Texas
Texas Water Development Board; Appropriations; General Obligation; General Obligation Equivalent Security; Joint Criteria

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Credit Profile		
US$81.235 mil GO bnds wtr financial assistance rfdg bnds (Var Rate) (Texas) ser 2019E-2 due 08/01/2022		
Long Term Rating	AAA/Stable	New
US$42.13 mil GO bnds wtr financial assistance rfdg bnds (Texas) ser 2019E-1 due 08/01/2022		
Long Term Rating	AAA/Stable	New
US$37.485 mil GO bnds wtr financial assistance rfdg bnds (Var Rate) (Texas) ser 2019C-2 due 08/01/2022		
Long Term Rating	AAA/Stable	New
US$28.425 mil GO bnds wtr financial assistance rfdg bnds (Texas) ser 2019C-1 due 08/01/2022		
Long Term Rating	AAA/Stable	New
US$22.535 mil GO bnds wtr financial assistance rfdg bnds (Texas) ser 2019D due 08/01/2030		
Long Term Rating	AAA/Stable	New
US$8.17 mil GO bnds wtr financial assistance rfdg bnds (Texas) ser 2019F due 08/01/2026		
Long Term Rating	AAA/Stable	New
Texas Wtr Dev Brd, Texas		
Texas		
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed

Rationale

S&P Global Ratings assigned its 'AAA' long-term rating to Texas' general obligation (GO) debt issued by the Texas Water Development Board, including the following bonds:

- Water Financial Assistance Refunding bonds, series 2019C (subseries C-1 and C-2 [variable rate]);
- Water Financial Assistance Refunding bonds, series 2019D;
- Water Financial Assistance Refunding bonds, series 2019E (subseries E-1 and E-2 [variable rate]); and
- Water Financial Assistance Refunding bonds, series 2019F

At the same time, S&P Global Ratings affirmed its 'AAA' issuer credit rating (ICR) on the State of Texas, its 'AAA' long-term rating and underlying rating (SPUR) on the state's previously issued GO bonds, its 'AA+' long term rating and SPUR on the state's appropriation-backed debt outstanding, and its 'AAA/A-1+' rating on the state based on the joint support criteria with the short-term component of the rating based on the standby purchase agreement (SBPA).

The outlook, where applicable, is stable.

The ratings reflect our view of the state's:

- Diverse and resilient economy that we expect will outpace that of the nation in terms of job growth and productivity;
- Strong revenue forecasting and cash management practices, including comprehensive monthly revenue and expenditure cash monitoring and forecasts, as well as a willingness to maintain strong liquidity to meet constitutionally defined priorities;
- Low overall net debt, although with rising unfunded pension and long-term liabilities, which we believe will require further active management to ensure that benefit costs remain affordable; and
- Potential long-term budgetary pressures related to growing public education expenses and modifications to the school funding formula, which could shift a greater burden of the cost to the state.

The bonds are state GO obligations, secured by its full faith and credit, and are issued pursuant to Article III, Sections 49d-8, 49d-9, 49d-10, and 49d-11 of the state constitution; Chapter 17, Subchapter L of Chapter 17 of the Texas Water code; and the Texas Government Code, chapters 1207 and 1371. Proceeds from the sale of bonds to refund certain existing debt for debt service savings.

Economic And Budgetary Update

On the back of a banner year economically and financially, Texas' credit fundamentals are continuing to rise in the first quarter of 2019. Supported in part by the state's strong mining activities—largely oil and gas activities--year-over-year employment trends through February 2019 were led by construction and mining (4.4%) and manufacturing (3.7%), according to IHS Markit. Other services (subsector group) saw 2.8% growth over the same period, with leisure and hospitality (2.7%) and professional and business services (2.3%) continuing to realize healthy growth as well. The state's total payroll growth year over year (December) ranked third among states. According to IHS, year-end estimated gross state product (GSP) of 3.3% in 2018 will be followed by 3% growth in both 2019 and 2020, roughly 80 basis points more than S&P Global Ratings estimated U.S. GDP for the 2019.

The reversal of fortune for the state's oil plays, predominantly concentrated in the Permian, is extraordinary, but stands to highlight how quickly economic winds can change. The state's GSP was effectively flat as recently as 2017, partly as a result of relatively weaker oil and gas activities and the ancillary services they support. On the heels of volatility in oil prices observed in the latter part of 2018, S&P Global Ratings' lowered its average annual price assumptions for Brent and WTI crude oil for 2019 by $10 per barrel (bbl) and for 2020 by $5/bbl. (For more information see "S&P Global Ratings Lowers Brent and WTI Oil Price Assumptions For 2019 Through 2020; Natural Gas Price Assumptions are Unchanged," published Jan. 3, 2019 on RatingsDirect).

While Texas' prolific energy sector continues to play an important role in its economic health, the state's metro areas have equally benefited from broad-based economic growth. Its leading population and employment centers, including Houston, Dallas, San Antonio, Austin, and El Paso, realized positive employment growth in 2018 (year over year) of 2.1%, 1.7%, 1.4%, 3.3%, and 1.4%, respectively, accordingly to the Federal Reserve Bank of Dallas. Given the state's robust economic activity, we believe its population growth will also continue at a healthy clip. U.S. Census population estimates, released April 18, 2019, show four Texas counties among the top 10 numeric growth counties in the county in 2018, including Harris County (largest city: Houston; county population increase 34,460), Collin County (Plano, 33,753), Tarrant County (Fort Worth, 27,463), and Bexar County (San Antonio, 27,208). The Dallas-Fort Worth-Arlington metropolitan statistical area (MSA) realized the greatest numeric population increase in the country, adding 131,767 (1.8%) residents. Although the population trend creates budgetary pressures, particularly related to school funding and infrastructure demands, it also generates organic growth related to sales tax collection, the state's largest source of operating revenue.

Fiscal 2019 general fund revenue (excluding federal funds) is up nearly 6% through March, again led by sales taxes (up 7.9%) as well as natural gas and oil production taxes (up 27.6% and 22.5%, respectively).

Prior to the beginning of the calendar year, state comptroller raised the 2018-2019 biennial revenue estimate by $2.8 billion (2.6%). In our view, the revised revenue estimates in combination with Texas' sizable rainy day fund equal to about $12.5 billion (as of Nov. 30, 2018) favorably position the state to absorb higher expenditures, namely for Medicaid and Hurricane Harvey-related expenditures as the legislators work to close the current biennium. As of April 18, conferees in both legislative chambers have been appointed to reconcile the supplemental budget items. Of note, the lower chamber's proposal would use approximately $2.13 billion of rainy day funds in 2019 while the upper chamber's proposal would use $4.36 billion.

For the 2019-2020 biennium, Comptroller Hegar's Biennial Revenue Estimate greenlighted in excess of 8% more general-purpose revenue totaling $119.12 billion for legislators to work. Budget conferees have also been selected by each chamber to reconcile the state's budget prior to a final vote in each chamber. While the proposed budgets differ in their approach, both aim to boost funding for public education while providing meaningful property tax relief—a stated priority for the governor, lieutenant governor, and speaker. Contingent on the successful adoption of a property tax relief measure, the governor, lieutenant governor, and speaker have all endorsed a 1% increase in the state sales tax to offset forgone local property tax revenue, the majority of which is levied for public schools. Absent any other alternative recurring revenue stream, the state's ability to continue supporting public education and health care costs while addressing long-term liabilities and infrastructure demands depends on the relative weight legislators place on the immediate need for a tax or fee increase against curtailing these investments in the future. (For more information, see "Texas Budget Talks Involve Wrangling Property Taxes, School Funding, And Other Long-Term Liabilities," published April 11, 2019 on RatingsDirect). Absent draws on reserves, current projections indicate the state's rainy day fund will grow to $15.4 billion when fiscal 2021 ends.

By constitutional provision, total general revenue-related spending cannot exceed revenue available, and appropriations for the next biennium cannot exceed the estimated rate of growth in personal income. Texas' constitutional requirements on budgeting demand that expenditures remain below the certified revenue estimated amount, thus providing the state with a cushion should revenue decline beyond the estimate.

Texas' unfunded pension liability represents its collective proportionate share in several pension plans, of which Teachers Retirement System (TRS) and Employee Retirement System (ERS) are the largest. The state is a contributing employer and contributing nonemployer to TRS, for which its allocable share is 67.37% (measured as of Aug. 31, 2017). The overall average pension funded ratio over the previous three years was down 73% from a year previous, which we view as relatively low. The plan fiduciary net position as a percentage of total pension liabilities were 73.74% and 57.89% for TRS and ERS, respectively, as of Aug. 31, 2018.

Texas manages its other postemployment benefit (OPEB) obligations on a pay-as-you-go basis, typical of most states. Based on 2018 OPEB information, the combined net liability totals $70.3 billion, including 58% of the TRS liability, is a moderately high $2,483 per capita. The benefits of TRS-Care are financed through a combination of retiree premiums and percentage of payroll contributions from active employees, local school districts, and the state. Although OPEB benefits are not constitutionally protected in Texas, we believe the primary constituency covered by the plan makes modification politically difficult.

Under our state ratings methodology, we have assigned Texas a score of '1.6' on a four-point scale on which '1' is strongest, which is indicative of a 'AA+' rating. We have maintained the rating one notch above the indicative credit level as allowed per our state rating methodology criteria, reflecting the state's sizable reserves, strong financial management and budgetary practices, and large and diverse economic base that continues to compare favorably with those of 'AAA' rated peers.

Texas' GO bonds are eligible to be rated above the sovereign because we believe the state can maintain better credit characteristics than the U.S. in a stress scenario. Under our criteria, "Ratings Above The Sovereign: Corporate And Government Ratings—Methodology And Assumptions" (published Nov. 19, 2013), U.S. states are considered to have moderate sensitivity to country risk. The institutional framework in the U.S. is predictable, with significant state autonomy and flexibility demonstrated by serial bond amortization as well as independent treasury management.

Outlook

The stable outlook reflects our expectation that Texas' economic performance will continue to support revenue forecasts and surpass that of the nation. The outlook also reflects our expectation that state leadership will adhere to the budget and cash management discipline that has enabled Texas to maintain both strong reserves through economic cycles and a balanced budget for the next biennium. We believe the state will experience ongoing challenges in shoring up or containing long-term liability growth related to pensions and retiree health care costs, which could pressure its credit quality if costs rise to unsustainable levels without a credible plan and active management to stabilize or reduce such liabilities.

In addition, we could lower the rating if officials fail to adopt timely corrective actions to address potential future budget gaps, or if the economy softens to a point where revenue materially weakens or substantial draws on the economic stabilization fund (ESF) without a plan to replenish the amount.

Government Framework

As is the case with many states, Texas has a constitutional requirement to adopt a balanced budget. The state comptroller of public accounts releases a revenue estimate for the biennium in early January, and the legislature is constitutionally obligated to adopt an appropriations bill that does not exceed the comptroller's certified revenue. The state does not have a legal requirement (constitutional or in statute) to end the fiscal year and biennium in balance. In practice, however, the legislature must address any current deficit before a new biennial budget can be approved, which effectively serves as a budget balancing measure at the end of the biennium.

While significant tax and fee increases have generally been rare in recent history, the state legislature retains legal authority to adopt and increase taxes and fees. One of the exceptions to this authority is the adoption of a personal income tax, which would require a statewide referendum to amend the state constitution, as well as legislative approval.

In our opinion, Texas has sufficient authority to shift certain responsibilities to local governments and potentially change disbursement dates for its agencies and programs, with a few exceptions--most prominently, education funding. A change in the disbursement dates of state funding for schools requires legislative approval. In times of budgetary stress, the state legislature has approved shifting the last transfer of the fiscal year (known as the "13th month payment") to the following fiscal year.

From a credit perspective, one of the key strengths of Texas' government framework derives from the constitutional priority of debt service payments. The state's GO debt is secured by a constitutional pledge of the first money coming into the state treasury not constitutionally dedicated for other purposes.

Based on the analytic factors we evaluate for states, on a four-point scale in which '1.0' is the strongest and '4.0' is the weakest, we have assigned Texas a government framework score of '1.5'.

Financial Management Assessment: Strong

We view the state's financial management assessment (FMA) score as strong. In our framework, an FMA of strong indicates that practices are strong, well embedded, and likely sustainable.

Highlights of the state's financial management practices include:

- The state comptroller's office performs revenue forecasts biennially based on an array of independent economic and demographic analyses. The comptroller also biennially certifies revenue assumptions and tracks revenue and expenditure performance monthly.
- The state legislature controls appropriations, which are approved biennially. Throughout the year, the legislative budget board acts as a permanent joint committee of the state legislature, developing recommendations for legislative appropriations for all state government agencies. In addition, the board annually publishes a budget and performance assessment report that provides detailed budget performance measures by government function. Between legislative sessions, the governor or the legislative budget board can propose to prohibit a state agency from spending all, or part, of an appropriation made to the agency; transfer an appropriation to another state agency; or change the purpose for which an appropriation was made. The board must either approve or amend the governor's proposal or the governor must either approve or amend a legislative budget board proposal.
- The state has a government-wide, long-term capital improvement program (CIP) that it updates every biennium. The CIP outlines the overall capital expenditures by functional area and identifies relevant sources of funding. In addition, several individual state agencies, including the Department of Transportation, have comprehensive

long-term capital plans with identified funding sources for every project.

- In addition to a long-range capital plan, state agencies are required to develop long-range strategic plans. State statutes require agencies to submit a five-year plan each even-numbered year, beginning with the next odd-numbered fiscal year. The Legislative Budget Board and the Governor's Office of Budget and Planning are jointly responsible for determining the elements included in these strategic plans and for issuing instructions. These plans must include an analysis of the use of the agency's resources to meet its current and future needs, an estimate of additional resources necessary for future needs, as well as a prioritization of those needs. These strategic plans serve as the basis for the "Legislative Appropriations Request," which prioritizes and develops state agency budget requests. In terms of debt management policy, Texas has a constitutional debt limit that states any additional debt it intends to pay from general revenues cannot be authorized if the maximum annual debt service on debt payable from the general revenue fund would exceed 5% of average general fund revenues for the previous three years. In addition, the state's debt affordability plan, first introduced in 2007 and reviewed annually, establishes several benchmarks and ratios to evaluate outstanding debt obligations and future debt capacity.
- In terms of liquidity and reserve policies, Texas established its ESF (rainy day fund) by constitutional amendment in 1988. It became effective on Sept. 1, 1989, and is primarily funded with 75% of the amount by which oil and gas tax collections in any year exceed 1987 collections and half of any unencumbered general revenue surplus at the end of each biennium. The amount in the ESF is capped at 10% of general revenue income during the previous biennium. A three-fifths vote in both houses is required to appropriate money in the fund. In November 2014, a constitutional amendment passed allocating at least one-half of certain severance taxes to the ESF and the remainder to the State Highway Fund (SHF) contingent on legislative action. Revenue transferred to the SHF as a result of this constitutional amendment may only be used for constructing, maintaining, and acquiring right-of-way for public roadways other than toll roads.

Budget management framework

The state comptroller of public accounts is required to produce two revenue estimates during the biennium. The first one, produced in January of odd fiscal years, is also called the biennial revenue estimate (BRE). The BRE sets the stage for the budget process, as it outlines the estimated revenues available for appropriation by the legislature in the upcoming biennium. The Certified Revenue Estimate, which is generally produced in the fall of odd fiscal years, reflects legislative activity, and serves as an interim budget management tool to allow for potential changes to the state's appropriations. In addition to the legally required estimates, the comptroller's office monitors the revenue and expenditure forecast monthly and produces a detailed forecast annually.

Based on information regarding the governor's budget execution authority, we believe that the budget management tools available to state officials allow for timely corrective action throughout the biennium, particularly during times of budgetary stress. As the chief budget officer of the state, the governor has both emergency appropriations and budget executive authority. In previous economic cycles, when revenue declines have resulted in projected gaps, the governor and legislative leadership implemented a series of budget reductions to contain expenditures. They used these budget management tools to close developing budget gaps during the most recent economic recessions, including a roughly $1.6 billion expenditure reduction in fiscal 2003 and subsequent reductions of approximately $2.5 billion in the four years following the Great Recession of 2009.

Historically, state officials have addressed budget shortfalls by implementing structural measures, including several sales tax increases after the 1980s oil bust and expenditure reductions following the recession in the early part of this century. In our opinion, however, the state's focus on structural solutions has shifted to incorporating a growing number of one-time solutions to its budget challenges. One such example was the 2012-2013 biennium. From an initially estimated gap of about $27 billion identified in 2011, state officials addressed approximately $12.2 billion of this gap through one-time revenue measures or expenditure deferrals. In addition, there have been other budget measures that have created the potential for long-term budget imbalances, particularly during times of economic decline. One such example is the set of revenue solutions adopted in the school finance reforms that the legislature approved in 2006. This legislation required school districts to reduce local school district property tax rates by one-third. The state committed itself to fill the revenue gap that this created.

Based on the analytic factors we evaluate for states, on a four-point scale in which '1.0' is the strongest and '4.0' is the weakest, we have assigned Texas a financial management score of '1.0'.

Economy

As we recently noted, while Texas' growing prosperity is not likely to abate within the short term, emerging trade tensions could have a pronounced effect on the state. As the country's leading exporter, Texas has economic industries that are strongly intertwined with global supply chains and ancillary business services that support local economies. Positively, recent policy pronouncements concerning the fate of NAFTA--now the U.S.-Mexico-Canada Agreement--should offer a degree of certainty as businesses make longer term investment decisions. Nevertheless, given the depth of integrated global supply chains, pressure from trade tensions with China can seep into the state's trade heavy corridors. Notwithstanding potential headwinds, we expect the state will continue to benefit from stronger-than-anticipated aggregate national growth. In addition, given the energy sector's heated pace of expansion particularly in the Permian basin, we believe the lack of available labor could boost operating costs for some employers, potentially cooling off employment growth. However, over the long term, we believe that improved diversification bolstering Texas' economy through various economic cycles will likely offset many of these risks.

Baseline growth in key metrics is expected to outpace the nation, including employment growth, population, real income, and average real wages, according to IHS Markit. Texas is expected to experience 1.9% year-over-year employment exceeding the U.S. growth rate of about 1.25%. Job growth will reflect professional and business services, education, and health employment as well as leisure and hospitality. Baseline growth in personal income and real GSP will accelerate in the medium term, with year-over-year growth rates of 4.8% and 3%, respectively. The state's strong economic base is expected to continue to lead to greater population growth over the short term at about 1.4%, roughly twice the national level. The state's per capita GDP, per capita personal incomes, and unemployment levels are roughly in line with national levels at 97%, 92%, and 3.9%, respectively.

Economic diversification

We have observed that the diversification of the Texas economy has occurred with less dependence on energy-related industries, with the shift away from these industries, the state's economy now more closely resembles the national economy.

We believe that the gradual diversification away from oil has been spurred largely by two increasingly prominent sectors in the state's economy: technology and the service industries. Population growth in the Austin-Round Rock

MSA, for example, has been fueled by high-technology research and development and manufacturing. Houston, although still dependent on energy-related industries, has seen rapid expansions in health care and business services, the Dallas and Fort Worth MSAs are leading transportation and telecommunications centers.

Despite the diversification of the past two decades, we expect that the energy sector will remain an important mainstay of the state's economy and finances. Texas remains the nation's largest producer of crude oil and natural gas, its largest consumer of energy, and home to many of the country's energy-related corporations. Consequently, we expect that oil and gas prices will continue to play an important role in the state's economic and fiscal future.

Based on the analytic factors we evaluate for states, on a four-point scale in which '1.0' is the strongest and '4.0' is the weakest, we have assigned Texas an economic score of '1.6'.

Budgetary Performance

The state has four constitutional limits on spending: the balanced budget limit (referred to as "pay-as-you-go limit"), the limit on the rate of growth of appropriations from certain state taxes (referred to as "spending limit"), the limit on welfare spending, and the limit on tax-supported debt. The current biennial budget is within all of these limits.

For the current session, lawmakers have roughly 8% more general-purpose revenue available in crafting the budget. Chief among legislative priorities during the current legislative session are significant increases in public education funding and property tax reform. As we have said for the previously, we believe the school finance reforms that the legislature approved in 2006 created a long-term source of budget pressure for Texas. With a mismatch between when Texas collects its franchise tax and other revenues and when most of the transfers to schools have to be made, there will likely be increased pressure on the state's cash flow, particularly if changes in state law shift a materially greater share of education funding to the state. Under current law, the state is required to transfer approximately 50% of annual payments to schools in the first three months of the fiscal year. If the timing of transfers to schools remains unchanged, Texas' temporary cash shortfall in the early part of the fiscal year could grow significantly. We believe that unless the legislature approves changes to the timing of transfers to schools, the projected enrollment growth could pressure the state's liquidity, particularly during periods of slow revenue growth.

In our opinion, the shift in education funding to a source that closely tracks the economic cycle (state general-purpose funds) from a relatively stable one (local property taxes) could pressure the Texas budget, in particular during periods of economic decline. In our view, the state's budget imbalance is likely to reappear unless Texas identifies other sources of revenue or additional budgetary flexibility to fill what could be a growing funding gap and to smooth the timing of the required payments to local school districts.

Fiscal 2018

At the close of 2018, general fund revenue collections totaling nearly $99 billion far outpaced the forecast by $10.3 billion (excluding $5.4 billion in tax and revenue anticipation note proceeds). The favorable variance (nearly 11%) stemmed from sales tax receipts, the state's primary revenue stream, which grew 10.5% to nearly $32 billion. Similarly impressive were oil and gas production tax revenue, which grew 53.3% to $4.82 billion. On a budgetary basis, expenditures were up 4.3%, primarily as a result of increased transfers to the foundation school fund, as required by the budget.

Overall liquidity remains strong

Texas maintains what we consider a very strong reserve and liquidity position. The state ended fiscal 2018 (Aug. 31) with $12.5 billion in its rainy day reserve (ESF), or a strong 12% of net general fund expenditures in 2018 (GAAP basis). We believe the size of the state's accumulated reserves provides a source of flexibility that very few states have maintained during the most recent recession. Furthermore, we believe that Texas' very strong revenue forecasting and cash-flow monitoring tools, which include comprehensive monthly reports on the state's general revenue and pooled cash, coupled with state authorities' willingness to maintain strong liquidity to meet Texas' constitutionally defined priorities, including the repayment of debt service, provide an important source of strength and stability to the rating. Finally, we believe Texas has relatively broad authority to cut services, which can also provide additional flexibility to manage its liquidity position during periods of budgetary stress.

As of March 31, the state showed about $19.6 billion (35% of general revenue expenditures to date on a cash basis) in cash and borrowable resources. Projections for the state have historically been conservative and actual results have performed better than estimates.

Based on the analytic factors we evaluate for states, on a four-point scale in which '1.0' is the strongest and '4.0' is the weakest, we have assigned Texas a budgetary performance score of '1.2'.

Debt And Liability Profile

GO debt has a priority claim on general fund revenues not constitutionally dedicated for other purposes, including education and state highways. Two-thirds' vote of both houses of the state legislature and a majority of voters must approve debt, resulting in very low debt burden, in our view. According to the state's "Debt Affordability Study" (published February 2019), approximately $2.6 billion in nonself-supporting debt is expected to be issued between 2019-2023. As a result, we expect that the state's overall debt ratios will remain stable, especially given an approach to debt issuance that we consider historically conservative. This includes an emphasis on the issuance of self-supporting debt and the use of the state's debt affordability as a guideline to evaluate the effects of debt service costs on Texas' financial position. In our view, the state's debt service costs are low at 2.6% of total governmental expenditures (less federally supported expenditures) with total tax-supported debt slightly less than $400 per capita at fiscal year-end 2018.

Pension and other postemployment benefit liabilities

Texas' unfunded pension liability represents its collective proportionate share in several pension plans, of which Teachers Retirement System (TRS) and Employee Retirement System (ERS) are the largest. Texas is a contributing employer and contributing nonemployer to TRS, for which the state's allocable share is 67.37% (measured as of Aug. 31, 2017). The overall average pension funded ratio over the previous three years was down 73% from a year previous, which we view as relatively low. The plan fiduciary net position as a percentage of total pension liabilities was 73.74% and 57.89% for TRS and ERS, respectively, as of Aug. 31, 2018. The state has not been contributing 100% of its actuarially determined contributions (ADCs) for all plans for the past several years. Based on an experience study conducted in fiscal 2017, TRS' board of trustees approved a reduction in its assumed rate of return to 7.25% from 8%, including a reduction in its inflation assumption to 2.3% from 2.5%. In fiscal 2018, the state contributed approximately 92% of the ADC for its proportionate share of the state's combined net pension liability. Favorably, the state contributed 100% of its requirements to the TRS, which equated to about $2.2 billion.

As we noted in "Everything's Bigger In Texas, Including Potential Pressure To Fund Pension Benefits" (published on Feb. 9, 2018), a funding policy linked to a fixed percentage of payroll below actuarially determined levels is concerning, particularly when plan experience does not match plan assumptions. We believe this mismatch leads to underfunding, resulting in unfunded liability growth as well as a projected depletion of assets at a future crossover date. Furthermore, the disconnect between experience and assumptions may shorten the timeline to asset depletion or pressure the state to appropriate supplemental amounts to the system to shore up the liability. As described in the ERS fiscal 2018 CAFR, the plan's crossover date is 2047, further evidencing the risk surrounding the plan's funding discipline and funding policy. However, we note that the 2017 actuarial report identifies a depletion date of 2096, which does not incorporate GASB 67 accounting standards.

On the whole, management factors and actuarial inputs do not significantly encumber or improve our view of the state's overall pension funding discipline. The ERS assumes an open amortization schedule with 31 years remaining, which is aggressive, in our view, compounded by its use of the "level percentage of pay" method, which assumes rising future payroll and results in escalating pension contributions over time. Although the plan reported an actual 8.3% five-year average rate of return (money-weighted) in its fiscal 2018 CAFR, which exceeds its then-actuarial assumed rate of return of 7.5%, we believe ERS' projected cash flow is reasonable. The ERS ratio of active members to beneficiaries is 1.27, which we believe is sustainable, although it is moderately below the median national ratio of 1.50. We believe the ERS and TRS each incorporate experience trends and industry standards in experience studies produced every five years.

Of the $55 billion net pension liability reported by the TRS, the state reports a 67.37% share, roughly equating to a $37.08 billion net pension liability. Together with the $20 billion unfunded liability for the ERS, and the state's other combined liabilities totals approximately $58.5 billion and translates to what we view as a moderately high but manageable $2,065 per capita and a moderately high 4.4% of personal income.

Texas manages its OPEB obligations on a pay-as-you basis, typical of most states. Based on 2018 OPEB information, the combined net liability totals $70.3 billion, including 58% of the TRS-Care liability, is a moderately high $2,483 per capita. The benefits of TRS-Care are financed through a combination of retiree premiums and percentage of payroll contributions from active employees, local school districts, and the state. Although OPEB benefits are not constitutionally protected in Texas, we believe the primary constituency covered by the plan makes modification politically difficult. As noted in our recent OPEB commentary ("Rising U.S. States' OPEB Liabilities Signal Higher Costs Ahead," published Nov. 28, 2018), reported unfunded retiree health care liabilities grew significantly for some state plans under new accounting standards that generally include more conservative liability estimates (compared to prior reporting standards). For the third year in a row, we note that reported liabilities across states have nevertheless risen due to continued extensive underfunding and updated OPEB actuarial studies. In our view, the state's outsized OPEB liability represents one of the biggest fiscal challenges for Texas over the long term.

Based on the analytic factors we evaluate for states, on a four-point scale in which '1.0' is the strongest and '4.0' is the weakest, we have assigned Texas a debt and liability score of '2.7'.

Ratings Detail (As Of April 22, 2019)		
Texas GO		
Long Term Rating	AAA/Stable	Affirmed
Texas GO		
Long Term Rating	AAA/Stable	Affirmed
Texas GO		
Long Term Rating	AAA/Stable	Affirmed
Texas GO		
Long Term Rating	AAA/Stable	Affirmed
Texas GO		
Long Term Rating	AAA/Stable	Affirmed
Texas GO		
Long Term Rating	AAA/Stable	Affirmed
Texas ICR		
Long Term Rating	AAA/Stable	Affirmed
Camino Real Regional Mobility Authority, Texas		
Texas Dept of Transp, Texas		
Camino Real Regl Mobility Auth (Texas Dept of Transp) APPROP		
Long Term Rating	AA+/Stable	Affirmed
Texas Dept of Transp, Texas		
Texas		
Texas Dept of Transp (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Econ Dev Bank, Texas		
Texas		
Texas Econ Dev Bank (Texas) JOINTCRIT		
Long Term Rating	AAA/A-1+	Affirmed
Unenhanced Rating	AAA(SPUR)/Stable	Affirmed
Texas Econ Dev Bank (Texas) JOINTCRIT		
Long Term Rating	AAA/A-1+	Affirmed
Unenhanced Rating	AAA(SPUR)/Stable	Affirmed
Texas Hgr Ed Coordinating Brd, Texas		
Texas		
Texas Hgr Ed Coordinating Brd (Texas)		
Long Term Rating	AAA/Stable	Affirmed
Texas Hgr Ed Coordinating Brd (Texas)		
Long Term Rating	AAA/Stable	Affirmed
Texas Hgr Ed Coordinating Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Hgr Ed Coordinating Brd (Texas) (GO bnds) coll stud loan bnds		
Long Term Rating	AAA/Stable	Affirmed

Ratings Detail (As Of April 22, 2019) (cont.)		
Texas Hgr Ed Coordinating Brd (Texas) (GO bnds) coll stud loan rfdg bnds		
Long Term Rating	AAA/Stable	Affirmed
Texas Pub Fin Auth, Texas		
Texas		
Texas Pub Fin Auth (Texas) APPROP		
Long Term Rating	AA+/Stable	Affirmed
Texas Pub Fin Auth (Texas) APPROP		
Long Term Rating	AA+/Stable	Affirmed
Texas Pub Fin Auth (Texas) APPROP		
Long Term Rating	AA+/Stable	Affirmed
Texas Pub Fin Auth (Texas) APPROP		
Long Term Rating	AA+/Stable	Affirmed
Texas Pub Fin Auth (Texas) APPROP		
Long Term Rating	AA+/Stable	Affirmed
Texas Pub Fin Auth (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Pub Fin Auth (Texas) GOEQUIV		
Long Term Rating	AAA/Stable	Affirmed
Texas Pub Fin Auth (Texas) GOEQUIV		
Long Term Rating	AAA/Stable	Affirmed
Texas Pub Fin Auth (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Pub Fin Auth (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Pub Fin Auth (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Transp Comm, Texas		
Texas		
Texas Transp Comm (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Transp Comm (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Transp Comm (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Transp Comm (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Transp Comm (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Transp Comm (Texas) GO (Private Placement)		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd, Texas		
Texas		

Ratings Detail (As Of April 22, 2019) (cont.)		
Texas Vets Land Brd (Texas) GO equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Veterans) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Veterans) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Veterans) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Vets Hsg) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Vets Hsg) GO equiv		
Long Term Rating	AAA/Stable	Affirmed
Short Term Rating	NR	Affirmed
Texas Vets Land Brd (Texas) (Vets Hsg) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Vets Hsg) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Vets Hsg) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Vets Hsg) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Vets Hsg) GO 2003A		
Long Term Rating	AAA/Stable	Affirmed
Texas Vets Land Brd (Texas) (Vets) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd, Texas		
Texas		
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO		

Ratings Detail (As Of April 22, 2019) (cont.)		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GOEQUIV		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GOEQUIV		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GOEQUIV		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GOEQUIV		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GOEQUIV		
Long Term Rating	AAA/Stable	Affirmed
Texas Wtr Dev Brd (Texas) GO Equiv		
Long Term Rating	AAA/Stable	Affirmed