MOODY'S INVESTORS SERVICE

CREDIT OPINION
8 December 2020

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Connecticut (State of)

Update to credit analysis

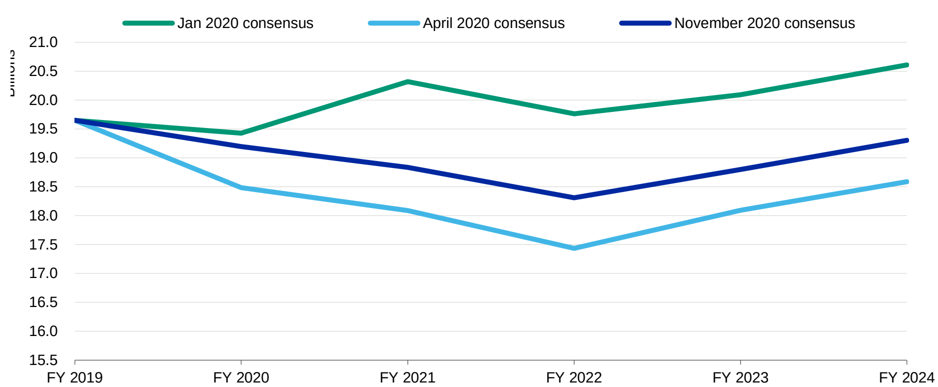
Summary

Connecticut (A1 stable) has high income levels, strong governance, and strong liquidity, offset by high fixed costs for debt service, pension, and post-employment benefits relative to the state's budget. Unfunded pension liabilities combined with debt outstanding are among the highest, relative to revenues, of any state in the country. While the state's economic growth performance has been below average in recent years, current employment relative to the pre-pandemic peak is above average and better than neighboring states. A recent trend of population loss may also be ending as suburban living gains favor. The state's recent actions to build substantial reserves, federal stimulus support and better than expected revenue performance to date are enabling the state to navigate the impacts of the coronavirus while maintaining healthy liquidity.

We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. We do not see any material immediate credit risks for the state of Connecticut. However, the situation surrounding coronavirus is rapidly evolving and the longer term impact will depend on both the severity and duration of the crisis. If our view of the credit quality of the state of Connecticut changes, we will update our opinion at that time.

Exhibit 1

Fiscal 2020 general fund revenue results were better than feared in April but set to lag prior expectations for years



FY 2019 revenue is an actual result, as is the FY 2020 amount from the November 2020 consensus forecast
Source: Connecticut Office of Policy and Management

Credit strengths

» Wealthiest state in the nation with per capita personal income levels well above national levels

» Demonstrated willingness to make mid-year budget adjustments

» Recently-enacted pro-active initiatives to mitigate impacts of revenue volatility and build rainy day fund

Credit challenges

» Fixed costs for debt, pension and other post-employment benefits (OPEB) relative to budget are among the highest in the nation and restrict budgetary flexibility

» Vulnerability to financial market fluctuations due to effect on capital gains for very high-wealth residents and employment in the financial services sector

» Unfavorable demographic trends resulting in population loss and an aging population

Rating outlook

Connecticut's outlook is stable, reflecting high level of budgetary reserves and the state's strong provisions to promote fiscal discipline, which pair redressing elements of its high leverage position and requiring GAAP-based budgeting.

Factors that could lead to an upgrade

» Continued maintenance of ample GAAP-basis combined available reserve levels

» Established trend of structural budget balance

» Evidence of sustained stronger economic performance

» Reduced pension and debt leverage relative to Moody's 50-state medians, resulting in lower annual fixed costs

Factors that could lead to a downgrade

» Significant additional leverage, encompassing bonded debt, pension and OPEB obligations and negative unassigned GAAP balances

» Rapid acceleration of revenue/economic/demographic weakness

» Significant decline in liquidity position

Key indicators

Exhibit 2

Connecticut (State of)	2015	2016	2017	2018	2019	50-State Median (2019)
Operating Fund Revenues (000s)	$17,187,461	$17,750,816	$17,940,062	$20,026,439	$20,243,307	$12,439,906
Available Balances as % of Operating Fund Revenues	-2.3%	-4.3%	-3.4%	4.8%	8.6%	9.1%
Nominal GDP (billions)	$262.4	$266.7	$272.6	$279.8	$287.8	$250.6
Nominal GDP Growth	5.5%	1.7%	2.2%	2.6%	2.9%	3.6%
Total Non-Farm Employment Growth	0.8%	0.3%	0.2%	0.2%	-0.1%	0.9%
Fixed Costs as % of Own-Source Revenue	30.7%	30.0%	33.6%	30.7%	29.8%	7.8%
Adjusted Net Pension Liabilities (000s)	$52,942,059	$53,742,607	$71,223,221	$62,059,644	$63,348,693	$11,258,253
Net Tax-Supported Debt (000s)	$22,103,517	$23,265,534	$23,479,445	$24,299,690	$23,664,466	$3,864,531
(Adjusted Net Pension Liability + Net Tax-Supported Debt) / GDP	28.6%	28.9%	34.7%	30.9%	30.2%	6.9%

Available balances are the sum of budget reserves and general fund unassigned cash balance
Source: Moody's Investors Service; Connecticut financial statements

Profile

The State of Connecticut has a population of 3.57 million people located in the coastal northeastern US, bordered by Rhode Island (Aa2 stable), Massachusetts (Aa1 stable) and New York (Aa2 stable) with 618 miles of shoreline, according to the National Oceanic and Atmospheric Administration (NOAA). The state has a large and diverse economy with a gross state product of $286 billion in 2019. It is the wealthiest state in the country with per capita income of nearly 140% of the US average.

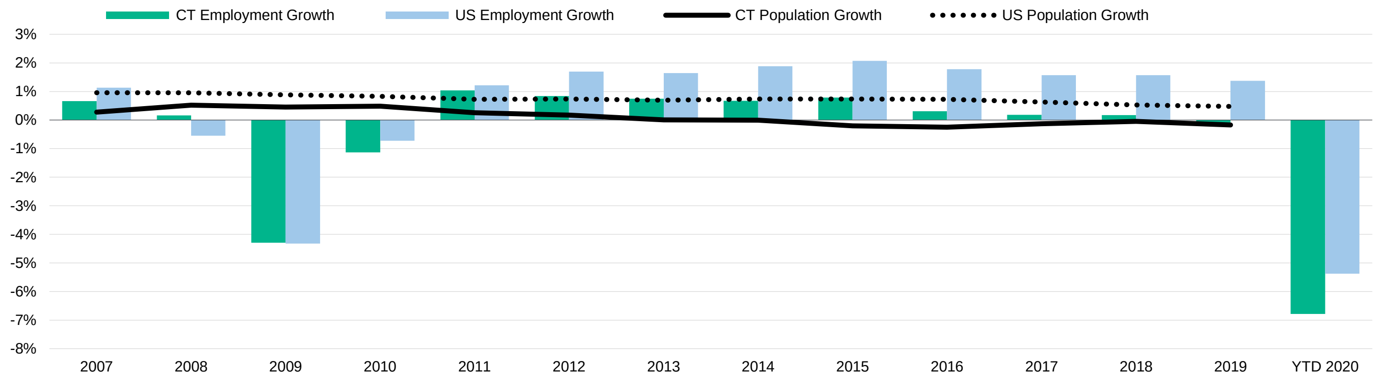
Detailed credit considerations

Economy: through September, state employment recovery was better than US average

Economic activity across the state has been significantly curtailed because of efforts to contain the coronavirus outbreak. From February to the trough in April, the state lost about 290,000 jobs, a decline of more than 17%. Losses were concentrated in leisure and hospitality, education and health and retail. As in the rest of the country, a partial recovery occurred through the summer months and the state regained 192,000 jobs by October, recovering to about 94% of pre-pandemic job levels, a higher level of recovery than the US as a whole and better than neighboring states. The state's budget office currently projects an economic recovery in which real GSP does not return to the pre-pandemic peak until the third quarter of 2021, with employment recovering more slowly and not regaining its first quarter 2020 peak until the second half of 2023.

The impact of the pandemic has occurred against the backdrop of lagging economic trends in the state. Connecticut's economy has lagged the nation's since the last recession in 2008 and we expect that trend generally to continue. Connecticut is a wealthy state, with per capita personal income at 137% of the US. However, during the nation's long economic expansion the state's population declined 0.8% since its peak in 2013. The population trends align with an underperforming housing market and lagging labor force growth. Accompanying slow population growth, the state's labor force grew 2.6% from 2013 to 2019, compared to nationwide growth of 5.2%. Employment and GDP growth have similarly lagged the nation (see Exhibit 3).

Exhibit 3
Employment and population growth have lagged the US
% change from previous year



Source: US Bureau of Labor Statistics; US Census Bureau; Moody's Investors Service

The coronavirus pandemic may have shifted the state's shorter term population trajectory somewhat, as the virus appears to have accelerated a shift to the suburbs of millennial families. State officials report that real estate conveyance taxes have grown 9.8% year-to-date through October compared to the same period in 2019. By contrast, full year 2019 conveyance tax collections grew 2.5%. Other data sources suggest that demand comes from relocating New Yorkers. If remote work persists at higher levels post-pandemic, Connecticut could benefit from sustained interest in suburban living, which would help lift its real estate market and stem declining population trends. However, the state is unlikely to buck the longer term relatively slow population trend of the entire northeastern region for a sustained period.

Economic headwinds have included lackluster performance in the state's high-paid financial activities sector. While financial activities jobs nationwide exceed pre-financial crisis levels, Connecticut's finance sector has alternately declined and stalled. The failure of the sector to recover contributes to the state's slow wage growth: growth in total wages in the post-recession period has grown at roughly half the rate as in the expansion leading up to the recession.

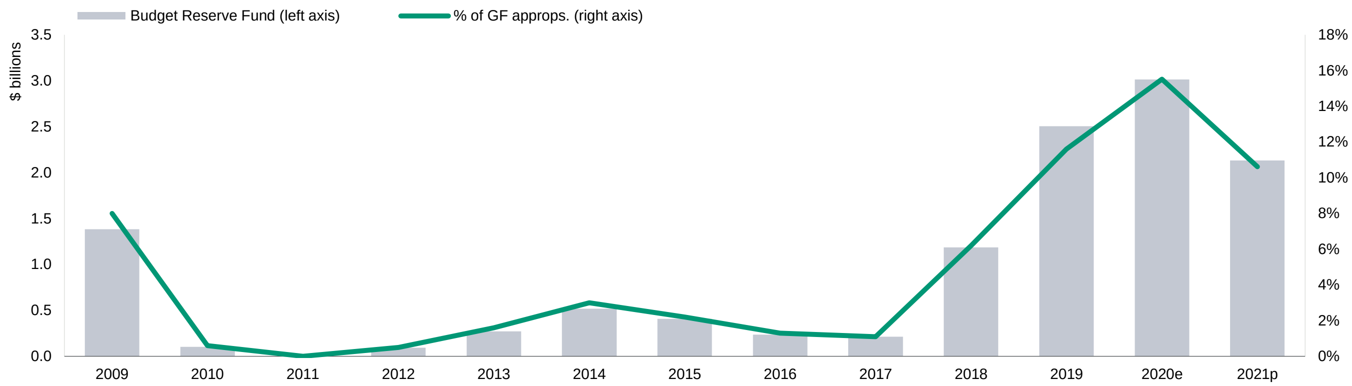
Finances and Liquidity: multi-year recovery cushioned by reserves

The state's fiscal 2020, ending June 30, closed more favorably than expected early in the pandemic when the budget office projected a $900 million deficit. Instead, the state posted a surplus of about $38 million. Much of the projected deficit was expected to be funded with a withdrawal from the state's Budget Reserve Fund (BRF), but instead the state was able to make a net deposit of $507 million to the fund bringing the balance to more than $3 billion in fiscal 2020, hitting the statutory cap of 15% of appropriations. About $62 million in funds above the BRF cap were used to make an additional contribution to the state retiree pension fund. Better performance stemmed from tax revenue that was less severely impacted by the pandemic than anticipated, spending restraint and considerable assistance from federal stimulus grants and reimbursements, including enhanced federal Medicaid matching funds.

The fiscal 2021 deficit projected by the Office of Policy and Management has fallen from more than $2 billion as recently as September to less than $900 million in November because revenue has exceeded expectations and the state has identified a $200 million deficit mitigation plan. The state currently expects to close the remaining gap with a withdrawal from the Budget Reserve Fund (BRF), which will reduce the balance to $2.1 billion (see Exhibit 4). Because revenue collections have been running ahead of the most recent consensus forecast projections, it is possible that if this trend is not reversed by the impacts of a resurgent virusthe BRF withdrawal can be reduced, preserving a larger cushion for future years. Rapidly declining reserves would be a negative for the state because the BRF helps to compensate for inflexibility in the budget.

The governor's proposed budget for the fiscal 2022-23 biennium will be presented this winter. The most recent consensus revenue forecast foresees general fund revenue declining nearly 2% in fiscal 2021 followed by an additional decline of 2.8% in fiscal 2022, with growth resuming in fiscal 2023. Revenue does not return to fiscal 2019 levels by the end of the forecast period in fiscal 2024. The decline in fiscal 2022 is largely due to the expiration of certain revenue actions previously implemented to close general fund gaps. In particular, the state would resume certain transfers to municipalities in the amount of $356 million and increase its allocation of sales tax to the Special Transportation Fund, costing an additional $180 million. These items and others are likely to be on the table as the budget is formulated for the new biennium.

Exhibit 4
Connecticut's reserves provide cushion for pandemic impacts
Fiscal year



Fiscal 2020 is an estimate and fiscal 2021 is the state's projection
Source: Connecticut Office of Policy and Management

Fixed costs command nearly a third of budget
We expect the state's fixed costs to remain stubbornly high at about 30% of revenues for the foreseeable future, creating a significant drag on its credit profile. These obligations reduce the share of discretionary spending and the state's budgetary flexibility during economic downturns. The state's combined debt service, pension, and OPEB contributions in fiscal 2019 were 31% of own-source governmental revenues, up a percentage point from 2018 and among the highest of the states. High fixed costs show the tight squeeze that the state's long-term obligations are placing on the operating budget: for example, the consensus revenue forecast through 2024 shows nearly flat general fund revenue while the most recent actuarial projections show contribution growth at more than 6%, compounded. The state's high costs are partly attributable to the state's absorption of certain costs covered by local governments in most other states.

Long-term plan to address large negative GAAP balance unfolds slowly
On a GAAP basis, the state has a long-standing large cumulative unassigned GAAP deficit, which stood at -$771 million on June 30 2019. The state implemented a plan to address the deficit, which included devoting the proceeds of $560 million of 2013 general obligation bonds to reduce it and committing to amortize the remaining gap from annual payments from the general fund. The payments were suspended in fiscal 2017 through 2019 as the state applied the contributions toward closing budget gaps, but better fiscal discipline has nonetheless reduced the GAAP unassigned deficit from almost $1 billion in 2016. In fiscal 2020, the state made an amortization payment of $75 million.

LIQUIDITY
With the rapid growth of the state's budget reserve since 2017, Connecticut's liquidity has strengthened dramatically. The state has not needed to borrow for cash purposes in recent years and has no plans to borrow in the current fiscal year. The state's available cash balance as of the end of October was about $5.8 billion, about 30% of projected fiscal 2021 general fund revenue. The state's cash balances are running ahead of projections, due in part to the better than expected general fund ending position in fiscal 2020, which obviated the need to draw on the rainy day fund, and federal pandemic-related grants and reimbursements.

The state is not currently expecting to make a deposit to the BRF in fiscal 2021.

Debt and Pensions: large liabilities underlie high fixed costs
Connecticut is a frequent borrower and the state's debt per capita and debt-to-personal income ranked first and second, respectively, among the 50 states in Moody's 2020 debt medians report. Net tax-supported debt equaled $6,637 per capita and 8.4% of total state personal income, well above the 50-state median of $1,071 in debt per capita and 2% for debt-to-personal income. These high debt

ratios are partly due to substantial capital financing for K-12 school building construction that is carried out at the local level in many other states; combined state and local debt metrics place Connecticut closer to the middle of the pack. However, pension obligation bonds and GAAP conversion bonds to address a portion of the state's sizeable cumulative GAAP deficit add considerably to the state's normal sizeable annual debt issuances and ensure that Connecticut's debt ratios will remain among the highest in the country for the foreseeable future.

Governor Lamont has advocated a "debt diet" for the state to reduce its bonded liabilities. In calendar year 2020, the approved bond allocation through November is $929 million. Although additional bond allocation could be approved before year's end, the total will be considerably less than the $2.68 billion approved at the peak in fiscal 2016. Bond issuance has fallen accordingly, to $1.6 billion in fiscal 2020 from $2.46 billion in peak year fiscal 2015. Bond issuance could be further squeezed by the state's statutory bond cap, which limits bonded debt in relation to state revenue. Continued discipline in borrowing will result in positive improvements in the state's liability profile.

DEBT STRUCTURE

Connecticut's $23.7 billion in net tax-supported debt outstanding (as of fiscal 2019) consists primarily of general obligation bonds, which account for 68% of NTSD (see Exhibit 5). Bonds backed by special taxes for highway construction account for another 24% of state debt. Most GO debt is structured with 20-year principal amortization and a declining debt service schedule, resulting in a pay-out rate of 70% within 10 years. Other debt consists primarily of bonds issued by the University of Connecticut through a debt service commitment and by related organizations for which the state guarantees payment from special capital reserve funds. In 2018, the state also absorbed about $540 million in general obligation debt issued by the city of Hartford (Ba3 issuer rating) as a form of municipal assistance.

Exhibit 5

Connecticut tax-supported debt outstanding is primarily GO and highway related

	2019
General Obligation Bonds	16,107,634
Lease Rental Bonds/Appropriation Debt	10,390
Highway Revenue Bonds:	5,705,600
Capital Leases:	16,902
Other Bonded Debt:	1,823,940
Total	23,664,466

Source: Connecticut financial disclosures; Connecticut Office of the Treasurer; Moody's Investors Service

The state has $912 million in variable rate debt as of November 1, most of which is indexed to SIFMA. Its variable rate debt accounts for about 5% of the state's total GO debt, One variable rate series (2016 Series C) is has an SBPA provided by Bank of America, N.A. (Aa2(cr)/ P-1(cr)). Two series are direct placements, 2017 Series C and 2017 Series D.

DEBT-RELATED DERIVATIVES

The state's remaining swap on $20 million of the state's variable rate debt expired on June 1 when the underlying debt matured. The state has no plan to incorporate swaps into future GO bonds.

PENSIONS AND OPEB

Connecticut's adjusted net pension liability (ANPL), our measure of the government's pension burden, is significantly above the 50-state median. As of the state's 2018 financial statements, ANPL was $62 billion, or 22.6% of state GDP, the third highest of the states. The state participates in several pension systems, of which the most significant are the State Employees Retirement System (SERS) and the Teachers Retirement System (TRS). Connecticut is among the handful of states that take responsibility for directly funding teacher pensions. Moody's ANPL reflects certain adjustments made to improve comparability of reported pension liabilities.

Pension contributions remain a very significant and growing part of the state's budget. The state contributed the full amount of its actuarially determined contributions, about $3 billion in fiscal 2020. It is required via bond indenture to pay the full required contribution to the TRS plan and by collective bargaining to do the same for SERS. With its contributions stepped up in recent years, its payments to the system in 2019 were more than enough to "tread water," or cover current year benefit accruals and interest costs.

The state has made substantial changes to its pension funding approach. It has stretched amortization periods for both SERS (in 2016) and TRS (in 2019), combined with lowering the discount rate for both systems to 6.9% and shifting to a level dollar amortization approach. In addition to maintaining an unrealistically high investment rate of return (discount rate) assumption, the state previously followed a less conservative funding approach linked to assumed wage growth that resulted in back-loaded pension contributions and rapidly escalating contributions in coming years. Nonetheless, to achieve the actuarially-determined level dollar payment requires several years of escalating contributions, contributing to fixed cost growth and placing pressure on other areas of the state budget.

Connecticut also has a very high OPEB liability. As reported under GASB 75 reporting standards in the fiscal 2019 financial statements, the net OPEB liability is $19.7 billion. Adjusted for a common discount rate, we calculate the liability as a slightly lower $19.1 billion. Employees have been required to make contributions to prefund OPEB benefits since 2011, and the state is now making matching contributions, which total about $120 million in fiscal 2019.

ESG considerations

Environmental Considerations

The US states sector overall has low credit exposure to environmental risks because of states' large and diverse economies, revenue raising ability and federal government support for disaster recovery costs. However, due to its coastline along the Long Island Sound, Connecticut is more exposed then most states to climate risks.

According to data from Moody's affiliate Four Twenty Seven, Connecticut counties' average projected rate of change in five climate risk factors, when weighted by county GDP, is among the highest in the nation. Hartford and Fairfield counties, which combined account for over 60% of the state's GDP, project to have high water stress and cyclone risk according to Four Twenty Seven's assessment scale. Fairfield county also has high sea level rise risk, due to its large border on the coastline.

With its southern counties situated along the shore of the Long Island Sound, the state is vulnerable to sea level rise and coastal storms, although the storm risk is mitigated by the protective barrier formed by Long Island to the south. The state does not currently have a systematic climate resiliency plan although state officials report that the state is evaluating the location of key utilities along the coast.

Social considerations

Social issues, such as demographics, labor force, income and education, are key influencers of Connecticut's economy, governance stability and financial and leverage trends. The coronavirus crisis will intensify social challenges, such as access to health care and demands on the social safety net. We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. We do not see any material immediate credit risks for the state of Connecticut. However, the situation surrounding Coronavirus is rapidly evolving and the longer term impact will depend on both the severity and duration of the crisis. If our view of the credit quality of the state of Connecticut changes, we will update our opinion at that time.

As noted in the Economy section above, Connecticut is wealthy but losing population and lagging the nation in most demographic indicators. The workforce is highly educated, with almost 40% of the population aged 25 or more possessing a bachelor's degree or higher compared to the nationwide rate of just less than 33%.

Governance: state profile features strong practices

Governance is a material consideration for the entire state sector. Connecticut's financial management is characterized by strong practices that include timely budget adoption and binding consensus revenue forecasting conducted at least three times a year. Annual multi-year Fiscal Accountability reports are produced by both the governor's budget office and the legislative office of fiscal analysis, and the state releases monthly budgetary updates. The state constitution requires a balanced budget, given greater force by the state's recent move to GAAP-basis budgeting. In addition, the state is not constrained by supermajority requirements to enact tax increases, mandated initiatives or voter referenda.

The governor's executive authority to cut expenses mid-year without legislative approval is limited to 5% of an individual appropriation not to exceed 3% of any fund providing only moderate flexibility. We consider strong executive flexibility to make mid-year spending adjustments a plus. If a deficit exceeds 1% of the general fund, a timely deficit mitigation plan is required to be developed by law. Some of the state's financial provisions are not highly effective, as the state has accumulated high debt levels and did not make a constitutional spending cap operative until 2018.

The state has taken action to address some of its most pressing long-run financial challenges in recent years by implementing pension and OPEB reforms and committing to moving pension contributions to a more adequate level, although the state's long-term obligations remain formidable. In addition, the state legislature recently passed a number of measures designed to contain spending and debt growth, rebuild the state's rainy day fund, and more frequently assess the condition of its pension funds. Following some of these provisions will now be required by bond covenants. While the required practices would strengthen the state's long term credit profile, covenanting to follow them reduces budgetary flexibility.

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 6

States rating methodology scorecard
Connecticut (State of)

Rating Factors	Measure	Score
Factor 1: Economy (25%)		
a) Per Capita Income Relative to US Average [1]	136.8%	Aaa
b) Nominal Gross Domestic Product ($ billions) [1]	$287.8	Aaa
Factor 2: Finances (30%)		
a) Structural Balance	Aa	Aa
b) Fixed Costs / State Own-Source Revenue [2]	29.8%	Ba
c) Liquidity and Fund Balance	Aa	Aa
Factor 3: Governance (20%)		
a) Governance / Constitutional Framework	Aa	Aa
Factor 4: Debt and Pensions (25%)		
a) (Moody's ANPL + Net Tax-Supported Debt) / State GDP [2] [3]	30.2%	Baa
Factors 5 - 10: Notching Factors [4]		
Adjustments Up: None	0	
Adjustments Down: Growth Trend; Economic or Revenue Concentration or Volatility	-1	
Rating:		
a) Scorecard-Indicated Outcome		A1
b) Actual Rating Assigned		A1

[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 Methodology.
Source: US Bureau of Economic Analysis; Connecticut audited financial statements; Moody's Investors Service

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