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INVESTORS SERVICE

CREDIT OPINION
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Contacts

Denise Rappmund +1.212.553.3912
VP-Senior Analyst
denise.rappmund@moodys.com

Matthew Butler +1.212.553.7108
VP-Senior Analyst
matthew.butler@moodys.com

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

Connecticut (State of)

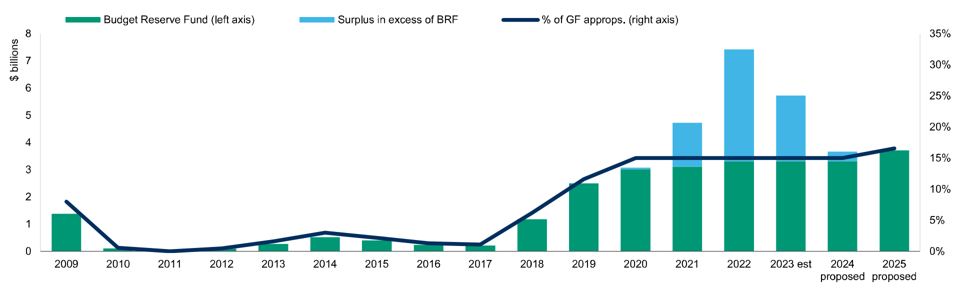
Update to credit analysis

Summary

Connecticut (Aa3 stable) has a high income base, 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 state's economic growth performance has been below average in recent years and has generally continued to trail the nation's rate of recovery through the pandemic. However, a recent trend of population loss may be ending as suburban living gains favor. Federal stimulus support and better than expected revenue performance to date have enabled the state to navigate the impacts of the pandemic while maintaining healthy liquidity, and have positioned it to weather a projected economic slow down in fiscal 2024.

The state has made governance improvements in recent years resulting in substantial reserves and a more effective approach to funding its pension liabilities.

Exhibit 1
Record-high reserves help mitigate Connecticut's high fixed costs
Budgetary basis



Fiscal 2023 is estimated for the fiscal year that will end June 30; fiscal 2024 and 2025 are proposed for the upcoming biennium budget
Source: Connecticut Office of Policy and Management

Credit strengths

- One of wealthiest states in the nation with per capita personal income well above the national figure
- Demonstrated willingness to make mid-year budget adjustments
- 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 and reflects a high level of budgetary reserves and the state's strong provisions to promote fiscal discipline, which include bolstered funding of its pension system, improving liquidity and requiring GAAP-based budgeting.

Factors that could lead to an upgrade

» Reduced pension and debt leverage relative to state revenue, resulting in lower annual fixed costs

» Evidence of sustained stronger economic performance

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 or reserves

Key indicators

	2020	2021	2022	State Medians (2021)
Economy				
Nominal GDP ($billions)	276.2	298.4	321.8	264.2
Real GDP, annual growth	-6.5%	4.8%	2.4%	5.5%
RPP-adjusted per capita income as % of US	126.9%	126.6%	NA	96.6%
Nonfarm employment, annual growth	-7.4%	2.8%	2.6%	2.7%
Financial performance				
Available balance as % of own-source revenue	10.8%	13.6%	13.6%	27.2%
Net unrestricted cash as % of own-source revenue	24.1%	44.4%	50.0%	63.0%
Leverage				
Total long-term liabilities as % of own-source revenue	596.5%	602.1%	474.8%	155.0%
Adjusted fixed costs as % of own-source revenue	29.4%	26.7%	21.4%	6.6%

Source: Moody's Investors Service; Connecticut financial statements

Profile

The State of Connecticut has a population of 3.6 million people, and is located in the coastal northeastern US, bordered by Rhode Island (Aa2 stable), Massachusetts (Aa1 stable) and New York (Aa1 stable) with 618 miles of shoreline, according to the National

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Oceanic and Atmospheric Administration (NOAA). The state has a large and diverse economy with a gross state product of $321.8 billion in 2022. It is the wealthiest state in the country with per capita income of nearly 130% of the US average.

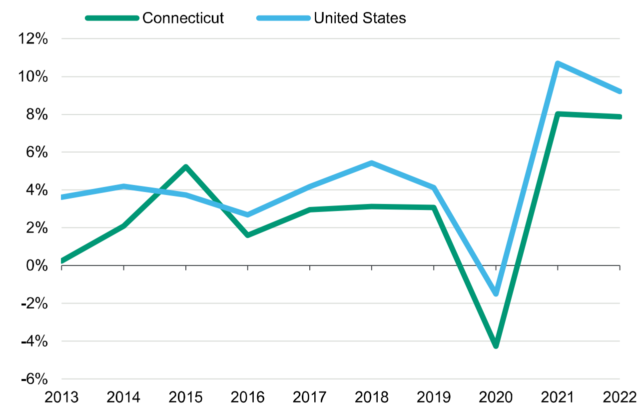
Detailed credit considerations

Economy: Connecticut recovery lags the nation's

Connecticut's economy has lagged the nation's since the last recession in 2008 and through the pandemic-related recession and recovery (see Exhibits 3 and 4), though the states' declining population trend reversed over the past few years which could lead to greater growth in the years to come if the trend holds.

Exhibit 3

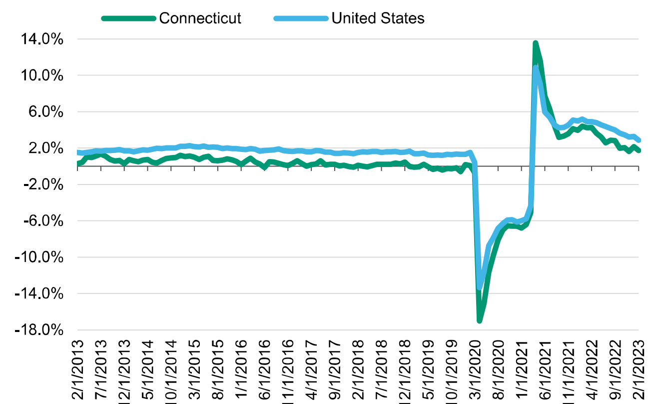
Connecticut's GDP growth historically trails the nation...
% change



Source: US Bureau of Economic Analysis

Exhibit 4

...as does employment growth
YoY % change by month

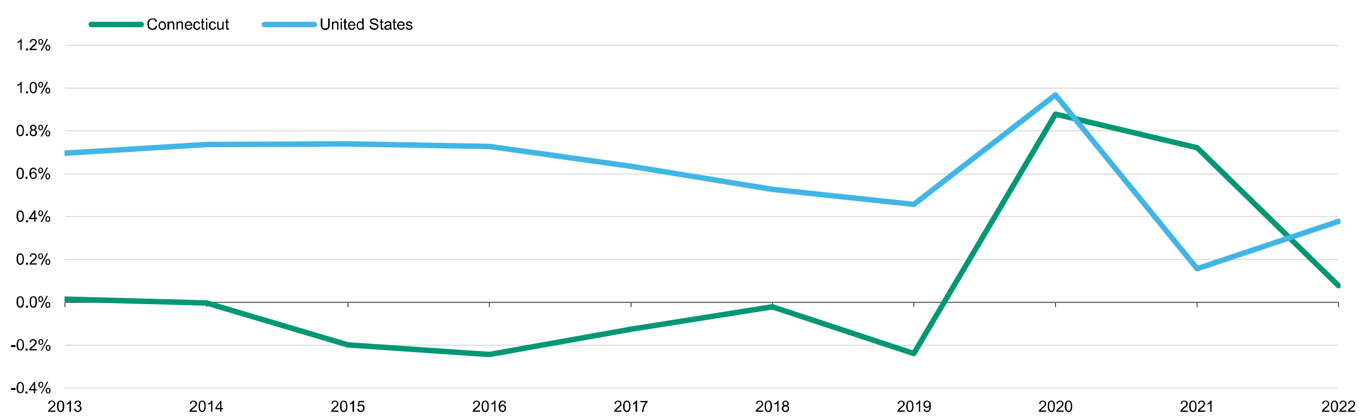


Source: US Bureau of Labor Statistics

Connecticut is a wealthy state, with per capita personal income at 127% of the US, after adjusting for regional cost of living differences. However, for the past 20 years the state's rate of population growth declined and turned negative at times, until the pandemic led to a surge of in-migration in 2020 (see Exhibit 5).

Exhibit 5

Connecticut's population modestly grew through the pandemic
% change



Source: US Census Bureau

Sustained population growth, particularly working-age individuals, will be key to stronger economic growth in the state. Connecticut's economy is largely driven by high-wage finance, insurance and other professional services, which collectively account for over 39% of state GDP, compared to about a third of the US GDP. Employment growth in the state's primary sectors has been mixed, with finance trimming back while insurance expands. Manufacturing is the third largest economic driver, accounting for nearly 12% of state GDP, which is largely made up of defense manufacturers. Manufacturing has seen steady employment growth in the state over the past few years, bringing it back to pre-pandemic levels.

The state benefits from defense contracts for aerospace and submarine programs, which are subject to federal defense policy shifts and could provide either upside or down drag to the state's economy independent of overall economic trends. While not accounting for a large portion of the state's employment, these firms create high-paid jobs and can generate additional economic activity by suppliers. Most recently, Sikorsky, a defense manufacturing firm, lost a major U.S. Army contract to replace Blackhawk helicopters. But, overall factory order books look healthy for the sector.

Finances and Liquidity: multi-year recovery cushioned by reserves

Like the state sector overall, Connecticut's finances have benefitted greatly over the past few years both from significant federal aid and strong income and sales tax revenue growth. While revenues are expected to slow going into fiscal 2024 due to muted capital gains tax and a projected economic slowing, the state has built up a significant budget reserve fund (BRF), now up to its legal cap of 15% of general appropriations (see Exhibit 1), and is somewhat insulated from swings in revenue with the “revenue cap” mechanism, which limits appropriation to 98.75% of projected revenues. Starting July 1, 2024, the BRF limit will increase to 18% of appropriations. The BRF is critical to the state's finances because a store of reserves helps mitigate the inflexibility created by the state's high fixed costs, which consumed roughly 22% of the state's general fund budget in fiscal 2022.

For fiscal 2023, the second year of the 2022-2023 biennium, strong tax collections have increased projected general fund revenue relative to the adopted budget by over $500 million, as sales tax and other revenue collections have been strong, offsetting declines in capital gains taxes. General fund expenditures are projected to be under budget by over $200 million. Because of the revenue cap, limiting revenue appropriation, the expected surplus will be over $1.5 billion. Much of this will be applied to excess pension funding, pursuant to the “volatility cap” mechanism, given the BRF is at its statutory cap. The strong revenue performance has also led the state to shift the use of certain American Rescue Plan Act (ARPA) funds from revenue replacement to other initiatives, and the early retirement of GAAP bonds.

Favorably, in the spring of 2023, the state legislature extended the term of the fiscal guardrails, which include the revenue and volatility caps, among other things, for an additional decade with the option to revisit these provision in five years.

The state has largely programmed federal pandemic assistance for non-recurring spending items, but will likely experience some pressure to continue funding certain programs initiated or augmented during the pandemic, such as an expanded child tax credit and expanded earned income tax credit. The governor's budget proposal also includes an income tax reduction, which would bring the marginal tax rates down to 2% from 3%, for income up to $20,000 (married filing jointly), and down to 4.5% from 5% for income up to $100,000 (married filing jointly). The proposed income tax cuts are incorporated into the budget proposal, which would still produce modest surpluses (see Exhibit 1 and projected BRF).

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. According to state treasury reporting, the state's available cash balance as of the end of April was $11.3 billion.

Leverage: large liabilities underlie high fixed costs

Connecticut has one of most leveraged profiles of the 50 states, in part because the state takes on liabilities that in some other states are the direct responsibility of other levels of government, such as the payment of teacher pension liabilities as well as school construction costs. The governor's budget proposal includes early retirement of GAAP conversion bonds, and no additional deficit borrowing is foreseen.

Fixed costs are also well above the median for the state sector (see Exhibit 6), which limits financial flexibility. The state has contributed significantly above the actuarially determined amount to the major pension funds, and above a “tread water” amount (calculated by Moody's), due to substantial budget surpluses and in accordance with their “volatility cap” mechanism.

Exhibit 6

Connecticut's fixed costs are high, but favorably the state has been contributing to pension plans well above the "tread water" amount

(% own-source revenue)	2020	2021	2022	50-state median (2021)
Implied Debt Service	9.4%	8.4%	7.3%	2.1%
Other Long-Term Liabilities Carrying Cost	0.6%	0.6%	0.5%	0.3%
OPEB Contribution	4.1%	3.7%	3.1%	0.5%
Pension tread water	15.2%	14.1%	10.6%	2.7%
Pension contribution	9.8%	16.4%	26.8%	2.4%
Total fixed costs (tread water)	29.4%	26.7%	21.4%	6.3%
Total fixed costs (contribution)	24.0%	28.9%	37.6%	6.0%
Tread water shortfall	5.4%	-2.2%	-16.2%	0.0%

The state's implied debt service represents the annual cost to amortize its long-term liabilities, excluding those related to pensions and OPEB, over 20 years with level payments. The implied interest rate is based upon a 10-year rolling average of a high-grade municipal bond index.
The pension tread water amount is the contribution required to maintain the current reported pension liability amount, under current actuarial assumptions as reported by the state.
Source: Moody's Investors Service, Connecticut ACFRs

Exhibit 7

Connecticut's total liabilities relative to revenues are among the highest in the state sector

$ millions	2020	2021	2022	50-state median (2021)
Net tax-supported debt	$28,182	$28,895	$28,968	$4,954
Other long-term liabilities	1,889	1,918	1,818	$578
Adj. net pension liability	73,888	90,196	82,822	$14,593
Adj. net OPEB liability	23,237	24,499	18,924	$1,955
Total leverage as % of own-source revenue	596.5%	602.1%	474.8%	155.0%

Source: Moody's Investors Service, Connecticut ACFRs

Debt structure

Connecticut's $29 billion in net tax-supported debt outstanding (including premium, as of fiscal year 2022) consists primarily of general obligation bonds, which account for 63% 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 current pay-out rate of 81% within 10 years. The state's GO debt includes University of Connecticut's UCONN 2000 program debt which is paid through a debt service commitment by the state. In 2018, the state also absorbed about $487 million in general obligation debt outstanding issued by the city of Hartford (Ba2 stable issuer rating) as a form of municipal assistance.

Exhibit 8

Connecticut's net tax-supported debt consists primarily of GO and highway bonds
Net tax-supported debt outstanding as of June 30, 2022

Type of debt	Fiscal 2022	% of total
General obligation bonds	18,363,522	63%
Lease rental bonds/appropriation debt	257,000	1%
Highway revenue bonds	7,054,415	24%
Misc - includes premium	2,874,189	10%
City of Hartford contract assistance	418,775	1%
Total	28,967,901	100%

GO debt includes UCONN 2000 bonds; lease debt includes certain bonds issued by Bradley International Airport, CHEFA, Connecticut Innovations, CHFA and CRDA
Source: Connecticut Office of the Treasurer; Connecticut financial statements; Moody's Investors Service

The state had $604.7 million in variable rate debt as of May 1, 2022, most of which is indexed to SIFMA. Its variable rate debt accounts for about 4% of the state's total GO debt, One variable rate series (2016 Series C) has an SBPA provided by Bank of America, N.A. (Aa2(cr)/ P-1(cr)). One series is a direct placement, 2017 Series C.

Debt-related derivatives

The state has no outstanding swaps or other debt-related derivatives.

Pensions and OPEB

Connecticut's adjusted net pension liability (ANPL), our measure of the government's pension burden, was $82.8 billion, or 297% of state own-source revenue as of the state's 2022 financial statements, and among the highest in the state sector. Moody's ANPL reflects certain adjustments made to improve comparability of reported pension liabilities.

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.

Pension contributions remain a very significant and growing part of the state's budget, but the burden has been lessened in recent years due to large budget surpluses. The state has contributed the full amount of its actuarially determined contributions since 2018, but has been contributing significantly in excess of these amounts over the past two years, and is poised to do so again in 2023. The state contributed a combined $1.6 billion extra to the two major plans in 2021, and $4.1 billion in 2022, due to the rules regarding surplus funds and the state's "volatility cap". For fiscal 2023, another excess payment over $2 billion is likely, but the actual amount is not yet final. Connecticut 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.

The additional contributions help to trim the state's high pension liabilities, but would need to persist at sizeable levels to significantly accelerate the amortization of the state's unfunded pension obligations. Investment losses can offset the large excess contributions, as was the case in 2022, as well as additional benefit promises, like cost of living adjustments (COLAs). The actuarial assumptions include an inflation factor, but inflation increased above this over the past year, driving up the liability.

A major factor in the decline in the ANPL (see Exhibit 7) is the rise in interest rates. Moody's assumed rate of return for purposes of calculating the ANPL across the sector had been below 3% for several years, but increased to 4.5% for 2022. We adjust reported balance sheet pension liabilities using the FTSE Pension Liability Index.

Connecticut also has a very high OPEB liability. For fiscal 2022, Moody's adjusted net OPEB liability for the state is $18.9 billion, or 68% of own source revenue. Employees have been required to make contributions to prefund OPEB benefits since 2011, and the state is now making matching contributions. Favorably, the combined employer and employee contributions exceed benefit outflows.

ESG considerations

Connecticut (State of)'s ESG Credit Impact Score is Neutral-to-Low CIS-2

Exhibit 9
ESG Credit Impact Score

CIS-2
Neutral-to-Low

For an issuer scored CIS-2 (Neutral-to-Low), its ESG attributes are overall considered as having a neutral-to-low impact on the current rating; i.e., the overall influence of these attributes on the rating is non-material.

Source: Moody's Investors Service

Connecticut's ESG Credit Impact Score is neutral-to-low (**CIS-2**) reflecting moderately-negative environmental exposures, moderately negative social exposures and positive governance profile.

Exhibit 10
ESG Issuer Profile Scores

ENVIRONMENTAL
E-3
Moderately Negative

SOCIAL
S-3
Moderately Negative

GOVERNANCE
G-1
Positive

Source: Moody's Investors Service

Environmental

Connecticut's E issuer profile score is moderately negative (**E-3**). Due to its coastline along the Long Island Sound, Connecticut is more exposed than most states to climate risks. According to Moody's ESG Solutions, the state faces risks across several climate factors, including hurricanes, rising temperatures and water stress. The state is working to develop a systematic climate resiliency plan. The state's utilities regulatory authority has authorized funding for substation mitigation and other storm-hardening initiatives and the state is developing plans to reduce statewide greenhouse gas emissions.

Social

Connecticut's S issuer profile score is moderately negative (**S-3**), reflecting its negative net migration trends, which are just recently showing early signs of reversal, and very high income inequality. Those trends will intensify social spending for items such as access to health care and other demands on the social safety net. Connecticut is a wealthy state, with per capita personal income among the highest in the US. However, during the nation's long economic expansion the state's population declined from its peak in 2013, aligning with an underperforming housing market and lagging labor force growth. Population trends reversed during the pandemic as some city-dwellers sought out more spacious residential accommodations. 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

Reflecting its very strong financial management, Connecticut's G issuer profile score is positive (**G-1**). Annual multiyear 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 adoption of 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 exceeding 1% of the general fund is projected by the comptroller in that office's monthly financial statement, the governor is required to submit and implement a deficit mitigation plan. Historically, some of the state's financial provisions were 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, in recent years the state legislature enacted a number of measures designed to curtail 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 and constitutional amendments. While the required practices strengthens the state's long term credit profile, covenanting to follow them reduces budgetary flexibility.

ESG Issuer Profile Scores and Credit Impact Scores for the rated entity/transaction are available on Moodys.com. In order to view the latest scores, please click here to go to the landing page for the entity/transaction on MDC and view the ESG Scores section.

Rating methodology and scorecard factors

The US States and Territories Rating Methodology includes a scorecard, which summarizes the 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.

Connecticut (state of)

	Measure	Weight	Score
Economy			
Resident Income (PCI Adjusted for RPP / US PCI)	126.6%	15%	Aaa
Economic Growth (5-year CAGR real GDP - 5-year CAGR US real GDP)	-1.6%	15%	A
Financial performance			
Financial performance	Aa	20%	Aa
Governance/Institutional Framework			
Governance/Institutional Framework	Aaa	20%	Aaa
Leverage			
Long-term liabilities ratio (adjusted long-term liabilities / own-source revenue)	474.8%	20%	Baa
Fixed-costs ratio (adjusted fixed costs / own-source revenue)	21.4%	10%	Baa
Notching factors			
Very limited and concentrated economy	NA		
Scorecard-Indicated Outcome			Aa3
Assigned rating			Aa3

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

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