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CREDIT OPINION
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Connecticut (State of)

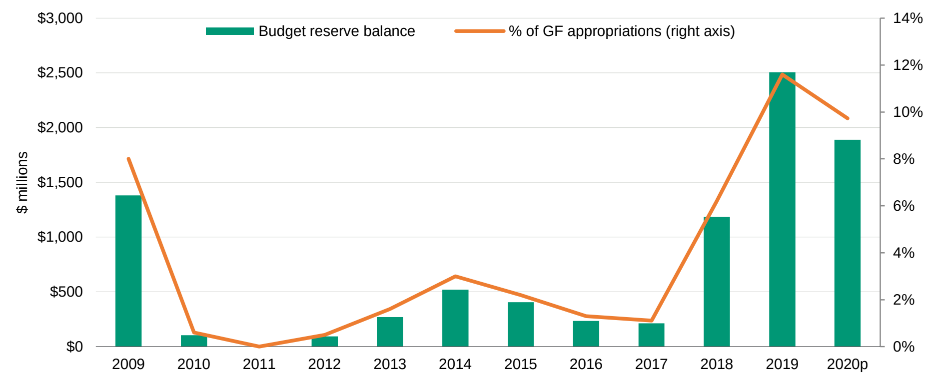
Update to credit analysis

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. The rating also reflects a lagging economy that is highly dependent on volatile revenue sources and recent consecutive years of population loss. The state's recent actions to build substantial reserves improved its preparedness for economic downturns and revenue volatility and provide a cushion as the state develops its response to the impacts of the coronavirus pandemic.

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
Connecticut's recent reserve build-up provides cushion for impacts of coronavirus
Balances by fiscal year and as a % of general fund appropriations



Fiscal 2020 budget reserve balance reflects draw to close fiscal 2020 budget gap
Source: Connecticut Office of Policy and Management; Moody's Investors Service

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

» Achievement and maintenance of higher 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 (2018)
Operating Fund Revenues (000s)	$17,187,461	$17,750,816	$17,940,062	$20,026,439	$20,243,307	$11,520,082
Available Balances as % of Operating Fund Revenues	-2.3%	-4.3%	-3.4%	4.8%	8.6%	7.4%
Nominal GDP (billions)	$260.1	$263.7	$268.3	$275.7	$285.6	$236.9
Nominal GDP Growth	4.5%	1.4%	1.7%	2.8%	3.6%	4.7%
Total Non-Farm Employment Growth	0.8%	0.3%	0.2%	0.2%	-0.1%	1.1%
Fixed Costs as % of Own-Source Revenue	30.7%	30.0%	33.6%	30.7%	NA	8.1%
Adjusted Net Pension Liabilities (000s)	$52,942,059	$53,742,607	$71,223,221	$62,059,644	NA	$12,209,760
Net Tax-Supported Debt (000s)	$22,103,517	$23,265,534	$23,479,445	$24,299,690	$23,664,466	$4,146,966
(Adjusted Net Pension Liability + Net Tax-Supported Debt) / GDP	28.9%	29.2%	35.3%	31.3%	NA	7.7%

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 (Aa1 negative) 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

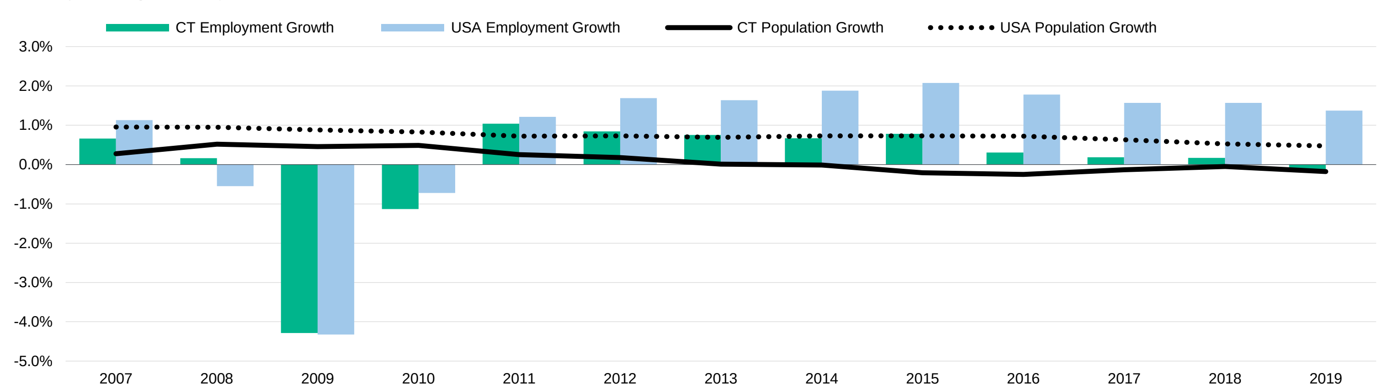
Economy: high income state lags US growth

Connecticut's economy has lagged the nation's since the last recession in 2008 and we expect that trend to continue. Connecticut is a wealthy state, with per capita personal income exceeding 139% 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.

Exhibit 3

Employment and population growth lag the US

% change from previous year



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

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.

Economic activity across the state has been significantly curtailed because of efforts to contain the coronavirus outbreak. The impact of the crisis on Connecticut's economy will not be known for some time, but unemployment will continue to rise and personal income will take a hit as the crisis evolves.

Finances and Liquidity: state reserves to close fiscal 2020 deficit

Connecticut's revenue collections contracted late in the fiscal year in response to plummeting economic activity and the US Internal Revenue Service shift of tax payment deadlines to July. The state estimates a fiscal 2020 budget gap of more than $900 million which it will close with a portion of its budget reserve fund. Prior to the impact of the pandemic, the state had been heading toward a small projected deficit that would have been easily closed with spending controls.

For fiscal 2021, the second year of the state's fiscal biennium, revised projections have lowered expected tax revenue $2.7 billion below the $17.4 billion anticipated in the adopted budget, while total revenue is now projected to be $2.2 billion less than the $20.3 billion adopted. These revisions represent a general fund revenue decline by fiscal 2021 of nearly 10% compared to collections in fiscal 2019.

The legislature is expected to convene in a June special session to address the projected budget gaps in fiscal 2021, the second year of the state's biennium. On the table will be changes in tax policy and spending cuts. The governor has authority to make reductions of up to 5% of the budget without legislative approval.

For trends in the state's finances prior to the coronavirus, please refer to our July 2019 credit opinion on the state.

Fixed Costs Command 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 2018 were 30% of own-source governmental revenues, among the highest of the states. As the state transitions to a new contribution schedule based on a level dollar (rather than level percent of payroll) approach, the state's contributions will become sufficient to "tread water," that is, to cover the interest cost on outstanding liabilities and the accrual of new benefits commitments. High fixed costs show the tight squeeze that the state's long-term obligations are placing on the operating budget. They 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 -$241 million on June 30 2018. 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. While the 2020 enacted budget appropriated another $75 million in GAAP deficit amortization payments, this year's contribution is likely be applied instead toward deficit reduction in fiscal 2021.

LIQUIDITY

With the dramatic growth of the state's budget reserve, Connecticut's liquidity has strengthened dramatically. The state has not needed to borrow for cash purposes in recent years. The state's available cash balance as of the end of April was $4.86 billion, about 26% of projected fiscal 2020 general fund revenue. Although the state's tax collections were disrupted by the shift of the federal tax filing deadline to July 15, federal payment of $1.4 billion from the Coronavirus Relief Fund has bolstered liquidity and the state foresees no need to borrow for cash flow purposes to bridge the gap at least through July.

A tax windfall and new rainy day fund rules helped the state bolster its finances by providing significant funds for its budget reserve fund. Tax windfalls and strong withholding growth in fiscal 2018 and 2019 helped swell the state's coffers sufficiently to double the reserve fund's balance to $2.5 billion. The state currently expects to deposit $318 million into the fund in fiscal 2020, but it projects a withdrawal of $934 million to close the deficit, leaving a projected June 30 balance of $1.89 billion, or 9.4% of appropriations for 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.

DEBT STRUCTURE

Connecticut's $23.7 billion in net tax-supported debt outstanding consists primarily of general obligation bonds, which account for 68% of NTSD (see Exhibit 4). 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 4
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 $983 million in variable rate debt as of May 1, most of which is indexed to SIFMA. Its variable rate debt accounts for about 6% 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

Only $20 million of the state's variable rate debt is swapped to fixed, based on 60% of LIBOR or a percentage point above CPI. The swap counterparty is JP Morgan Chase Bank, N.A. (Aa1(cr)/P-1(cr)). As of December 31, 2019, the mark-to-market was minimal, at negative $171,000 against the state. In accordance with its swap guidelines, the state generally negotiates provisions that permit funding a required termination payment over a period of time to allow time for a refunding. Accordingly, the state would have 270 days to fund a termination payment for its general obligation swaps. 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 contributes the full amount of its actuarially determined contributions, about $2.7 billion in fiscal 2019. 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. Even so, its 2019 contributions were not quite enough to prevent its net pension liability (NPL) from growing even if investment returns all the actuarial assumptions associated with the plan had come to fruition.

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, during which time the state will continue to fall short of the tread water benchmark for each system.

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 and climate intelligence firm Four Twenty Seven. 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 5

States rating methodology scorecard
Connecticut (State of)

Rating Factors	Measure	Score
Factor 1: Economy (25%)		
a) Per Capita Income Relative to US Average [1]	139.6%	Aaa
b) Nominal Gross Domestic Product ($ billions) [1]	$285.6	Aaa
Factor 2: Finances (30%)		
a) Structural Balance	Aa	Aa
b) Fixed Costs / State Own-Source Revenue [2]	30.7%	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]	30.0%	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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