 2021 forecast, rising 15.3% above 2020 tax receipts. Although the commonwealth budgeted a drawdown in its BSF in fiscal 2021, above-forecast tax revenue increased the BSF to \$4.6 billion, or what we view as a strong 8.9% of budgeted expenditures and other uses, compared with 7.3% at fiscal year-end 2020. The buildup in the BSF in 2021 is largely attributable to excess capital gains tax that came in above a budgetary formula threshold. Additionally, the commonwealth received \$2.5 billion in federal CARES Act money, and \$5.3 billion in direct American Recovery Plan Act money. The commonwealth's fiscal 2022 budget anticipates a further increase in its BSF to \$5.8 billion, or what we view as a strong 10.5% of expenditures and other uses, based on relatively flat growth in tax revenue over 2021.

Some financial risks remain. We believe the state has an above-average dependence on cyclical capital gains tax revenue, which has benefited from the currently high stock market, but which could recede in future years. Also, the state has been chronically underfunding its annual pension contribution. It assumes a fully funded retirement system by 2036, but only if it increases annual contributions by 9.63% per year through 2035, a steep increase that we believe delays current pension pressure to future years. We calculate the pension underfunding amounts to a structural deficit of about 2% per year--higher if excluding restricted federal revenue from the budget denominator.

We believe that Massachusetts' economy, with a substantial tech sector presence in the Boston area, has been a bright spot, with a substantial proportion of well-educated workers that were able to work at home during the pandemic and contribute to the state's income tax. Massachusetts has the second-highest per capita income in the nation, at 133% of the nation. State economic growth appears to be on track for growth similar to the nation's, following extensive restrictions on activity during the height of the recession. IHS Markit forecasts that real gross state product (GSP) will increase 6.2% in calendar 2021 and 4.5% in 2022, compared with the nation's GDP growth of 6.0% and 4.4%, respectively. The state's monthly unemployment rate has come down from a peak of 17.7% in June 2020, to 4.9% as of July 2021.

While Massachusetts has high income levels and a good rainy-day fund, this is partially offset by high debt, moderately high OPEB, and persistent underfunding of its annual actuarial pension contribution. At fiscal year-end 2020, we calculate the commonwealth had net total tax-backed debt per capita of \$5,697 and 7.1% of personal income, including tax-supported revenue debt. The commonwealth reports a slight increase of GO debt only, from \$24.0 billion at fiscal year-end 2020 to \$24.8 billion at fiscal year-end 2021. The commonwealth has contributed less than its actuarial annually recommended contribution (ARC) since 2011, funding only 76% of ARC in fiscal 2021, and has not been able to catch up in its annual contributions, in part due to retirement fund investment returns that are below actuarial assumptions and a funding mechanism that only resets contribution amounts every three years. However,

funded levels may improve, at least temporarily, when high preliminary investment returns of 29.9% in fiscal 2021 are incorporated into the next actuarial valuation. At fiscal year-end 2020, the commonwealth's net pension liability on a Governmental Accounting Standards Board (GASB) basis was a high \$6,871 per capita, or 8.6% of state personal income. OPEB at fiscal year-end 2020 was also high, at \$3,002 per capita, although the state has made efforts in recent years to ramp up prefunding of OPEB through a trust fund.

The stable outlook reflects our view that Massachusetts has had a history of rebuilding its BSF after economic drawdowns and generally conservative budget forecasting, and that the commonwealth's economy will largely track national growth trends in the next two years.

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

- Deep and diverse economy, which has outperformed the nation on several economic indicators in recent years, although unemployment spiked above national levels during the depth of the last recession, before receding again;
- High income levels, with per capita income at 133% of the nation in 2020, the second-highest among the states;
- History of timely monitoring of revenues and expenditures and swift action when needed to make adjustments;
- Strong financial, debt, and budget management policies, including annualized formal debt affordability statements, and multiyear capital investment planning; and
- Good BSF balance, equal to an estimated 7.3% of expenditures and other uses on a budgetary basis at fiscal year-end 2021, and a budgeted increase in 2022, in part due to currently strong capital gains tax.

Offsetting factors include high debt, pension, and OPEB liabilities.

In particular, the commonwealth's pension funded ratio on a GASB basis has had a long-term declining trend and stood at only 56.2% on a combined basis as of a June 30, 2019, measurement date for fiscal 2020. Massachusetts has contributed less than its ARC to its pension funds in every fiscal year since 2011. However, Massachusetts has put in place a plan to increase annual pension contributions by a steep 9.63% per year to fully amortize unfunded pension liabilities by 2036, and a large preliminary investment return of 29.9% in fiscal 2021 could at least temporarily improve funded levels. The \$1.01 billion shortfall against the ARC budgeted in fiscal 2022, which we view as a structural deficit, is only about 2.0% of estimated fiscal 2022 budgeted operating expenditures. The commonwealth is paying 76% of the ARC in fiscal 2022, about the same level as the year before, and we calculate that pension contributions in fiscal 2020 to Massachusetts' employee retirement system were only 81% of static funding requirements, and 80% of static funding for the teachers' pension system. Massachusetts projects state pension contributions will increase by \$2.1 billion above the fiscal 2020 level by 2026, the year when the commonwealth projects annual payments will equal the ARC, assuming it continues to increase payments 9.63% per year and pension returns meet actuarial assumptions. (In fiscal 2020, the last audited year, the actual return was 2.38%, compared with the 7.25% assumed return, although the preliminary return in fiscal 2021 of 29.9% is yet to be reflected in the next audited financial report.)

For more information on the commonwealth, please refer to our most recent full analysis, published April 27, 2021.

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.

Environmental, social, and governance (ESG) factors

We consider Massachusetts' environmental risks as elevated because of its coastal exposure, while social and governance risks are generally in line with the state sector, and the commonwealth has historically maintained a stable management and policy framework to respond to developing risks.

Stable Outlook

Upside scenario

An upgrade would require the state take measures to strengthen its pension funding discipline based on a prudent actuarial footing, while maintaining a strong BSF balance as a matter of budgetary policy during periods of strong economic activity.

Downside scenario

We could lower the rating if we believe Massachusetts will fail to make budget adjustments to maintain structural balance or rebuild its BSF after periods of economic softness. Factors that could pressure the rating include overly optimistic revenue projections; significant unexpected growth in Medicaid costs, even with increased federal reimbursement; significant increases in debt or other fixed costs; or material drawdowns of its BSF, even when underlying economic activity is strong. In particular, weak liquidity, significant deficit borrowing, or a significant fall in pension funded levels due to the commonwealth falling significantly behind static pension funding contribution levels could trigger a negative outlook or downgrade.

Credit Opinion

Economy

We believe the Massachusetts economy, anchored by a Boston metropolitan area that includes many higher-education institutions and associated technology companies, represents an important credit strength.

Massachusetts' recent economic experience has mirrored national trends, although its per capita income has grown slightly faster than that of the nation, spurred by growth in the high-paying professional, scientific, and technical services sector that suffered less in the recent recession than lower-paying service sector jobs. The average annual unemployment rate hit a low of 3.0% in 2019, compared with 3.7% for the U.S., before jumping up to 8.9% in the 2020 recession year, compared with a federal unemployment rate of 8.1%.

The U.S. Census Bureau's most recent population estimate for Massachusetts in 2020 is 7.0 million, a 2.0% increase over 2019, although the five- and 10-year compound growth rates trail the nation. The commonwealth's age dependency ratio of nonworking-age population to working-age population, at 57.8% in 2019, was better than that of the nation (63.1%).

The commonwealth has always had high income levels. Per capita personal income of \$79,721 nudged up to 133% of the U.S. in 2020, from 132% in 2019 and 127% in 2014, in spite of economic restrictions imposed by the pandemic. State per capita income ranks second-highest among all the states. We expect that income will remain well ahead of that of other states. based on the highly educated workforce that have jobs more conducive to telecommuting. IHS

Markit estimates that real GSP has mirrored national trends recently, despite an initially very high unemployment rate due to restrictions imposed on economic activity as the pandemic began. IHS Markit forecasts real GSP to rise 6.2% in 2021, 4.5% in 2022, and 2.3% in 2023, about the same as the respective U.S. forecast of 6.0%, 4.4%, and 2.3% for the same years. In 2020, GSP per capita of \$84,722 was strong, at 133% of that of the nation's GDP.

We view the economy as slightly more concentrated in education and health services than the nation as a whole. Education and health services accounted for 22.5% of total state nonfarm employment in 2020 according to the Bureau of Labor Statistics, compared with 16.4% for the nation. This is followed by professional business services (17.2% versus 14.4%), and trade and transport (15.7% versus 18.8% nationally). The manufacturing and construction sectors, known for their cyclical nature, represented only 6.8% and 4.5% 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. IHS Markit has estimated about 10% of state employment is in high-technology-related industries. Additionally, Massachusetts has defense-related industries that have ranked high in the value of federal defense and research contract awards.

Commonwealth of Massachusetts--Financial Summary

(\$ million)					
June 30 fiscal years	2022	2021	2020	2019	2018
Budgetary basis operating funds	Executive budget	Preliminary			
Total budgeted revenues and other sources	55,211	53,959	48,329	48,376	45,036
Total expenditures and other uses	55,281	52,275	47,993	46,803	44,097
Net operating surplus/shortfall	(70)	1,684	336	1,573	939
As % of expenditures and other uses	-0.1%	3.2%	0.7%	3.4%	2.1%
Rainy-day fund	5,801	4,630	3,501	3,424	2,001
As % of expenditures and other uses	10.5%	8.9%	7.3%	7.3%	4.5%
Total operating funds balances	5,909	5,980	4,295	3,959	2,387
As % of expenditures	10.7%	11.4%	8.9%	8.5%	5.4%
Audited GAAP basis--GF			2020	2019	2018
Revenues	N/A	N/A	43,151	42,844	40,469
Expenditures	N/A	N/A	41,249	38,853	37,798
Net other financing sources and uses	N/A	N/A	(1,842)	(1,647)	(1,493)
Net result	N/A	N/A	60	2,354	1,178
Total ending GF balance	N/A	N/A	5,930	5,870	3,516
as % of expenditures and transfers out	N/A	N/A	13.5%	14.1%	8.7%
Available GF balance (assigned + unassigned balances)	N/A	N/A	2,429	2,446	1,514
BSF balance	N/A	N/A	3,501	3,424	2,001
Combined available GF and BSF balance as % of expenditures and transfers out	N/A	N/A	13.5%	14.1%	8.7%

GF--general fund. BSF--budget stabilization fund.

Related Research

- Through The ESG Lens 2.0: A Deeper Dive Into U.S. Public Finance Credit Factors, April 28, 2020

Ratings Detail (As Of September 13, 2021)		
Massachusetts go bnds cons loan ser 2019F due 05/01/2029		
Long Term Rating	AA/Stable	Affirmed
Massachusetts CP A		
Short Term Rating	A-1+	Affirmed
Massachusetts CP B		
Short Term Rating	A-1+	Affirmed
Massachusetts GO		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO bnds, consolidated loan of 2019 (Federally Taxable) ser 2019H due 09/01/2049		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO cons loan of 2020 ser D due 03/01/2050		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO rfdg bnds ser 2019 C due 05/01/2031		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO rfdg bnds ser 2020A due 03/01/2042		
Long Term Rating	AA/Stable	Affirmed
Massachusetts GO VRDB		
Long Term Rating	AA/A-1/Stable	Affirmed
Massachusetts GO VRDB		
Long Term Rating	AA/A-1+/Stable	Affirmed
Massachusetts GO (wrap of insured) (FGIC & BHAC) (SEC MKT)		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed
Massachusetts GO (AGM)		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed
Massachusetts GO (AGM) (SEC MKT)		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed
Massachusetts GO (AMBAC)		
Unenhanced Rating	AA(SPUR)/Stable	Affirmed

Ratings Detail (As Of September 13, 2021) (cont.)		
Massachusetts GO (BAM)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (BAM) (SECMKT)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (BAM) (SECMKT)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (BAM) (SECMKT)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (BAM) (SECMKT)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (BAM) (SEC MKT)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (CIFG)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (FGIC)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (FGIC) (National)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (MBIA) (National)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO (SYNCORA GTY)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed
Massachusetts GO		
<i>Long Term Rating</i>	AA/Stable	Affirmed
Massachusetts GO		
<i>Long Term Rating</i>	AA/Stable	Affirmed
Massachusetts GO		
<i>Long Term Rating</i>	AA/Stable	Affirmed
Massachusetts GO		
<i>Long Term Rating</i>	AA/Stable	Affirmed
Massachusetts GO		
<i>Long Term Rating</i>	AA/Stable	Affirmed
Massachusetts Bay Transp Auth, Massachusetts		
Massachusetts		
Massachusetts Bay Transp Auth (Massachusetts) GOEQUIV		
<i>Long Term Rating</i>	AA/Stable	Affirmed
Massachusetts Bay Transp Auth (Massachusetts) GOEQUIV RMKTD		
<i>Long Term Rating</i>	AA/A-1/Stable	Affirmed
Massachusetts Bay Transp Auth (Massachusetts) GOEQUIV (FGIC) (National)		
<i>Unenhanced Rating</i>	AA(SPUR)/Stable	Affirmed

Ratings Detail (As Of September 13, 2021) (cont.)

Massachusetts Development Finance Agency, Massachusetts

Massachusetts

Massachusetts Dev Fin Agy (Massachusetts) GO

<i>Long Term Rating</i>	AA/Stable	Affirmed
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Many issues are enhanced by bond insurance.

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

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