State of Vermont

State Credit Rating Perspective on Long Term Liabilities

- **Pensions and**
- **Other Post Employment Benefits**

February 19, 2021

PRAG

Rating Agencies on Pensions and OPEBs

In recent years the rating agencies have placed greater emphasis on liabilities in their determination of state ratings given growing investor concerns on unfunded pensions and growing OPEB labilities.

- Moody's – Debt and Pensions carry a 25% weighting in determining a state's credit score
  - Moody's also considers a Fixed Costs/Own Source Revenue as 10% of the state's credit score under Finance
  - Moody's does not include an assessment of OPEBs in this factor but it can notch the factor rating score for material pension and OPEB characteristics.
- S&P- Debt and Liability Profile (including debt burden, pension liabilities, and OPEBs) determine 20% of a state's credit score.
- Fitch- considers Long-term Liability Burden (comprised of governmental debt and adjusted net pension liability) as one of four rating drivers in determining a state's credit rating.
  - Fitch considers the credit impact of OPEBs in evaluating a government's expenditure framework and operating performance but does not include this liability as part of an issuer's long-term liability burden except in limited cases.
  - Fitch does not judge OPEB liabilities to be akin to debt and net pensions.

Sources: S&P, "Assessing U.S. Public Pension and Other Post Employment Obligations for GO Debt, Local Government GO Ratings and State Ratings," October 2019, Fitch Ratings, "US Public Finance Tax Supported Rating Criteria," March 2020, Moody's, "Adjustments to Pension and OPEB Data Reported by GASB Issuers, Including US States and Local Governments," October 2019

Lowest Rated State Credits Have High Pension Liabilities

In recent years the rating agencies have placed greater emphasis on liabilities in their determination of state ratings given growing investor concerns on unfunded pensions and growing OPEB labilities.

General Obligation Bond Ratings with Outlook - January 2021

	Moody's		S & P		Fitch	
State	**Rating**	**Outlook**	**Rating**	**Outlook**	**Rating**	**Outlook**
Connecticut	A1	Stable	A	Stable	A+	Stable
Illinois	Baa3	Negative	BBB-	Negative	BBB-	Negative
Kentucky	Aa3	Stable	A	Stable	AA-	Negative
New Jersey	A3	Negative	BBB+	Stable	A-	Negative
Pennsylvania	Aa3	Stable	A+	Negative	AA-	Stable

Rating Agencies on Pensions and OPEBs

The rating agencies typically evaluate pension liability as part of the a state's general obligation credit rating. Below are certain key pension factors and corresponding metrics:

Pension Factor	Metrics
Magnitude of Unfunded Liabilities	• Moody's evaluates adjusted net pension liability in conjunction with Net Tax Supported Debt as a % of State GDP • S&P also considers the magnitude of unfunded obligations relative to the revenue base • All the rating agencies adjusted pension liabilities based on a standard discount rate assumptions - S&P and Fitch assume a 6.5% and 6.0% discount rate, respectively and Moody's assumes a FTSE Pension Liability Index (2.70% as of June 2020)
Funding Progress and Sufficiency of Contributions	• Moody's makes adjustments to reported data to improve comparability among peers. Moody's calculates a 'tread water' indicator which represents the contribution necessary to prevent the unfunded liabilities from growing year over year. • S&P analyzes trends towards funding progress • Fitch considers the dollar difference between actuarially determined contributions and actual pension contribution
Funding Pressure/Fiscal Burden	• S&P evaluates required pension contributions plus OPEB as a percentage of total governmental funds expenditures. • Fitch evaluates total carrying cost of debt service, pension contributions and actual OPEB payments as a percentage of expenditures in order to assess fixed cost burden • Moody's looks at a fixed cost ratio or debt service, tread water pension contributions and OPEB contributions as a percentage own source revenues (governmental revenue minus federal aid).

Sources: S&P, "Assessing U.S. Public Pension and Other Post Employment Obligations for GO Debt, Local Government GO Ratings and State Ratings", October 2019, Fitch Ratings, "US Public Finance Tax Supported Rating Criteria" March 2020, Moody's, "Adjustments to Pension and OPEB Data Reported by GASB Issuers, Including US States and Local Governments", October 2019, Moody's, "Medians - Pension and OPEB liabilities fell in fiscal 2019 ahead of jump in 2020, Sept. 2020

Rating Agencies on Vermont Pensions

Each of the rating agencies have expressed concerns regarding the State's pension liabilities and the expectation that liabilities will continue to grow unless reforms are made.

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* • *Financial operations and budget reserves are sound and stable, and liquidity is very healthy*
Credit challenges:	• *The state's economic performance lags that of the US and many state peers, and an aging population may be a drag on future growth* • *Relative to state GDP, Vermont's leverage (combined debt and unfunded post-employment liabilities) is higher than most states.*
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***

Sources: Moody's, "Vermont (State of) Update to credit analysis," June 2020, S&P, "Vermont; General Obligation; School State Program," Nov 2020, Fitch Ratings, "Fitch Affirms Vermont's IDR and GO Bonds at 'AA+'; Outlook Stable," June 2020

S&P Placed Vermont on Negative Outlook in Dec 2020

Credit overview

In our view, Vermont's proactive budget management practices and well-embedded strong financial policies have helped anchor its credit profile over time, as pressures have mounted from demographic trends and retirement liabilities…. However, we anticipate that if the trajectory of current challenges persists, ***the state's structural budget balance could begin to slowly erode over the long term, given shrinking resources to address significant liabilities.***

Negative Outlook

Downside scenario

We could lower our rating on Vermont if we believe that the trajectory of the state's economy will lead to softened economic metrics (e.g., demographic profile, GSP growth levels) over the long term, creating an increasingly challenged budgetary environment. In this scenario, the rating would no longer be commensurate at the current rating level, despite strong management practices and policies.

Although unexpected, increases to unfunded retirement liabilities *driven by diversion of resources or* ***lack of action to control the liability could also pressure the rating.***

Sources: S&P, "Vermont; General Obligation; School State Program," November 2020

Rating Agencies on Vermont Pensions

Each of the rating agencies have expressed concerns regarding the State's pension liabilities and the expectation that liabilities will continue to grow unless reforms are made.

Moody's Investors Service Rating: Aa1 Outlook: Stable	*Vermont's net tax supported debt (NTSD) ratios are very close to state medians. However,* ***as a share of state nominal GDP, Vermont's adjusted net pension liability (ANPL) is consistently among the ten highest of the 50 states.*** *The ANPL is our measure of a state or local government's pension burden that uses a market-based interest rate to value accrued liabilities.*
Standard & Poor's Ratings Services Rating: AA+ Outlook: Negative	*In our view,* ***Vermont's unfunded pension liabilities are significant compared with those of many state peers, despite various reform efforts in recent years.*** *Although the state has consistently met or exceeded ADC funding levels,* ***the state's contributions continue to fall below our calculation of minimum funding progress, which we anticipate will lead to growing liabilities over time.***
FitchRatings Rating: AA+ Outlook: Stable	*The moderate long-term liability burden, measured as a percentage of personal income, is above the states' median but should remain relatively stable* ***given Vermont's close oversight and management of debt issuance, and policy changes to improve pension sustainability over time.***

Sources: Moody's, "Vermont (State of) Update to credit analysis," June 2020, S&P, "Vermont; General Obligation; School State Program," Nov 2020, Fitch Ratings, "Fitch Affirms Vermont's IDR and GO Bonds at 'AA+'; Outlook Stable," June 2020

S&P Assesses OPEB Unfunded Risk Relative to Other States

Lack Of Prudent Fiscal Management Poses The Greatest Risk To State OPEB Plans

Historically, prudent fiscal plan management has included pre-funding the liability and/or reducing or capping benefit levels to a level projected to be affordable (within the legal confines of the state). S&P Global Ratings believes state efforts to address OPEB liabilities have been somewhat minimal in recent years. Some notable exceptions include: Delaware's re-establishment of a retirement benefit study committee to assess options to address the state's unfunded liabilities (although any potential action is currently unknown), North Carolina's budget for fiscal 2018 that eliminated retiree health care for new hires beginning in 2021, and Tennessee's contributions are expected to fully fund actuarial determination.

Ultimately, our OPEB risk assessment focuses on the relative level of unfunded OPEB liability compared to other states, the legal and practical flexibility that a state has to adjust these liabilities, and the overall strategy to manage the cost of these benefits, which will affect future contribution rates and budgetary requirements.

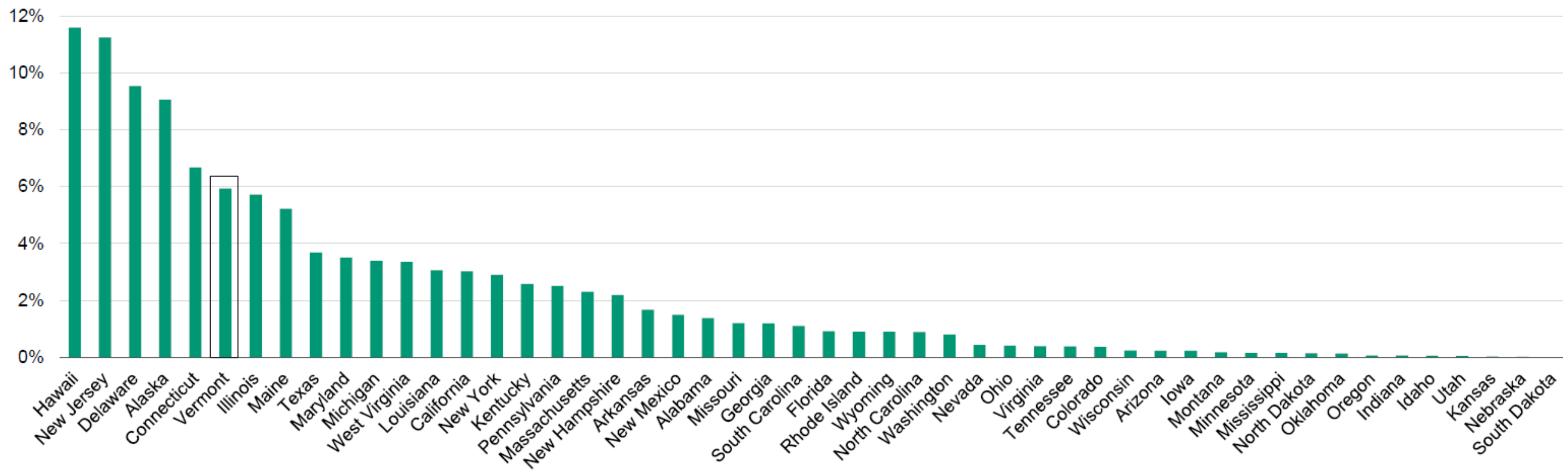
Sources: S&P, "U.S. States Are Slow to Reform OPEBs as Decline in Labilities Mask Increase Risk ," October 2019

Vermont's Relative Standing – Other Post Employment Benefits

Moody's considers Adjusted Net Other Post Employment Benefit Liabilities ("ANOL") as a % of Gross State Product

- Vermont is **ranked 6th highest** out of the 50 states of ANOL as a percentage of Gross State Product.
- Moody's estimates that this liability is **6.8% of State Gross Domestic Product and 6.7% of State Personal Income**. The Moody's Median for ANOL as a percent of State GDP was 1%.

Fiscal 2019 ANOL as a % of state GDP

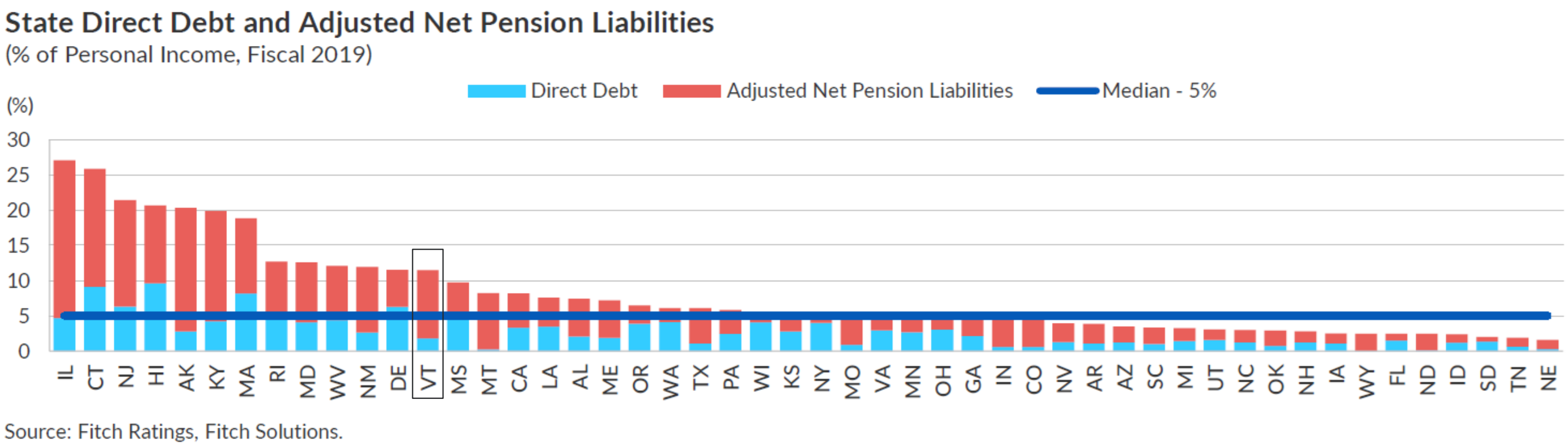


ANOL stands for adjusted net OPEB liability.
California's ANOL reflects fiscal 2018 figures because of insufficient information for fiscal 2019.
Source: Moody's Investors Service

Vermont's Relative Standing – Fitch

Vermont is the 8th highest State in Fitch Adjusted Net Pension Liability Calculation

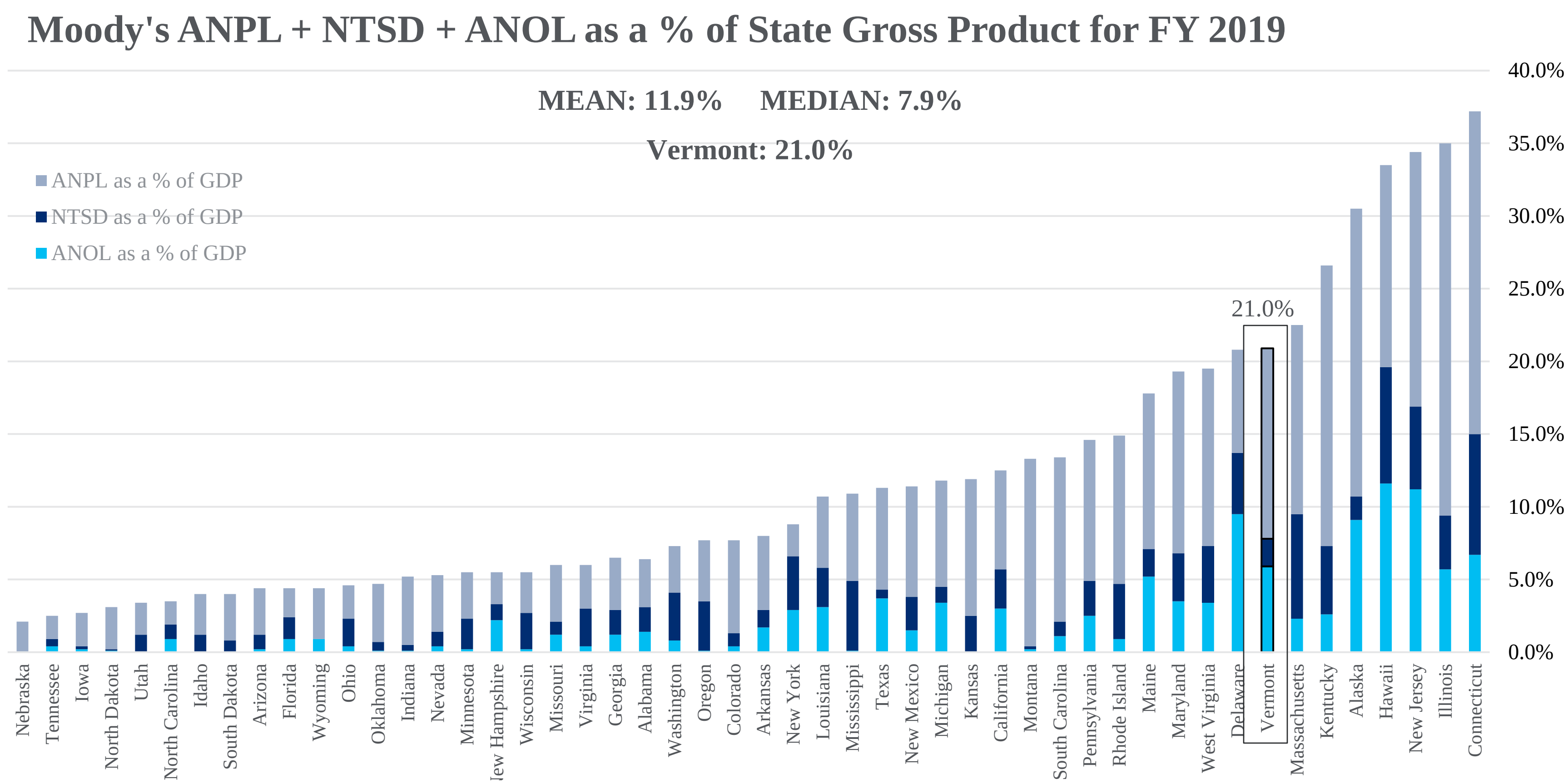
- Vermont is the 13th highest out of the 50 states for Direct Debt and Net Adjusted Pension liability as a percentage of Personal Income. Pension liabilities are crowding out the State's borrowing capacity.



Vermont’s Relative Standing – Moody’s

Moody’s consider net tax supported debt (“NTSD”), adjusted net pension liability (“ANPL”) and adjusted net OPEB liabilities (“ANOL”) combined as a % of Gross State Product

- Vermont is currently ranked 8th out of the 50 states of NTSD+ANPL+ANOL as a percentage of Gross State Product (note: higher ranked numbers are superior so Vermont’s is ranked in the bottom fifth of all states).

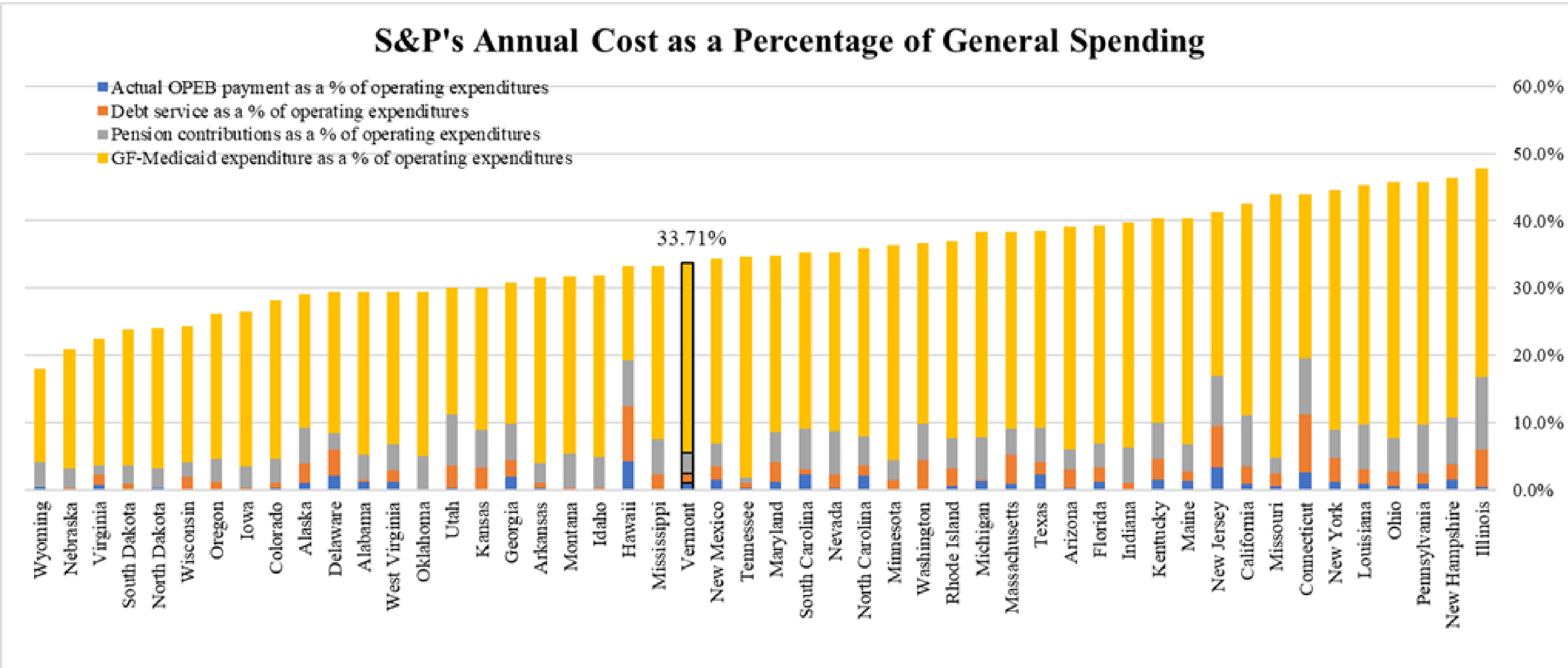


Source: Moody's State Pension Medians Report September 8, 2020

Vermont’s Relative Standing

S&P has concerns with long-term liabilities (fixed costs) as % of total operating budget. With liability costs expected to continue to rise could create reduced financial flexibility.

- Vermont is constrained by their pension, OPEB and Medicaid expenses compared to other states.



Notes: Contribution and expenditure data is on a budgetary basis as of fiscal 2018.
Sources: S&P State budget data or National Association of State Budget Officers expenditure report.

Risk of Lower State Credit Ratings

In recent years the rating agencies have placed greater emphasis on liabilities in their determination of state ratings given growing investor concerns on unfunded pensions and growing OPEB labilities.

- State borrowing costs would go up
- In times of economic and market disruption, lower rated entities can face market access issues or significantly higher borrowing costs
- Other entities that use the State Aid Intercept and Moral Obligation credit enhancement would see higher borrowing costs
  - Vermont Municipal Bond Bank
  - Vermont State Colleges
  - Vermont Economic Development Authority
  - VHFA and VSAC for certain borrowing programs