FitchRatings

Public Finance
Tax-Supported
U.S.A.

Commonwealth of Massachusetts

New Issue Summary

Sale Date: The bonds are expected to be offered by negotiated sale during the week of Oct. 17, 2022.

Series: $1,000,000,000 General Obligation Bonds Consolidated Loan of 2022, Series C; and $200,000,000 General Obligation Refunding Bonds 2022 Series A

Purpose: The 2022 series C bonds are being issued for various capital purposes under Massachusetts' (the commonwealth) bond authorizations.

Security: The GO bonds are general obligations of the commonwealth, to which its full faith and credit are pledged. A statutory state tax revenue growth limit does not exclude P&I on debt obligations from the ramifications of the limit, but any impairment of debt service due to tax revenue growth is highly unlikely.

The commonwealth's 'AA+' Long-Term Issuer Default Rating (IDR) reflects its considerable economic resources, adroit management of economic and revenue cyclicality and strong budget controls. A strong reserve funding mechanism that shields the general fund from capital gains-related volatility has accelerated the rebuilding of Massachusetts' stabilization fund. The commonwealth carries a long-term liability burden for debt and Fitch Ratings-adjusted net pension liabilities that is well above the U.S. state median but remains a moderate burden on resources.

Economic Resource Base: The commonwealth has a broad and wealthy economy. Education levels are high and, although population growth is below the U.S. average, it continues to lead the northeast region. The strength of the healthcare, technology and education sectors has supported GDP growth comparable with the nation's over time and leaves it well positioned for solid future gains. Measured by per capita personal income, Massachusetts is the second-wealthiest state in the nation.

Key Rating Drivers

Revenue Framework: 'aaa': Tax revenues, while diverse, are dominated by individual income taxes, which are sensitive to economic conditions, particularly the components related to capital gains. Baseline growth prospects for taxes are strong, driven by the commonwealth's underlying economic fundamentals.

Expenditure Framework: 'aaa': Consistent with most states, the natural pace of spending growth is likely to marginally exceed expected revenue growth over time, requiring ongoing cost control. The commonwealth has ample ability to reduce spending through the economic cycle.

Long-Term Liability Burden: 'aa': Liability levels in Massachusetts, while comparatively high for a U.S. state, are a moderate burden on resources. The commonwealth's above-average liability position is partly the result of state funding of both capital needs and pensions that are more commonly funded at the local level, primarily for K–12 education.

Operating Performance: 'aaa': The commonwealth has superior gap-closing capacity, supported by conservative budgeting, ongoing fiscal monitoring and a requirement to cut spending in response to revenue gaps, and a mechanism to redirect a portion of economically sensitive capital gains tax receipts into the stabilization fund, the commonwealth's budget reserve.

Rating Sensitivities

Factors that could, individually or collectively, lead to positive rating action/upgrade:

- Continued progress in budget management during times of economic recovery, including rapid rebuilding of financial flexibility, even as the commonwealth faces rising carrying costs.

FACT Tools

Ratings

Long-Tem Issuer Default Rating	AA+

New Issues

$1,000,000,000 General Obligation Bonds Consolidated Loan of 2022, Series C	AA+
$200,000,000 General Obligation Refunding Bonds 2022 Series A	AA+

Outstanding Debt

Commonwealth of Massachusetts General Obligation Bonds	AA+
Massachusetts Development Finance Agency (Commonwealth Contract Assistance) Special Obligation Bonds	AA+
Massachusetts Bay Transportation Authority (Commonwealth of Massachusetts) General Transportation System Bonds	AA+
Massachusetts Department of Transportation (Commonwealth Contract Assistance Secured) Metropolitan Highway System Revenue Refunding Bonds (Subordinated)	AA+
University of Massachusetts Building Authority (Commonwealth of Massachusetts) Senior Facilities Revenue Bonds	AA+

Rating Outlook

Stable

Applicable Criteria

U.S. Public Finance Tax-Supported Rating Criteria (May 2021)

Related Research

Fitch Rates Massachusetts' $1.2 Billion GO Bonds 'AA+'; Outlook Stable (October 2022)

U.S. States — Labor Market Quarterly Tracker — 2Q22 (Employment Recovery Resilient Despite Recession Concerns and Inflation) (August 2022)

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- A sustained reduction in the long-term liability burden closer to, or below, 10% of personal income, accompanied by a reduction in carrying costs.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

- A slowing of economic growth that signals the commonwealth's revenue growth prospects will trail national economic growth.
- Rapid growth in spending demands, particularly for fixed costs such as pension liabilities, which weakens Massachusetts' expenditure flexibility and historically strong operating performance.
- An increase in long-term liabilities that results in an elevated burden consistently exceeding 20% of personal income.

Current Developments

Massachusetts Economic Update

Massachusetts has recovered a substantial amount of economic activity lost to the coronavirus pandemic. Early in the pandemic, Massachusetts suffered a more severe job market shock than the nation as a whole, with nonfarm payrolls falling 19% from February 2020 to April 2020, while the national decline was 15%. By August 2022, Massachusetts had recovered 92% of jobs lost at the pandemic's height, which was still below the 102% national jobs recovery rate.

The re-entry of residents into the labor market brought Massachusetts' August 2022 unemployment rate down to 3.6%, just below the 3.7% national unemployment rate. The commonwealth's employment-to-population ratio (EPOP) in August 2022 was 0.6% below its pre-pandemic ratio of 64.0% in February 2020. This compares favorably to the national EPOP of 60.1% for August 2022. For details, see "U.S. States — Labor Market Quarterly Tracker — 2Q22 (Employment Recovery Resilient Despite Recession Concerns and Inflation) at www.fitchratings.com.

Massachusetts Budgetary Update

Massachusetts has navigated the economic and fiscal disruptions of the pandemic without materially affecting its strong operating performance and remains well positioned to continue doing so. The commonwealth's position has been bolstered by a solidly funded stabilization fund, its budget reserve, and substantial federal economic stimulus and pandemic aid.

Individual income tax receipts drove commonwealth revenues to continue to outperform prudent budget expectations. Unaudited fiscal 2022 revenues of $41.2 billion (including tax-related settlements) were 11.6% higher than the January 2022 revised forecast of $36.9 billion.

The transfer of capital gains revenue above the statutory threshold brought the stabilization fund to a new high of $6.9 billion (16.9% of total revenue) in fiscal 2022, marking significant increases from the $4.6 billion balance (13.5% of total revenue) in fiscal 2021, as well as the $2.3 billion balance the commonwealth had in fiscal 2007, heading into the Great Recession. Including the stabilization fund, the total fiscal 2022 fund balance reached $18.0 billion (43.8% of total revenue).

The current fiscal 2023 budget stands at $62.9 billion, including one-time expenditures. Excluding large one-time transfers, spending is forecast at 11.2% over fiscal 2022. The budget includes several one-time items and does not include any tax reductions. Notable items include a $485 million increase in Chapter 70 aid to cities and towns, $266 million to the Massachusetts Bay Transportation Authority (MBTA) for safety upgrades and an additional $1.5 billion to the stabilization fund. Budgeted stabilization fund deposits would bring its balance to $8.4 billion (21.2% of total revenue).

Massachusetts received $5.3 billion in direct American Rescue Plan Act (ARPA) federal aid for the commonwealth, as well as $3.4 billion for local governments and over $1 billion for transit. The governor and the Massachusetts Legislature appropriated approximately $4 billion ($2.55 billion of ARPA aid and $1.45 billion from the fiscal 2021 surplus), with $1.1 billion for health and human services, $600 million toward homeownership and housing, $500 million to the unemployment trust fund, $500 million for essential workers, $400 million for water, sewer and environmental infrastructure and $900 million in other one-time projects. The commonwealth retains more than $2 billion in unallocated direct ARPA aid.

Rating History

Rating	Action	Outlook/ Watch	Date
AA+	Affirmed	Stable	10/10/22
AA+	Revised	Stable	4/5/10
AA	Affirmed	Stable	4/13/06
AA	Upgraded	—	7/8/05
AA–	Upgraded	—	9/16/97
A+	Upgraded	—	10/13/93
A	Assigned	—	10/1/92

Chapter 62F Revenue Growth Limits Triggered in Fiscal 2022

Fiscal 2022 is the first year since 1987 in which the commonwealth's revenue growth exceeded the limit, leading to approximately $2.9 billion in income tax refunds scheduled for fiscal 2023. Chapter 62F limits the state tax revenue growth of a given fiscal year to the average of the past three years' wage and salary growth.

Credit Profile

Revenue Framework

General fund resources are derived primarily from individual income, sales and corporate income taxes. The first two are particularly important, with approximately 59% of fiscal 2022 tax revenues coming from individual income taxes and another 21% from sales taxes. The individual income tax is levied at flat rates, based on type of income.

A 5% rate has been applicable to most income categories since Jan. 1, 2020, under a statute that had gradually reduced the rate from 5.3% beginning Jan. 1, 2012. The statute also reinstated the commonwealth's charitable deduction as of Jan. 1, 2022, after delays in the fiscal 2021 and fiscal 2022 budgets.

Solid economic fundamentals and a diverse revenue system are the basis for a revenue profile that is likely to approximate national economic growth over time.

Commonwealth revenue growth is constrained by Chapter 62F. Once the limit is exceeded, the commonwealth must refund any excess revenues via income tax credits.

The commonwealth has no significant legal limitations on its ability to raise revenues. A statutory tax revenue growth limit based on average wage and salary growth has not hindered the commonwealth's ability to manage its revenue resources. The initiative environment has also periodically been active, and certain revenues have been affected by past initiative petitions, notably property taxes. Importantly, the Massachusetts Legislature retains the ability to make changes to statutes passed by successful initiative petitions.

Expenditure Framework

Massachusetts' expenditure profile is very broad, driven by an expansive scope of services. Medicaid and other social services are the largest single spending commitment at just over half of general fund spending. Education is also a significant commitment, with extensive commonwealth funding of local schools and a broad higher education network. Funding formula changes for local schools under 2019's Student Opportunity Act (SOA) are intended to address needs in districts with higher concentrations of poverty.

The SOA was expected to result in a seven-year, $1.5 billion ramp-up of formula funding beginning in fiscal 2021, although the pandemic delayed initial increases. The commonwealth's education commitment extends to covering local teacher pension liabilities, although this excludes the liability associated with their other post-employment benefits (OPEB). Consistent with practices in many smaller states, the commonwealth is responsible for delivering or funding many services routinely funded at local levels elsewhere.

As with most states, spending in the absence of policy actions is expected to be in line with to marginally above expected revenue growth, primarily driven by social services, particularly Medicaid. The fiscal challenge of Medicaid is common to all U.S. states, and the nature of the program, as well as federal government rules, limit states' options in managing the pace of spending growth.

Federal action to revise Medicaid's fundamental programmatic and financial structure does not appear to be a near-term priority of the current federal administration or congressional leadership. As with all federal initiatives, Medicaid remains subject to regulatory changes that could affect various aspects of the program.

The commonwealth retains ample ability to cut spending; statute allows for a swift response in the event of forecast revenue underperformance, including the governor's statutory powers to unilaterally cut allotments under Section 9C of Commonwealth General Law, Chapter 29.

Carrying costs for long-term liabilities, including debt service, actuarially determined pension contributions and OPEB pay-as-you-go appropriations, are elevated relative to most states, at 11.4% of governmental expenditures in fiscal 2021. Under state finance law, revenues available for budgeting are net of statutory pension contributions and transfers for the MBTA and the Massachusetts School Building Authority (MSBA).

Pension changes were undertaken in 2011, and the commonwealth maintains a relatively conservative statutorily closed amortization target for achieving full funding in 2040. Pension contributions have risen in part due to experience updates and shifts to more conservative actuarial assumptions. Based on a funding schedule that it updates every three years, most recently in 2020, the commonwealth forecasts contributions will rise about 9.6% per year until the projected date of full prefunding, in fiscal 2036. Fitch views this trajectory of contribution increases as high but manageable within the commonwealth's fiscal framework.

Long-Term Liability Burden

Debt and Fitch-adjusted net pension liabilities are comparatively high for a state but represent a moderate burden on resources. On a combined basis, the burden of direct debt and adjusted net pension liabilities for employees and teachers equaled 18.3% of personal income, well above the 5% median for U.S. states as of Fitch's 2021 state liability report, which used 2020 data.

As of July 31, 2021, Fitch estimates the commonwealth's direct debt at a comparatively high 7.4% of personal income, including sales tax-backed obligations of the MBTA and the MSBA and annual contract assistance commitments that support the Massachusetts Department of Transportation (MassDOT). The commonwealth's above-average role in funding local government capital needs, relative to most other states, partially drives the debt burden.

Fitch expects direct debt to remain comparatively high for a U.S. state. In 2021, the governor signed a $16 billion transportation bond authorization to be directed toward highways, transit, bridges and other state and local transportation needs. Separately, the commonwealth issued special obligation revenue bonds in July to pay off federal unemployment insurance trust fund loans. These special obligation revenue bonds are repaid by assessments on employers, with no nexus to the commonwealth's fiscal operations, and Fitch does not incorporate them into its calculations of Massachusetts' long-term liabilities.

As of their June 30, 2021 financial reports, pension systems covering state employees and teachers (except in the City of Boston) held fiduciary assets covering 77.5% and 62.0% of their total pension liabilities, respectively, based on the 7.15% discount rates implemented as of their 2020 accounting valuations. The rates have been lowered three times from the 7.5% figure used for the 2017 valuation. Using Fitch's standard 6% return assumption would lower the 2021 ratios to 69.3% and 55.5%, respectively.

The commonwealth carries a net OPEB liability for state employees, but not local teachers, measuring $22.9 billion; this is based on a 3.6% discount rate and net of prefunding built in recent years from tobacco settlement monies, excess capital gains collections and other sources. The net OPEB liability measures 4.0% of personal income.

Operating Performance

Fitch believes the commonwealth retains superior capacity to address cyclical downturns and has repeatedly demonstrated its commitment to maintaining a solid financial position. Mechanisms for maintaining balance include the governor's requirement to reduce allotments or identify alternative balancing measures in the event of a midyear forecast deficiency, under Section 9C of Commonwealth General Law, Chapter 29, noted above.

Additionally, since 2011 the commonwealth has operated under a mechanism to reduce the effect of volatile capital gains-related tax revenues on its budget. Capital gains-related receipts that can be included in the budget are capped annually at a level that rises with U.S. GDP, with excesses dedicated to the stabilization fund (90%) and retiree benefit obligations (10%). The threshold was $1.26 billion in fiscal 2020, although a planned transfer to the stabilization fund was retained in the general fund given pandemic-related stress. For fiscal 2021, the threshold was $1.312 billion, which triggered a transfer of nearly $1.1 billion to the stabilization fund. For fiscal 2022, the threshold of $1.352 billion triggered a $2.3 billion transfer to the stabilization fund. A similar mechanism covers one-time judgments and settlement payments.

Budgetary management during periods of economic recovery consistently supports the rebuilding of financial flexibility. Conservative revenue assumptions and the reserve funding mechanisms noted above enabled the commonwealth to eventually rebuild a sizable stabilization fund balance, and the commonwealth has limited its use of nonrecurring resources.

A relatively slow fiscal recovery coming out of the Great Recession limited the commonwealth's ability to quickly rebuild its fiscal resilience. The commonwealth faced budgetary challenges at several points in the economic expansion that ended with the onset of the pandemic, including from the effect of shifting federal tax law and from unexpected demands involving Medicaid.

Although these factors initially weighed on progress in rebuilding the stabilization fund balance to levels attained before the Great Recession, the budgetary mechanisms to shift cyclical windfalls to the stabilization fund raised its balance considerably in the period immediately prior to the start of the pandemic.

Related Affirmations

Fitch has affirmed the ratings on the commonwealth's GO and GO-linked bonds of the commonwealth as follows:

- GO bonds at 'AA+';
- Massachusetts Development Finance Agency (MDFA) special obligation bonds (commonwealth contract assistance) at 'AA+';
- Commonwealth guaranteed bonds, issued by the MBTA and the University of Massachusetts Building Authority, at 'AA+'; and
- MassDOT metropolitan highway system (MHS) revenue bonds (subordinate), commonwealth contract assistance secured, at AA+.

The Rating Outlook on the long-term ratings is Stable.

For the commonwealth contract assistance bonds issued by the MDFA and commonwealth guaranteed bonds issued by the MBTA and the University of Massachusetts Building Authority, the commonwealth's obligation under the contract to make payments equal to debt service is a general obligation of the commonwealth, to which its full faith and credit are pledged.

For the MassDOT MHS subordinate revenue bonds, the commonwealth's annual fixed, dedicated payments are a full faith and credit obligation of the commonwealth and are expected to cover all subordinated debt service, linking the rating to the 'AA+' rating of the commonwealth, rather than to MHS toll revenues, which are also pledged to the bonds on a subordinated basis. Although a large share of outstanding debt is variable rate and thus exposed to potential, though unlikely, risks associated with variable-rate debt, Fitch expects that MassDOT would work with the commonwealth, if necessary, to ensure the annual payments are sufficient for debt service.

ESG Considerations

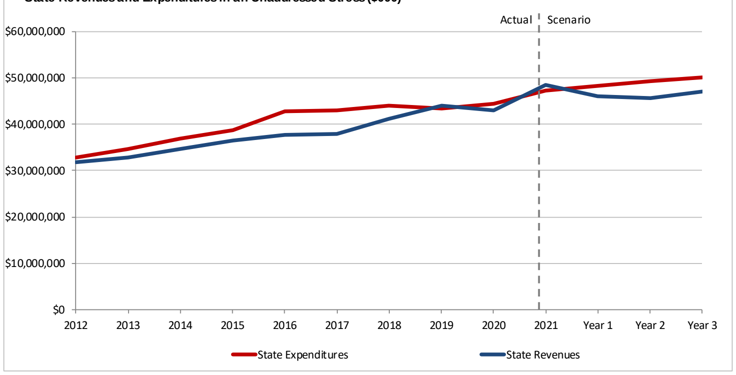
Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of '3'. This means ESG issues are credit neutral or have only a minimal credit impact on the entity, due to either their nature or the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.

Massachusetts, Commonwealth of (MA)

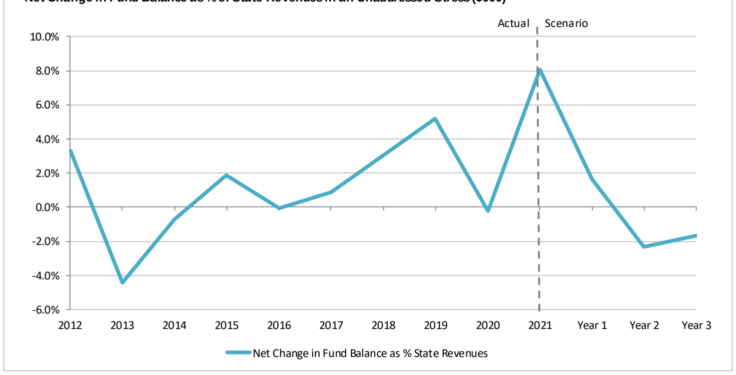
Scenario Analysis

Ver 36

State Revenues and Expenditures in an Unaddressed Stress ($000)



Net Change in Fund Balance as % of State Revenues in an Unaddressed Stress ($000)



Analyst Interpretation of Scenario Results

The Fitch Analytical Stress Test (FAST) scenario analysis tool relates historical tax revenue volatility to GDP to support the assessment of operating performance under Fitch's criteria. FAST is not a forecast, but represents Fitch's estimate of possible revenue behavior in a downturn based on historical revenue performance. Actual revenue declines will vary from FAST results, which provide a relative sense of the risk exposure of a particular state compared to other states. Despite its comparatively higher exposure to revenue declines shown by FAST, Massachusetts has superior financial resilience that would enable it to manage through fiscal stress.

The commonwealth has established mechanisms to cap the impact on the general fund of volatile capital gains related individual income tax and judgment and settlement receipts, with excesses devoted to the stabilization fund (the commonwealth's rainy day fund) or to retirement liabilities. Since fiscal 2011, capital gains have been budgeted in the general fund at $1 billion maximum, rising annually based on U.S. GDP growth; for fiscal year 2022 `the figure is $1.352 billion. Judgments and settlements are capped based on a similar five-year rolling benchmark.

Scenario Parameters:					Year 1	Year 2	Year 3
GDP Assumption (% Change)					(1.0%)	0.5%	2.0%
Expenditure Assumption (% Change)					2.0%	2.0%	2.0%
Revenue Output (% Change)	*Minimum Y1 Stress:*	-1%	*Case Used:*	**Moderate**	(5.1%)	(0.8%)	3.4%

Revenues, Expenditures, and Net Change in Fund Balance	Actuals										Scenario Output		
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Year 1	Year 2	Year 3
Expenditures													
Total Expenditures	45,742,110	47,490,768	49,991,552	52,682,343	58,074,116	58,593,231	60,282,684	59,793,532	62,894,582	70,260,439	71,665,648	73,098,961	74,560,940
% Change in Total Expenditures	0.9%	3.8%	5.3%	5.4%	10.2%	0.9%	2.9%	(0.8%)	5.2%	11.7%	2.0%	2.0%	2.0%
State Expenditures	32,756,605	34,623,778	36,844,857	38,637,313	42,841,471	43,026,144	43,951,926	43,465,609	44,419,215	47,307,218	48,253,362	49,218,430	50,202,798
% Change in State Expenditures	5.8%	5.7%	6.4%	4.9%	10.9%	0.4%	2.2%	(1.1%)	2.2%	6.5%	2.0%	2.0%	2.0%
Revenues													
Total Revenues	44,782,739	45,630,955	47,709,563	50,609,586	52,992,247	53,391,286	57,453,971	60,335,457	61,555,694	71,381,169	69,368,555	69,456,519	71,505,980
% Change in Total Revenues	0.5%	1.9%	4.6%	6.1%	4.7%	0.8%	7.6%	5.0%	2.0%	16.0%	(2.8%)	0.1%	3.0%
Federal Revenues	12,985,505	12,866,990	13,146,695	14,045,030	15,232,645	15,567,087	16,330,758	16,327,923	18,475,367	22,953,221	23,412,285	23,880,531	24,358,142
% Change in Federal Revenues	(9.7%)	(0.9%)	2.2%	6.8%	8.5%	2.2%	4.9%	(0.0%)	13.2%	24.2%	2.0%	2.0%	2.0%
State Revenues	31,797,234	32,763,965	34,562,868	36,564,556	37,759,602	37,824,199	41,123,213	44,007,534	43,080,327	48,427,948	45,956,269	45,575,988	47,147,839
% Change in State Revenues	5.4%	3.0%	5.5%	5.8%	3.3%	0.2%	8.7%	7.0%	(2.1%)	12.4%	(5.1%)	(0.8%)	3.4%
Excess of Revenues Over Expenditures	(959,371)	(1,859,813)	(2,281,989)	(2,072,757)	(5,081,869)	(5,201,945)	(2,828,713)	541,925	(1,338,888)	1,120,730	(2,297,093)	(3,642,442)	(3,054,959)
Total Other Financing Sources	2,010,701	410,806	2,031,472	2,758,542	5,049,955	5,525,510	4,070,041	1,730,966	1,230,517	2,783,775	3,068,162	2,576,692	2,278,022
Net Change in Fund Balance	1,051,330	(1,449,007)	(250,517)	685,785	(31,914)	323,565	1,241,328	2,272,891	(108,371)	3,904,505	771,069	(1,065,749)	(776,937)
% Total Expenditures	2.3%	(3.1%)	(0.5%)	1.3%	(0.1%)	0.6%	2.1%	3.8%	(0.2%)	5.6%	1.1%	(1.5%)	(1.0%)
% State Expenditures	3.2%	(4.2%)	(0.7%)	1.8%	(0.1%)	0.8%	2.8%	5.2%	(0.2%)	8.3%	1.6%	(2.2%)	(1.5%)
% Total Revenues	2.3%	(3.2%)	(0.5%)	1.4%	(0.1%)	0.6%	2.2%	3.8%	(0.2%)	5.5%	1.1%	(1.5%)	(1.1%)
% State Revenues	3.3%	(4.4%)	(0.7%)	1.9%	(0.1%)	0.9%	3.0%	5.2%	(0.3%)	8.1%	1.7%	(2.3%)	(1.6%)

Notes: Scenario analysis represents an unaddressed stress on issuer finances. Fitch's scenario analysis assumes the GDP and expenditure growth sequence shown in the 'Scenario Parameters' section. For further details, please see Fitch's US Tax-Supported Rating Criteria.

The ratings above were solicited and assigned or maintained at the request of the rated entity/issuer or a related third party. Any exceptions follow below.