NATIONAL ASSOCIATION OF
STATE TREASURERS

January 31, 2018

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Dear Mr. Seymour:

We are writing in response to your Request for Comment ("RFC") on the proposed revisions to your U.S. States Rating Methodology. The National Association for State Treasurers represents the state chief financial officers typically engaged in bond transactions at a state level. Our members routinely engage with Moody's and other rating agencies and are keenly interested in the methodology used in their analyses. We want to thank you for the opportunity to submit comments. As a group, we have outlined a few areas of concern.

At the highest level, our concerns with the proposed criteria relate to the inclusion of U.S. territories in the proposed new criteria and the proposed adjustment of the weights for three of the four factors, with economy increasing from 20% to 25%, debt and pensions increasing from 20% to 25% and governance decreasing from 30% to 20%.

Viewing Territories and States through the Same Criteria:

Given the massive disparities between most U.S. territories and states, it seems fairly problematic to use the same criteria for both states and territories. The political structure, revenue structure, economic strength and diversity, and other factors differ considerably between the two groups. There is a risk of unintended and unwarranted scoring consequences for states, including smaller states that do not share the attributes of U.S. territories.

Governance factor:

We ask that you reconsider reducing the weight of the Governance factor. We believe this is the strongest possible indicator of a state's ability to repay its debts. In fact, in many ways, Governance is the only factor over which a state government has immediate, full control and influence. It is the truest indicator of a state's political will to manage and balance its budget, maintain responsible practices, and cut spending or raise taxes when necessary.

Other factors in your analysis can be heavily influenced by national and regional economics and politics. Thus, they do not accurately measure the will of a state government to make what are often tough choices necessary to meet its obligations. In fact, when changes to economic or demographic circumstances are imposed upon a state, it is ultimately the manner in which the state reacts that truly demonstrates to the market the level of risk involved in purchasing that debt. That reaction and the capacity, ability, and will to react are measured by the Governance factor.

quantitative targets, we believe it would be helpful to improve the guidance for these subfactors to better understand how Moody's assesses these subfactors.

We recognize the difficult balancing act in which rating agencies must engage and appreciate the thoughtfulness you put into developing and reviewing your methodology. We also appreciate the opportunity to comment on these proposed revisions and thank you for your consideration of our comments.

Sincerely,

Shaun Snyder

Shaun Snyder, JD, MBA
Executive Director

VERMONT OFFICIAL STATE WEBSITE

STATE OF VERMONT
Office of the State Treasurer

SEARCH

PRESS RELEASES (/CONTENT/ABOUT-US/PRESS-RELEASE)

STATE TREASURER BETH PEARCE COMMENTS ON MOODY'S DOWNGRADE OF VERMONT'S BOND RATING

23 OCTOBER 2018

MONTPELIER, VT — Vermont State Treasurer Beth Pearce issued the following statement after Moody's Investors Service announced that the state's Aaa bond rating was revised downward to Aa1 with a stable outlook.

"The Treasurer's Office was notified today that Moody's Investors Service has downgraded the general obligation credit rating of the State of Vermont from Aaa to Aa1, their second highest rating. No change has been made by Fitch Ratings, for which Vermont has the highest possible AAA rating, nor Standard & Poor's, for which Vermont has the second highest AA+ rating.

"In their report, Moody's identified several areas of concern. We need to work collaboratively to address issues such as Vermont's aging population, slow economic growth, and above average long-term pension and post retirement liabilities relative to GDP. These challenges are real, but they are accompanied by many positive strengths that have been identified by all three rating agencies.

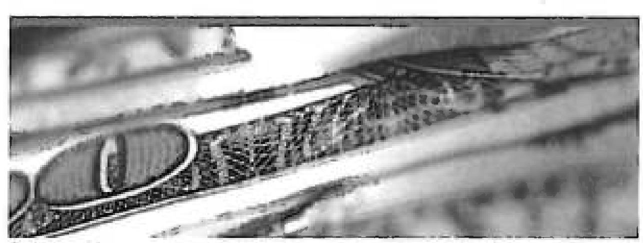
"Moody's decision follows April 2018 changes to the criteria they use to assess state financial health. While Moody's updated methodology made maintaining a Aaa rating more challenging for small states, such as Vermont, this is not the time to resign ourselves to that outcome. Vermont is still the highest rated state in New England.

"I am confident that the Governor, General Assembly, and my office will partner with other state and local officials to address our shared challenges. We must focus on regaining our Aaa rating and achieving a triple-A rating from all three rating agencies as we work together to improve the economic prosperity of all Vermonters."

(http://www.vermonttreasurer.gov/content/retirement)

Planning for Retirement

(http://www.vermonttreasurer.gov/content/retirement)



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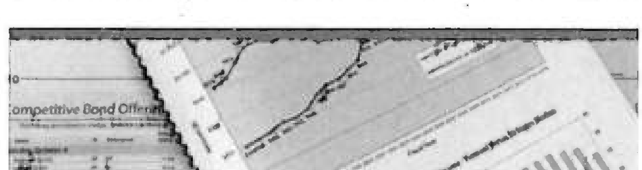

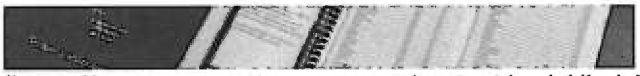

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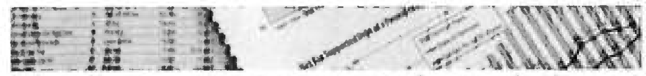

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Pension Investment

Find data, reports, meeting information, and learn about the Vermont Pension Investment Committee (VPIC).

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TAGS:
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November

S	M	T	W	T	F	S
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4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
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Based on current credit spreads in the municipal bond market, for a $150 million GO bond issue with a reduction from the Moody's prior "Aaa" rating to the revised rating of "Aa1" would likely result in approximately $1.0 million increase in the cost of borrowing. In May 2018, the estimated cost of going from a AAA rating to a generic double-A rating was $3.0 million. The difference between the two estimates reflects changes in the market, a single "notch" adjustment by Moody's (instead of a two notch adjustment consistent with a generic double-A rating) and no change in the State's current Fitch and S&P ratings.

			"AAA"		"Aa1"			
		Principal Amount	Interest Rate	Interest Cost	Interest Rate	Interest Cost	Diff	10/22/18 MMD
1	6/30/2019	7,500,000	1.90%	4,038,750	1.9100%	4,127,250	0.01%	1.90%
2	6/30/2020	7,500,000	2.05%	3,896,250	2.0700%	3,984,000	0.02%	2.05%
3	6/30/2021	7,500,000	2.12%	3,742,500	2.1600%	3,828,750	0.04%	2.12%
4	6/30/2022	7,500,000	2.21%	3,583,500	2.2600%	3,666,750	0.05%	2.21%
5	6/30/2023	7,500,000	2.30%	3,417,750	2.3600%	3,497,250	0.06%	2.30%
6	6/30/2024	7,500,000	2.39%	3,245,250	2.4600%	3,320,250	0.07%	2.39%
7	6/30/2025	7,500,000	2.48%	3,066,000	2.5500%	3,135,750	0.07%	2.48%
8	6/30/2026	7,500,000	2.56%	2,880,000	2.6300%	2,944,500	0.07%	2.56%
9	6/30/2027	7,500,000	2.65%	2,688,000	2.7200%	2,747,250	0.07%	2.65%
10	6/30/2028	7,500,000	2.73%	2,489,250	2.8000%	2,543,250	0.07%	2.73%
11	6/30/2029	7,500,000	2.80%	2,284,500	2.8700%	2,333,250	0.07%	2.80%
12	6/30/2030	7,500,000	2.87%	2,074,500	2.9400%	2,118,000	0.07%	2.87%
13	6/30/2031	7,500,000	2.92%	1,859,250	2.9900%	1,897,500	0.07%	2.92%
14	6/30/2032	7,500,000	2.97%	1,640,250	3.0400%	1,673,250	0.07%	2.97%
15	6/30/2033	7,500,000	3.02%	1,417,500	3.0900%	1,445,250	0.07%	3.02%
16	6/30/2034	7,500,000	3.08%	1,191,000	3.1400%	1,213,500	0.06%	3.08%
17	6/30/2035	7,500,000	3.14%	960,000	3.2000%	978,000	0.06%	3.14%
18	6/30/2036	7,500,000	3.19%	724,500	3.2500%	738,000	0.06%	3.19%
19	6/30/2037	7,500,000	3.22%	485,250	3.2800%	494,250	0.06%	3.22%
20	6/30/2038	7,500,000	3.25%	243,750	3.3100%	248,250	0.06%	3.25%
		150,000,000		45,927,750		46,934,250		

	"Aa1 Rating"
Cost Increase vs AAA	1,006,500

MOODY'S
INVESTORS SERVICE

CREDIT OPINION
24 October 2018

Rate this Research

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Vermont (State of)

Update to credit analysis - special tax bonds

Summary

The State of Vermont's (Aa1 stable) transportation infrastructure bonds (Aa2 stable) have maintained strong debt service coverage despite recent declines in pledged gasoline and diesel assessments. Coverage will withstand declines in the price of gasoline based on action the state took in 2015 to set a floor in the per gallon assessment. Changes in consumption will still have an impact, but the downward effect would have to be substantial to pressure debt service coverage.

The Vermont Housing Finance Agency's series 2018 property transfer tax bonds (Aa2 stable) are also supported by state taxes. The total transfer tax base is highly volatile, though is currently enjoying steady growth. The specific pledge on the 2018 bonds is a transfer by the state of the first $2.5 million of transfer taxes to the agency. This transfer represents a small share of the total tax base and also insulates the bonds from volatility in the tax.

Credit strengths

» Limitations on issuing additional debt are strong - the additional bonds test for the transportation bonds is 2.0x maximum annual debt service; the transfer tax bonds carry other statutory limitations

» Strong debt service coverage by pledged motor fuel taxes of the transportation bonds and strong state support evidenced by recent establishment of a floor on the taxable price of gasoline

» The property transfer tax bonds are supported by a statutory transfer of the first $2.5 million of taxes collected, while the entire stream of revenue provides substantial coverage

Credit challenges

» Revenue volatility is high in both cases and motor fuel taxes have fallen in recent years

Rating outlook

The stable outlook incorporates both the stable outlook of the state's general obligation rating and our expectation that coverage of annual debt service on both types of bonds by their respective pledges will remain strong.

Factors that could lead to an upgrade

» Sustained growth in pledged taxes or state actions that further strengthen the respective special tax pledges

Profile

The State of Vermont is located in the northeast United States. Its estimated 2017 population of just under 624,000 makes it the second smallest state in the country. Its 2017 nominal GDP of $32.2 billion is the smallest of the 50 states.

Detailed credit considerations

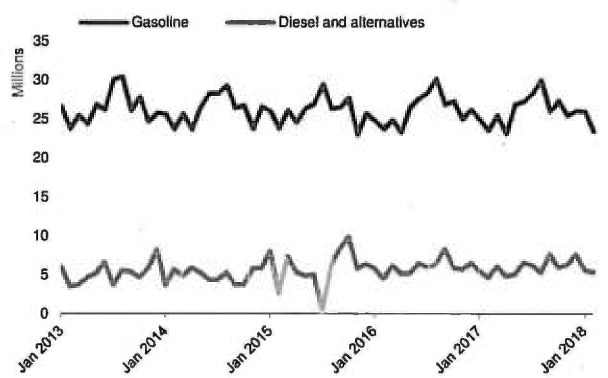
Tax base and nature of pledge

Vermont levies various taxes on motor fuels distributed within the state. Of these taxes, the pledge on the transportation infrastructure bonds consists of a 2% assessment on the retail price of each gallon of gasoline distributed and a $0.03 assessment on each gallon of diesel distributed. Collections of both assessments are heavily influenced by the price and consumption of each fuel. However, in 2015, the state enacted a statute that created a floor in the taxable price of gasoline. The statute sets the floor in the assessment at $0.0396 per gallon of gasoline, which translates into a floor in the taxable retail price of gasoline of $1.98 per gallon. The gasoline assessment typically makes up 85-90% of total pledged assessments.

Exhibit 3

Consumption of motor fuels in Vermont is fairly stable

Monthly gallons of motor fuels sold in Vermont

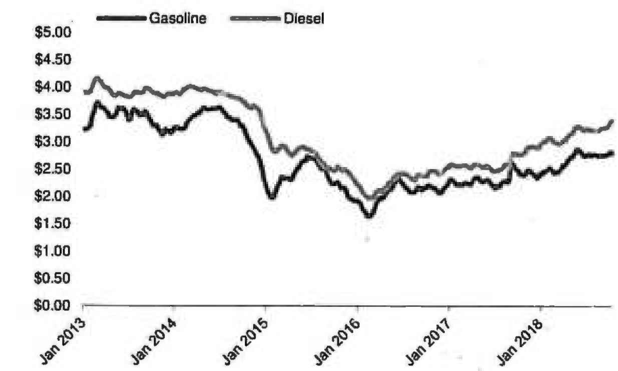


Data reported through February 2018.
Source: US Federal Highway Administration

Exhibit 4

The price of both fuels is climbing slowly after a large and steady decline

Average weekly retail price per gallon



Gasoline prices are for regular grade, conventional gasoline.
Source: US Energy Information Administration

Debt service on the property transfer tax bonds is secured by an annual transfer of $2.5 million of the state's property transfer taxes by the state to the Vermont Housing Finance Agency (HFA). When a property is purchased in Vermont, the buyer must pay a property transfer tax of 1.25% of the purchase price. The tax is subject to various exceptions, the most notable being a reduced tax of 0.5% on the first $100,000 of a property purchased as a principal residence. The total tax base is much larger than the $2.5 million transfer. In fiscal 2017, the state collected $38.8 million in total property transfer taxes.

Debt service coverage and revenue metrics

Fiscal 2017 fuel assessments covered maximum annual debt service on the transportation infrastructure bonds 5.9x. Though coverage dropped significantly over the past several years (see Exhibit 1 above), we do not expect any material declines from the most recent level given the state's statutory floor on the taxable price of gasoline. Pledged gasoline assessments in fiscal 2016 and fiscal 2017 were essentially as low as they could go based on price alone (Exhibit 5). Substantial drops in consumption could bring collections lower. Vermont has one of the nation's highest rates of electric vehicle ownership, though this share is estimated at only 2-3% of car ownership. Growth in this metric could push consumption down, but the downward effect would have to be substantial to pressure debt service coverage (Exhibit 6).

Debt and legal covenants

There are $26.8 million of transportation infrastructure bonds outstanding and $35.7 million of property transfer tax bonds outstanding. The infrastructure bonds have an additional bonds test (ABT) of 2.0x maximum annual debt service. A debt service reserve maintained at the least of 10% of original bond principal, 125% of average annual debt service, and 100% of maximum annual debt service supports the transportation infrastructure bonds.

There is no traditional ABT for the transfer tax bonds. Rather, current statute limits the amount of annual debt service to the amount of transfer taxes that the state transfers to the HFA. Debt service on the series 2017 bonds is equal to this statutory transfer. If the HFA sought to issue additional bonds on a basis equal to the 2017 bonds, the state would have to increase the amount transferred in statute. Further, the HFA must receive confirmation from rating agencies that currently rate the bonds that the issuance of additional parity debt would not result in a downgrade of the rating on the existing bonds. On top of this issuance restriction, the state covenants in the indenture not to reduce the rate of the property transfer tax such that annual taxes would fall below $12 million. There is no debt service reserve requirement for the transfer tax bonds.

DEBT STRUCTURE

Bonds secured by both special taxes are fixed rate.

DEBT-RELATED DERIVATIVES

Vermont is not party to any debt-related derivatives.

PENSIONS AND OPEB

We discuss Vermont's pension and OPEB obligations in our recent state credit opinion published on October 24, 2018.

Management and governance

The State of Vermont controls the rates of taxation that support both the transportation infrastructure bonds and the HFA's property transfer tax bonds. In 2015, the state adopted a statute that effectively strengthened its support of the infrastructure bonds by setting a floor in the taxable price of gasoline. Though gas taxes remain subject to changes in consumption, the taxable price floor protects the revenue stream from a large drop in the retail price of gasoline. With regard to the property transfer tax, state statute dictates the amount of transfer tax that the state must transfer to the HFA each year. As discussed above, the amount of this statutory transfer is equal to annual debt service on the existing bonds.

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MOODY'S
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Moody's
INVESTORS SERVICE

Rating Action: Moody's downgrades Vermont's GO to Aa1; outlook remains stable

23 Oct 2018

New York, October 23, 2018 -- Moody's Investors Service has downgraded the State of Vermont's general obligation (GO) bond rating to Aa1 from Aaa. Concurrently, Moody's has downgraded to Aa3 from Aa2 the rating on debt issued by the Vermont Student Assistance Corporation that is supported by the state's moral obligation pledge and to A1 from Aa3 the rating on debt issued by the Vermont Economic Development Authority and Vermont Educational and Health Buildings Financing Agency that is supported by annual appropriations of the state. Lastly, Moody's has downgraded to Aa2 from Aa1 the rating on the Vermont State Aid Intercept Program. The outlook for the state is stable. The outlook for the intercept program is also stable.

RATINGS RATIONALE

The downgrade of the ratings incorporates an economic base that faces low growth prospects from an aging population. At the same time, the state's leverage, measured by debt and unfunded post-employment obligations relative to GDP, is high among states and especially so among the highest rated states. With slower than average growth, Vermont's long-term liabilities will weigh more heavily on its economic base and may manifest in growing cost pressures.

The Aa1 GO rating balances these challenges against the underlying health of Vermont's economy, a stable and solid financial position, and strong management and governance of state fiscal matters.

The Aa3 rating on the Education Loan Revenue Bonds issued by the Vermont Student Assistance Corporation reflects a two notch distinction from the state's GO rating to incorporate the moral obligation's strong legal framework and more essential nature of the financing. Payment of the bonds is supported by the state's moral obligation pledge to appropriate funds to maintain a debt service reserve fund for the benefit of bondholders. The bonds financed student loans under the corporation's fixed rate loan program.

The A1 rating on Mental Health Services Bonds issued by the Vermont Economic Development Authority and Vermont Educational and Health Buildings Financing Agency reflects a three notch distinction from the state's GO rating to incorporate the weak legal framework associated with the bonds and the more essential nature of the developmental disability services provided at the financed facilities. The state annually appropriates funds to providers of the developmental disability services, a portion of which the state transfers directly to the bond trustees for bond payment, under direction of the providers.

The Aa2 rating on the Vermont State Aid Intercept Program reflects a statutory requirement that the state treasurer withhold funds payable to a governmental unit that has defaulted on a loan payment to the Vermont Municipal Bond Bank and use those funds to cure as much as possible that unit's default.

RATING OUTLOOK

The stable outlook reflects the expectation that Vermont's strengths in governance and financial management will mitigate the impacts of current economic and demographic trends.

FACTORS THAT COULD LEAD TO AN UPGRADE

-Improved demographic and economic trends that more closely track those of the nation and other highly rated states

-Moderated leverage, especially unfunded pensions and retiree health care liabilities, relative to state GDP

FACTORS THAT COULD LEAD TO A DOWNGRADE

-Sustained growth in debt or unfunded post-employment liabilities that outpaces economic expansion

-A slowdown in economic development or revenue growth

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MOODY'S
INVESTORS SERVICE

CREDIT OPINION
24 October 2018

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Vermont (State of)

Update to credit analysis following downgrade

Summary

The State of Vermont (Aa1 stable) carries a healthy economic profile, stable finances and strong fiscal management. It is the smallest US state economy and has the second smallest population, but unemployment is low, resident income is above average and educational attainment is high. At the same time, Vermont's performance on multiple economic measures lags that of the US and many peers, and an aging population may remain a modest drag on future growth. Further, the state's leverage, measured by combined debt and unfunded post-employment obligations relative to GDP, is high among US states. With slower than average growth, Vermont's long-term liabilities will weigh more heavily on its economic base. We expect the state's ample liquidity and consistently prudent management of operations will remain a credit factor that balances economic and leverage challenges relative to highly rated peers.

On October 23, we downgraded the state's general obligation rating to Aa1 from Aaa. We also downgraded ratings notched off of the state's general obligation rating. We downgraded to Aa3 from Aa2 the rating on education loan revenue bonds issued by the Vermont Student Assistance Corporation that are supported by the state's moral obligation pledge. We downgraded to A1 from Aa3 the rating on mental health services bonds issued by the Vermont Economic Development Authority and Vermont Educational and Health Buildings Financing Agency that are supported by state appropriations. We also downgraded to Aa2 from Aa1 the programmatic rating on the Vermont State Aid Intercept Program.

Exhibit 1
Vermont's debt burden is low, but its pension burden is much higher than state medians
Net tax supported debt (NTSD) and adjusted net pension liability (ANPL)

NTSD...	as % of personal income	as % of GDP	per capita	as % of own-source revenue
Vermont	2.0%	2.0%	$987	17%
State median	2.3%	2.1%	$987	29%

ANPL...	as % of personal income	as % of GDP	per capita	as % of own-source revenue
Vermont	16.1%	15.9%	$8,215	141%
State median	6.9%	6.1%	$3,207	107%

Based on fiscal 2017 data.
Source: Moody's Investors Service

Credit strengths

» Although Vermont's economy is the smallest of all US states, resident income is above average, educational attainment is high, and unemployment is low

» Liquidity is healthy and stable

Credit challenges

» The state's economic performance lags that of the US and many peers, and an aging population may be a drag on future growth

» Relative to state GDP, Vermont's leverage (combined debt and unfunded pensions) is higher than most states

Rating outlook

The stable outlook reflects the expectation that Vermont's economic fundamentals, financial position and fiscal management will remain strong and support the current rating.

Factors that could lead to an upgrade

» Improved demographic and economic trends that more closely track those of the nation and other highly rated states

» Moderated leverage, especially unfunded pensions and retiree health care liabilities, relative to state GDP

Factors that could lead to a downgrade

» Substantial growth in debt or unfunded post-employment liabilities

» A slowdown in economic expansion or revenue growth

» A departure from strong fiscal management practices

Key indicators

Exhibit 2

Vermont (State of)	2013	2014	2015	2016	2017	50-State Median (2017)
Operating Fund Revenues (000s)	2,636,432	2,748,223	2,858,148	2,927,613	2,963,227	
Available Balances as % of Operating Fund Revenues	9.1%	4.3%	4.3%	4.3%	2.9%	4.4%
Nominal GDP (billions)	28.7	29.4	30.3	31.3	32.2	
Nominal GDP Growth	1.8%	2.5%	3.0%	3.3%	2.9%	3.8%
Total Non-Farm Employment Growth	0.7%	1.0%	0.8%	0.3%	0.3%	1.1%
Fixed Costs as % of Own-Source Revenue	NA	6.8%	6.6%	7.6%	8.1%	9.2%
Adjusted Net Pension Liabilities (000s)	3,500,771	3,715,067	3,677,705	4,020,919	5,123,076	
Net Tax-Supported Debt (000s)	549,995	597,520	627,192	666,935	615,759	
(Adjusted Net Pension Liability + Net Tax-Supported Debt) / GDP	14.1%	14.7%	14.2%	15.0%	17.8%	8.3%

Operating fund revenues consists of non-federal revenues of the state's general, education and transportation funds. Available balance is the unassigned, committed and assigned balances of the same funds as reported in the state's comprehensive annual financial report. We discuss in more detail below fund balances available outside these funds.
Source: Moody's Investors Service

Profile

The State of Vermont is located in the northeast United States. Its estimated 2017 population of just under 624,000 makes it the second smallest state in the country. Its 2017 nominal GDP of $32.2 billion is the smallest of the 50 states.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on www.moodys.com for the most updated credit rating action information and rating history.

Detailed credit considerations

Economy

Vermont's economic standing is good and, like just about every other state in the US, it is growing amid the current expansion. But, Vermont's performance along multiple metrics lags the US at large, the state's regional peers and its highly rated peers.

In the five years through 2017, Vermont's nominal GDP and nonfarm employment grew at compound annual growth rates of 2.7% and 0.6%, respectively. Both rates trail those of the US and Vermont's northeast neighbors, all of whom are rated Aa1 or lower (see Exhibits 3 & 4).

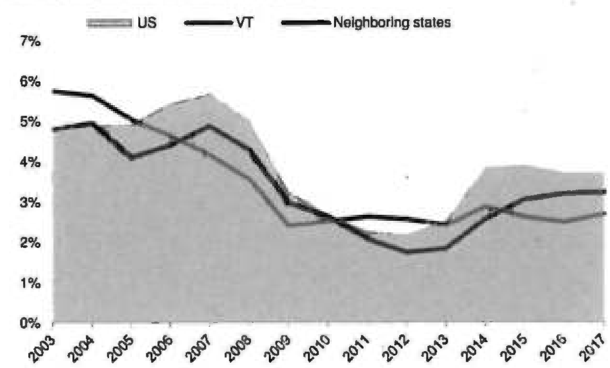
Vermont's aging population may remain an obstacle to attaining growth on par with other states. Vermont is currently second only to Maine (Aa2 stable) in the share of residents aged 55 or older. Vermont had one of the lowest rates of growth in total population over the last decade. Between 2000 and 2017, the state's prime working age population (those between 25 and 54 years) fell just over 16%. Over the same period, the prime working age population in the US grew over 4% (see Exhibit 5).

With one of the nation's lowest birthrates and a modestly net negative migration trend, we expect population growth to remain very low. Moody's Analytics projects subpar demographics will keep Vermont a below-average economic performer over the long term.

Exhibit 3

Vermont's economic growth has lagged that of the US and regional neighbors for several years

Rolling 5-year CAGR in nominal GDP

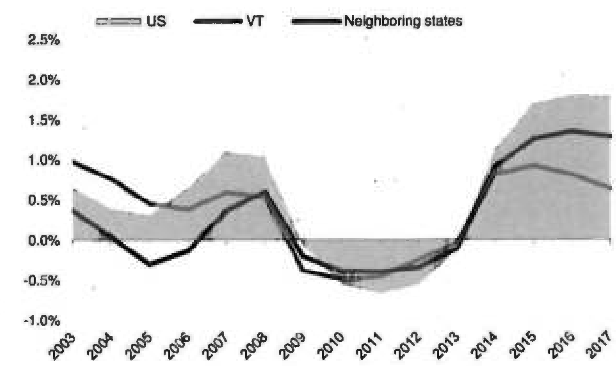


'Neighboring states' combines Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island.
Source: US Bureau of Economic Analysis

Exhibit 4

Employment growth has also been slower in Vermont

Rolling 5-year CAGR in nonfarm employment

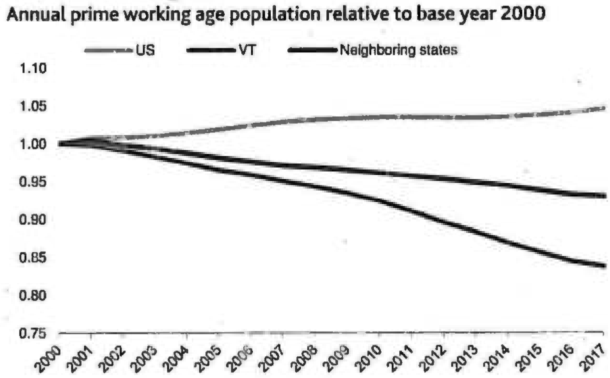


'Neighboring states' combines Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island.
Source: US Bureau of Labor Statistics

Exhibit 5

Vermont's prime working age population declining faster than in the nation and region

Annual prime working age population relative to base year 2000

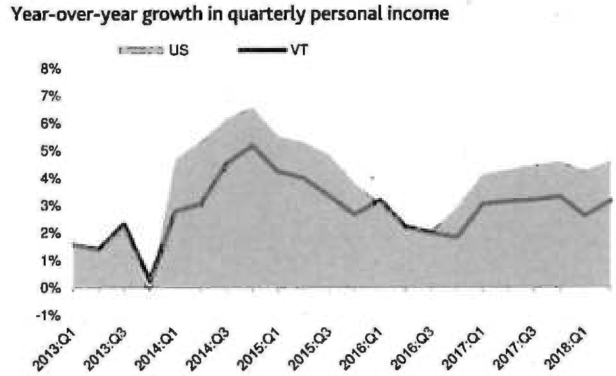


Source: Moody's Analytics

Exhibit 6

Though healthy, Vermont's growth in personal income lags that of the US

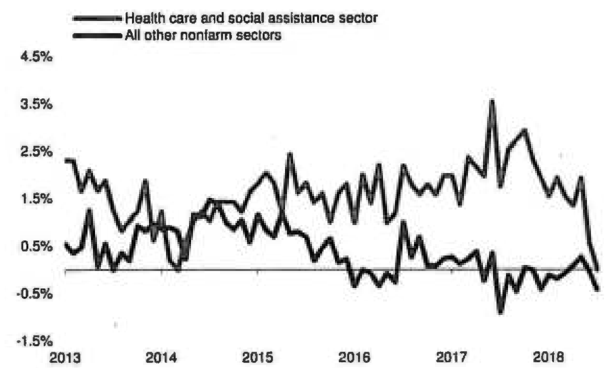
Year-over-year growth in quarterly personal income



Source: US Bureau of Economic Analysis

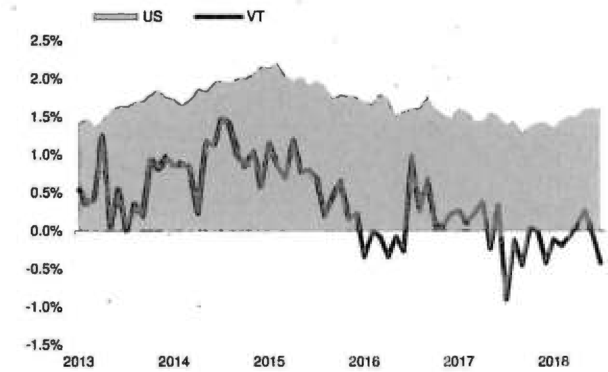
Vermont's aging population is causing the state to lean on the health care sector to drive employment gains (see Exhibits 7 & 8). According to the US Bureau of Labor Statistics, employment in health care and social assistance now accounts for nearly 17% of jobs in Vermont compared to just over 13% nationwide. The health care sector will likely remain a source of well-paying jobs in the state. However, though personal income growth in Vermont has been sound, it also trails growth across the US (see Exhibit 6 above).

Exhibit 7
Growth in the health care sector is a driver of Vermont's employment gains
Year-over-year change in Vermont's monthly nonfarm employment



Source: US Bureau of Labor Statistics

Exhibit 8
Vermont's growth in non-health care employment significantly lags that of the US
Year-over-year change in monthly nonfarm employment excluding the health care and social assistance sector



Source: US Bureau of Labor Statistics

Notwithstanding the above discussion, Vermont has several economic bright spots that support its credit profile. It has a relatively high income base. Per capita and median household income in Vermont are slightly higher than those of the entire US, and rank 19th and 20th, respectively, among the 50 US states. The state's poverty rate, averaged over the three years through 2016 by the US Census Bureau, is the sixth lowest in the US. Vermont's unemployment rate consistently falls below that of the US while its labor force participation rate consistently exceeds that of the US.

Much of this is supported by the state's highly educated populace. According to the US Census Bureau, Vermont ranks 8th among the states in share of residents having earned a bachelor's degree or higher. The state also has a robust and growing tourism sector, which has benefited from rising personal income throughout the wider region.

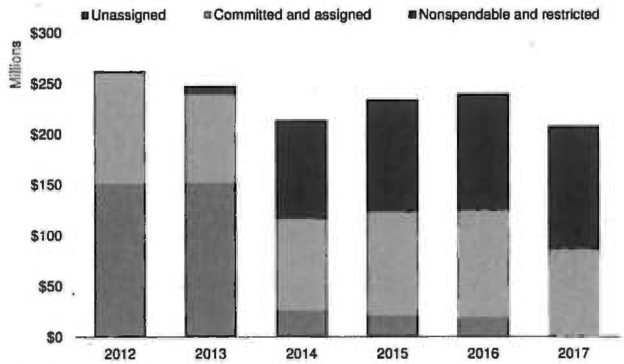
Finances

The state's GAAP-basis available fund balance (unassigned, committed and assigned balances) across its general, education and transportation funds fell in recent years (see Exhibit 9). Accounting for fund balance classified as restricted but composed of funds receivable from the state's internal service fund, the available balance stood at 5% of those funds' combined revenue in fiscal 2017 (see Exhibit 10). This partially reflects loans made by the general fund to the state's OPEB trust that had grown to $29 million in fiscal 2017. The state anticipates returning up to $4 million of this loan to the general fund in fiscal 2019 and completely retiring the interfund loan by 2022.

At 5% of revenue, Vermont's available fund balance is in line with the state's statutory commitment to maintain a budget reserve equal to no less than that share of prior year spending. On a budget basis, the state's fiscal 2017 budget reserves in its general, education and transportation funds were $74.1 million, $33.5 million and $13.3 million, respectively, and, in total, equal to 5% of those funds' combined revenue. The state anticipates the aggregate budget reserve will rise to $126.3 million in the current fiscal 2019.

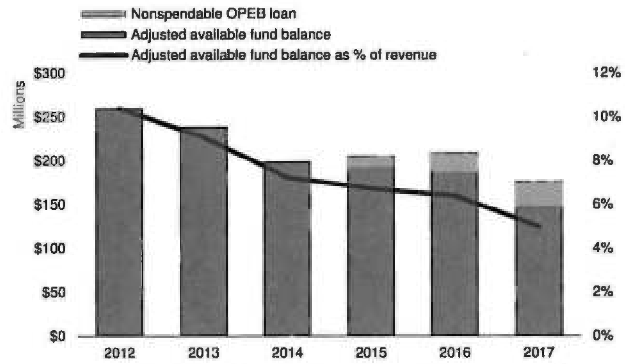
Vermont also holds balances outside its three core operating funds, the largest of which is its human services caseload reserve. The fiscal 2019 budget moves this entire reserve to the general fund, though the state's global commitment fund will continue to account for human services activities. The state anticipates the fiscal 2019 caseload reserve will be around $100 million. Adding this to the state's fiscal 2017 available fund balance puts that balance close to 8.5% of revenue, which is closely aligned with average monthly cash classified as unrestricted by the state treasurer.

Exhibit 9
Vermont's total fund balance has been stable, but reporting changes brought available fund balance down



We define available fund balance as the sum of unassigned, committed and assigned fund balance
Source: Vermont's comprehensive annual financial reports

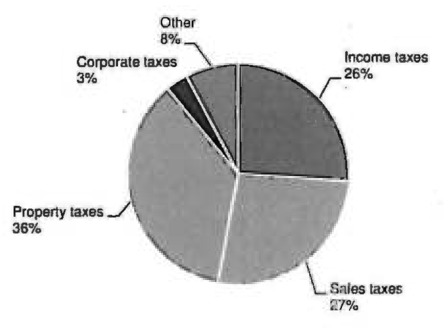
Exhibit 10
Adjustments to available fund balance show a moderate decline as well



"Adjusted available fund balance" consists of reported available fund balance plus the general fund's annual receivable from the state's internal service fund.
Source: Vermont's comprehensive annual financial reports

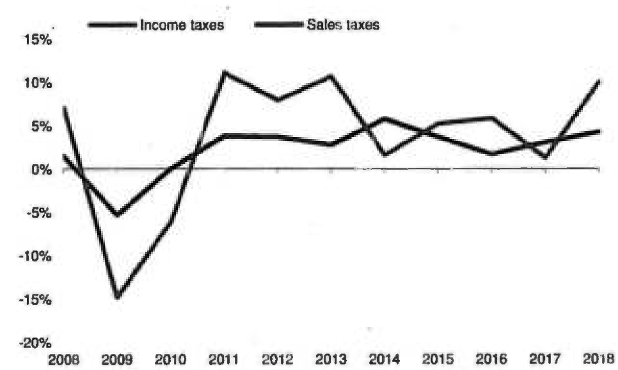
On a budget basis, the state reports closing fiscal 2018 on June 30 with an operating surplus of $11 million in the general fund, which it transferred to the teachers pension plan. Personal income taxes were up 10% year-over-year, part of which the state attributes to growth in capital gains (see Exhibit 12). The fiscal 2019 budget assumes only moderate growth in revenue over fiscal 2018 and is balanced without the use of reserves.

Exhibit 11
Vermont's revenue base is diverse
Composition of revenue across Vermont's general, education and transportation funds



Sales tax includes gas and vehicle taxes, and meals and room taxes.
Source: State of Vermont

Exhibit 12
Revenue growth in Vermont has been solid
Annual growth in select taxes

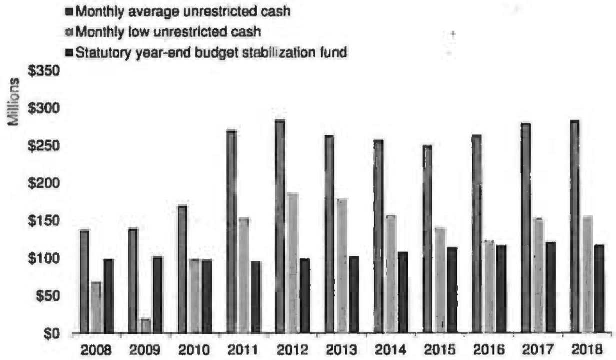


Sales tax includes gas and vehicle taxes, and meals and room taxes.
Source: State of Vermont

LIQUIDITY

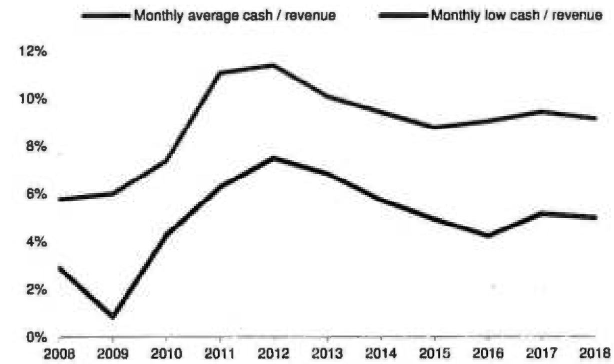
Vermont rapidly rebuilt its cash reserves after the 2007-09 recession and has kept liquidity at a strong level (see Exhibit 13). Monthly average unrestricted cash held by the state treasurer hovered around 9% of combined general, education and transportation fund revenue over the past several years (see Exhibit 14). We do not anticipate a material change in liquidity in the coming years.

Exhibit 13
Available liquidity and statutory budget stabilization reserves remain healthy, both nominally...



Source: State of Vermont

Exhibit 14
...and as a share of key operating revenues



Revenue is the sum of Vermont's general, education and transportation funds, less federal grant receipts
Source: State of Vermont

Debt and pensions

Vermont's net tax supported debt (NTSD) ratios are very close to or below state medians (see Exhibit 1 above). But, the state carries a heavy unfunded pension burden. As a share of state nominal GDP, Vermont's fiscal 2017 adjusted net pension liability (ANPL) is the 8th highest of the 50 states. It ranks 10th in combined ANPL and NTSD as a percentage of GDP.

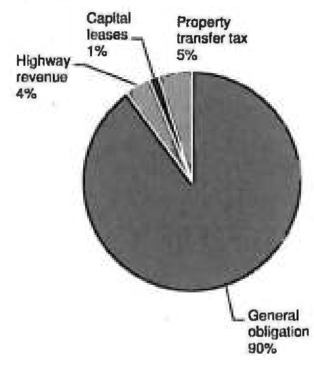
Vermont's debt and pension burden is still much lower than those of the most highly leveraged states. Importantly, Vermont's pension burden incorporates all liabilities associated with statewide school districts because the state accounts for all primary and secondary education financial activities. This is a big driver of Vermont's high pension burden relative to other states.

Exhibit 15
Vermont's debt statement ($million)
As of June 30, 2018

General obligation bonds	$636
Transportation infrastructure bonds	$27
Capital leases	$10
Property transfer tax bonds	$35
Total net tax-supported debt	**$707**
Moral obligations	
Vermont Municipal Bond Bank	$585
Vermont Econ. Dev. Auth.	$173
Vermont Housing Finance Auth.	$38
Vermont Student Assistance Corp.	$7
Total moral obligations	**$802**
Gross tax-supported debt	**$1,509**

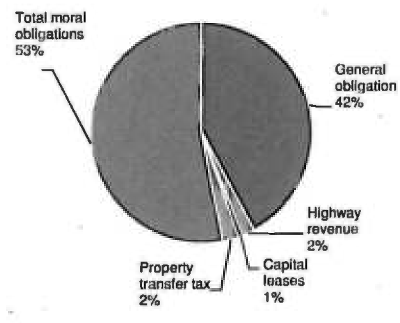
Source: State of Vermont

Exhibit 16
General obligation bonds make up the vast majority of net tax-supported debt



Source: State of Vermont

Exhibit 17
Moral obligations are a big component of Vermont's gross tax-supported debt



Source: State of Vermont

DEBT STRUCTURE

All of Vermont's debt is fixed rate.

DEBT-RELATED DERIVATIVES

Vermont is not party to any debt-related derivatives.

PENSIONS AND OPEB

Across both of its retirement plans (the Vermont State Retirement System and State Teachers' Retirement System), Vermont's pension contribution of $142 million in fiscal 2017 consumed just under 4% of own-source revenue. The actual contribution was short of the $162 million we estimate as the state's aggregate pension "tread water" indicator. The "tread water" indicator, which we calculate based on pension plan disclosures, measures the annual employer contribution necessary to forestall growth in plan reported net pension liabilities, assuming other plan actuarial assumptions hold, after accounting for employee contributions. The difference between the state's actual contribution and the "tread water" indicator was less than 1% of own-source revenue.

The state's current funding policy, established in statute, is to fully amortize the unfunded liabilities of VSERS and VSTRS by 2038. In the past year, the state lowered the discount rate of both plans to 7.5% from 7.95%. To accommodate the lower investment return assumption and stay within the statutory funding target, the state plans to increase its contributions to VSTRS in fiscal 2020 to 19% of payroll from 16% of payroll. In the same year, the state plans to increase its VSERS contributions to 13.3% of payroll from 11.6% of payroll.

As of fiscal 2017, Vermont reported a net OPEB liability of $2.4 billion under newly adopted GASB statement 74. The net OPEB liability is another 7.4% of 2017 GDP and, like the state's pension burden, includes 100% of state teacher retiree health care liabilities. The state made $57 million in OPEB payments in fiscal 2017, which is incorporated in our calculation of the state's fixed cost burden.

Governance

Vermont's governance is strong. The state updates its consensus revenue forecast twice per year, in January and July. The January update covers the remainder of the current fiscal year as well as the two upcoming fiscal years. The July update then revises the forecast for the newly begun fiscal year and the immediately following fiscal year. The two forecast updates are required by statute. During economic downturns, such as the 2007-09 recession, the state has updated its revenue forecast more frequently to aid responses to weakened revenue performance.

Rating methodology and scorecard factors

The US States and Territories Rating Methodology includes a scorecard, which summarizes the 10 rating factors generally most important to state and territory credit profiles. Because the scorecard is a summary, and may not include every consideration in the credit analysis for a specific issuer, a scorecard-indicated outcome may or may not map closely to the actual rating assigned.

Exhibit 18

US states and territories rating methodology scorecard

Vermont (State of)

Rating Factors	Measure	Score
Factor 1: Economy (25%)		
a) Per Capita Income Relative to US Average [1]	101.4%	Aaa
b) Nominal Gross Domestic Product ($ billions) [1]	$32.2	A
Factor 2: Finances (30%)		
a) Structural Balance	Aa	Aa
b) Fixed Costs / State Own-Source Revenue [2]	8.1%	Aa
c) Liquidity and Fund Balance	Aa	Aa
Factor 3: Governance (20%)		
a) Governance / Constitutional Framework	Aaa	Aaa
Factor 4: Debt and Pensions (25%)		
a) (Moody's ANPL + Net Tax-Supported Debt) / State GDP [2] [3]	17.8%	Aa
Factors 5 - 10: Notching Factors [4]		
Adjustments Up: Financial Stability	0.5	
Adjustments Down: None	0	
Rating:		
a) Scorecard-Indicated Outcome		Aa1
b) Actual Rating Assigned		Aa1

[1] Economy measures are based on data from the most recent year available.
[2] Fixed costs and debt and pensions measures are based on data from the most recent debt and pensions medians report published by Moody's.
[3] ANPL stands for adjusted net pension liability.
[4] Notching factors 5-10 are specifically defined in the US States and Territories Rating Methodology.
Source: US Bureau of Economic Analysis, Vermont's comprehensive annual financial reports, Moody's Investors Service

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Rating Action: Moody's affirms Vermont's Aa2 transportation infrastructure bonds and property transfer tax bonds; outlook stable

23 Oct 2018

New York, October 23, 2018 -- Moody's Investors Service has affirmed the Aa2 rating on the State of Vermont's special obligation transportation infrastructure bonds (series 2010, 2012 and 2013) and the Aa2 rating on the Vermont Housing Finance Agency's property transfer tax revenue bonds (series 2018). The outlook remains stable.

RATINGS RATIONALE

The Aa2 rating on the state's transportation infrastructure bonds reflects a healthy tax base, a broad special tax pledge of motor fuel taxes, strong limitations on leveraging pledged motor fuel taxes and very healthy debt service coverage. The rating considers recent declines in pledged motor fuel taxes, but balances this against state action to set a floor in the taxable price of gasoline to mitigate the effects of large price declines.

The Aa2 rating on the property transfer tax bonds is heavily supported by the strong coverage provided by property transfer taxes and statutory restrictions on further leveraging pledged taxes. The rating considers these strengths in light of the very narrow tax pledge and the highly volatile nature of the total transfer tax stream.

RATING OUTLOOK

The stable outlook incorporates both the stable outlook of the state's general obligation rating and the expectation that coverage of annual debt service on both types of bonds by their respective pledges will remain strong.

FACTORS THAT COULD LEAD TO AN UPGRADE

-Sustained growth in pledged taxes or state actions that further strengthen the respective special tax pledges

FACTORS THAT COULD LEAD TO A DOWNGRADE

-Sustained decline in pledged taxes or statutory changes that weaken bondholder covenants

-A downgrade of the state's general obligation rating

LEGAL SECURITY

The transportation infrastructure bonds are secured by receipts of a 2% assessment on the retail price of each gallon of gasoline sold by distributors in the state and receipts of a $0.03 assessment on each gallon of diesel fuel sold in the state.

The property transfer tax revenue bonds are secured by a statutory transfer of the first $2.5 million of property transfer tax receipts from the state to the Vermont Housing Finance Agency (HFA). Act 85 of 2017 specifically allocates the first $2.5 million of collections to the HFA to pay debt service on the authorized bonds.

USE OF PROCEEDS

Not applicable.

PROFILE

The State of Vermont is located in the northeast United States. Its estimated 2017 population of just under 624,000 makes it the second smallest state in the country. Its 2017 nominal GDP of $32.2 billion is the smallest of the 50 states.

METHODOLOGY

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