S&P Global
Ratings

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Connecticut; Appropriations; General Obligation; General Obligation Equivalent Security; Moral Obligation

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Credit Profile		
US$320.0 mil GO rfdg bnds ser 2016G due 11/01/2023		
Long Term Rating	AA-/Negative	New
Connecticut GO bnds ser 2016C due 05/15/2034		
Long Term Rating	AA-/A-1/Negative	Outlook Revised
Capital City Economic Dev Auth, Connecticut		
Connecticut		
Capital City Economic Dev Auth (Connecticut) GOEQUIV		
Long Term Rating	AA-/A-1/Negative	Outlook Revised

Rationale

S&P Global Ratings has revised its outlook on the State of Connecticut to negative from stable. At the same time, S&P Global Ratings affirmed its 'AA-' rating on Connecticut's general obligation (GO) debt outstanding, its 'A+' rating on the state's appropriation-secured debt, and its 'A-' moral obligation debt rating on the state.

S&P Global Ratings also assigned its 'AA-' rating to Connecticut's approximately $320 million GO refunding bonds, 2016 series G.

The outlook revision reflects our view that projected growth in fixed costs could rise to a level that we believe could comprise a substantial proportion of the state budget and thereby hamper Connecticut's budget flexibility as the state addresses large out-year budget gaps. Connecticut projects that debt service, pension, and other postemployment benefit (OPEB) costs will total 32.6% of fiscal 2018 general fund revenue, a level that we see as high and that will potentially increase in future years. Fixed cost growth has led to large out-year budget gap projections that could be difficult to manage following previous biennium tax increases and expenditure cuts. Should fixed costs rise substantially further as a percent of the budget, pension funded ratios decrease below 40%, or the state resort to structurally unbalanced budget balancing measures over our two-year outlook horizon, even while the nation is experiencing economic growth, we could lower the rating.

The GO rating on Connecticut reflects our view of the following factors:

- High wealth and income levels;
- A diverse economy, whose performance has been cyclical;
- Ongoing revenue and expenditures that remain near structural alignment at present;
- Active monitoring of revenues and expenditures to identify and correct midfiscal year budget gaps, as exemplified by midyear budget adjustments made for fiscal years 2015, 2016, and 2017; and
- Adequate operating liquidity, which has improved following the state's move to budgeting based on generally

accepted accounting principles (GAAP), and issuance of GAAP conversion bonds in 2014 to provide liquidity to assist in the transition.

Offsetting factors, in our opinion, include:

- Above-average debt, high unfunded pension liabilities, and large unfunded OPEB liabilities, all of which create what we believe are significant fixed-cost pressures that restrain the state's budgetary flexibility;
- A history of cyclical budget performance, and currently weak financial reserves available to cushion against the next economic downturn. We expect revenue growth to remain slow for the next several years, the result of economic weakness in Connecticut's high-paying financial sector.

S&P Global Ratings understands that series 2016G bond proceeds will be used to refund various bonds outstanding.

We view the state's high income level as a key credit strength, with per capita income at 140% of that of the nation in 2015, the best in the U.S. However, Connecticut has been slow in regaining its highest-paying jobs, which we believe has been affecting state revenues. The state estimates that it has only recovered 9,000 of the 54,400 jobs lost during the financial crisis that paid wages of more than $80,000, while adding 53,000 jobs paying wages under $50,000, compared with 39,900 jobs lost in that category during the recession. Connecticut has one of the highest concentrations of financial services employment in the country, at 7.8% of total jobs in 2015. IHS Global Insight Inc. estimates that this sector had consecutive years of job losses between 2008-2014, before a 1.0% gain in 2015 and expected similar growth in 2016. IHS Global Insight estimates total employment rose a slow 0.7% in 2015, compared with 2.0% for the nation, and projects 0.9% state employment growth in 2016, and 0.4% in 2017, led by the services industries. Of note is a recent announcement by Sikorsky Aircraft of a major manufacturing plant expansion, following recent state tax incentives and union wage concessions, as well as a separate plant expansion announced by Pratt & Whitney.

Connecticut's unemployment rate remains slightly elevated compared with that of the U.S., but has improved since the recession, dropping to 5.6% in 2015 (compared with 5.3% for the nation) from 9.3% in 2010, according to the federal Bureau of Labor Statistics. As of September 2016, the state's rate was 5.4%.

Substantial revenue shortfalls over the past year have left the state with what we believe are low reserves and an increasing share of the budget devoted to fixed costs, although the budget appears in structural balance at present. In our opinion, Connecticut may be poorly positioned should there be a national economic downturn in the next several years. The state currently projects a small drawdown in reserves in fiscal 2017, and projects out-year budget gaps in 2018 and beyond that we believe could prove troublesome in view of Connecticut's historically cyclical finances. Rising debt service, pension, and OPEB costs have pushed fixed costs to what we see as a significant portion of the overall budget and could hamper the state's ability to make further budget cuts should new revenue shortfalls develop. At the same time, tax increases in the two most recent biennia have constrained revenue-raising ability, in our view.

Despite multiple midbiennium budget adjustments, budget reserves have been falling since fiscal 2014. Connecticut estimates a fiscal 2016 general fund operating deficit of $170.4 million, which drew the state's budget stabilization fund down to $235.6 million, or only 1.3% of 2016 general fund budgetary basis expenditures. At the end of fiscal 2016, the legislature passed fiscal 2017 budget cuts of $847.2 million, and additional revenue measures of $136.3 million, which the state projected would produce a $200,000 general fund operating surplus in fiscal 2017. However, the state now

expects to run a $67.7 million operating deficit, or 0.4% of estimated general fund expenditures, following release of its November consensus revenue estimate.

The state projects a $1.3 billion budget gap based on a new fixed cost methodology that will need to be closed in fiscal 2018 in the upcoming biennium budget, or 7.3% of projected 2018 general fund revenue. Connecticut's projection is based on the difference between the consensus revenue estimate and growth in fixed costs. Using a current services cost basis approach, which assumes no change in the current level of services and includes growth in wages and inflation, the state legislative Office of Fiscal Analysis projects a larger $1.5 billion budget gap.

Part of the general fund budget gap in 2018 is attributable to the diversion of $682.6 million of sales tax to the state's transportation fund and municipal revenue share account, which is expected to lead to a slight overall decline in general fund revenue, despite overall projected tax revenue growth. The state is projecting a 3.2% economic growth rate for personal income tax in fiscal 2017 and 3.3% in fiscal 2018, while also projecting sales tax economic growth of 3.1% in fiscal 2018.

We believe out-year gaps might be difficult to close due to tax increases already imposed in the past two biennium budgets and expenditure cuts that have already occurred. Connecticut indicates that after reductions in the number of employees since 2008, the number of executive office agency employees per 1,000 residents is now lower than in 1960.

Budget cuts have had the unintended impact of raising the proportion of the budget composed of fixed costs and constraining future budget-cutting flexibility. The state estimates that combined debt service, pension, and OPEB costs will total 33% of 2018 general fund consensus revenue estimates, a level that we believe could potentially rise should future revenue growth fall below current projections. In fiscal 2017, these costs are estimated to constitute 28% of fiscal 2017 revised general fund appropriations, up from a previously estimated 26% in 2016. Driving fixed costs is the state's high debt load, scheduled increases in OPEB pre-funding, and increasing pension contributions, caused by realized retirement system investment returns that have fallen below what we view as somewhat aggressive returns assumptions. Connecticut did, however, reduce net bond authorizations by $642 million in the most recent budget revisions to ensure that total debt authorizations stay below 90% of the state's statutory debt limit, which could help stabilize debt service costs.

The most recent midfiscal 2017 budget revisions consisted largely of what we viewed as ongoing structural measures. The state estimates only about 2% of 2017 budget items are of a one-time nature, including a $50 million deferral of municipal revenue sharing that we believe could be continued into following years, if necessary.

However, we also believe that the $847.2 million of midbiennium budget adjustments for fiscal 2017 leave Connecticut with constrained flexibility to solve future revenue shortfalls, particularly because we believe pension and OPEB costs are likely to increase faster than revenues. In 2015, the governor briefly proposed funding less than the actuarial annual required contribution (ARC) for legacy pension plans due to potentially rising pension costs, and we feel the state's large pension liability and potentially weak current investment returns against its assumed 8% rate of return could boost pension payments that are contractually required to match actuarial requirements. At the same time, an increased matching contribution for annual state employee OPEB costs is scheduled to go into effect in fiscal 2018,

offsetting a new OPEB valuation released in August 2016 that slightly reduces unfunded OPEB liabilities. While the state projects these factors will raise fixed costs by $1.1 billion in fiscal 2018, it projects fixed costs will grow by only $255.3 million in fiscal 2019.

Weak income tax growth has underlined recent revenue shortfalls, particularly in volatile capital gains taxes, underpinned by the lack of a bounceback in high wage jobs since the last recession. In 2014, the top 1% of taxpayers paid 36% of the state income tax, and these taxpayers' income is particularly affected by capital gains. After two rounds of well-publicized tax rate increases in recent biennia, and a high profile move of General Electric Corp.'s headquarters to Boston, we believe raising taxes further at this point would be politically difficult.

Connecticut also faces uncertainty following a recent lower court decision that its system of local school aid does not provide equity for poorer schoolchildren under the state constitution. The case is currently on appeal to the state supreme court, and will likely not get resolved for some time, in our view. While the decision does not require Connecticut to increase overall funding for cities and towns, which provide education, we believe pressure could build for such a result in order to hold harmless more wealthy municipalities from state aid cuts, particularly cuts in local aid that have already occurred in current midbiennium budget adjustments.

We consider Connecticut's level of approximately $22 billion in tax-backed GO and transportation tax-supported debt, after this sale, to be high at $6,159 per capita. At fiscal year-end 2015, the date of the last audit, we calculate the state had $20.5 billion of tax-backed debt outstanding, or $5,716 of tax-backed debt per capita, including combined GO, capital lease, and transportation special tax bonds. Fiscal year-end 2015 tax-backed debt to income was 8.5%. Our calculation of tax-backed debt service, less federal revenues and restricted grant funds during fiscal 2015, is what we view as high at 12.3% of total governmental fund expenditures. Gov. Dannel Malloy has proposed a substantial increase in annual transportation capital spending to make up for perceived past underfunding of transportation infrastructure, with up to $6.6 billion of state bonding over five years, consisting mostly of transportation fund-secured bonds. The potential exists for substantially more bonding after the initial five-year period under the contemplated program--the governor has proposed up to $100 billion of transportation-related bonds over 30 years. However, we expect additional transportation-related bonds to be contingent on additional transportation-related tax revenue being made available, and Connecticut has cancelled recently $642 million of net GO bond authorizations.

We consider combined unfunded pension liabilities as high, at $26.6 billion at fiscal year-end 2015. Since fiscal 2012, Connecticut has been fully funding its retirement systems' ARC, which helps ameliorate what we view as currently low retirement systems' funded levels. A previous pension bond issuance includes a covenant to pay the teachers' retirement ARC as long as the bonds are outstanding. Connecticut funds the ARC using the credit actuarial cost methodology, which differs from the entry age normal actuarial methodology used in GAAP-based audits, but which we believe will eventually lead to a fully funded system if continued. We view the fiscal 2015 pension funds' combined funded ratio as a relatively low 50% on a combined actuarial basis. The state employees' retirement fund (SERF) alone has a funded ratio using the Governmental Accounting Standards Board (GASB) 67 GAAP basis methodology of what we regard as a low 39.54% (compared with 43.30% using state actuarial assumptions), while the teacher retirement funded ratio on a GASB basis was 61.51% in 2015.

Connecticut has since released a fiscal 2016 teachers' retirement system valuation, which showed an increase in

unfunded liability, in part due to a reduction in its assumed rate of return to 8.0% from 8.5%. The report shows a 56% actuarial funded ratio. However, the state's GASB 68 pension valuation report for fiscal 2016 keeps the 8.5% return assumption and rolls over assumptions used in its year earlier valuation. On that basis, the fiscal 2016 teachers' system net pension liability to total pension liability was 59.5%.

The state has also disclosed discussions with state employees to lower the assumed investment rate of return to 7% from 8% and move to level payments from level percent of payroll; however, the potential increase in state annual pension costs could be somewhat offset by moving to a longer unfunded liability amortization period.

In addition, we consider OPEB high at $21 billion, including both the SERF's recently updated actuarial valuation as of June 30, 2015, and an older June 30, 2014, valuation for the state teachers' retirement system. Connecticut law considers state employee OPEB a contractual right of current workers, and state payment of teachers' OPEB a state statutory obligation. Connecticut recently implemented a state employee contribution of 3% of salary toward OPEB, over and above current health costs, which it will match at the 3% rate beginning in fiscal 2018. Combined with small state OPEB trust fund contributions in 2008 and 2011, this will help ameliorate this still-sizable unfunded liability.

Based on the analytic factors we evaluate for states, on a scale of '1.0' (strongest) to '4.0' (weakest), we have assigned a composite score of '2.1' to Connecticut.

Outlook

The negative outlook reflects our belief that projected fixed costs as a percent of the budget could rise significantly enough to seriously impede the state's ability to maintain structural balance in periods of national growth. Connecticut is already projecting what we view as large budget gaps that will need to be closed in the upcoming fiscal 2018-2019 biennium budget. The state projects debt service, pension, and OPEB costs will total 32.6% of fiscal 2018 general fund revenue, a level that we see as high and potentially growing in future years. Fixed cost growth has led to large out-year budget gap projections that may be difficult to manage following previous biennium tax increases and expenditure cuts. Should fixed costs rise substantially further as a percent of the budget, pension-funded ratios decrease below 40%, or the state resort to structurally unbalanced budget balancing measures during a time of national economic growth, we could lower our rating.

However, should fixed costs stabilize as a percent of the budget and the state maintain structural balance, or should economic growth enable Connecticut to restore its budget stabilization fund to the point it could provide protection in the next economic downturn, we could revise the outlook to stable. Our current rating anticipates that Connecticut can achieve near structural budget balance during periods of economic expansion, but that it might fall out of structural budget alignment during economic downturns, and will likely maintain what we would characterize as low reserve levels for the near future, despite national economic growth. Connecticut previously issued debt to cover operating deficits in the last recession, some of which remains outstanding.

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Government Framework

The government framework, including fiscal policy and intergovernmental funding within which each state taxes, spends, and issues debt, influences the state's ability to manage through economic cycles.

A key feature of Connecticut's governmental framework is a balanced budget requirement. A voter-approved amendment to the state constitution provides that the amount of general budget expenditures authorized in any fiscal year shall not exceed the estimated amount of revenue for that fiscal year. In developing its budget, Connecticut operates under a statutory expenditure cap that limits spending growth to the greater of personal income growth or the inflation rate. The cap excludes debt service and certain other expenditures. There is no statutory or constitutional prohibition against borrowing for operating purposes. Connecticut is authorized to issue GO debt, special tax obligation debt, and special obligation and revenue debt. Debt outstanding, authorized and payable from the general fund, is limited by statute to 1.6x total general fund tax receipts. As of July 1, 2016, authorized unissued GO debt stood at $3.2 billion. Cancellation of debt authorization must be considered by state statute when Connecticut's debt approaches 90% of the state debt limit.

There are no constitutional or statutory provisions providing for, or precluding, a priority of payment for GO debt service over other claims of the state. Funds for debt service are "deemed to be appropriated" and, as part of the contract between bondholders and Connecticut, the state must appropriate all amounts necessary for the punctual payment of principal and interest.

Connecticut, which is not a voter-initiative state, has the autonomy to raise taxes and has adjusted its tax structure over time. It has relatively broad service responsibilities with about 28% of the state's budget tied to education funding and other resources shared with local government units. Although it has legal flexibility to adjust funding to local governments, Connecticut has avoided sharp midyear reductions in these areas in recent years. A recent court case, currently on appeal, has ruled that Connecticut's method of funding schools is unconstitutional under the state's constitution. However, the court ruled the state was providing adequate overall funding, but not distributing school aid in an equitable manner. Court cases over the years regarding education funding have generally contributed to increased spending over time in our view.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a '1.5' score to Connecticut's governmental framework.

Financial Management

State statutes and internally developed policies guide budget management, long-term financial planning, capital planning, debt management, and investing.

Financial management assessment: "strong"

We consider Connecticut's management practices "strong" under our financial management assessment (FMA) methodology. An FMA of strong indicates that, in our opinion, practices are robust, well embedded, and likely

sustainable.

Beginning Oct. 15, 2009, the Office of Policy and Management (OPM) and the legislature's OFA have been required by statute to issue consensus revenue estimates each year. An update to the estimate is required by Nov. 10, Jan. 15, and April 30 of each year, and it must cover a five-year period. In addition to its internal resources, Connecticut bases its revenue estimates for budget forecasting on a number of outside data sources and economic forecasting firms. The state's long-term financial planning includes a three-year forecast for the legislature in addition to the biennial budget. The financial plan is updated annually and submitted to the legislature by Nov. 15.

The state also produces a five-year capital improvement plan as part of the November update. State statutes require monthly revenue and expenditure forecasts measured against the budget. The OPM and the Office of the Comptroller generate monthly reports projecting year-end surpluses or deficits. State statutes also prescribe investment of state funds. Dedicated staff monitors investments and generates monthly reports. Connecticut also holds quarterly meetings with the investment advisory commission. The state has a swap management policy and other debt policies that guide amortization and issuance. Connecticut statute authorizes a budgetary reserve fund at a maximum of 10% of general fund appropriations. The statute prescribes that the state must transfer all unappropriated general fund surpluses into the budget reserve fund, and that the fund can only be drawn on to fund operating deficits. At the end of fiscal 2016, the budgetary reserve was at 1.3% of expenditures, and is projected to fall to 0.9% at the end of fiscal 2017.

Budget Management Framework

Connecticut maintains a formal schedule for updating revenues and expenditures on a monthly basis, and this is done by both OPM and the comptroller. If the comptroller reports a projected general fund deficit of greater than 1%, the governor is required to file a deficit mitigation plan. Although the governor might reduce appropriations, this is limited to 5% of total appropriations and 3% of any fund, with any additional reductions requiring legislative approval. Legislative deliberation relating to interim budget adjustments has contributed to a delay in addressing budget gaps at times. The state is allowed to end the year in a deficit, which has periodically been addressed with deficit bonds. However, statutory provisions provide that any new budget deficit after fiscal 2013 must be funded in the ensuing fiscal year budget. Gap-closing solutions in previous bienniums have relied on significant nonrecurring measures and structural solutions.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '1.5' to Connecticut's financial management.

Economy

Although Connecticut's economy and population have been growing slowly recently, the state continues to maintain strong income levels.

Connecticut's population of 3.6 million represents 10-year growth of only 2.4% from 2005-2015, compared with 8.8% for the nation, according to the U.S. Census Bureau. Population has declined in each of the past two years, with a 0.2%

decline from 2013-2015. However, the state's age dependency ratio of nonworking age population-to-total population of 58.7% was slightly better than that of the nation at 60.2% in 2014.

The state's average unemployment rate in 2015 was 5.6% versus 5.3% for the U.S. The seasonally adjusted state unemployment rate in September 2016 was 5.4%, again slightly above the nation's 5.0%, according to the federal Bureau of Labor Statistics. We believe the state's economy exhibits some moderate cyclicality due to exposure to the financial sector. IHS Global Insight has reported that the important financial industry, with its well-paying jobs, shrank between 2008-2014, before growing 1.0% in 2015 with similar growth forecast for 2016. In 2015, the well-paying financial activities sector comprised 7.8% of payroll employment, compared with 5.7% for the nation, according to the federal Bureau of Labor statistics. Other major sectors include education and health services (19.5% for the state compared with 15.5% for the U.S.); trade, transportation, and utilities (17.7% of state employment, 19.0% of U.S.); government (14.3% of state, 15.8% of U.S.); professional and business services (12.9% of state, 13.8% of U.S.); and manufacturing (9.5% of state, 8.7% of U.S). Key employers include Sikorsky Aircraft, Pratt & Whitney, Yale University, and Foxwoods Resort Casino, as well as insurance companies and financial sector firms. Jackson Laboratories agreed to build a $1.1 billion state health care center project in 2011.

State income levels are strong in our opinion. State per capita income of $66,972 in 2015 was 140% of that of the U.S., and GDP per capita of $71,987 in 2015 was 130% of that of the nation. However, GDP growth has been below that of the U.S. periodically. In 2015 and 2014, real state GDP rose 0.6% and 1.2%, respectively, compared with 2.4% and 2.2% for the nation, and fell 0.4% in 2013 compared with 1.3% growth for the U.S. Connecticut also experienced greater decline in GDP than the nation during the recession, although annual growth was stronger than that of the nation in 2007 and 2008 before the recession.

The state's original 2016-2017 biennium budget projected personal income growth of 3.6% in fiscal 2016, and 4.4% in fiscal 2017, compared with IHS Global Insight's current forecasted personal income growth of 2.4% in calendar 2016 and 3.6% in calendar 2017. Recent projected revenue shortfalls are attributable in part to a downsizing in Connecticut's forecasted total personal income tax growth rate.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a '1.9' to Connecticut's economy.

Budgetary Performance

State statutes create what we view as a favorable budget reserve fund structure from a legal standpoint, although since fiscal 2014 Connecticut has allowed reserves to be drawn down to what we view as minimal levels, with no plans to replenish reserves through at least fiscal 2017, based on recent 2017 midbiennium budget revisions and the November 2016 consensus revenue forecast. We believe projections of a substantial out-year budget gap of $1.3 billion in fiscal 2018, based not on current service levels but simply the shortfall between consensus revenue estimates and growth in fixed costs, indicate that replenishing reserves after fiscal 2017 may be difficult. The state projects that growth in fixed costs of only $255.3 million in fiscal 2019, offset by projected fiscal 2019 revenue growth of $363.5 million, will allow a $108 million improvement in 2019, but we believe this is aggressive, as it does not include growth in current service costs for items not considered a fixed cost.

Connecticut statutes authorize a budgetary reserve fund at a maximum of 10% of general fund appropriations, and require that all unappropriated general fund surpluses go into the budget reserve fund, which can only be drawn on to fund operating deficits. At fiscal year-end 2016, the budget stabilization fund (BSF) held an amount equal to about 1.3% of general fund spending, and based on the state's current revenue forecast we calculate that the BSF will be drawn down to 0.9% of appropriations at the end of fiscal 2017.

We consider state liquidity as good. Connecticut projects a weekly cash position that runs throughout each current fiscal year. The state projects its lowest week ending cash position for the remainder of the fiscal year at more than $900 million in March. The state sold $560 million GAAP funding bonds in fiscal 2014 to improve its fiscal year-end general fund balance on a GAAP basis, which has boosted its liquidity and allowed the state to transition into budgeting on a GAAP basis. In addition, Connecticut has been able to access external debt markets to sell deficit funding bonds in previous years when it ended in a deficit budgetary position.

We consider Connecticut to have a diverse revenue mix. On a budgetary basis, 53% of fiscal 2015 total general fund revenues were derived from personal income tax, while 24% came from sales tax.

The state has also had a history of making timely midyear budget adjustments, including multiple midyear allotment rescissions imposed by the governor in fiscal 2015, and another rescission in September of fiscal 2015 to close fiscal 2016 projected midyear gaps, as well as additional legislatively enacted adjustments in December 2015 and March 2016. At the end of fiscal 2016, the legislature passed fiscal 2017 budget cuts of $847.2 million, and additional revenue measures of $136.3 million, which the state projected would produce a $200,000 general fund operating surplus in fiscal 2017.

Connecticut uses a consensus revenue forecasting process to produce a five-year revenue forecast for budgeting purposes. We believe the state has substantial legal authority to cut expenditures, but cyclical revenue trends and high costs in such areas as pension and OPEB may somewhat limit state flexibility. Connecticut considers OPEB benefits as a contractual right of employees.

We believe state budgetary performance has shown cyclical trends, with the state at times issuing deficit financing notes. As of Feb. 15, 2016, Connecticut had $352.6 million of deficit financing economic recovery notes outstanding relating to the original deficit bonds in 2009 of $915.8 million. State reserve levels over time indicate cyclical financial performance. The state's BSF was as high as 8.0% of general fund appropriations at fiscal year-end 2008, before dropping to 0.6% at fiscal year-end 2010, and rising most recently to 3.0% at fiscal year-end 2014. We calculate it will end fiscal 2017 with a 0.9% balance based on current state revenue projections.

In our view, a degree of dependence on top taxpayers, who contribute a greater share of capital gains tax, contributes to cyclicality. The state estimates that the top 1% of taxpayers contributed 36% of total state income tax collections in 2015.

Connecticut estimates that one-time revenue in its originally enacted 2016 budget totaled about 0.8% of budgeted revenues, while we estimate midyear adjustments increased one-time items by about another 0.8%. The state also estimates that only about 2% of fiscal 2017 revenues consist of one-time items following passage by the legislature of midbiennium revisions. The state budget projects revised personal income tax withholding growth on an economic

basis of 3.3% in the second half of calendar 2016, not including the effect of tax law changes, and 2.9% in the first half of 2017, compared with IHS Global Insight's projected personal income growth of 2.4% for the full calendar 2016 and 3.6% in calendar 2017. Personal income growth has particular importance, as personal income taxes (withholding and estimates and finals) comprised about 62% of fiscal 2016 general fund tax revenue on a budgetary basis (53% of total general fund revenue). Capital gains tax is estimated to comprise a large part of personal income tax due to the large share of the tax derived from upper income taxpayers. The state has attributed recent years' less-than-forecasted revenue largely to fluctuation in capital gains tax.

A positive inclusion in budgets since fiscal 2012 has been full funding of the annual actuarially required state retirement system pension contribution, using Connecticut's unit credit actuarial cost method, that will help ameliorate what we view as currently low retirement systems' funded levels, which we calculate at a relatively low 49% on a combined actuarial GAAP basis, using GASB 68 accounting. The SERF alone has a funded ratio using a GASB 67 GAAP basis methodology of what we regard as a low 39.54% in fiscal 2015 (compared with 43.3% using state actuarial assumptions), while the teacher retirement funded ratio on a GASB basis was 61.5% in fiscal 2015 and 59.5% in fiscal 2016.

To the extent ongoing negotiations with employee unions lowered the assumed rate of retirement system investment return and lengthened the amortization period of the unfunded liability, it could worsen SERF's funded ratio.

Connecticut produced a $248.5 million budgetary operating surplus in the fiscal year ended June 30, 2014, bringing the BSF up to $519.2 million, or 3.1% of general fund spending at fiscal year-end 2015. The operating surplus exceeded an original budget surplus projection of only $4.4 million. In fiscal 2015, the state had a $113.2 million operating deficit, bringing the BSF down to $406.0 million, or 2.2% of budgetary operating expenditures. After originally budgeting for a balanced budget, the state again drew down the BSF in fiscal 2016 to $235.6 million, or 1.3% of general fund appropriations. The state is currently projecting another operating deficit in fiscal 2017, which we calculate would bring down the BSF to 0.9% of appropriations.

On a GAAP basis, the most recent audited fiscal year (2015) ended with a negative $148 million total general fund balance position (which includes the BSF), or 1.0% of general fund expenditures and transfers out, somewhat worse than negative $41 million, or 0.3% at fiscal year-end 2014, but substantially improved from a negative $589 million balance at fiscal year-end 2013. This improvement was in part the result of the sale of $560 million of GAAP conversion bonds in fiscal 2014, issued to improve the GAAP fund balance position and assist the state's transition to GAAP-based budgeting. In our view, state finances have been cyclical; the BSF reached a balance of almost $1.4 billion in fiscal 2009, before being depleted during the subsequent recession. Since then, the BSF has been built back up to $519 million at fiscal year-end 2014, and is now estimated to be drawn down to $406 million at fiscal year-end 2015. The total general fund balance reached a low on a GAAP basis of negative $1.3 billion at fiscal year-end 2011. Connecticut expects that its transition to GAAP-based budgeting will enable it to maintain a positive GAAP-basis general fund balance in future years.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '1.8' to Connecticut's budgetary performance.

Debt And Liabilities

In our opinion, Connecticut's debt burden is high by all measures when compared with that of state peers, in part reflecting debt issued for education and other programs that may be handled at the local level of government in other states. It also includes previous debt issued for state pension liabilities.

We calculate that Connecticut's approximately $22 billion in GO and tax-supported debt puts the state's total tax-supported debt per capita at about $6,159, a level we consider high. Debt levels have been rising: at fiscal year-end 2015, we calculate total tax-supported debt per capita was $5,707. Compared with income, debt ratios were also high at fiscal year-end 2015, in our opinion, at 8.5% of 2015 personal income and 7.9% of gross state product. We calculate tax-supported debt service at 12.3% of total GAAP general governmental expenditures, less federal revenue and restricted grants, in fiscal 2015, which we again consider high. The debt service burden has been stable over time, but recent bond issuance, including the GAAP conversion bonds, additional authorizations, and the governor's proposed new transportation program could increase this fixed-cost burden over time.

The state's transportation infrastructure program is planned to remedy perceived underinvestment in transportation infrastructure in previous years. The program will take a number of years to ramp up, requiring the hiring of new engineers in the department of transportation and new design work and environmental permits. The new program involves up to $6.6 billion of additional state bonding in the initial five years, including fiscal 2016, consisting mostly of transportation fund-secured bonds, and a small portion of new GO bonding. The potential exists for substantial further bonding beyond the initial five-year period, pending approval of future related new revenue. However, Connecticut is in the process of cancelling substantial debt authorizations, as it is required to be considered when approaching 90% of its statutory debt cap.

On a positive note, at fiscal year-end 2015 the amortization of tax-backed debt outstanding remained rapid at 66% in 10 years under our calculation. Connecticut's debt profile is largely in fixed-rate obligations, with approximately 11% of state GO debt consisting of variable-rate debt. The state terminated a $280 million interest rate swap agreement on March 1, 2015, and has only limited remaining exposure to swap agreement risk in our opinion. It has no direct placement debt outstanding.

Because almost all state pension plan liabilities are attributable to either state employees or state-funded teacher pension plans, GASB 68's accounting breakout of the state-only liability does not appreciably change overall state pension liabilities. The SERF has recorded a significant unfunded pension liability of $14.9 billion as of June 30, 2015, almost unchanged from fiscal 2014, and the SERF actuarial funded ratio in 2015 was low, in our opinion, at 43.3% on an actuarial basis. The market value funded ratio was 40.6%. The actuarial earnings assumption was lowered to 8.00% from 8.25% starting in fiscal 2014. SERF had an investment return of 0.3% in fiscal 2016, 2.8% in 2015, and 15.6% in 2014, with a five-year return of 5.7%. Connecticut did not fund the full actuarial ARC in fiscal years 2008-2011, but has effectively funded the full ARC since. The SERF currently uses the projected unit credit actuarial cost method, which is not aligned with the new GASB standard that requires use of the entry age normal cost method. A conversion to this method would require approval by the State Employees Bargaining Agent Coalition (SEBAC), and is expected to increase liabilities, lower funded ratios, and increase contributions, which would add to overall cost pressures. As a

result, while full annual funding of the pension ARC using the state's unit credit actuarial method has occurred since fiscal 2012, it will not necessarily always result in full ARC funding on a GAAP entry age normal method. The state's pension bond sale a few years ago contained a covenant to maintain full ARC funding for the teachers' pension system, and we anticipate that Connecticut will continue to fully fund the ARC for both SERF and the teachers'system on a unit credit method. However, pension contributions have not been greater than the sum of pension service costs, interest costs, and the amortization component.

SERF currently calculates ARC based on a level percent of payroll, which we see as a somewhat aggressive assumption since it uses a payroll growth assumption of 3.7% per year (in a period when employee layoffs are expected) and a static mortality assumption. The SERF valuation also uses an 18-year amortization period, and what we view as a somewhat aggressive 8.0% return assumption. State actuaries calculate this should be sufficient to pay unfunded liabilities. SERF currently has a 1.09 ratio of active to retired members, compared to 1.5 nationally. Using GASB methodology, SERF has a 39.5% funded ratio. SERF uses a 2012 experience study conducted within the past five years, which we view as current.

The state recently disclosed ongoing negotiations with state employee unions to lower the assumed investment rate of return to 7% from 8% and move to level payments from level percent of payroll; however, the potential increase in state annual pension costs could be somewhat offset by moving to a longer unfunded liability amortization period. The new fiscal 2016 SERF valuation report is expected to be released in mid-December.

The Teachers' Retirement Fund (TRF) had an unfunded liability of $13.1 billion at June 30, 2016, under its most recent valuation, despite a deposit of $2 billion in bond proceeds in 2008. The funded ratio declined to 56.0% an actuarial basis and 52.2% on a market value basis of assets, in part due to a decrease in the assumed rate of return to 8.0%. Using GASB 68 methodology, the state calculated a 59.5% ratio of fiduciary net position to total pension liability of 59.0% as of June 30, 2015, for use in the fiscal 2016 audit; however, for its GASB 68 calculation the state used the assumptions and data used for its year earlier report with liabilities rolled forward. This includes using a more aggressive 8.5% discount rate, which was used for the valuation as of June 30, 2014. TRF uses a level percent of payroll contribution assumption, which we see as somewhat aggressive due to a 3.7% payroll growth assumption, a closed amortization period of 22 years, and a currently 8.0% investment return assumption, which we also see as somewhat aggressive, although better than the 8.5% used in the previous year. The actual investment return for the most recent five years has been 5.7%, although only 0.3% in fiscal 2016. The TRF actuary projects that the unfunded liability should be fully amortized using the given actuarial assumptions. The ratio of active to inactive members is coincidently the same 1.09 as for SERF, compared to the national average of 1.5. The last TRF experience study was conducted in 2015, which we view as current.

Both of the state's major retirement funds are below the average funded ratio for state public pension plans, according to S&P Global Ratings' recent state pension report (see "U.S. State Pensions: Weak Market Returns Will Contribute To Rise In Expense," published Sept. 12, 2016, on RatingsDirect). Total net pension liability, as calculated in fiscal 2015, was $27.5 billion, including the judge's retirement system, and what we view as a high $7,660 per capita, and 12.3% of state personal income.

Connecticut's OPEB liability is significant compared with that of other states (see "Rising U.S. State Post-Employment

Benefit Liabilities Signal An Unsustainable Trend," published Sept. 7, 2016), but recent actions to reduce the liability and pre-funding of an OPEB trust have resulted in a slightly lower unfunded OPEB in the most recent valuation as of June 30, 2015. The most recent unfunded OPEB valuation of $18.9 billion, or $5,260 per capita, is a small reduction from the previous valuation in 2013 of $19.5 billion. Connecticut had previously funded OPEB on a pay-as-you-go basis, and while the OPEB trust remains small, it has grown to $229.6 million as of June 30, 2015, and a 1.2% funded ratio, but is scheduled to begin a $132.6 million step-up matching contribution to the OPEB fund in fiscal 2018 to match increased employee contributions. Pay-as-you-go costs for funding state employee retiree health costs were $538.3 million in fiscal 2015, which was in contrast to the sizable $1.5 billion ARC in 2015.

The unfunded state employee OPEB liability had been $26.6 billion at June 30, 2008. The lower liability is attributable to a change in the discount rate to 5.7% from 4.5% due to the creation of a trust fund, lower liabilities resulting from changes in plan design negotiated with the SEBAC, and various healthcare cost-containment initiatives. Before the plan changes and updated actuarial report, OPEB costs had been forecast to rise sharply, reaching approximately $45 billion by fiscal 2017.

Connecticut is also statutorily required to fund one-third of teacher pension OPEB costs, plus the shortfall left after employer and employee contributions. The teachers' unfunded OPEB was $3.0 billion as of June 30, 2015, almost unchanged from $3.0 billion in 2012, and no teachers' OPEB trust fund assets.

On a combined basis, unfunded employee and teacher OPEB is $21.9 billion, or $6,095 per capita, a level we consider high.

On a scale from '1.0' (strongest) to '4.0' (weakest), S&P Global Ratings assigned a score of '3.5' to Connecticut's debt and long-term liabilities.

Ratings Detail (As Of December 1, 2016)		
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Ed Fac Auth		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut approp		
Long Term Rating	A+/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO bnds ser 2012 B dtd 04/26/2012 due 04/15/2021-2032		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised

Ratings Detail (As Of December 1, 2016) (cont.)		
Connecticut GO (AGM) (SECMKT)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO (AGM) (SECMKT)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO (AGM) (SEC MKT)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO (BAM) (SECMKT)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO (BAM) (SECMKT)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO (BAM) (SEC MKT)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO (BAM) (SEC MKT)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO (FGIC)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut GO		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Capital City Economic Dev Auth, Connecticut		
Connecticut		
Capital City Economic Dev Auth (Connecticut) GOEQUIV		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth, Connecticut		
Connecticut		
Connecticut Hlth & Educl Facs Auth (Connecticut) rev bnds (Child Care Facs Prog) (ASSURED GTY)		
Unenhanced Rating	A-(SPUR)/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) rev bnds (Connecticut) (Connecticut State Univ Sys Issue) ser J dtd 06/22/2011 due 11/01/2012-2031		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) rev bnds (State Univ Sys Issue) ser D-1&2 dtd 03/15/2002 due 11/01/2003-2022		

Ratings Detail (As Of December 1, 2016) (cont.)		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) rev rfdg bnds (Connecticut) (Connecticut State University System Issue) ser P-1 due 11/01/2036		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) rev rfdg bnds (Connecticut) (Connecticut State University System Issue) ser P-2 due 11/01/2035		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) rev rfdg bnds (Connecticut) (Connecticut State Univ Sys Issue) ser K dtd 06/22/2011 due 11/01/2012-20		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) rev rfdg bnds (Connecticut) (Connecticut St Univ Sys Issue) ser L dtd 04/04/2012 due 11/01/2012-2029		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) state supported rev bnds		
Long Term Rating	A+/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) APPROP		
Long Term Rating	A+/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) GOEQUIV		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Ed Fac Auth nsg home prog		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Ed Fac Auth (Connecticut) nsg home prog taxable		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Ed Fac Auth (Connecticut) st univ sys issue		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hlth & Educl Facs Auth (Connecticut) ser G&H		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut Hlth & Ed Fac Auth rev bnds (Connecticut State Univ Sys Issue) ser D-2 dtd 03/15/2002 due 11/01/2020-2022		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut Hlth & Ed Fac Auth (Connecticut) univ issue		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut Hsg Fin Auth, Connecticut		
Connecticut		
Connecticut Hsg Fin Auth (Connecticut) state supported spl oblig bnds		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Hsg Fin Auth spl needs hsg mtg fin prog		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Connecticut Innovations Incorporated, Connecticut		
Connecticut		
Connecticut Innovations Incorporated (Connecticut) gen fd oblig bnds		
Long Term Rating	AA-/Negative	Outlook Revised
Connecticut Dev Auth (Connecticut) GO		

Ratings Detail (As Of December 1, 2016) (cont.)		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Waterbury, Connecticut		
Connecticut		
Waterbury (Connecticut) GO spl cap reserve fd		
Unenhanced Rating	AA-(SPUR)/Negative	Outlook Revised
Many issues are enhanced by bond insurance.		

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