

## STATE BONDED OBLIGATIONS, 2019

### A SNAPSHOT OF STATE BONDED OBLIGATIONS

States issue a diverse array of bonded obligations, with a range of obligation strength, revenue sources, debt service schedules and other factors. This study collects and analyzes the bonded obligations reported by each state in its Comprehensive Annual Financial Report. The differences between states offer important insights into the ways states manage these obligations.

## **State Bonded Obligations, 2019**

A Snapshot of State Bonded Obligations

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# Introduction

*"Who suffers if public borrowing is unwise and the public expenditure wasteful...The burden must rest, therefore, on the taxpayer in the future and no one else. He must now reduce his real income to transfer funds to the bondholder, and he has no productive asset in the form of a public project to offset his genuine sacrifice."*

*-James M. Buchanan, Nobel-Prize-Winning Economist<sup>1</sup>*

Economist James Buchanan challenged the conventional notions about government budgeting throughout his career. The quote above is pulled from his book *Public Principles of Public Debt*. In that book, he refuted Keynesian notions of deficit spending and examined who bears the cost of government debt. He noted the bondholder does not care how the money paid for the bond is used by the government. Rather, the bondholder's concern is that income from the bond is guaranteed in the future. Ultimately, it is not current taxpayers but future generations that suffer from governments taking on debt for wasteful projects.<sup>2</sup>

Furthermore, government debt represents an opportunity cost (meaning the value of the next-highest valued alternative use

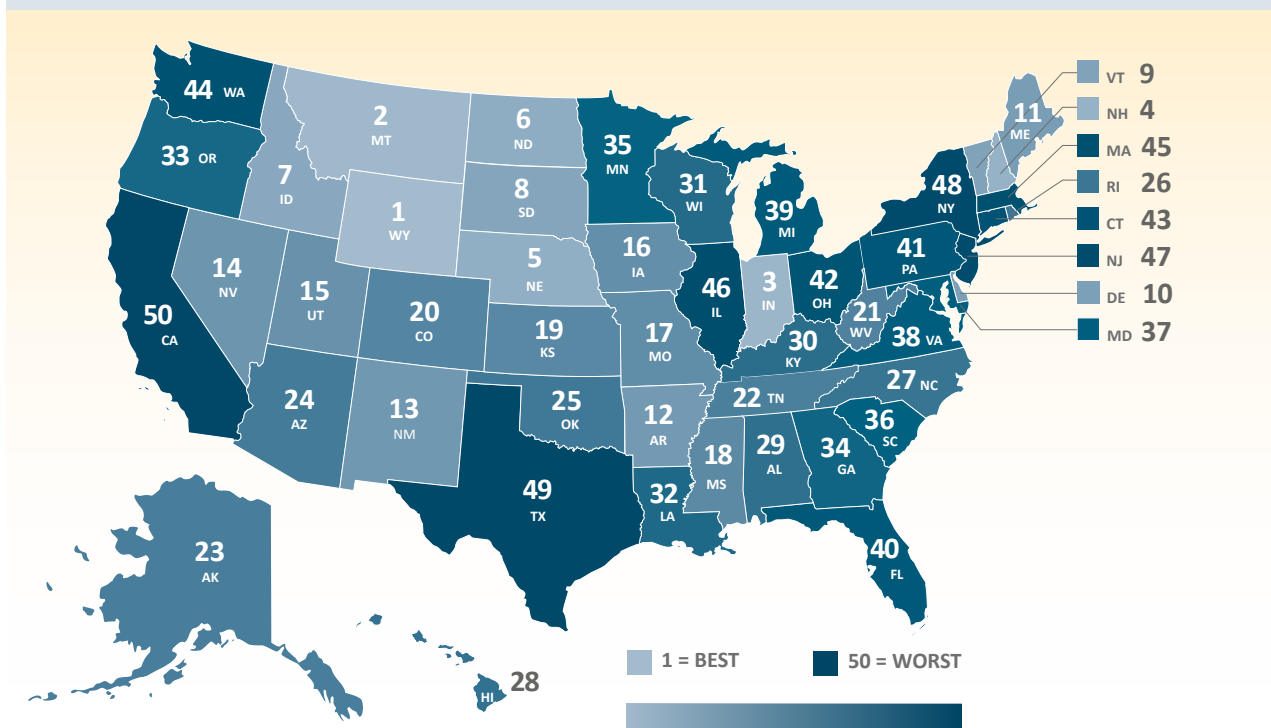
of that resource) for taxpayers.<sup>3</sup> Debt used to finance current government spending represents current consumption of what could have been productive capital assets for the taxpayers in the future but instead those future funds will be used to pay back the debt plus interest. In Buchanan's own words, governments are "chopping up the apple trees for firewood, thereby reducing the yield of the orchard forever."<sup>4</sup>

States often irresponsibly take on debt, for purposes such as papering over deficits or transferring borrowed money to prop up underfunded pension plans, hoping the return on investment will exceed interest payments. This is akin to using a credit card to pay for basic living expenses or taking a cash advance to invest in the stock market. States should be extremely cautious when issuing debt today because there are very real costs that will be imposed on future generations.

State governments borrow for myriad reasons and issue various types of bonded obligations. Today, their total bonded liabilities near \$1.16 trillion, representing more than \$3,500 per person nationally. With this in mind, *State Bonded Obligations, 2019* surveys the Comprehensive Annual Financial Reports (CAFRs) of all 50 states and analyzes the liability structure, along with total liabilities and liabilities per capita by type of bond. The differences between states offer important insights into state approaches to manage these obligations.

## Section I: Key Findings

**FIGURE 1 TABLE 1** | **Total Bonded Obligations**



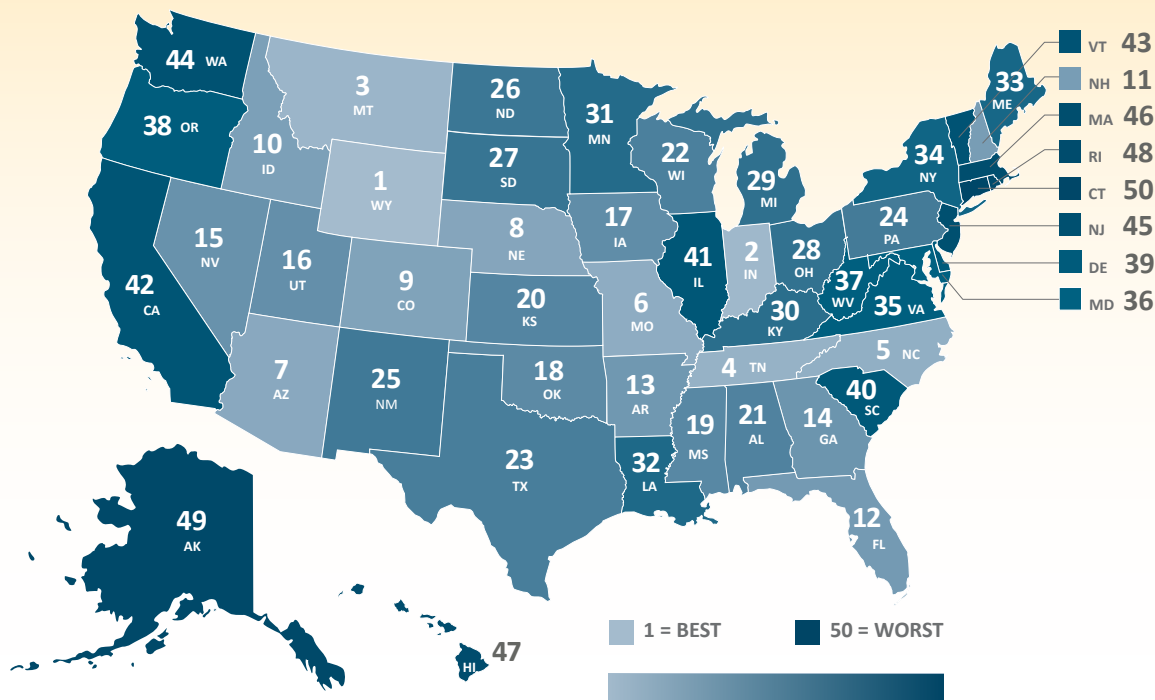
■ In total, states and their component units have issued \$1.16 trillion of bonded obligations. About 37% of this debt comes in the form of General Obligation bonds, bonds backed by the “full faith and credit” of the state. About 38% consists of revenue bonds and the remaining 25% is issued by state component units.

The 10 states with the largest bonded liabilities make up 62% (over \$725 billion) of the total bonded liabilities in the country. These states are California, Texas, New York, New Jersey, Illinois, Massachusetts, Washington, Connecticut, Ohio, and Pennsylvania

Source: Data are based on ALEC Center for State Fiscal Reform Calculations. See the Methodology section for a full description of the data.

State	Total Bonded Obligations	Rank	State	Total Bonded Obligations	Rank
Wyoming	\$45,602,035.00	1	Rhode Island	\$10,800,969,195.00	26
Montana	\$1,243,725,000.00	2	North Carolina	\$12,597,409,000.00	27
Indiana	\$1,490,527,648.00	3	Hawaii	\$13,122,889,000.00	28
New Hampshire	\$2,150,096,340.00	4	Alabama	\$13,522,355,450.00	29
Nebraska	\$2,437,296,000.00	5	Kentucky	\$15,604,119,000.00	30
North Dakota	\$2,490,183,000.00	6	Wisconsin	\$16,318,719,000.00	31
Idaho	\$2,777,225,000.00	7	Louisiana	\$16,819,706,649.55	32
South Dakota	\$2,951,305,000.00	8	Oregon	\$19,040,774,800.00	33
Vermont	\$3,436,402,432.80	9	Georgia	\$19,271,651,000.00	34
Delaware	\$4,569,128,000.00	10	Minnesota	\$19,786,441,600.00	35
Maine	\$4,858,025,000.00	11	South Carolina	\$24,030,747,800.00	36
Arkansas	\$5,440,590,000.00	12	Maryland	\$25,406,610,000.00	37
New Mexico	\$6,357,762,200.00	13	Virginia	\$33,488,965,306.00	38
Nevada	\$6,515,151,315.00	14	Michigan	\$34,087,500,000.00	39
Utah	\$6,793,474,000.00	15	Florida	\$34,392,877,000.00	40
Iowa	\$7,028,876,000.00	16	Pennsylvania	\$37,789,509,000.00	41
Missouri	\$7,481,389,000.00	17	Ohio	\$39,767,908,000.00	42
Mississippi	\$7,600,402,000.00	18	Connecticut	\$42,644,606,000.00	43
Kansas	\$7,644,828,000.00	19	Washington	\$48,115,444,762.25	44
Colorado	\$7,680,720,000.00	20	Massachusetts	\$59,867,638,000.00	45
West Virginia	\$7,985,288,000.00	21	Illinois	\$62,323,891,040.00	46
Tennessee	\$8,086,691,237.00	22	New Jersey	\$66,631,780,000.00	47
Alaska	\$8,141,200,000.00	23	New York	\$74,919,345,000.00	48
Arizona	\$8,798,713,000.00	24	Texas	\$80,982,083,200.00	49
Oklahoma	\$9,335,884,800.00	25	California	\$212,302,483,400.00	50

FIGURE 2 TABLE 2 | Total Bonded Obligations Per Capita



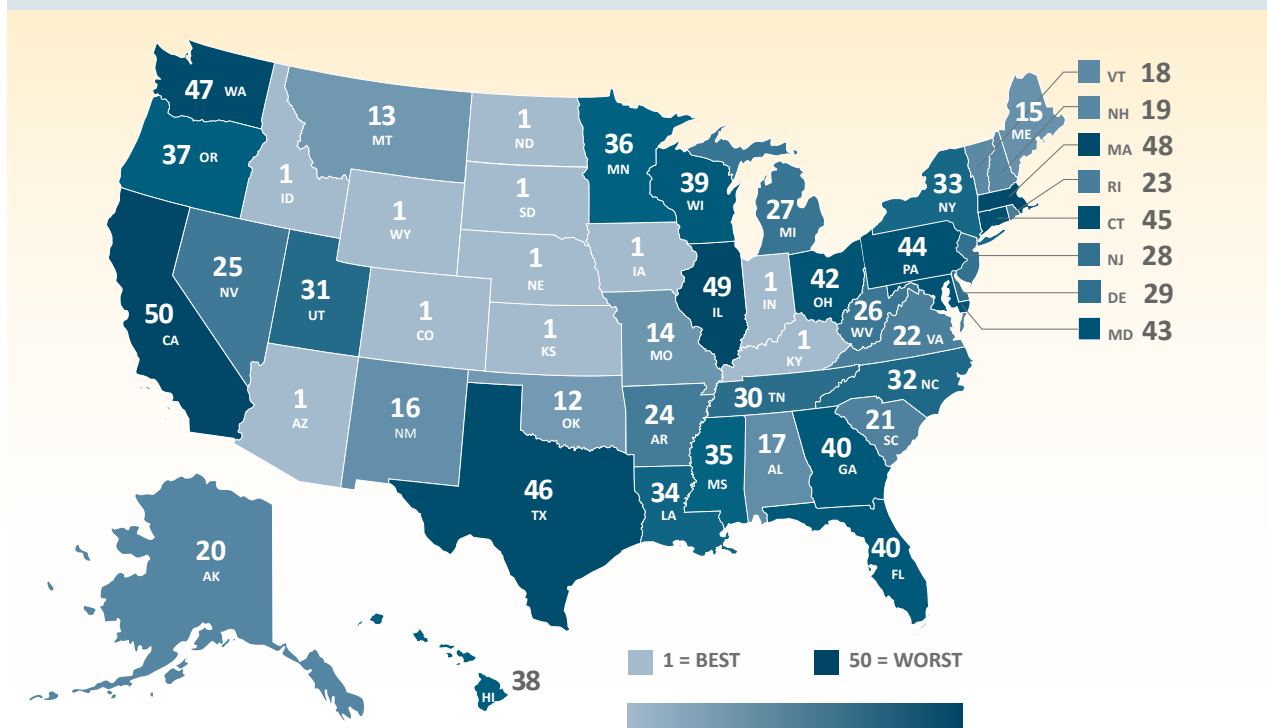
■ This metric shows each resident's share of bonded liabilities by state. This is an indicator of potential tax burdens to be borne by taxpayers to pay off these bonded liabilities.

Although Alaska has the second highest total bonded obligations per capita (the majority of which are component units), the state's nearly \$65 billion "Permanent Fund" is the largest budget stabilization fund in the nation, equal to nearly \$88,000 per capita. Alaska's relatively healthy credit rating reflects this.

*Source: Data are based on ALEC Center for State Fiscal Reform Calculations. See the Methodology section for a full description of the data.*

State	Total Per Capita	Rank	State	Total Per Capita	Rank
Wyoming	\$78.93	1	North Dakota	\$3,276.22	26
Indiana	\$222.74	2	South Dakota	\$3,345.26	27
Montana	\$1,170.78	3	Ohio	\$3,402.04	28
Tennessee	\$1,194.49	4	Michigan	\$3,410.14	29
North Carolina	\$1,213.20	5	Kentucky	\$3,492.10	30
Missouri	\$1,221.16	6	Minnesota	\$3,526.25	31
Arizona	\$1,226.87	7	Louisiana	\$3,609.40	32
Nebraska	\$1,263.33	8	Maine	\$3,629.71	33
Colorado	\$1,348.54	9	New York	\$3,833.72	34
Idaho	\$1,583.18	10	Virginia	\$3,931.70	35
New Hampshire	\$1,585.08	11	Maryland	\$4,204.50	36
Florida	\$1,614.74	12	West Virginia	\$4,421.94	37
Arkansas	\$1,805.21	13	Oregon	\$4,543.56	38
Georgia	\$1,832.00	14	Delaware	\$4,724.22	39
Nevada	\$2,147.10	15	South Carolina	\$4,726.62	40
Utah	\$2,149.08	16	Illinois	\$4,891.57	41
Iowa	\$2,227.04	17	California	\$5,367.00	42
Oklahoma	\$2,367.66	18	Vermont	\$5,486.84	43
Mississippi	\$2,544.89	19	Washington	\$6,385.09	44
Kansas	\$2,625.73	20	New Jersey	\$7,479.56	45
Alabama	\$2,766.51	21	Massachusetts	\$8,673.77	46
Wisconsin	\$2,807.01	22	Hawaii	\$9,238.28	47
Texas	\$2,821.49	23	Rhode Island	\$10,215.47	48
Pennsylvania	\$2,950.68	24	Alaska	\$11,039.84	49
New Mexico	\$3,034.11	25	Connecticut	\$11,936.36	50

FIGURE 3 TABLE 3 | General Obligation Bond Liabilities



General obligation bonds are bonds “backed by the full faith and credit of the state.” This means that states cannot default on these obligations and that these bonds are considered the most secure type of bond issued. These liabilities total over \$466 billion. It is important to note that states that do not issue general obligation bonds still accumulate debt through other types of bonds issued. The 10 states with the largest general obligation bond debt make up over 72% of the total bonded debt in the U.S.

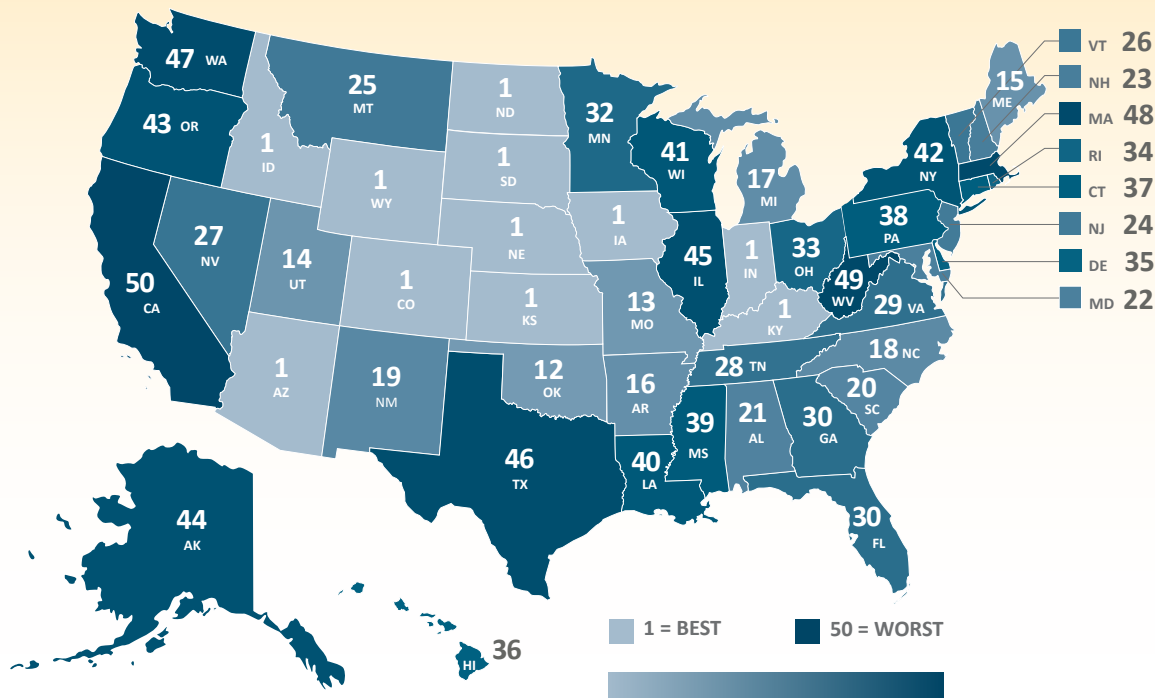
Source: Data are based on ALEC Center for State Fiscal Reform Calculations. See the Methodology section for a full description of the data.

State	Total General Obligation Bonds	Rank
Arizona	\$0.00	1
Colorado	\$0.00	1
Idaho	\$0.00	1
Indiana	\$0.00	1
Iowa	\$0.00	1
Kansas	\$0.00	1
Kentucky	\$0.00	1
Nebraska	\$0.00	1
North Dakota	\$0.00	1
South Dakota	\$0.00	1
Wyoming	\$0.00	1
Oklahoma	\$41,625,000.00	12
Montana	\$107,885,000.00	13
Missouri	\$113,784,000.00	14
Maine	\$443,825,000.00	15
New Mexico	\$502,855,000.00	16
Alabama	\$731,291,250.00	17
Vermont	\$812,381,273.00	18
New Hampshire	\$990,224,000.00	19
Alaska	\$1,037,800,000.00	20
South Carolina	\$1,139,976,000.00	21
Virginia	\$1,531,086,000.00	22
Rhode Island	\$1,538,270,195.00	23
Arkansas	\$1,576,215,000.00	24
Nevada	\$1,708,826,315.00	25

State	Total General Obligation Bonds	Rank
West Virginia	\$1,745,046,000.00	26
Michigan	\$1,880,300,000.00	27
New Jersey	\$2,565,980,000.00	28
Delaware	\$2,661,306,000.00	29
Tennessee	\$2,698,426,108.00	30
Utah	\$2,806,601,000.00	31
North Carolina	\$2,973,383,000.00	32
New York	\$3,326,000,000.00	33
Louisiana	\$5,111,101,649.55	34
Mississippi	\$5,555,320,000.00	35
Minnesota	\$8,113,344,000.00	36
Oregon	\$9,054,901,800.00	37
Hawaii	\$9,813,956,000.00	38
Wisconsin	\$10,172,037,000.00	39
Florida	\$11,699,084,000.00	40
Georgia	\$11,699,084,000.00	40
Ohio	\$11,792,721,000.00	42
Maryland	\$11,882,341,000.00	43
Pennsylvania	\$17,100,363,000.00	44
Connecticut	\$25,434,408,000.00	45
Texas	\$27,971,401,000.00	46
Washington	\$29,385,841,000.00	47
Massachusetts	\$34,575,387,000.00	48
Illinois	\$43,464,777,800.00	49
California	\$123,096,667,400.00	50



FIGURE 4 TABLE 4 | Interest Costs as a Percent of General Obligation Bonds

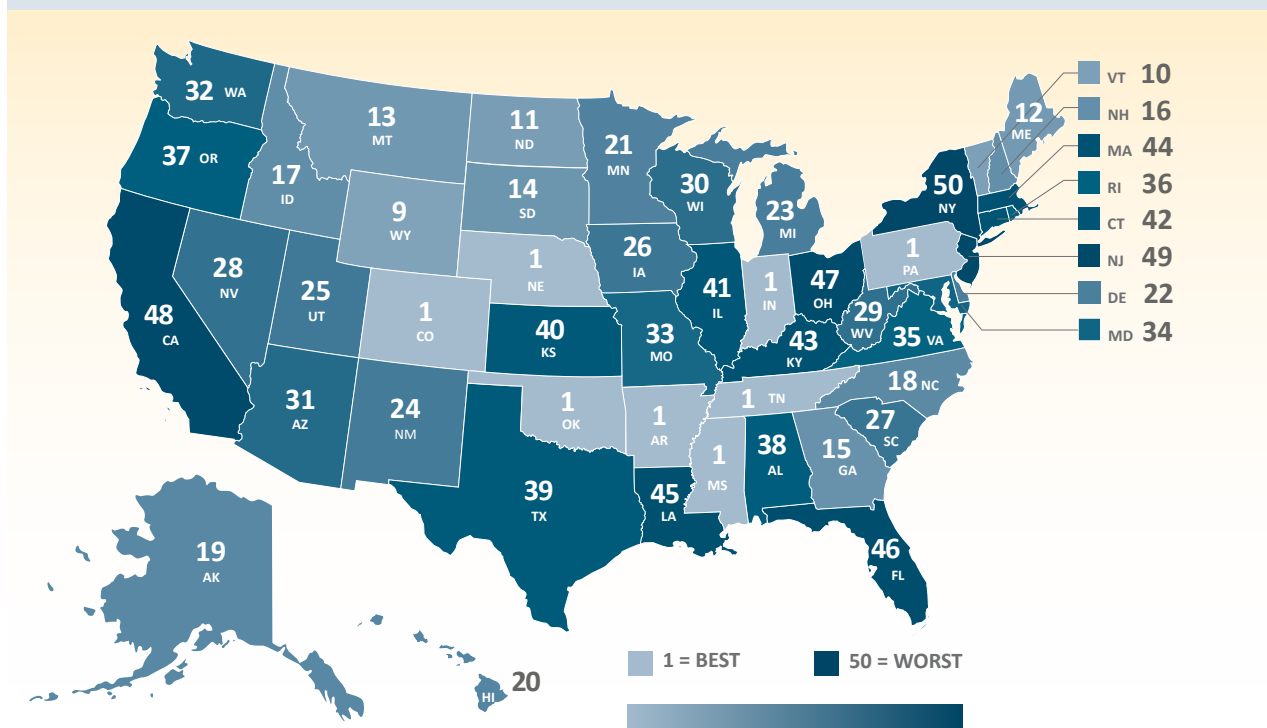


■ The greater the interest cost of a general obligation bond, the less likely a project funded by a general obligation bond will have a positive value. For example, a highway may produce \$120 of utility per capita and cost \$100 dollars to build in construction costs, resulting in \$20 of net utility per capita. However, borrowing costs will reduce this net utility value. Once interest costs exceed \$20 per capita, construction of the highway no longer produces a net benefit. Higher interest costs reduce the number of projects capable of producing a net benefit for a state.

Source: Data are based on ALEC Center for State Fiscal Reform Calculations. See the Methodology section for a full description of the data.

State	Interest Costs	Rank	State	Interest Costs	Rank
Arizona	0.00%	1	Vermont	21.74%	26
Colorado	0.00%	1	Nevada	21.95%	27
Idaho	0.00%	1	Tennessee	22.24%	28
Indiana	0.00%	1	Virginia	22.55%	29
Iowa	0.00%	1	Florida	23.12%	30
Kansas	0.00%	1	Georgia	23.12%	30
Kentucky	0.00%	1	Minnesota	23.15%	32
Nebraska	0.00%	1	Ohio	24.31%	33
North Dakota	0.00%	1	Rhode Island	24.59%	34
South Dakota	0.00%	1	Delaware	24.71%	35
Wyoming	0.00%	1	Hawaii	26.70%	36
Oklahoma	3.90%	12	Connecticut	26.81%	37
Missouri	7.99%	13	Pennsylvania	26.85%	38
Utah	14.60%	14	Mississippi	27.68%	39
Maine	15.26%	15	Louisiana	28.01%	40
Arkansas	16.87%	16	Wisconsin	28.03%	41
Michigan	17.79%	17	New York	28.71%	42
North Carolina	17.88%	18	Oregon	29.98%	43
New Mexico	18.16%	19	Alaska	30.20%	44
South Carolina	18.85%	20	Illinois	30.68%	45
Alabama	19.93%	21	Texas	34.46%	46
Maryland	20.22%	22	Washington	34.73%	47
New Hampshire	20.69%	23	Massachusetts	35.37%	48
New Jersey	20.76%	24	West Virginia	37.23%	49
Montana	21.71%	25	California	41.43%	50

FIGURE 5 TABLE 5 | Governmental Activity Bond Liabilities



Governmental activity bonds are a type of revenue bond that is used to fund projects such as roads and other capital projects. Government activity bonds are paid for by taxes and fees collected from people using the public works funded by the bonds. They are often paid for through a combination of general revenue funds and dedicated taxes (such as a gas tax). New York currently has the largest debt in revenue bonds, with \$18 billion more liabilities than New Jersey, which is in 49th place. The top eight states do not issue governmental activity bonds. The 10 states with the largest government activity bond debt make up roughly 85% of the total government activity bond debt in the U.S.

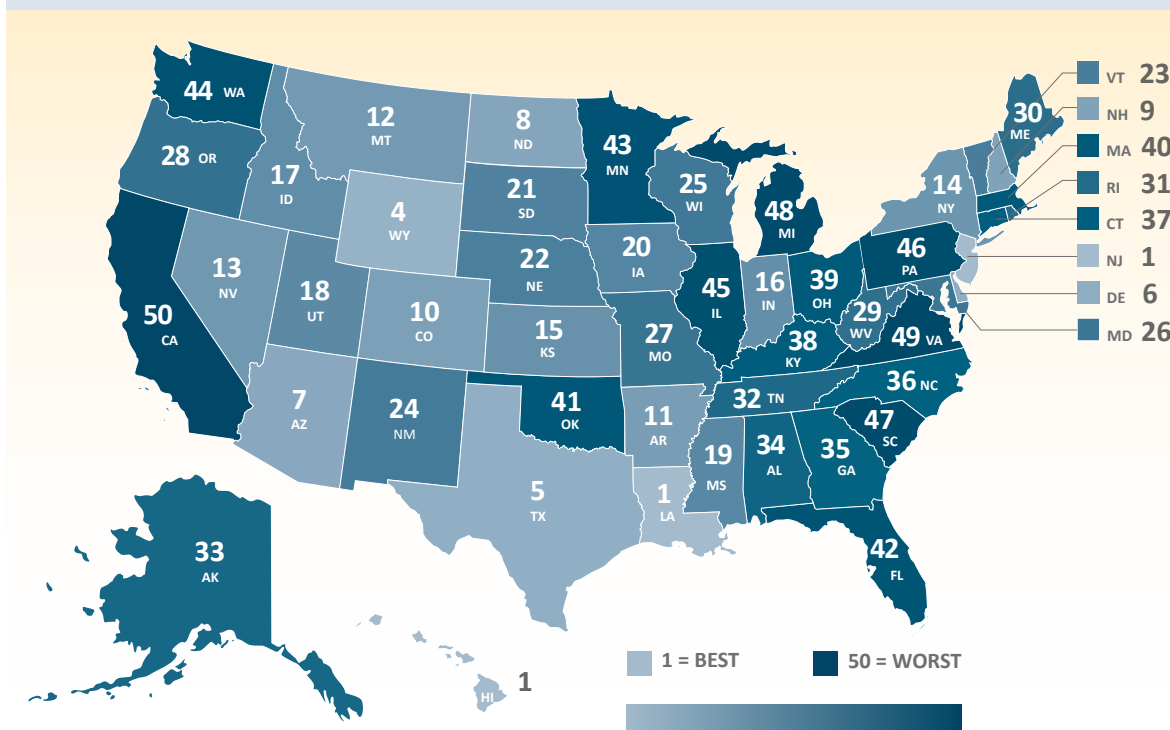
Source: Data are based on ALEC Center for State Fiscal Reform Calculations. See the Methodology section for a full description of the data.

State	Total Government Activity Bonds	Rank
Arkansas	\$0.00	1
Colorado	\$0.00	1
Indiana	\$0.00	1
Mississippi	\$0.00	1
Nebraska	\$0.00	1
Oklahoma	\$0.00	1
Pennsylvania	\$0.00	1
Tennessee	\$0.00	1
Wyoming	\$21,282,682.00	9
Vermont	\$33,852,425.00	10
North Dakota	\$41,432,000.00	11
Maine	\$54,118,000.00	12
Montana	\$63,293,000.00	13
South Dakota	\$221,009,000.00	14
Georgia	\$229,417,000.00	15
New Hampshire	\$491,141,340.00	16
Idaho	\$529,529,000.00	17
North Carolina	\$662,108,000.00	18
Alaska	\$725,900,000.00	19
Hawaii	\$764,358,000.00	20
Minnesota	\$1,428,523,000.00	21
Delaware	\$1,432,694,000.00	22
Michigan	\$1,588,300,000.00	23
New Mexico	\$1,646,057,000.00	24
Utah	\$2,088,033,000.00	25

State	Total Government Activity Bonds	Rank
Iowa	\$2,298,703,000.00	26
South Carolina	\$2,459,508,000.00	27
Nevada	\$2,728,914,000.00	28
West Virginia	\$2,744,848,000.00	29
Wisconsin	\$2,941,612,000.00	30
Arizona	\$3,172,062,000.00	31
Washington	\$3,494,870,000.00	32
Missouri	\$3,632,192,000.00	33
Maryland	\$3,721,167,000.00	34
Virginia	\$3,780,345,779.00	35
Rhode Island	\$4,833,078,000.00	36
Oregon	\$5,178,128,000.00	37
Alabama	\$5,736,862,200.00	38
Texas	\$5,853,293,000.00	39
Kansas	\$6,131,590,000.00	40
Illinois	\$6,328,616,000.00	41
Connecticut	\$7,954,549,000.00	42
Kentucky	\$8,238,309,000.00	43
Massachusetts	\$10,213,815,000.00	44
Louisiana	\$10,880,970,000.00	45
Florida	\$13,930,430,000.00	46
Ohio	\$20,430,010,000.00	47
California	\$26,632,404,000.00	48
New Jersey	\$30,807,000,000.00	49
New York	\$48,965,000,000.00	50



FIGURE 7 TABLE 7 | Component Unit Bond Liabilities



■ Component units are entities created by a state government. They are similar to municipalities in that they are separate entities and can go bankrupt. Bonds issued by component units are similar to business-type activity bonds in that they are funded by fees, fines, leases, and other service fees. While these component units are legally separate entities, some states are still financially accountable for these component units, such as New York.

However, many states do not report bonds issued by component units directly in the state CAFR, because component units are legally separate entities. Information was pieced together through access to the Electronic Municipal Market Access (EMMA), state financial documents, and financial documents provided by component units. However, this data is relatively incomplete.

Source: Data are based on ALEC Center for State Fiscal Reform Calculations. See the Methodology section for full description of the data.

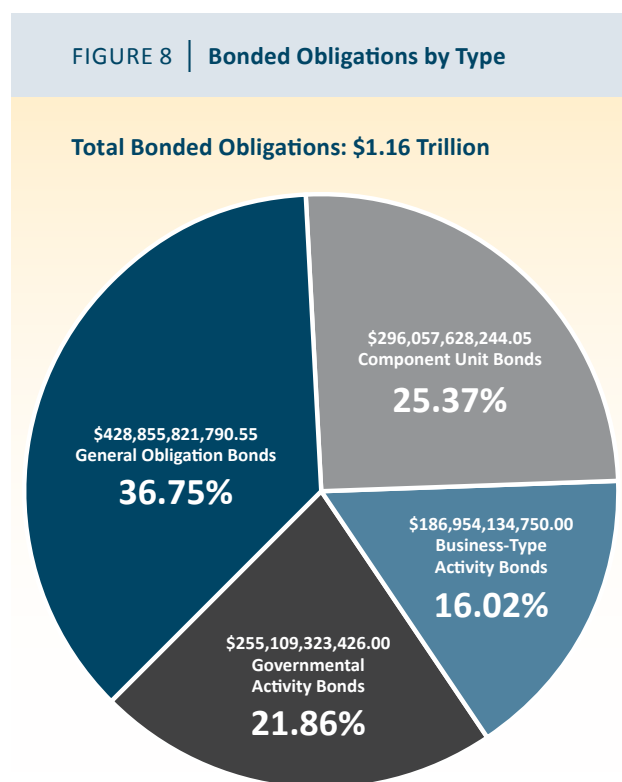
State	Total Component Unit Bond Liabilities	Rank
Hawaii	\$0.00	1
Louisiana	\$0.00	1
New Jersey	\$0.00	1
Wyoming	\$24,319,353.00	4
Texas	\$43,882,000.00	5
Delaware	\$475,128,000.00	6
Arizona	\$545,299,000.00	7
North Dakota	\$629,718,000.00	8
New Hampshire	\$668,731,000.00	9
Colorado	\$766,613,000.00	10
Arkansas	\$890,331,000.00	11
Montana	\$1,072,547,000.00	12
Nevada	\$1,202,427,000.00	13
New York	\$1,219,945,000.00	14
Kansas	\$1,251,356,000.00	15
Indiana	\$1,490,527,648.00	16
Idaho	\$1,553,850,000.00	17
Utah	\$1,898,840,000.00	18
Mississippi	\$2,045,082,000.00	19
Iowa	\$2,174,810,000.00	20
South Dakota	\$2,387,016,000.00	21
Nebraska	\$2,437,296,000.00	22
Vermont	\$2,590,168,734.80	23
New Mexico	\$2,775,572,200.00	24
Wisconsin	\$2,890,143,000.00	25

State	Total Component Unit Bond Liabilities	Rank
Maryland	\$3,129,368,000.00	26
Missouri	\$3,425,474,000.00	27
Oregon	\$3,434,772,000.00	28
West Virginia	\$3,495,394,000.00	29
Maine	\$4,067,949,000.00	30
Rhode Island	\$4,103,915,000.00	31
Tennessee	\$5,388,265,129.00	32
Alaska	\$5,815,000,000.00	33
Alabama	\$6,520,982,000.00	34
Georgia	\$6,867,171,000.00	35
North Carolina	\$6,933,603,000.00	36
Connecticut	\$7,112,351,000.00	37
Kentucky	\$7,365,810,000.00	38
Ohio	\$7,545,177,000.00	39
Massachusetts	\$8,035,006,000.00	40
Oklahoma	\$8,145,454,000.00	41
Florida	\$8,287,384,000.00	42
Minnesota	\$9,821,250,600.00	43
Washington	\$11,699,424,762.25	44
Illinois	\$12,392,854,240.00	45
Pennsylvania	\$13,089,315,000.00	46
South Carolina	\$20,425,609,800.00	47
Michigan	\$25,763,800,000.00	48
Virginia	\$28,168,654,777.00	49
California	\$43,990,042,000.00	50

## Section II: Background

### Obligation types

States issue bonds using a variety of revenue sources, obligations, term length and structures to address their financial challenges. However, most states cluster their bonded obligations into four broad categories: general obligation bonds, business-type activity revenue bonds, governmental-type activity revenue bonds, and component unit revenue bonds. The chart below shows these categories and their total liabilities.



Source: Data are based on ALEC Center for State Fiscal Reform Calculations. See the Methodology section for full description of the data.

The ways bonds are classified can vary from state to state. Some state bonds do not clearly fall into any one category, but the type of revenues and obligations roughly reflects each category.

General obligation bonds are debt obligations, backed by the full faith and credit of the state, which is the key distinguishing

feature from other bond categories. Generally, these bonds are considered the most secure type of state bond and tend to have lower interest costs than other state obligations. These bonds are usually supported with state tax revenue but are sometimes “double-barreled,” where fees and leases pay for the bond and the general fund supports shortfalls.<sup>5</sup> General obligation bonds are used for a wide variety of functions, from building schools and roads, to (more irresponsibly) covering over current deficits.

The second category is, broadly, revenue bonds.<sup>6</sup> These bonds are not backed by the full faith and credit of the state. Instead, they rely on service fees and can be coupled with state funds to pay bond holders. Revenue bonds are then broken down into its two subcategories: governmental-type activity bonds and business-type activity bonds.

Governmental-type activity bonds vary from state to state but are generally issued for transportation infrastructure and capital projects. They are often funded by legislative appropriations and dedicated tax revenues, like a fuel tax.

Business-type activity bonds issued by state entities are largely self-supporting (e.g., universities or toll roads). These entities generate revenue through fees, lease agreements, tolls, investment returns and other nontax revenues to pay these bonded obligations.

The third category, component units, are entities created by the states, such as an economic development authority, which can also issue bonds. Component units are legally separate organizations from the state, but elected state officials are financially accountable for them, sometimes directly, depending on the state.<sup>7</sup> As described in Figure 7 Table 7, New York is a state that considers component units legally separate but “the State is financially accountable for them and may be affected by their financial well-being.”<sup>8</sup> For this reason, many bonds issued for component units (such as Transportation Revenue Bonds for the Mass Transit Authority or Rochester Institute of Technology Revenue Bonds) are bonds issued by the State of New York and are categorized under governmental activity bonds and business-type activity bonds respectively for this study and in the state comprehensive annual financial report.<sup>9</sup> They are similar to municipalities in that they are creations of the state and can

go through a similar debt restructuring process, depending on how independent the component unit is from the state.<sup>10</sup> Component units are often considered more flexible because they can have a longer debt service period than general obligation bonds.

General obligation bonds are typically issued for shorter maturity lengths with most of the debt being paid off sooner than component unit bonds. This allows a more versatile management of obligations in times of economic recession. However, the greater flexibility and the ability to go bankrupt often prompts bond investors to demand higher interest payments on component unit bonds than general obligation bonds.

The bonds issued by a component unit have similar attributes to business-type activity bonds in that they can be funded through fees, fines, leases and other use-based revenue. However, these bonds are unlike the business-type activity bonds in that component units can file for bankruptcy whereas states cannot. However, in some cases, as described above with New York, states do hold themselves financially accountable for their component units.

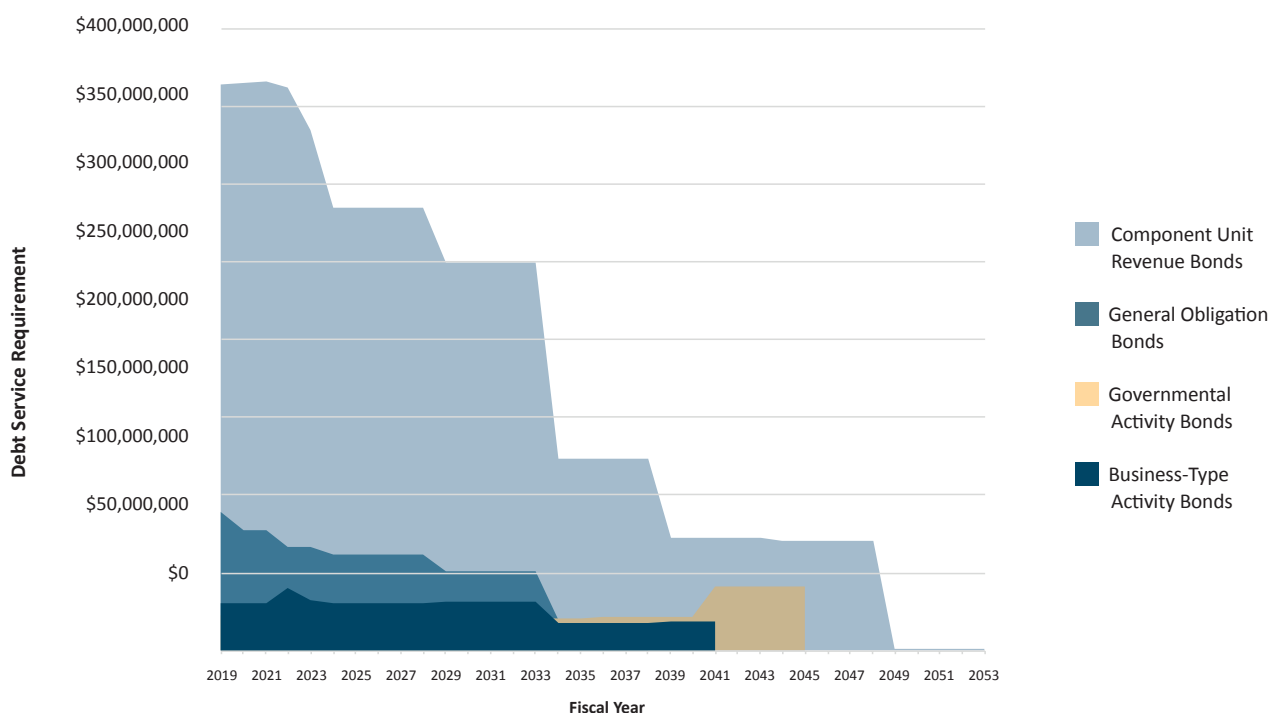
## Bond Categories Are Not Fixed

As stated previously, these categories are not set in stone, with some bonded obligations not falling clearly into any one category. In such cases, this study categorized the specific bond in the category best fitted for the bond.

For example, Florida issues governmental-type and business-type activity bonds, as well as component units, as stated in their Comprehensive Annual Financial Report (CAFR). Yet three of these bond types, the Roads and Bridges Bonds, the State Board of Education (SBE) Capital Outlay Bonds and the Public Education Bonds are backed “by a pledge of the full faith and credit of the state.”<sup>11</sup> These three bonds were categorized as general obligation bonds for both the state of Florida and this study — separate from governmental-type and business-type activity bonds they would normally fall under -- because they were the bonds backed by the full faith and credit of the state.

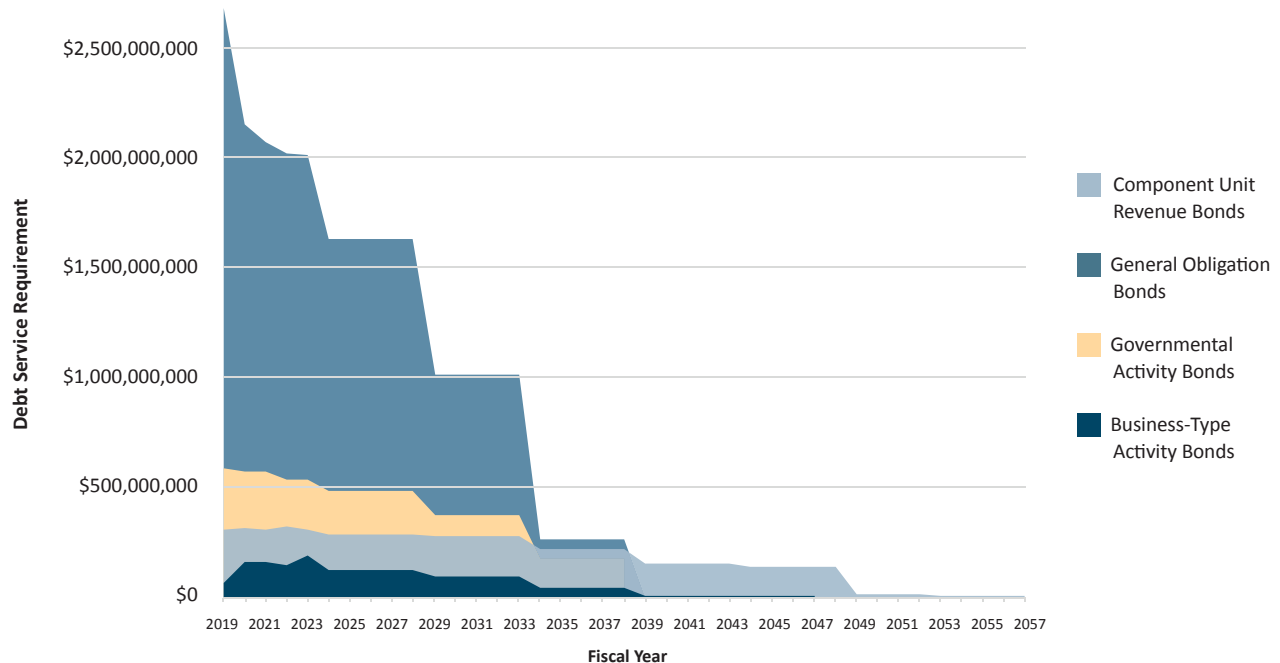
Furthermore, although state revenue bonds — particularly business-type — could be considered self-liquidating (meaning that they can earn back the original cost from revenue), they are often

FIGURE 9 | Alaska Debt to Maturity



Source: Fiscal Year 2018 State Comprehensive Reports (CAFR).

FIGURE 10 | Connecticut Debt to Maturity



Source: Fiscal Year 2018 State Comprehensive Reports (CAFR).

backed up with either an appropriation or tax revenue as a double-barrel mechanism. This occurs in New York with the State University of New York (SUNY) and City University of New York (CUNY) receiving state support for business-type activities.<sup>12</sup>

States vary widely in how they utilize each kind of bonded obligation. Once again, Alaska and Connecticut were ranked 49<sup>th</sup> and 50<sup>th</sup>, respectively, for bonded obligations per capita. Yet, Alaska and Connecticut structure their bonded obligations very differently.

Component Units make up 68% of total bonded obligations for Alaska, while they only make up only 14% of total bonded obligations for Connecticut (as shown in the graphs below). All other factors being equal, Alaska's use of component units places the state in a better position to restructure their bonded obligations relative to Connecticut, despite Alaska's higher average bond interest rates.

## Debt Structure

The debt structure determines the length of time for repaying bonded obligations. Examining how much of the total debt ser-

vice costs (what was borrowed plus interest) are due after 10 years is a good estimate for determining how much a debt structure is deferred (most of debt service costs are paid off later) or accelerated (most of the debt services are paid off sooner). Different bond types have different debt structures. General obligation bonds tend to have the least deferred, while both types of revenue bonds and component units (given their distinct features) have the most deferred debt structure. However, more deferred structures like component units, tend to have higher interest costs. This section will examine the cases of three states with differing debt structures: Massachusetts, Nevada and Rhode Island.

Having a more deferred debt structure means lower repayments initially, with higher interest payments accumulating as repayment of the principal amount is delayed. The longer a state spends repaying the debt, the longer states are stuck with the fixed costs of debt (payments that states are obligated to make every year). When fixed costs of debt repayment are higher, the payments to meet debt service requirements can crowd out essential services and prevent opportunities for state governments to cut taxes. Additionally, a state will have fewer funds available to weather a recession or recover from a natural disaster.<sup>13</sup>

While Massachusetts, Nevada and Rhode Island have similar final debt maturity dates, they have different debt structures.

Of the three states, Nevada has the most accelerated debt structure, with 41.03% of its obligations maturing by FY 2030, followed by Rhode Island with 40% and Massachusetts with 38.40%, respectively.

Rhode Island will have less flexibility in the future. Most of Rhode Island's inflexibility comes from securitizing their tobacco settlement<sup>14</sup> with a capital appreciation bond, a government-type activity bond<sup>15</sup> set to mature in FY 2052.<sup>16</sup> In a capital appreciation bond, interest accrued is not paid out at regular intervals throughout the life of the bond. Instead, this interest accrues at an agreed-upon compound interest rate. The interest payable compounds for decades.

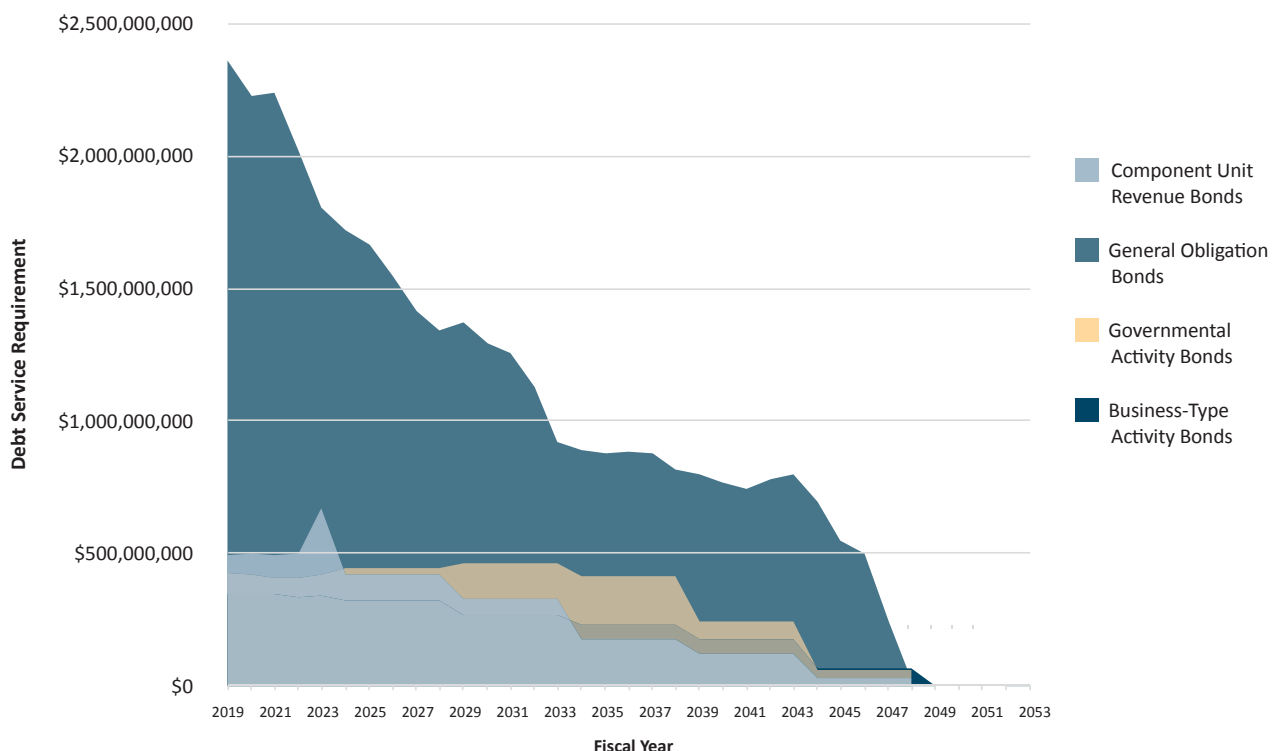
Once payable, the debt service on the capital appreciation bond is nearly the total debt service in 2018, plus additional debt service on other bonds. This is shown in the Rhode Island debt

service chart above by a spike in debt service requirements for government-type bonds from FY 2048 to FY 2052. In last year's report, the authors calculated that the debt service on the capital appreciation bonds would constitute more than one-third of the Rhode Island General Fund budget (projected growth at 2.5% a year for a total of \$8.8 billion in FY 2052).<sup>17</sup> The General Fund budget grew by 2.63% from \$3.8 billion in FY 2018 to \$3.9 billion in FY 2019.<sup>18</sup> However, this is a prediction that is subject to change as spending and debt service costs change over time for Rhode Island. This report will continue to monitor these changes annually.

## Why States Choose Deferred Debt Structures

Maturity lengths of bonded obligations typically vary by type of obligation, with general obligation bonds having the shortest life span and component units having the longest. The decision to issue component unit bonds with longer life spans stems from

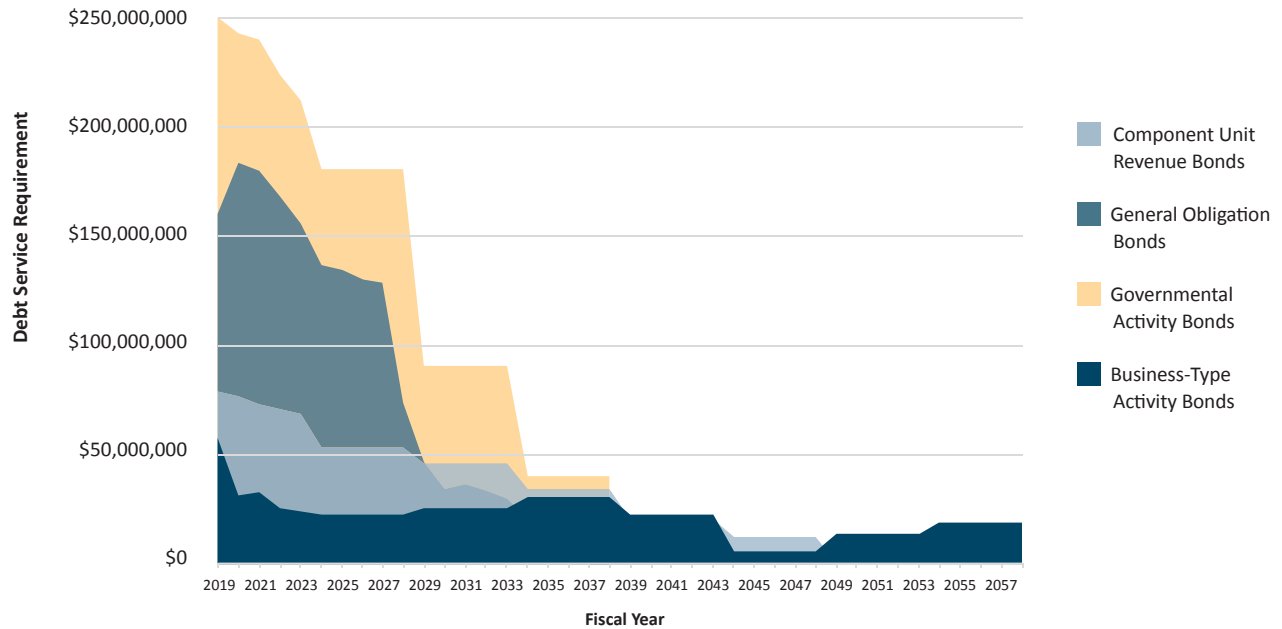
FIGURE 11 | Massachusetts Debt to Maturity



Source: Fiscal Year 2018 State Comprehensive Reports (CAFR).

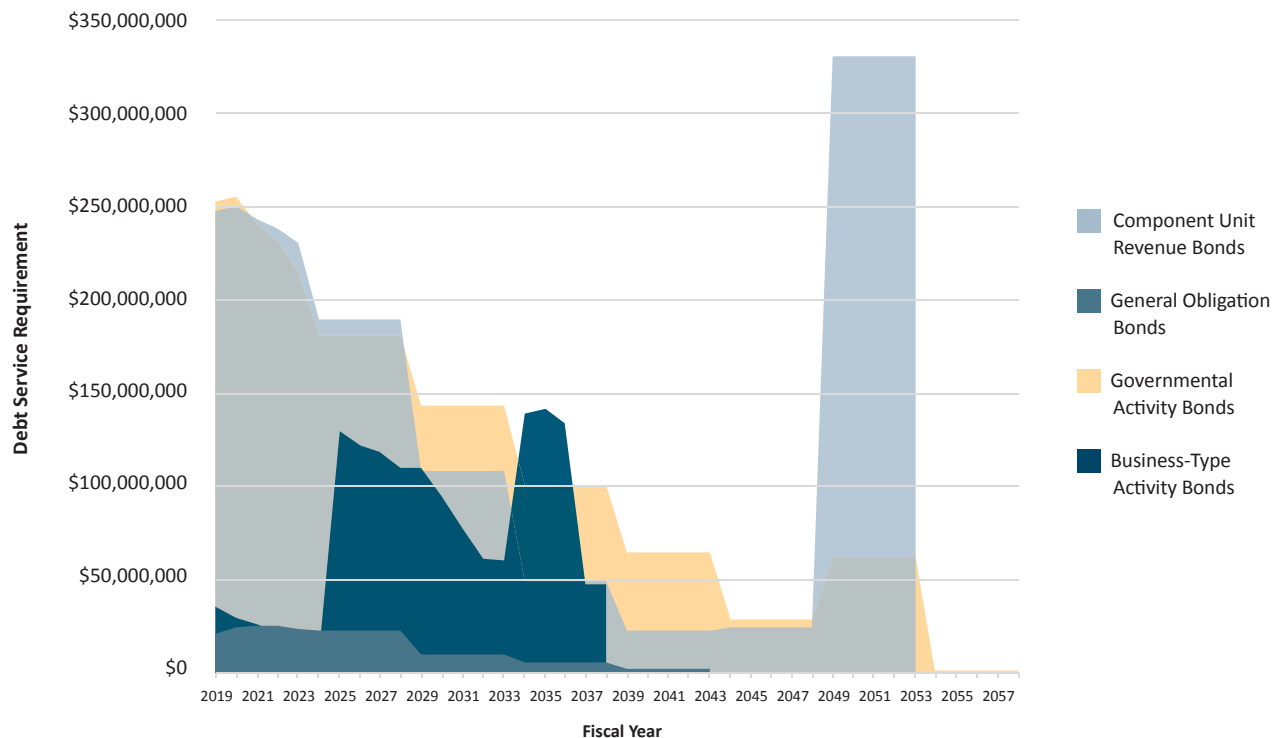


FIGURE 12 | Nevada Debt to Maturity



Source: Fiscal Year 2018 State Comprehensive Reports (CAFR).

FIGURE 13 | Rhode Island Debt to Maturity



Source: Fiscal Year 2018 State Comprehensive Reports (CAFR).

a desire to take advantage of historically low interest rates, the ability for component units to file for bankruptcy and the incentive problems as elected officials choose to issue debt that will not be due until after those elected officials are long out of office.

## Historically Low Interest Rates and Interest Costs

Generally, the interest rate measures the percentage reward a lender (in this case, a bond investor) receives for waiting to consume a resource until a later date. It also measures the price a borrower (in this case, a state government) pays to have those resources now rather than later.<sup>19</sup> The interest rate is, ultimately, determined by the supply and demand for loanable funds. Today's historically low interest rate environment, which has existed since the start of the Great Recession, provides an incentive for state governments to issue bonds. The chart below shows state and local government debt (excluding unfunded retirement liabilities), the growth of the monetary base and the drop in the effective federal funds rate since 2000.<sup>20</sup>

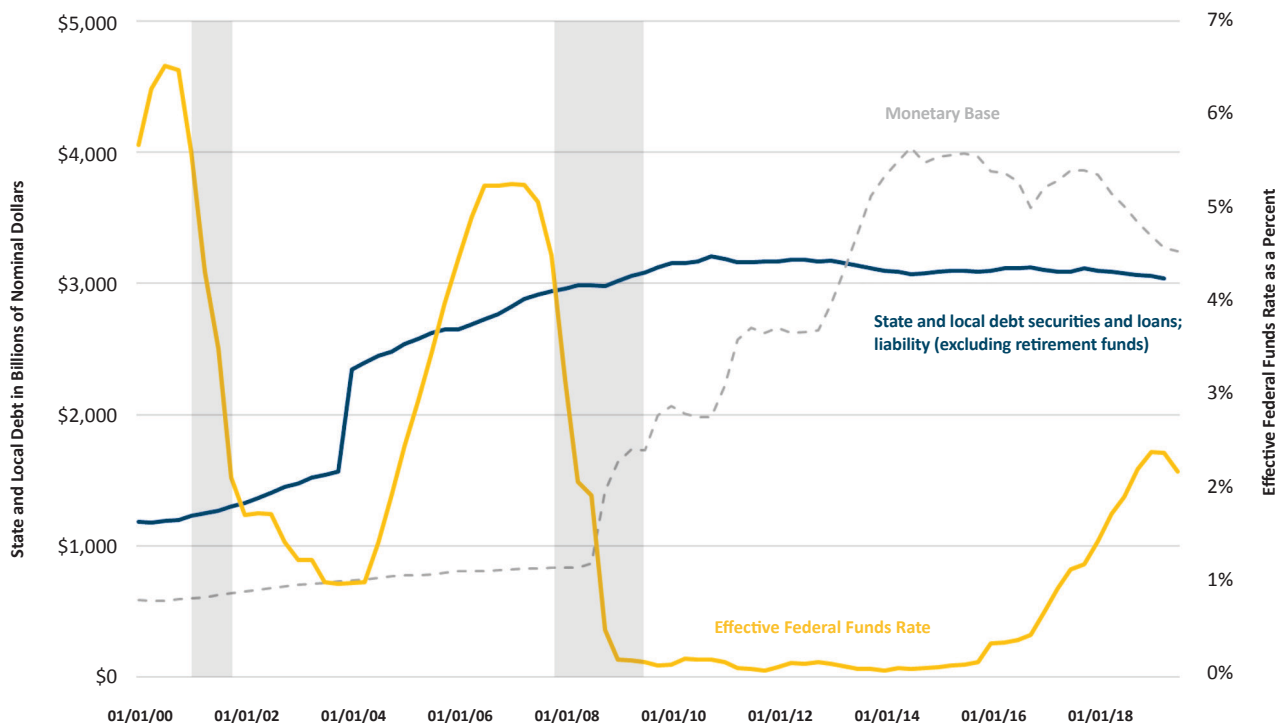
With lower short run interest rates due to an increase in the monetary base, it becomes cheaper for states to borrow. Municipal bond issuers are expected to sell \$21.4 billion in debt in October 2019, the highest supply since December 2017.<sup>21</sup>

## Incentive challenges associated with long-term obligation management

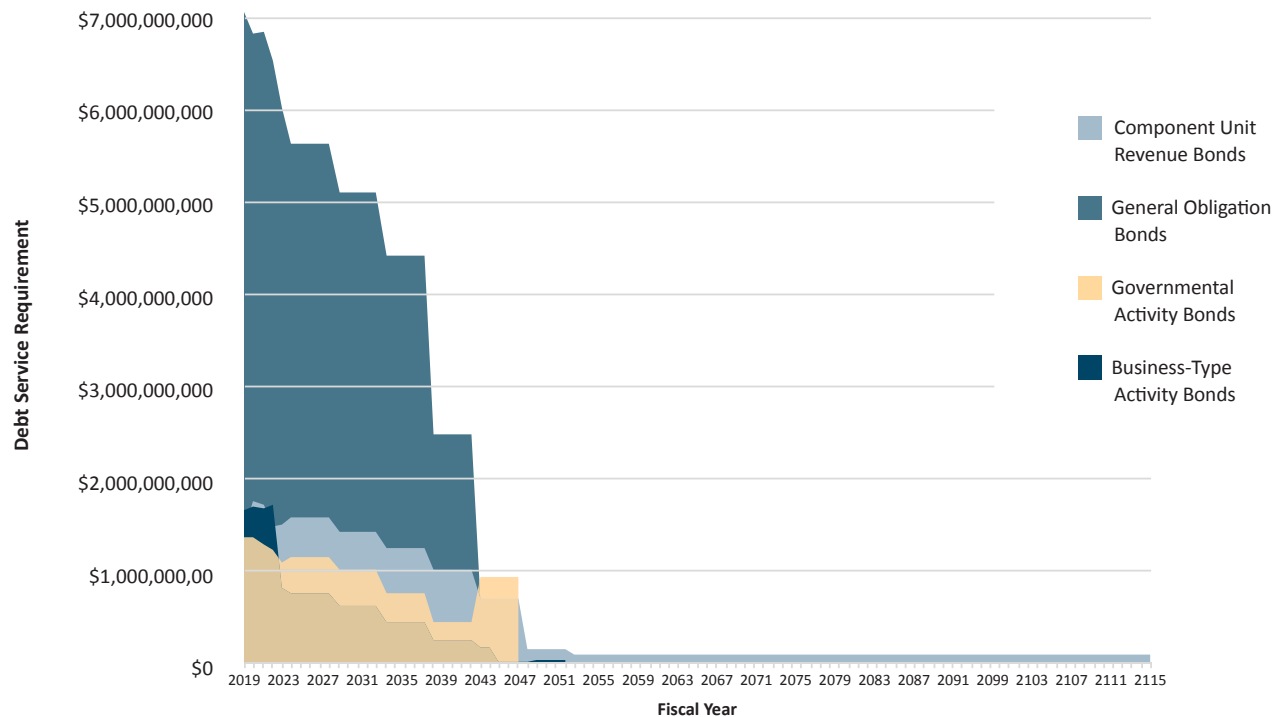
Policymakers must contend with several incentive challenges to proper long-term obligation management. Legislators and treasurers are typically able to manage state finance for several years, and yet the bonds they issue or authorize can mature decades after they leave office.

Perhaps the most important price determinant is whether a bond instrument is general obligation or a component unit. As discussed earlier, a general obligation secures a bond with "the full faith and credit of the state" to repay the bond, and a component unit is a legally separate entity of the state. Also, as previously noted, component units (like municipalities) can

FIGURE 14 | State and Local Debt Compared to the Effective Federal Funds Rate



Source: the Federal Reserve Bank of St. Louis FRED Database.

**FIGURE 15 | California Debt to Maturity**

Source: Fiscal Year 2018 State Comprehensive Reports (CAFR).

go bankrupt because they are legally separate entities from the state. This incentivizes the creation of component units where states can delegate debt issuance (with the exception of some component units that have financial backing of the state).

With the lower interest rates previously discussed, state legislators will be incentivized to issue bonds through a component unit, which will mature long after they have left office. An example of this is the Rhode Island capital appreciation bonds discussed in this section. As states were receiving settlement payments from tobacco settlements, Rhode Island legislators issued bonds in advance of receiving these payments.<sup>22</sup> As noted by the spike in debt service amount requirements that will occur in 2052, Rhode Island legislators created a problem for future state legislators to deal with and future taxpayers to pay back.

California is another notorious case of deferring structure. The chart below shows the debt service to maturity for California. While most of the debt consists of general obligation bonds, California component units have issued bonds that do not fully mature until 2115. These “century bonds” are not backed by

the full faith and credit of the state. These are revenue bonds issued by the University of California to “finance various auxiliary, administrative, academic, medical center and research facilities.”<sup>23</sup> The debt service to these bonds will continue to be paid long after those who issued the bonds are gone. In addition, this assumes that the University of California will continue to see growing revenue and enrollment.

## Puerto Rico: A Warning in State Default

On September 27, 2019, the congressionally appointed Financial Oversight & Management Board (FOMB) for Puerto Rico announced it filed its Plan of Adjustment to restructure \$52.6 billion of Puerto Rico bond obligations, as well as \$50 billion of public pension liabilities. Although the Plan of Adjustment has not been confirmed due to a statutory requirements dispute, states can learn much from Puerto Rico.<sup>24</sup>

Pension liabilities make up a plurality of the unfunded liabilities owed by Puerto Rico.<sup>25</sup> The three pension plans in Puerto Rico

are the Employee Retirement System (ERS), the Judicial Retirement System (JRS) and the Teacher's Retirement System (TRS). Every plan will be affected by the debt restructuring.

The ERS was a defined-benefit, multiemployer pension plan that provided a set payout upon retirement based upon a retiree's final average salary, years of service and a benefit multiplier (expressed as a percent) similar to other defined-benefit plans. In 2008, the ERS issued pension obligation bonds to stem the plan's chronic underfunding instead of making the necessary reforms.<sup>26</sup>

Then, in 2013, the ERS was closed to new hires, who were instead added to a defined-contribution style retirement plan. However, the ERS reform came too late to save the plan long term. There were still massive unfunded liabilities that needed to be paid out to current retirees, as well as debt from the ERS pension bonds.

In August 2017, a year after Congress passed the Puerto Rico Oversight, Management and Economic Stability Act (PROMESA), all beneficiaries of the ERS were put into the defined-contribution plan. This change was made by the Puerto Rico legislature at the urging of the ERS board in order to stop the growth of unfunded liabilities.<sup>27</sup> Despite making the change to defined-contribution, Puerto Rico still owed over \$50 billion in pension liabilities and could not make the payments. These pension obligation bonds did not save the ERS from long-term unfunded liabilities. Puerto Rico still had to pass strict pension reforms, and the pension obligation bonds proved once again to be a risky investment for bond holders.<sup>28</sup>

State legislators should closely watch Puerto Rico's debt restructuring litigation, as it may provide insight for future state defaults.

## Section III: Conclusion and Policy Recommendations

■ In 1977, economists James M. Buchanan and Richard Wagner noted that balanced budget requirements fell out of favor as Keynesian economics promised economic returns from deficit spending and the growth of government.

When looking at the possibility of a balanced budget amendment for the federal government, Buchanan wrote, “Restoration [of a balanced-budget rule] will require a constitutional rule that will become legally as well as morally binding, a rule that is explicitly written into the constitutional document of the United States.”<sup>29</sup> With rising bonded debt obligations, the need for effective state balanced budget requirements has never been greater.<sup>30</sup>

Fiscal responsibility, limited government and free markets must guide state policymakers in the decision-making process. To this end, four policy proposals are worth consideration: balanced budget requirements, tax and expenditure limits, budget stabilization fund management and the creation or extension of bond caps for tax supported bonds (including gas taxes).

### Balanced Budget Requirements in Practice: The ALEC Toolkit

The ALEC State Budget Reform Toolkit provides a guide to reforming state budgets and keeping spending accountable to the taxpayers.<sup>31</sup> While nearly all states have balanced budget requirements, state legislators often push expenses to future budgets by issuing unsustainable bond programs and other fiscal manipulations.

The balanced budget requirement must be carefully structured to include all funds and, ideally, adopt the “98-2-60” rule. This rule requires states spend no more than 98% of forecasted revenue, put 2% in reserves and require a 60% supermajority to override this rule.<sup>32</sup>

### Budget Stabilization Fund Management and Bond Caps for Revenue Bonds

State readiness for the next recession can be measured by the amount of reserve cash a state has on hand. During a recession, a well-prepared state can fill budget gaps with these reserve funds instead of increasing taxes or cutting essential services.

Without reserve cash on hand, budget crises can spur states to irresponsibly issue bonds, such as pension obligation bonds, to cover budget deficits. This is a serious gamble that has failed in every state that has issued these bonds.<sup>33</sup>

States that rely primarily on sales and property taxes may require a smaller reserve fund compared to states that rely heavily on more volatile sources of revenue, like income taxes.<sup>34</sup> In addition, stabilization funds vary from state to state. Generally, states with smaller workforces will also need a smaller rainy-day fund.<sup>35</sup> Ultimately, the government that spends less will require less cash on hand to weather a recession.

States can adopt caps to limit the amount of bonds issued. However, putting a cap on one type of bond may incentivize issuing other types of bonds instead. A general obligation bond cap could result in issuing more revenue bonds. Although revenue bonds rely on use-based revenue, tax-supported revenue bonds can create pressure on the state budget or lead to higher tax rates. This is the case with state gas taxes. Over the past several years, gas tax revenue at the federal, state and local levels have fallen due to innovations such as electric cars, improved fuel efficiency and lower fuel consumption.<sup>36</sup> It is possible that states have bonded for more than they can afford as tax revenues decline.<sup>37</sup>

Effective bond caps will incentivize legislators to reconsider taking on larger amounts of debt and deferring it for long.

# A

## Appendix: Methodology

■ This study collected the debt service requirements to maturity for bonds by type of bond, primarily from state comprehensive annual financial reports (CAFRs) for fiscal year 2018. The bonded obligation categories were selected based on the most common form of sorting used by states in their CAFRs. Categorizations in states not using more common forms were reaggregated, when possible, to approximate comparisons. The data was then analyzed by state in total, per capita, over time and interest costs relative to total general obligation bonds.

### Data collection

Debt service requirements to maturity were collected between July 1 and September 1, 2019 from state CAFRs or alternative sources. Several states required contacting state financial offices to inquire regarding financial information regarding bonds or, as was the case with Illinois, a failure to publish a CAFR until late August. Some states either did not report their debt service requirements by year to maturity or reported their debt service to maturity in aggregates less detailed than normal. For these states, an official bond statement from a bond issued toward the end of the 2018 fiscal year was used in its place; the financial disclosure section of official statements usually has a detailed debt service to maturity table. Official statements were retrieved from the Electronic Municipal Market Access (EMMA) website.<sup>38</sup>

Most states organized their bonds into general obligation bonds, governmental activity bonds, business-type activity bonds and component unit bonds. However, many states organized their bonded obligations in variations from this format, some to a slight degree and others (such as Florida) provided additional debt service reports with further detail about the debt service requirements for specific bonds.

### Component unit reporting

Most debt service requirements for all bonds were available in the 2018 CAFR. Several states, citing the fact that component units are separate entities from the state, deferred reporting

their component units, bonded obligations, instead referring readers to the financial reports prepared by the component unit.

The quality of the component unit financial reports tended to be below that of the state CAFRs, and thus the component units' most recent bond issued before 2018 was often pulled from EMMA, component unit financial documents and used for calculating the component units' debt service requirement. Component units that did not have comprehensive financial reports or outstanding bonds on EMMA were assumed not to have bonded obligations. States that did not directly report component unit liabilities (such as New Jersey) were assumed to have zero liabilities.

### Omitted liability instruments

Notes, certificates of participation, lease agreements and other non-bonded obligations were omitted from this study whenever possible. Most of states reported their certificates of participation, notes and lease agreements as distinct liabilities with their own section in the state CAFR. However, some states aggregated smaller liability instruments such notes into their bonded obligation sections. These notes are assumed to be immaterial relative to the error introduced by deviating from state CAFRs. Ideally, states would not aggregate different types of obligations or instruments in their CAFRs.

### Present Value of Liabilities

One of the primary limitations of this study is the time value of money is not accounted for. However, applying a standardized discount rate across the great diversity of bonds would imply that each bond has the same risk prima.

Unlike Pensions or OPEB, a risk-free rate may not be applicable to a component unit or even some types of revenue bond. At most, an assumed inflation rate could be reasonably applied of about 2% (the Taylor rule for the Federal Reserve), but the Federal Reserve's inflation target has recently been called into question.<sup>39</sup> For this reason, our figures overestimate the liabilities of bonds as the maturities lengthen.

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