MOODY'S
INVESTORS SERVICE

CREDIT OPINION
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New Issue

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# Connecticut (State of)

## New Issue - Moody's assigns A1 to $400M CT GOs and MIG 1 to $350M GO BANs; outlook stable

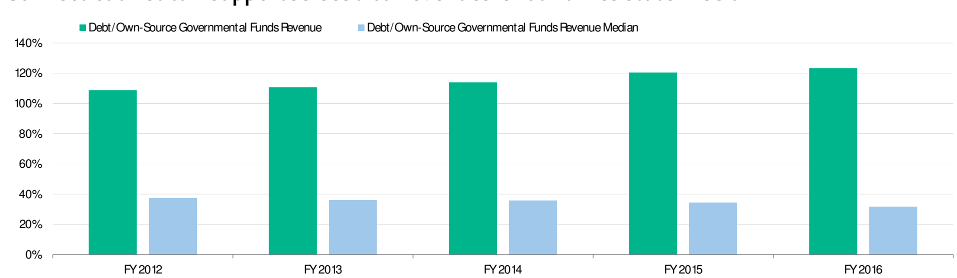
### Summary Rating Rationale

Moody's Investors Service has assigned an A1 rating to $400 million of Connecticut's Taxable General Obligation Bonds (2017 Series A) and MIG 1 to $350 million of General Obligation Bond Anticipation Notes (2017 Series A). The bonds will sold in competitive sales on or about December 11.

The MIG 1 rating reflects the expectation that Connecticut will have strong market access at BAN maturity (September 14, 2018) given satisfactory long-term credit quality and the state's status as a sophisticated, frequent issuer of bonds. Moreover, in the unlikely event of a market dislocation that impedes timely long term debt issuance, we believe ample liquidity will be available to redeem the BANs.

The A1 GO rating on the general obligation bonds reflects Connecticut's high income levels, strong governance, and adequate 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, recent consecutive years of population loss and minimal reserve levels.

Exhibit 1
**Connecticut net tax-supported debt-to-revenues is four times state median**




*Source: Moody's Investors Service; Connecticut audited financial statements*

## Credit Strengths

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

» Strong governance with the ability 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

» General fund balance sheet will remain negative, with a small rainy day fund balance, due to state's slower recovery from the recession

## Rating Outlook

Connecticut's outlook is stable, reflecting 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

» Declining liquidity position

## Key Indicators

Exhibit 2

| Connecticut | FY 2012 | FY 2013 | FY 2014 | FY 2015 | FY 2016 |
|---|---|---|---|---|---|
| Operating Fund Revenues (000s) | 16,378,765 | 16,909,327 | 16,880,411 | 17,187,461 | 17,750,816 |
| Balances as % of Operating Fund Revenues | -6.4% | -7.2% | -1.2% | -2.3% | -4.3% |
| Net Tax-Supported Debt (000s) | 18,615,067 | 19,623,311 | 20,272,617 | 22,103,517 | 23,265,534 |
| Net Tax-Supported Debt/Personal Income | 9.1% | 9.2% | 9.0% | 9.8% | 9.7% |
| Net Tax-Supported Debt/Personal Income 50 State Median | 2.8% | 2.6% | 2.5% | 2.5% | 2.5% |
| Debt/Own-Source Governmental Funds Revenue | 108.8% | 110.7% | 113.9% | 120.5% | 123.4% |
| Debt/Own-Source Governmental Funds Revenue Median | 37.4% | 36.1% | 35.8% | 34.4% | 32.7% |
| ANPL/Own-Source Govt Funds Revenue | 335.7% | 326.0% | 298.5% | 288.5% | 285.0% |
| ANPL/Own-Source Govt Funds Revenue Median | 94.2% | 87.6% | 81.8% | 83.0% | 82.2% |
| Total Non-Farm Employment Change (CY) | 0.8% | 0.8% | 0.7% | 0.8% | 0.3% |
| Per Capita Income as a % of US (CY) | 146.9% | 144.1% | 143.7% | 142.8% | 143.3% |

*Source: Moody's Investors Service; Connecticut financial statements*

## Recent Developments

At the end of October, the Connecticut's General Assembly enacted the biennial 2018-2019 budget, four months after the July 1 beginning of the fiscal year. The enacted budget ended a prolonged standoff between the legislative and executive branches. Balancing the budget relied heavily on fixes that expire at the end of the biennium, which both buys time to develop recurring solutions to the state's large structural imbalance and continues the risk that finding such solutions may be elusive. Sluggish revenue growth has also presented additional obstacles to achieving budget balance, as the most recent consensus revenue forecast opened an estimated $202 million hole in the fiscal 2018 budget.

## Detailed Rating Considerations

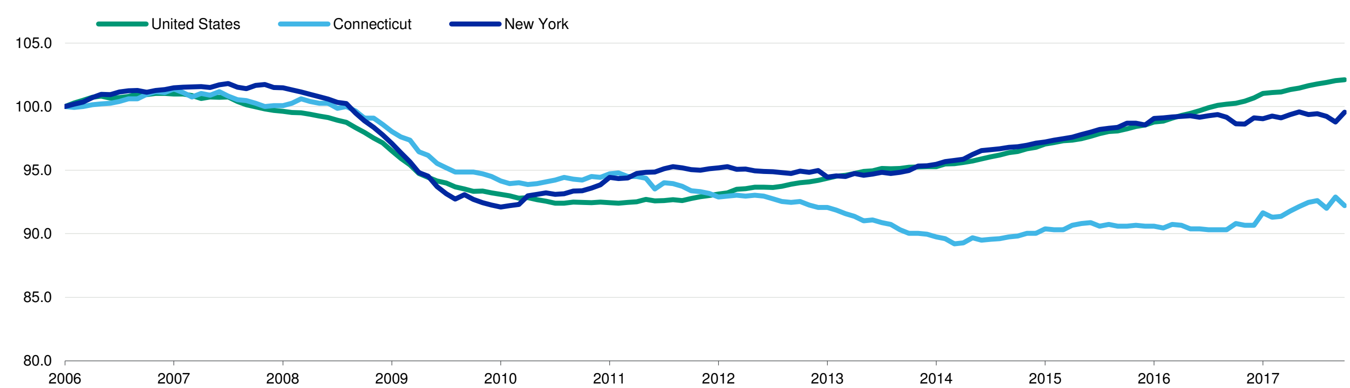
### Economy: High income state lags US recovery

Connecticut is a wealthy state, with per capita personal income exceeding 143.3% of the US. However, the state's economy continues to lag that of the nation. The state's demographics show a negative trend, with three years of population loss since 2013 contributing to an underperforming housing market and lagging labor force growth. The state's unemployment rate as of October is higher, at 4.5%, than the nation's rate of 4.1%, and the state has not yet quite regained the jobs lost to the recession. Wage growth has faltered as a result: the state experienced only 7.2% growth in average annual wages from calendar year 2011-2015 versus 14.5% in calendar 2004-2008. Wages grew a mere 0.5% in 2016, the lowest figure apart from 2013 and 2009 over the past decade. Job gains have been concentrated in education and health services, leisure and hospitality, transportation and utilities and professional and business services.

Economic headwinds include lackluster performance in the state's high-paid financial activities sector (see Exhibit 3). While the US has recovered nearly all the financial activities jobs lost in the recession, Connecticut continued to lose finance jobs into 2014 and has since seen little growth in the sector.

Exhibit 3

**CT financial sector jobs lag US and NY growth**
**(January 2006 = 100)**




*Source: Moody's Analytics, US BLS*

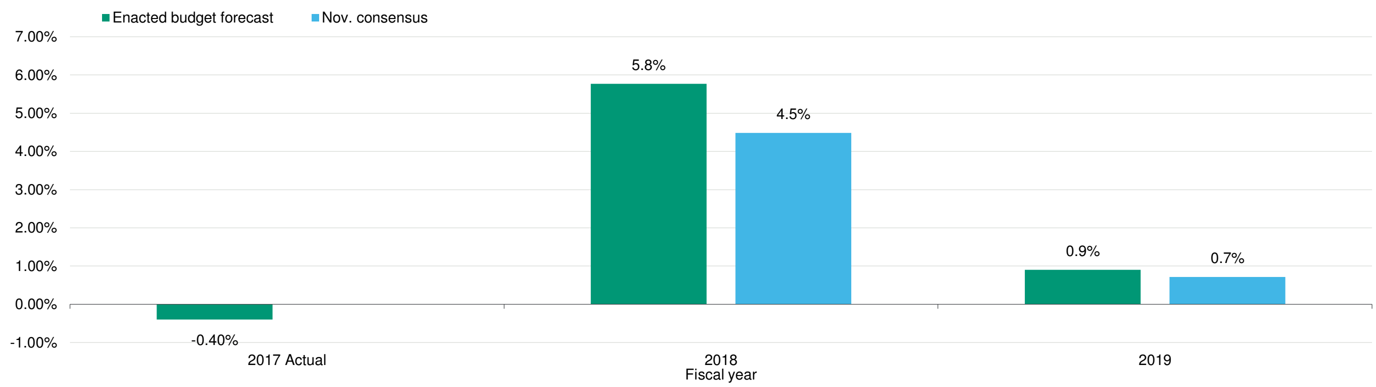
## Finances and Liquidity: State struggles to close gaps

Connecticut has struggled in recent years with matching spending growth to its slowly growing revenue base, while constrained by a high level of fixed costs. The state's enacted biennial budget appropriates $18.69 billion for fiscal 2018 and $18.79 billion for fiscal 2019, representing growth of 6% and 0.9% respectively. The budget closed a projected $2.28 billion fiscal 2018 gap and a $2.79 billion fiscal 2019 gap with spending cuts and revenue increases. Revenue solutions total about $3.3 billion and spending reductions about $1.8 billion over the biennium. Spending growth is driven by rising costs for pension and retiree health expenses, as well as Medicaid, crowding out other more discretionary state spending. The enacted budget projected year end budget surpluses of $49 million in fiscal 2018 and $118 million in fiscal 2019.

There a several risks in the budget, which include the ability of the executive branch to realize over $900 million in savings that consist largely of labor management savings stemming from an agreement reached over the summer. The state also awaits federal approval of a new health care provider tax that would increase federal Medicaid matching funds by about $400 million in fiscal 2018. The downward revision in the revenue forecast may augur additional weakness as the year progresses, leading to new mid-year gaps beyond the gap already identified (see Exhibit 4).

Exhibit 4

**Consensus forecast revises revenue growth downward**




*Source: Connecticut Office of Policy Management*

The $202 million mid-year budget gap is small relative to the state's general fund estimated expenditures but large enough to trigger the state's procedures for implementing a deficit mitigation plan. This will require the legislature's approval. Because the state has already had to implement painful budget cuts and the passage of the biennial budget was contentious and prolonged, it is likely that mid-year balancing actions will prove challenging. The governor has already adjusted municipal aid payments downward to achieve spending reductions mandated by the enacted budget. Mid-year solutions may more likely be nonrecurring in nature, and could potentially involve tapping the state's $203 million rainy day fund, leaving future gaps to be addressed for fiscal 2019.

In balancing the biennial budget, the legislature enacted a number of measures that will expire at the end of fiscal 2019, which OPM estimates total $1.2 billion. Of this amount, about $850 million consists of the expiration of the new health provider tax and resumed diversion of sales tax to a fund supporting aid to local governments. Reconsidering expiration of these measures will likely be taken up when the next biennial budget is created.

### Long-Term Plan to Address Large Negative GAAP Balance Interrupted

On a GAAP basis, the state has a long-standing large cumulative unassigned GAAP deficit, which stood at -$999 million on June 30 2016, or about -4.3% of operating revenues. 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. While the strategy has had little balance sheet impact in the short run, maintaining discipline over time would reduce the state's liabilities. However, the payments have been suspended in fiscal 2017 and in the 2018-2019 biennium as the state applied the contributions toward closing budget gaps. The fiscal 2017 payment would have been roughly $48 million and the fiscal 2018 and 2019 payments would have been $57.5 million in each year.

**Fixed Costs Command a Third of Budget**

The state's combined debt service, pension, and OPEB contributions in fiscal 2016 were nearly 30% of own-source governmental revenues, among the highest of the states. As a share of general fund revenues, these fixed costs were 32%, illustrating the tight squeeze that the state's long-term obligations are placing on the operating budget. Fixed costs will command roughly 36% of general fund revenues by fiscal 2019. The high fixed costs are partly attributable to the state's absorption of certain costs covered by local governments in most other states. High fixed costs reduce the share of discretionary spending and the state's budgetary flexibility. Unlike other states with high fixed costs, however, Connecticut's actual pension contributions are very close to the "tread water" amount, which is the amount of contribution that would prevent further growth in unfunded liabilities were actuarial targets for investment returns and other assumptions met during the year.

**LIQUIDITY**

Connecticut's liquidity remains adequate. The state did not have to borrow for cash flow purposes in calendar 2015 or fiscal 2016 or 2017, and does not expect to do so in fiscal 2018. Cash balances averaged $2 billion in fiscal 2016 and $2.3 billion in fiscal 2017. As of mid-November 2017 available cash was $1.46 billion, a lower than usual balance reflecting the fact that the late budget limited the state's borrowing activity. As the state returns to the bond markets, available balances are expected to be replenished.

Based on the average weekly available balance for fiscal 2017 of $2.3 billion, the state's liquidity would provide 6.6 times coverage of the BAN.

## Debt and Pensions: Large liabilities create high fixed costs

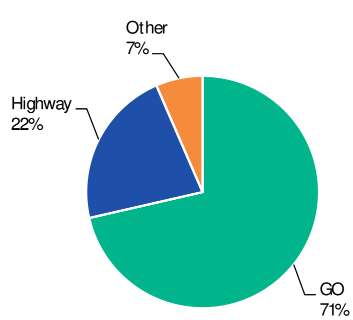
Connecticut is a frequent borrower and the state's debt per capita and debt-to-personal income ranked first and third, respectively, among the 50 states for Moody's 2017 debt medians. Net tax-supported debt equaled $6,505 per capita and 9.7% of total state personal income, well above the 50-state median of $1,006 in debt per capita and 2.5% 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. However, pension obligation bonds, economic recovery notes (deficit borrowing) 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 $23.3 billion in net tax-supported debt outstanding consists primarily of general obligation bonds, which account for 71% of NTSD (see Exhibit 4). Bonds backed by special taxes for highway construction account for another 22% 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 66% within 10 years. The state has issued economic recovery notes as deficit financing instruments, which will be paid off in January 2018. Other debt consists primarily of bonds issued by related organizations, especially the University of Connecticut, for which the state guarantees payment from special capital reserve funds.

Exhibit 5

**Connecticut's debt outstanding dominated by general obligation**




*Source: Connecticut financial statements and reports; Moody's Investors Service*

The state has $1.638 billion in variable rate debt, approximately 10% of the state's total GO debt, most of which is indexed to either SIFMA or CPI. One variable rate series (2016 Series C) is privately placed with an SBPA provided by Bank of America, N.A. (A1(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. (Aa2(cr)/P-1(cr)). As of September 30, 2017, the mark-to-market was minimal, at negative $816,000 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 2016 financial statements, ANPL was 285% of own-source governmental revenue, and 200% of total governmental revenue, the third highest among the states. The state participates in 3 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.

The state contributes the full amount of its actuarially determined contributions, about $2.55 billion in fiscal 2017. 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 2016 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 contributions were about 98% of our "tread water" benchmark, which is the payment covering the year's newly accrued service costs and interest on the NPL. The assumed rate of investment return on the TRS fund assets, which also is used the discount the liabilities, was reduced to 8% from 8.5% starting with the 2016 valuation. This led to a significant increase in the contribution for fiscal 2018, which has been partly offset by a requirement that teachers contribute an additional 1% of salary to the plan.

The state also in late 2016 reached an agreement with labor representatives to change its approach to funding SERS to a level dollar payment, to lower the investment rate of return assumption to 6.9% from 8%, and to extend amortization of most of the plan's unfunded liabilities to 2046 from 2032.

These changes will benefit the budget in future years because contributions were previously scheduled to escalate throughout the next decade until unfunded liabilities were fully amortized. Although improving the long-term outlook for the state, the changes do not mitigate the near- and medium-term pressure from exceptionally large pension contributions. Furthermore, the 8% discount rate for TRS is increasingly an outlier as other pension plans across the country have brought rates down to reflect a lower-inflation lower-return environment and to decrease risk and volatility in their investment portfolios.

Connecticut also has a very high OPEB liability. As reported in the fiscal 2016 financial statements, the liability is $19.2 billion. The state is responsible for the $2.99 billion Teachers' OPEB liability as of the June 30 2016 valuation. As of 2011, employees were required to make contributions to prefund OPEB benefits, and the state is now making matching contributions, which total about $120 million in both fiscal 2018 and fiscal 2019.

## Governance: State profile features strong practices

The state'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 until this year make a constitutional spending cap operative.

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 is now required to be made bond covenants.

## Legal Security

The bonds and notes are secured by the full faith and credit of the state of Connecticut.

## Use of Proceeds

Bond and note proceeds will fund various capital purposes of the state.

## Obligor Profile

The State of Connecticut has a population of almost 3.6 million people. The state, located in the northeastern US, has a large and diverse economy with a gross state product of $253 billion. It is the wealthiest state in the country with per capita income of 143.3% of the US average.

## Methodology

The principal methodology used in the general obligation rating was US States Rating Methodology published in April 2013. The principal methodology used in the bond anticipation note rating was US Bond Anticipation Notes published in April 2014. Please see the Rating Methodologies page on www.moodys.com for a copy of these methodologies.

## Ratings

Exhibit 6

### Connecticut (State of)

| Issue | Rating |
|---|---|
| Taxable General Obligation (2017 Series A) | A1 |
| Rating Type | Underlying LT |
| Sale Amount | $400,000,000 |
| Expected Sale Date | 12/11/2017 |
| Rating Description | General Obligation |
| General Obligation Bond Anticipation Notes (2017 Series A) | MIG 1 |
| Rating Type | Underlying ST |
| Sale Amount | $350,000,000 |
| Expected Sale Date | 12/11/2017 |
| Rating Description | Note: Bond Anticipation |

*Source: Moody's Investors Service*

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