Ranking the States by Fiscal Condition

2017 Edition

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ABSTRACT

Based on the FY 2015 comprehensive annual financial reports of the 50 states, this study ranks states' fiscal solvency using 13 metrics that assess the extent to which the states can pay short-term bills and meet longer-term obligations. State finances are analyzed according to five categories of solvency: cash, budget, long-run, service-level, and trust fund. These five categories are combined to produce an overall ranking of state fiscal solvency.

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Keywords: state fiscal health, financial ratios, state budget, state finance, state debt, public pensions, OPEB, state borrowing, municipal debt, fiscal solvency

This paper can be accessed at www.mercatus.org/statefiscalrankings.

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OVERVIEW

For the fourth year in a row, we assess the fiscal health of the states on the basis of their most recent audited financial statements contained in the comprehensive annual financial report (CAFR). A CAFR is a full accounting of the government's finances and includes information on assets, long-term liabilities, debt, and cash flow. While a budget is a plan for how a state will spend money, the CAFR details fiscal condition and provides information on whether current spending decisions and policy choices are sustainable.

A state's fiscal health is determined by many factors: the economy, budget choices, and tax and fiscal institutions that guide or constrain policymakers. State financial reports reflect some of these factors. The CAFR is a data-rich document, but at hundreds of pages, it is also unwieldy for even the most dedicated reader. The CAFR is a backward-looking document that is normally published six to nine months after the end of the fiscal year. At the time of this analysis, the most recent CAFR available for all of the states is for FY 2015. Alabama has not yet published its CAFR for FY 2015, but the state's unaudited financial report for FY 2015 suffices for the purposes of this study.[1] While there are limitations to what a CAFR can reveal, it remains the only available public accounting of state finances that allows for across-state comparisons and the analysis of state performance over time. The goal of this research is to operationalize the CAFR by applying 13 basic metrics to measure state fiscal health. As we apply these metrics with more years of data, we hope to generate useful financial metrics, establish benchmarks for state financial performance, and develop trend lines that signal structural strengths or weaknesses.

This study ranks the performance of the states according to how well they do relative to other states. For this reason, it is important to focus less on ranking and more on each state's fiscal performance according to each individual metric.

1. Department of Finance, Office of the State Comptroller, *State of Alabama Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 2015* (unaudited), March 2016.

"Our goals are to establish a consistent set of financial data and basic metrics to evaluate individual state performance, to understand the factors that drive changes in performance, and to identify areas where financial reporting may improve."

Fiscal metrics are only as meaningful as the quality of the underlying data. Government accounting standards that guide how states measure and quantify their assets and debts determine how states record their position. In past years, governments did not recognize unfunded pension obligations as part of long-term liabilities. In FY 2015, due to the implementation of Government Accounting Standards Board (GASB) guidance 68, states are now reporting more of their pension liabilities on the balance sheet, which increases the average long-term liability metrics for the states.

Context matters to the interpretation of states' fiscal metrics. Information on each state's economic condition, long-term population trends, and the notes to the financial statements should be considered in the analysis of the metrics. With each new edition of the fiscal rankings, our goals are to establish a consistent set of financial data and basic metrics to evaluate individual state performance, to understand the factors that drive changes in performance, and to identify areas where financial reporting may improve.

This paper contains four sections. Section 1 reviews the definitions, data, and methodology used to produce the ranking. Section 2 presents an analysis of how states have changed both in absolute terms and over time, highlighting the biggest changes between fiscal years 2014 and 2015. Section 3 provides an analysis of the top five and bottom five states. Section 4 concludes with key takeaways from the best- and worst-performing states and implications for the years to come. Several themes persist from the 2016 edition of "Ranking the States by Fiscal Condition" that analyzed data from the FY 2014 study. These include the following:

1. Poor-performing states have growing pension liabilities, other postemployment benefits (OPEB), and additional long-term obligations.
2. Top-performing states have higher levels of cash, more robustly funded pensions, and strong operating positions.

3. Oil revenues have had a negative impact on states that are very reliant on this volatile revenue source, such as Alaska.
4. Accounting standards affect what states reveal on their financial statements and what can be known about the states' financial health as a result.

1. DEFINITIONS, DATA, AND METHODOLOGY

Fiscal solvency captures whether a state is able to meet its short-term and long-term obligations without incurring excessive debt, engaging in budget gimmicks, or using other evasive tactics. Fiscal solvency may be measured with basic financial ratios that capture the size of a state's debts relative to assets and its spending relative to revenues. Financial metrics are similar to a medical patient's vital signs. They can point to areas of stress or potential risk but cannot provide a full diagnosis of a state's fiscal condition. Metrics are best used in conjunction with other information and in the context of a state's economic, fiscal, and institutional performance over time. Such an approach considers how economic, social, demographic, and policy factors all contribute to a state's overall fiscal performance.

This study applies a method for assessing fiscal condition developed by public administration researchers XiaoHu Wang, Lynda Dennis, and Yuan Sen "Jeff" Tu. Their method defines four types of fiscal solvency.[2] These are (1) cash solvency (or liquidity), or the state's ability to pay its immediate bills over a period of 30 to 60 days; (2) budget solvency, or the degree to which the state will end the fiscal year in surplus or deficit; (3) long-run solvency, or the state's ability to meet long-term spending commitments; and (4) service-level solvency, or how much fiscal "slack" a state has with which to increase spending, should citizens demand more services. This method of measuring fiscal condition is applied by Sarah Arnett and is used to produce a ranking of the states, based on their relative performance.[3] The first edition of "Ranking the States by Fiscal Condition" updated Arnett's study by changing how service-level solvency is calculated and by including another dimension of solvency: (5) trust fund solvency, which includes total unfunded pension obligations and OPEB. In previous studies, total state debt was included in trust fund solvency. In this edition, we have removed total debt, as it is captured in the long-run solvency metrics. The total pension

2. XiaoHu Wang, Lynda Dennis, and Yuan Sen "Jeff" Tu, "Measuring Fiscal Condition: A Study of US States," *Public Budgeting & Finance* 27, no. 2 (2007): 1–21.
3. Sarah Arnett, "State Fiscal Condition: Ranking the 50 States" (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, January 2014).

obligation and OPEB are not fully captured in long-run solvency and continue to be measured as part of trust fund solvency.

Data

The state fiscal rankings comprise five dimensions of solvency. The first four dimensions—cash, budget, long-run, and service-level solvency—are constructed using data from a state's CAFR, particularly the statement of net assets, the statement of activities, and changes in net position. We assess total primary government activities, which include the state's spending on both government and business-type activities. The fifth dimension of solvency is trust fund solvency, which consists of unfunded pension obligations and OPEB liabilities. Data measuring each state's unfunded pension obligations come from individual actuarial reports for the state governments' state-administered pension plans. OPEB data come from CAFR statements and the actuarial statements of OPEB plans, where available.

The statement of net assets, also known as the statement of net position, is similar to a balance sheet. The difference between a government's assets and liabilities is known as its net position, analogous to equity on a company's financial statements.

The statement of activities is a record of the flow of government spending and revenue collection. It lists the types and amounts of revenues collected (taxes, fees) and the types of spending (programmatic, intergovernmental transfer, debt payments) by category. The statement of activities shows how any shortfalls between revenues and expenses are reconciled.[4]

These statements utilize the full accrual basis of accounting. Any transaction that occurred in that fiscal year is recorded, even if cash did not change hands. Table 1 defines each line item used to construct the fiscal ratios.

The line items in table 1 are used to construct 13 indicators that assess five dimensions of a government's solvency. Table 2 defines each indicator and provides a basic interpretation.

The indicators in table 2 are applied to data gathered from the CAFRs of the 50 states for FY 2015. For an overview of state performance, table 3 on page 13 provides basic statistics, including the mean, median, standard deviation, and maximum and minimum values for each ratio.

4. Governmental Accounting Standards Board, "Touring the Financial Report, Part II: The Statement of Activities," *GASB* website, May 2007, http://www.gasb.org/jsp/GASB/GASBContent_C/UsersArticlePage&cid=1176156736216.

TABLE 1. FINANCIAL STATEMENT DATA USED TO CONSTRUCT INDICATORS

Financial statement	Line item	Definition	Notes
Statement of net assets (net position)	Cash	Cash balances at the end of the fiscal year	
Statement of net assets (net position)	Cash equivalents	Short-term, highly liquid investments convertible to cash either readily or within three months of maturity	
Statement of net assets (net position)	Investments		Most investments are reported at fair value.
Statement of net assets (net position)	Receivables	Funds due from transactions with government (the timing of these collections may vary, depending on type)[a]	There are three types of transactions: (1) exchange transactions (e.g., individuals pay the state for college tuition, health services, etc.); (2) exchange-like transactions between the state and another party, where the value of the exchange is not equal to the benefits (e.g., licenses, permits, and regulatory fees); (3) nonexchange transactions, where the government gives value to another party without receiving equal value in exchange.[b]
Statement of net assets (net position)	Current assets	Assets that are converted into cash or consumed within the year	
Statement of net assets (net position)	Current liabilities	Obligations due within the year	Resources include accounts payable, short-term debt, and voucher warrants.
Statement of net assets (net position)	Noncurrent liabilities	Long-term liabilities due over a few years or several decades, often with interest[c] (listed in order of maturity)	Liabilities include outstanding bonds, net pension obligations,[d] compensated absences, and pollution remediation obligations.
Statement of net assets (net position)	Unrestricted net assets	Assets that may be used for any purpose	"Used for any purpose" does not imply the resource is liquid. A deficit in unrestricted net assets may signal the issuance of new debt and does not indicate fiscal trouble.
Statement of net assets (net position)	Restricted net assets (net position)	Assets that are restricted for a particular purpose (e.g., capital projects and debt service)	Assets are restricted by enabling legislation. They may be expendable, or they may be nonexpendable, such as the principal used to fund an endowment.
Statement of net assets (net position)	Total net assets (total net position)	Combined net assets, including capital assets such as land, buildings, equipment, and infrastructure (e.g., roads, bridges, and tunnels), less any outstanding debt used to acquire those assets	Capital assets are reported net of related debt. The resources needed to repay capital debt must be provided from other sources since the capital assets themselves cannot be liquidated to fund these liabilities.
Statement of net assets (net position)	Total assets	Sum of current, noncurrent, and capital assets	
Statement of net assets (net position)	Total liabilities	Sum of short- and long-term liabilities	Category includes general obligation and revenue bond debts, payments toward OPEB,[e] and the state's portion of any unfunded pension.
Statement of activities	Total taxes	All revenues due from taxes levied	Category excludes grants, charges for services, contributions, transfers, and investment earnings.

(*continued*)

TABLE 1. FINANCIAL STATEMENT DATA USED TO CONSTRUCT INDICATORS (*CONTINUED*)

Financial statement	Line item	Definition	Notes
Statement of net activities	Total revenue	Total taxes plus program revenue	Category includes unrestricted grants, charges for services, contributions, transfers, and investment earnings.
Statement of activities	Total expenses	Total spent on governmental programs, debt service, unemployment compensation, loans, intergovernmental revenue sharing, lotteries, and the operation of government and commissions	On an accrual basis, expenses include costs that were incurred that year (such as earned pension benefits that will not be paid until a future date).
Statement of activities	Changes in net assets	General revenues and changes in net assets totaled and added to net (expense) revenue totals to produce the change in net assets over the reporting period	Governments report the amount of net assets at the beginning of the year and add or subtract changes in net assets for the year to present ending net assets.[f]
Annual report for state pension plans	Unfunded pension liability	Pension plan assets subtracted from pension plan liabilities to calculate the size of the pension plan's unfunded liability (or liability without any assets backing it)	These figures are reported in the annual reports of pension plans; in the fiscal rankings, the liability is recomputed based on a low-risk or guaranteed discount rate.
Notes to the basic financial statement	OPEB liability	The OPEB obligation stated in the notes to the basic financial statement	These data were cross checked with Standard & Poor's OPEB data.

Source: Dean Michael Mead, "An Analyst's Guide to Government Financial Statements" (Norwalk, CT: Governmental Accounting Standards Board, 2012).

(a) Ibid., 66. Examining receivables balances over time may help to show if the government's ability to collect monies is increasing or decreasing.
(b) "Minnesota Management & Budget Statewide Operating Policy," No. 0104-03, July 12, 2012, revised August 2, 2013. The Governmental Accounting Standards Board (GASB) classifies nonexchange transactions into four types: (1) derived tax revenues, or the payment of income or sales taxes to the state; (2) nonexchange revenues, such as property taxes; (3) government-mandated nonexchange revenues, or federal grants to be used to carry out a mandate; and (4) voluntary nonexchange transactions, such as donations.
(c) States vary in reporting what is included in noncurrent liabilities. The notes to the financial statement provide more detail. See Governmental Accounting Standards Board, "Touring the Financial Statements, Part IV: Note Disclosures," GASB website, December 2009, http://gasb.org/cs/ContentServer?c=GASBContent_C&pagename=GASB%2FGASBContent_C%2FUsersArticlePage&cid=1176156722430.
(d) Govermental Accounting Standards Board, "GASB Improves Pension Accounting and Financial Reporting Standards," GASB website, news release, June 25, 2012, http://www.gasb.org/cs/ContentServer?pagename=GASB/GASBContent_C/GASBNewsPage&cid=1176160126951. According to GASB, net pension obligation (NPO) is the difference between the annual required contribution (ARC) to fund the benefits earned in that year plus the cost of past earned benefits and the employer's actual fiscal year contribution. See Governmental Accounting Standards Board, "Statement No. 27 of the Governmental Accounting Standards Board: Accounting for Pensions by State and Local Governmental Employers" (No. 116-C, Governmental Accounting Standard Series, November 1994). The NPO only recognizes a portion of the annual expense of the pension plan and is not a measure of the outstanding pension liability. If the state has historically made the full ARC, the NPO is zero. This standard for recording the expense of the pension plan was replaced in FY 2014 with new guidance, GASB Statement No. 68. See Governmental Accounting Standards Board, "Summary of Statement 68 Accounting and Financial Reporting for Pensions—An Amendment of GASB Statement No. 27," GASB website, June 2012, http://www.gasb.org/jsp/GASB/Pronouncement_C/GASBSummaryPage&cid=1176160219492.
(e) OPEB = other postemployment benefits.
(f) Governmental Accounting Standards Board, "Touring the Financial Report, Part II: The Statement of Activities," GASB website, May 2007, http://gasb.org/cs/ContentServer?c=GASBContent_C&pagename=GASB%2FGASBContent_C%2FUsersArticlePage&cid=1176156736216.

TABLE 2. FINANCIAL INDICATORS USED TO MEASURE FISCAL CONDITION

	Financial indicators	Definition	Interpretation	Solvency dimension
1	Cash ratio	(Cash + cash equivalents + investments)/current liabilities	Higher ratio indicates greater cash solvency	Cash
2	Quick ratio	(Cash + cash equivalents + investments + receivables)/current liabilities	Higher ratio indicates greater cash solvency	Cash
3	Current ratio	Current assets/current liabilities	Higher ratio indicates greater cash solvency	Cash
4	Operating ratio	Total revenues/total expenses	1 or greater indicates budget solvency	Budget
5	Surplus (or deficit) per capita	Change in net assets/population	Positive ratio indicates budget solvency	Budget
6	Net asset ratio	Restricted and unrestricted net assets/total assets	Higher ratio indicates stronger long-run solvency	Long-run
7	Long-term liability ratio	Long-term (noncurrent) liabilities/total assets	Lower value indicates greater long-run solvency	Long-run
8	Long-term liability per capita	Long-term (noncurrent) liabilities/population	Lower value indicates greater long-run solvency	Long-run
9	Tax to income ratio	Total taxes/state personal income	Higher value indicates lower service-level solvency	Service-level
10	Revenue to income ratio	Total revenues/state personal income	Higher value indicates lower service-level solvency	Service-level
11	Expenses to income ratio	Total expenses/state personal income	Higher value indicates lower service-level solvency	Service-level
12	Pension to income ratio	Unfunded pension liability/state personal income	Higher value indicates lower trust fund solvency	Trust fund
13	OPEB to income ratio	OPEB/state personal income	Higher value indicates lower trust fund solvency	Trust fund

OPEB = other postemployment benefits.

Five Dimensions of Solvency

To rank the states on their short-term and long-term fiscal prospects, the 13 indicators are bundled according to the dimension of solvency they measure. Each indicator is first standardized as a z-score that measures how far the indicator is from the mean value. The standardized indicators are summed to create an index for each dimension of solvency and then ranked. This section discusses and interprets each dimension of solvency and the indicators that compose the index. Appendix A on page 45 contains the entire methodology. Appendix B on page 50 contains tables with the individual metrics for each state. The profiles attached to the end of the paper summarize key information for each state, providing a closer look at the underlying data that make up the final ranking.

Limitations

A relative ranking means there are limitations to interpreting fiscal performance among the states based solely on rank. There are also limitations to comparing how a state's rank changes from year to year. There are two reasons for this. First, a state may have similar underlying metrics and data from year to year, but the exact same fiscal performance may rank relatively stronger or relatively weaker, depending on the average performance of other states in that year. Second, a change in a state's relative ranking may also be due to the actuarial restatement of the previous year's data—something true for many states in FY 2015 as a result of new accounting standards. With the implementation of GASB 68, many states have restated their FY 2014 data in their FY 2015 report to better reflect the value of their liabilities across both years. Although this doesn't change their underlying financial position, it changes how much is revealed and drives some of the changes between this and the 2016 edition of these rankings.[5]

The metrics used in this study provide a useful point for assessing state finances, but they do not provide the whole story. High levels of cash are not a buffer against budget shocks, and a large level of liabilities does not necessarily mean a lack of fiscal discipline or an imminent fiscal crisis. The balance sheet does not specifically itemize budget stabilization funds (also known as rainy day funds). These metrics alone do not allow analysts to assess what portion of cash is available for fiscal emergencies. Some states, such as Alaska and Wyoming, have high levels of cash; but this cash represents the proceeds of revenues derived from natural resource exploration and is held in permanent trusts. These trusts contain a large amount of principal that cannot be accessed for general spending. We attempt to account for some of this by capping outliers; but at its surface, the cash solvency subindex does not tell much information about these institutional details.

There are also limits to what the service-level solvency subindex can reveal. The metrics only show the *levels* of taxes, revenues, and expenses relative to

5. For example, Vermont's CAFR restated Vermont's FY 2014 net position from $1.89 billion to $746.69 million. This translates into slightly worse financial health in FY 2014 than originally reported by the state. This causes the rank changes between 2014 and 2015 to appear larger than they would have if Vermont had not restated its data this year or if the state had reported these numbers in its original FY 2014 report. This is because the changes tracked between this year's and last year's edition of the study compare their original FY 2014 numbers with FY 2015. To understand the degree to which Vermont's changes are the result of actual financial performance changes, see The Biggest Movers section of this paper.

TABLE 3. DESCRIPTIVE STATISTICS FOR FY 2015 STATE GOVERNMENT FINANCIAL INDICATORS

Financial indicators	*n*	Mean	Median	Standard deviation	Maximum	Minimum
Cash ratio*	50	2.68	1.70	3.61	24.69	0.44
Quick ratio*	50	3.66	2.45	3.80	25.13	0.96
Current ratio*	50	3.93	2.77	3.82	25.72	1.11
Operating ratio	50	1.04	1.04	0.07	1.27	0.67
Surplus (deficit) per capita	50	$149.98	$210.34	$956.74	$2,810.21	–$5,733.82
Net asset ratio	50	–0.17	–0.02	0.73	0.78	–2.92
Long-term liability ratio	50	0.61	0.38	0.73	3.60	0.05
Long-term liability per capita	50	$4,271.90	$2,785.61	$3,842.92	$16,820.87	$378.61
Tax to income ratio	50	0.06	0.06	0.02	0.13	0.01
Revenue to income ratio	50	0.13	0.13	0.04	0.24	0.08
Expenses to income ratio	50	0.13	0.13	0.04	0.31	0.08
Pension to income ratio	50	0.35	0.32	0.13	0.73	0.16
OPEB to income ratio	48	0.04	0.03	0.04	0.15	0.00

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

OPEB = other postemployment benefits; CAFR = comprehensive annual financial report.
*These are the descriptive statistics for the cash, quick, and current ratios before the outliers have been capped. The maximum values change to 9.61, 12.52, and 12.18 for the cash, quick, and current ratios, respectively, after capping Alaska as an outlier.

income, but nothing about their *structure*. These metrics do not indicate whether a state's tax system is efficient, volatile, progressive, or regressive.

All of these limitations point to the value of examining each state's underlying financial metrics and pairing them with institutional and economic factors.

Cash Solvency

Cash solvency is measured with three ratios: the cash ratio, the quick ratio, and the current ratio. These metrics capture the government's cash position relative to current or short-term liabilities. They indicate whether a government can meet bills that are due over a 30- to 60-day horizon. The cash ratio is the sum of the most liquid assets—cash, cash equivalents, and investments—divided by current liabilities. As table 3 shows, in FY 2015, states' mean cash ratio is 2.68. On average, states have 2.68 times more cash than short-term liabilities.

The cash ratio only includes the most liquid assets. Fourteen states have a cash ratio of less than one in FY 2015: Arizona, California, Connecticut, Illinois, Kentucky, Maine, Maryland, Massachusetts, New Hampshire, New Jersey,

New York, Pennsylvania, Rhode Island, and Wisconsin. The cash ratio metric is the strictest measure of cash and does not include less liquid cash equivalents. For that reason, we also measure cash solvency with the quick ratio. In addition to cash, cash equivalents, and investments, the quick ratio includes receivables. These four items are summed and divided by current liabilities for a measure of cash reserves. A quick ratio greater than one indicates sufficient cash and reserves available to cover short-term liabilities. On average, states report a quick ratio of 3.66 in FY 2015, a slight increase from the previous year's average quick ratio of 3.18. Only Illinois has a quick ratio of less than one, at 0.96.

The third component of cash solvency is the current ratio, or the percentage of current liabilities covered by current assets.[6] It is the most comprehensive measure of short-term solvency. A ratio of two or more indicates that short-term assets are twice as large as short-term liabilities, providing a buffer against short-term shocks. The average current ratio for FY 2015 is 3.93, an increase from the previous year's average of 3.54. Twelve states have current ratios of less than two: Arizona, California, Connecticut, Illinois, Maine, Maryland, Massachusetts, New York, Pennsylvania, Rhode Island, West Virginia, and Wisconsin. On the other end of the spectrum are states with a very robust level of current assets to current liabilities. Thirteen states have current ratios greater than four in FY 2015: Alabama, Alaska, Florida, Idaho, Missouri, Montana, Nebraska, North Dakota, Ohio, South Dakota, Tennessee, Utah, and Wyoming. States with very high levels of cash, including Alaska, Florida, South Dakota, and Utah, raise the important question of whether states should hoard cash in order to present a more robust fiscal performance. While it is clear that a strong cash position is important to fiscal health, an excess of assets may point to potential risks that arise with cash windfalls, such as an increase in spending that is not supportable should the revenues suddenly decrease.

Similarly, the extent to which states may access these assets should also be considered. Healthy cash and current ratios should exceed two, and the quick ratio should be greater than one, but these measures need not be limitless.[7]

Alaska is considered an outlier in fiscal solvency due to its high level of oil revenues that are held in a permanent trust. According to the cash solvency

6. The current asset line items that go into the calculation of the current ratio include the same line items that go into the cash and quick ratios as well as line items that are less liquid, like funds due from component units and other governments, inventories, repossessed property, securities lending collateral, net pension assets, and other assets. Current liabilities include accounts payable, items due to component units and other governments, and interest payable, among others.

7. Steven Finkler, *Financial Management for Public, Health, and Not-for-Profit Organizations* (Upper Saddle River, NJ: Prentice Hall, 2012).

metrics, Alaska has between 24.6 and 26.0 times the cash on hand needed to cover short-term liabilities. This puts Alaska at least three standard deviations above the next top state and at least five standard deviations above the mean for each cash metric. Although having a buffer to guard against revenue shocks is generally a good thing for state governments, there appears to be diminishing returns to doing so, especially if there is some structural reason for having unusually large restricted funds, as is the case in Alaska. In this year's rankings, we cap Alaska's cash metrics and replace them with lower values in order to account for this. Doing so changes Alaska's cash, quick, and current ratios from 24.69, 25.13, and 25.72 to 9.61, 12.52, and 12.18, respectively. We explain how we established the boundaries for capping and replacing cash outlier values in appendix A.

Most states have enough cash to cover short-term liabilities, based on the minimum benchmarks discussed above. Table 4 ranks the states according to cash solvency. The rank is a z-score, or a standardized value of the summed cash solvency indicators, which measures how many standard deviations an individual state's score is above or below the mean for all 50 states.

For example, Ohio's cash index is 2.17 standard deviations above the mean, giving the state a rank of 8th place for cash solvency. Ohio's cash metrics show that it has a strong cash position with between four and six times the cash needed to cover short-term bills. Vermont has a cash index of –1.60, or one standard deviation below the mean. Vermont's cash ratio is 1.28, and the quick and current ratios are 2.18 and 2.22, respectively. These metrics indicate that while Vermont has sufficient cash relative to the minimum benchmarks, it is still below the mean performance in the states.

"States with very high levels of cash, including Alaska, Florida, South Dakota, and Utah, raise the important question of whether states should hoard cash in order to present a more robust fiscal performance."

Budget Solvency

Budget solvency consists of two ratios that measure whether the state's revenues match its expenses. The first is the operating ratio, the proportion of total revenues available

TABLE 4. RANKING OF STATES BY CASH SOLVENCY (FISCAL YEAR 2015)

Rank	State	Cash index	Rank	State	Cash index
1.	Alaska	10.57	26.	Louisiana	–1.19
2.	Florida	8.01	27.	Virginia	–1.23
3.	Utah	5.88	28.	Iowa	–1.39
4.	South Dakota	5.75	29.	North Carolina	–1.48
5.	Wyoming	4.77	30.	New Mexico	–1.51
6.	North Dakota	4.36	31.	Kansas	–1.53
7.	Montana	3.22	32.	Texas	–1.54
8.	Ohio	2.17	33.	Vermont	–1.60
9.	Alabama	2.16	34.	West Virginia	–1.81
10.	Idaho	2.03	35.	Colorado	–1.87
11.	Tennessee	2.02	36.	Michigan	–1.90
12.	Nebraska	1.54	37.	New Jersey[a]	–1.90
13.	Missouri	1.44	38.	Wisconsin	–1.97
14.	Arkansas	0.62	39.	Kentucky	–1.98
15.	Oklahoma	0.59	40.	New Hampshire	–2.14
16.	Hawaii	0.20	41.	New York	–2.20
17.	Oregon	0.11	42.	Rhode Island	–2.28
18.	Delaware	–0.19	43.	Maine	–2.39
19.	Nevada	–0.33	44.	Arizona	–2.45
20.	South Carolina	–0.34	45.	California	–2.56
21.	Washington	–0.56	46.	Maryland	–2.60
22.	Georgia	–0.75	47.	Pennsylvania	–2.66
23.	Mississippi	–0.78	48.	Illinois	–2.81
24.	Minnesota	–0.81	49.	Massachusetts	–2.88
25.	Indiana	–0.88	50.	Connecticut	–2.91

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Notes: The cash solvency index is the sum of the standardized values of the cash, quick, and current ratios.
(a) Michigan's cash solvency score is –1.8965, and New Jersey's is –1.9005. Michigan is ranked 36th, and New Jersey is ranked 37th, though the rounded scores are the same.

to cover total expenses. A ratio greater than one indicates that revenues exceed expenses and the state can pay for budgeted spending in that fiscal year. In FY 2015, the average operating ratio is 1.04, slightly lower than the prior year's average of 1.06. Six states have operating ratios of less than one in FY 2015: Alaska, Illinois, Kansas, Louisiana, Massachusetts, and New Jersey.

An operating ratio of less than one is a flag indicating the state is vulnerable to cash flow problems in the event of a fiscal setback. These metrics are especially important for states with weak economic growth and ongoing spending pressures. Because our operating ratio is based on government-wide activities, it may be affected by issues outside the normal state budgeting process—a process that often focuses only on the general fund.

The second ratio is the surplus or deficit per capita, which is measured as the change in net assets divided by the state's population. The change in net assets (position) measures the change in the net assets balance from the previous year and the current year. It captures the change or direction of the state's financial position. A state may have a negative position, but if that position has changed for the better and is less negative than the previous year, the state will show a "positive change in net position," or a surplus per capita. A state with a positive net position may record a "negative change in net position," or a deficit, if its position drops from the previous year. Most states recorded a positive change in net position in FY 2015 of $149.98 per capita, lower than last year's average of $448.24 per capita. States with weak operating ratios also recorded a deficit (or a negative change in net position). The state with the largest drop in net position in FY 2015 is Alaska, with a deficit of $5,733.82 per capita—a significant difference from the previous year's surplus per capita of $8,296.10. In addition, six other states had a deficit (or negative change in net position) in FY 2015, including Illinois, Kansas, Louisiana, Massachusetts, New Jersey, and Oregon.

Together, the operating ratio and surplus or deficit per capita form the budget solvency index, which allows us to rank the states according to budget solvency, as shown in table 5. The z-scores for budget solvency provide a relative ranking of the states by measuring how close each state is to the mean value for the states. Most states are tightly clustered around the mean. There are exceptions at the top and the bottom. North Dakota has an operating ratio of 1.27 and surplus of $2,810.21 per capita, far above the average performance in the states, giving it a z-score of 5.88 and a number one ranking for budget solvency. Alaska, in a dramatic change from its performance in previous rankings, is last for budget solvency due to its poor operating ratio and significant drop in net position. For FY 2015, Alaska's z-score for budget solvency is –11.05, placing it well below the

TABLE 5. RANKING OF STATES BY BUDGET SOLVENCY (FISCAL YEAR 2015)

Rank	State	Budget index	Rank	State	Budget index
1.	North Dakota	5.88	26.	Georgia	0.21
2.	Wyoming	1.76	27.	Wisconsin	0.12
3.	Connecticut	1.61	28.	West Virginia	0.07
4.	Utah	1.59	29.	Nebraska	–0.01
5.	North Carolina	1.43	30.	Texas[c]	–0.01
6.	Idaho	1.15	31.	Virginia	–0.03
7.	Montana	0.88	32.	Iowa	–0.07
8.	Rhode Island	0.70	33.	Colorado	–0.11
9.	Oklahoma	0.69	34.	Hawaii	–0.14
10.	Florida	0.66	35.	Michigan	–0.16
11.	South Dakota	0.64	36.	Mississippi	–0.16
12.	California	0.61	37.	Kentucky	–0.21
13.	Maine	0.59	38.	Pennsylvania	–0.22
14.	Indiana	0.52	39.	Maryland	–0.34
15.	Minnesota	0.48	40.	Ohio	–0.41
16.	Oregon	0.44	41.	New Hampshire	–0.45
17.	Nevada	0.38	42.	Delaware	–0.48
18.	Arizona	0.32	43.	Washington	–0.51
19.	New Mexico	0.29	44.	Alabama	–0.62
20.	Missouri[a]	0.29	45.	Kansas	–0.92
21.	Vermont	0.28	46.	Illinois	–1.26
22.	South Carolina[b]	0.28	47.	Louisiana	–1.41
23.	Tennessee	0.27	48.	Massachusetts	–1.47
24.	Arkansas	0.24	49.	New Jersey	–2.55
25.	New York	0.22	50.	Alaska	–11.05

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Notes: The budget solvency index is the sum of the standardized values of the change in net assets per capita and the operating ratio.
(a) New Mexico's budget solvency score is 0.2889, and Missouri's is 0.2887. New Mexico is ranked 19th, and Missouri is ranked 20th, though the rounded scores are the same.
(b) Vermont's budget solvency score is 0.2784, and South Carolina's is 0.2776. Vermont is ranked 21st, and South Carolina is ranked 22nd, though the rounded scores are the same.
(c) Nebraska's budget solvency score is –0.0101, and Texas's is –0.0106. Nebraska is ranked 29th, and Texas is ranked 30th, though the rounded scores are the same.

other states in the budgetary rankings, including the next weakest performer: New Jersey, with a z-score of –2.55.

Long-Run Solvency

The long-run solvency index consists of three metrics. Net asset ratio, the first metric, is the proportion of net assets to total assets. Net assets are those left over after the government has paid its debts. They are a subset of total assets, which include capital such as land and government buildings. The greater the amount of net assets relative to total assets, the more the government has on hand to cover long-term liabilities. A portion of net assets is restricted for dedicated purposes. The mean net asset ratio in FY 2015 is –0.17. The net asset ratio ranges from 0.78 in Alaska to –2.92 in New Jersey. The number of states with negative net asset ratios increased from 13 to 26 in FY 2015. These are Alabama, California, Connecticut, Delaware, Georgia, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Nevada, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, and Wisconsin.

Until FY 2015, states did not report unfunded pension liabilities on the balance sheet of their financial statements, effectively presenting an incomplete picture of their long-term position. In FY 2015, states implemented GASB 68, which requires states to report the Net Pension Liability (NPL) on the balance sheet. The NPL represents any unfunded pension obligation arising from plans the government administers. Previously, states instead reported the Net Pension Obligation (NPO), which only measured annual contributions to the plan, not the outstanding debt. If a government contributed more than the required amount to fund pensions in that fiscal year, it would record a net pension asset on the balance sheet, despite having an unfunded liability. Effectively, until 2015, the unfunded pension obligations of states were not recorded as long-term liabilities.

With states now recording unfunded pension liabilities, balance sheets show an increase in the level of liabilities relative to assets. The higher this level climbs, the lower a state's net position will be. The unfunded pension liabilities for the other two states are accounted for in the trust fund solvency metrics, where Wyoming ranks poorly. Between FY 2014 and FY 2015, noncurrent liabilities increased by 43 percent across the states. Most of this change is due to states recording the net pension liability as part of noncurrent liabilities.

A negative net asset ratio does not by itself indicate fiscal distress. In addition to net pension liabilities, the net asset ratio includes debt issued for capital projects such as school construction, roads, or other infrastructure. In some cases, debt issued for such projects is held by the state, while the assets are owned by another entity, such as a school district or special authority.

The second metric that makes up long-run solvency is the long-term liability ratio. The metric represents the proportion of long-term liabilities relative to total assets. Long-term liabilities include outstanding bonds, loans, claims and judgments (rendered against the government in a lawsuit), pensions, OPEB, and compensated employee absences. A low ratio of long-term liabilities to total assets signals good fiscal health.

In FY 2015, total state liabilities are on average 61 percent of total assets, up from 47 percent of total assets in FY 2014. Table B3 in appendix B shows seven states with liabilities totaling 12 percent or less of total assets. These states are Alaska, Idaho, Nebraska, Oklahoma, South Dakota, Tennessee, and Wyoming. Five states have liabilities that exceed assets by a factor of one or more. Those states are Connecticut, Illinois, Kentucky, Massachusetts, and New Jersey. Table 6 presents the rankings of the states according to long-run solvency.

The third metric is long-term liability per capita.

Service-Level Solvency

The three ratios that make up service-level solvency attempt to measure how much "fiscal slack" states have to raise taxes or increase spending by calculating the size of taxes, revenues, and expenses relative to state personal income. States with high levels of taxes, revenues, or expenditures relative to state personal income may have difficulty obtaining increased revenues in a sudden downturn, making it challenging to respond to increased demands on the budget or the increasing costs associated with pensions and OPEB obligations.

States with low levels of taxes, revenues, and expenses as a percentage of personal income are ranked at the top for service-level solvency. In FY 2015, these states are New Hampshire, Nevada, Florida, Virginia, and South Dakota. States with high levels of revenues, taxes, and expenses rank at the bottom. North Dakota, New Mexico, Vermont, Delaware, and West Virginia have higher levels of taxes, revenues, and expenses as a proportion of the personal income of state residents, placing them at the bottom of this year's ranking. Table B4 in appendix A provides the individual metrics for each state. Table 7 presents the ranking of states according to service-level solvency.

TABLE 6. RANKING OF STATES BY LONG-RUN SOLVENCY (FISCAL YEAR 2015)

Rank	State	Long-run index	Rank	State	Long-run index
1.	Nebraska	9.88	26.	Oregon	–0.21
2.	Oklahoma	4.85	27.	Wisconsin	–0.22
3.	Tennessee	4.70	28.	Indiana	–0.25
4.	South Dakota	4.19	29.	Georgia	–0.30
5.	Idaho	2.82	30.	Mississippi	–0.31
6.	Wyoming	2.53	31.	Colorado	–0.46
7.	Alaska	2.13	32.	New Hampshire	–0.53
8.	North Carolina	1.98	33.	Ohio	–0.58
9.	North Dakota	1.60	34.	Maine	–0.75
10.	Iowa	1.09	35.	West Virginia	–0.80
11.	New Mexico	0.95	36.	Pennsylvania	–0.93
12.	South Carolina	0.80	37.	Louisiana	–1.10
13.	Montana	0.72	38.	Washington[(b)]	–1.10
14.	Utah	0.70	39.	New York	–1.11
15.	Missouri	0.40	40.	Delaware	–1.17
16.	Virginia	0.17	41.	Vermont	–1.20
17.	Florida	0.11	42.	Hawaii	–1.52
18.	Alabama	0.08	43.	Rhode Island	–1.78
19.	Texas	0.05	44.	Maryland	–1.83
20.	Arizona	0.03	45.	California	–1.92
21.	Kansas	0.02	46.	Kentucky	–2.90
22.	Minnesota	0.00	47.	Connecticut	–3.81
23.	Arkansas	–0.04	48.	Massachusetts	–3.95
24.	Michigan[(a)]	–0.04	49.	Illinois	–5.28
25.	Nevada	–0.15	50.	New Jersey	–5.54

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Notes: The long-run solvency index is the sum of the standardized values of the net asset ratio, long-term liability ratio, and long-term liability per capita.
(a) Arkansas's long-run solvency score is –0.0355, and Michigan's is –0.0420. Arkansas is ranked 23rd, and Michigan is ranked 24th, though the rounded scores are the same.
(b) Louisiana's long-run solvency score is –1.0969, and Washington's is –1.1038. Louisiana is ranked 37th, and Washington is ranked 38th, though the rounded scores are the same.

TABLE 7. RANKING OF STATES BY SERVICE-LEVEL SOLVENCY (FISCAL YEAR 2015)

Rank	State	Service-level index	Rank	State	Service-level index
1.	New Hampshire	5.26	26.	Arizona	0.06
2.	Nevada	5.14	27.	South Carolina	–0.02
3.	Florida	3.79	28.	Washington	–0.21
4.	Virginia	3.70	29.	California	–0.78
5.	South Dakota	3.04	30.	Wisconsin	–0.80
6.	Nebraska	2.78	31.	Montana	–0.82
7.	Missouri	2.63	32.	Michigan	–0.91
8.	Texas	2.07	33.	Idaho[d]	–0.91
9.	Tennessee	1.94	34.	Massachusetts	–0.96
10.	Colorado	1.84	35.	Maine	–1.22
11.	Alaska[a]	1.84	36.	Iowa	–1.33
12.	Utah	1.79	37.	New York	–1.39
13.	Oklahoma	1.72	38.	Oregon	–1.42
14.	Kansas	1.70	39.	Rhode Island	–1.51
15.	Georgia	1.03	40.	Minnesota[e]	–1.51
16.	Maryland	0.85	41.	Kentucky	–1.80
17.	North Carolina	0.84	42.	Wyoming	–2.03
18.	Alabama[b]	0.84	43.	Mississippi	–2.25
19.	Indiana	0.61	44.	Hawaii	–2.53
20.	Illinois	0.47	45.	Arkansas	–2.90
21.	Pennsylvania	0.43	46.	West Virginia	–3.11
22.	Louisiana	0.30	47.	Delaware	–3.60
23.	Connecticut[c]	0.30	48.	Vermont	–3.93
24.	New Jersey	0.27	49.	New Mexico	–4.61
25.	Ohio	0.08	50.	North Dakota	–4.77

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Notes: The service-level solvency index is the sum of the standardized values of the tax, revenue, and expense to income ratios.
(a) Colorado's budget solvency score is 1.8447, and Alaska's is 1.8400. Colorado is ranked 10th, and Alaska is ranked 11th, though the rounded scores are the same.
(b) North Carolina's budget solvency score is 0.8376, and Alabama's is 0.8362. North Carolina is ranked 17th, and Alabama is ranked 18th, though the rounded scores are the same.
(c) Louisiana's budget solvency score is 0.2974, and Connecticut's is 0.2957. Louisiana is ranked 22nd, and Connecticut is ranked 23rd, though the rounded scores are the same.
(d) Michigan's budget solvency score is –0.9076, and Idaho's is –0.9115. Michigan is ranked 32nd, and Idaho is ranked 33rd, though the rounded scores are the same.
(e) Rhode Island's budget solvency score is –1.5057, and Minnesota's is –1.5068. Rhode Island is ranked 39th, and Minnesota is ranked 40th, though the rounded scores are the same.

Trust Fund Solvency

Long-run solvency does not capture the full size of the pension and OPEB obligations of the states. The liability numbers used for long-run solvency are taken from the statement of net assets and the statement of activities. Until FY 2015, states only reported what amount was contributed to the pension system in that year as part of their long-term liabilities. That number did not include the total unfunded liability of the pension system. As of FY 2015, GASB 68 requires states to report their net pension obligation as part of their long-run liabilities. This is an improvement in accounting. It requires governments to recognize unfunded pension liabilities on the balance sheet, making the long-run liability metrics a more meaningful measure of a state's long-run fiscal health. Despite this, some problems remain in the reporting of pension liabilities. The new requirements allow states to apply a "blended" discount rate to measuring the value of pension obligations. Forthcoming analysis by Sheila Weinberg and Norcross shows that most states continue to assess the value of their pension obligations using risky asset returns, thereby understating the full value of pension liabilities.[8]

In addition, state financial statements only recognize the portion of the pension liability or OPEB liability for which the state government is responsible. The NPL does not measure the entire unfunded liability of the entire pension plan. For this reason, we assess the states according to an additional dimension of solvency—trust fund solvency. Two metrics take into account (1) risk-adjusted pension obligations and (2) health care benefits (OPEB) administered by the states relative to state personal income. In previous editions, trust fund solvency also included total debt outstanding. However, most debt is captured in long-run solvency, making this metric redundant for trust fund solvency.

We evaluate pension plan liabilities and assets based on the most recent actuarial reports of the plans that states offer to their employees, including plans that states manage but do not contribute to directly. Although a state does not bear the entire financial responsibility for many of the multiemployer plans, state and local entities are connected through fiscal relationships. If a state-administered but locally funded pension plan were to experience distress, the municipality might seek state aid or pension reform measures from the state. That action would present the state with a contingent liability for state-administered but locally funded

8. Sheila Weinberg and Eileen Norcross, "A Judge in Their Own Cause: GASB 67/68 and the Continued Mismeasurement of Public Pension Liabilities," *Journal of Law, Economics and Policy,* forthcoming. See also Sheila Weinberg and Eileen Norcross, "GASB 67 and GASB 68: What the New Accounting Standards Mean for Public Pension Reporting" (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, June 2017).

plans. In this study, we are concerned with measuring the full liability of state-administered plans in order to alert state governments to the fiscal condition of pension systems for which they have administrative responsibility. The plans included in the analysis are listed in table B11 in appendix B. These plans correspond to the state-administered plans identified by the US Census.[9] This survey does not include plans that are locally administered and locally funded.

Table B5 in appendix B presents the two ratios. These metrics account for states' long-term obligations, each of which comes with different legal, statutory protections. Before interpreting the metrics, we review each type of long-term liability.

Public-Sector Pensions

States make legal promises to public-sector workers in the form of deferred compensation paid out as pension benefits and healthcare benefits also known as OPEB. Pension benefits enjoy statutory or constitutional legal protections in state law, putting them on legal footing with general obligation debt. Not all states offer the same degree or kind of legal protection for pension benefits.[10] Some states protect only accrued benefits—those that have been earned to date. An estimated 21 states protect pension benefits that have not yet been earned.[11] Owing to these legal guarantees of payment, economists make the case that public pension liabilities should be valued like government debt; that is, they represent a commitment to the employee that has a low or zero probability of default.

A defined benefit pension is a promise to pay an employee a formula-determined amount upon retirement. It is funded with employee and employer contributions and with the return on investment for those contributions. To determine how much the government should contribute today to fund the benefit it will pay out in the future, one must "discount" the pension's future value to a present value. This calculation requires selecting an interest rate called a "discount rate." The way to select the discount rate is a source of debate between government actuaries and economists.[12]

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9. See US Census Bureau, *2013 Survey of Public Pensions: State and Local Data*, released February 2015, http://www.census.gov/govs/retire/historical_data_2013.html.
10. Amy B. Monahan, "Public Pension Plan Reform: The Legal Framework," *Education, Finance & Policy* 5 (2010): 617–46.
11. Liz Farmer, "How Are Pensions Protected State-by-State?," *Governing*, January 28, 2014, http://www.governing.com/finance101/gov-pension-protections-state-by-state.html.
12. Eileen Norcross, "Getting an Accurate Picture of State Pension Liabilities" (Mercatus on Policy, Mercatus Center at George Mason University, Arlington, VA, December 2010).

Until FY 2014, public plans valued pension liabilities according to GASB 27, which states that a pension liability may be discounted on the basis of the rate of return the plan expects to achieve on its investments.[13] On average, plan managers assume they will earn a 7.6 percent return annually on plan assets, which are investments in a mix of equities and fixed income. Plan actuaries use this higher-risk rate to discount the liabilities.[14] This approach has a few problems. First, according to economic theory, the value of the plan's liability is independent of the plan's assets, much as the value of a homeowner's mortgage is independent of his or her personal investments. Economic theory holds that a stream of future cash flows (in this case, a stream of future pension benefit payments) should be valued based on the certainty and timing of those payments.[15] State pension plans come with a legal guarantee of payment, but there is no guarantee that the plan's assets will return 7.6 percent each year. GASB 27 implies that it is possible to secure a promised stream of future benefits based on uncertain investment returns.

Instead, the discount rate selected to value future payments should match the guarantee and certainty of payment. Public pensions are similar in guarantee to government debts. That similarity suggests that the discount rate should match the yield on a government debt instrument, such as the yield on notional 15-year Treasury bonds (estimated at 2.59 percent on June 30, 2015). One result of dropping the discount rate from 7.6 percent to 2.5 percent is a dramatic increase in the present value of the liability and the annual required contribution to fund the plan. For every 1 percent change in the discount rate, the pension liability changes by as much as 20 percent.[16] The effect of this assumption became clear during the Great Recession of 2008 because plans did not meet expected asset returns and large funding gaps emerged.

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13. Governmental Accounting Standards Board, "Statement No. 27 of the Governmental Accounting Standards Board: Accounting for Pensions by State and Local Governmental Employers" (No. 116-C, Governmental Accounting Standard Series, November 1994).
14. For a comprehensive discussion of pension valuation among private, public, US, and international plans, see US Government Accountability Office, *Pension Plan Valuation: View on Using Multiple Measures to Offer a More Complete Financial Picture*, September 2014, http://www.gao.gov/assets/670/666287.pdf.
15. Franco Modigliani and Merton H. Miller, "The Cost of Capital, Corporation Finance, and the Theory of Investment," *American Economic Review* 48 (1958): 261–97; M. Barton Waring, *Pension Finance: Putting the Risks and Costs of Defined Benefit Plans Back under Your Control* (Hoboken, NJ: Wiley, 2011).
16. V. Gopalakrisnhnan and Timothy F. Sugrue, "The Determinants of Actuarial Assumptions under Pension Accounting Disclosures," *Journal of Financial and Strategic Decisions* 8, no. 1 (Spring 1995): 35–41.

For FY 2015, new accounting standards are in place to guide how plans value their pension liabilities. GASB 68 suggests plans apply a "blended rate" to value liabilities. For the portion of the plan liability that is backed by assets, plans may use the expected return on plan assets. The tax-exempt 20-year high-grade municipal bond yield may be used to value any unfunded portion of the liability. A shortcoming of this approach is that it continues to use a return on a mixed portfolio of assets to value the funded portion of the liability.

Weinberg and Norcross surveyed 144 plans for FY 2015 and found that only 13 plans applied the blended rate to value their pension obligations.[17] Most plans continue to use the expected return on assets to value liabilities, resulting in little change in the size of plan liabilities.

Table B8 of appendix B presents the plans' total assets and liabilities, unfunded liability, funded ratio, and unfunded liability relative to personal income for state pensions. Because the numbers in state actuarial reports are calculated under GASB 27 and do not reflect the full value of pension liabilities, table B9 presents those figures based on a re-estimation of plan liabilities. This re-estimation values the plans according to their statutory guarantee and the time horizon over which benefits are due. Accordingly, the risk-free rate or the yield on notional 15-year Treasury bonds is applied to states' pension liabilities.[18] The net effect of the re-estimation increases the total unfunded liability of state pension plans from $1.03 trillion to $5.28 trillion.

Other Postemployment Benefits

Other postemployment benefits are the health and other nonpension benefits that state governments offer their employees. These benefits do not carry the same legal protections as pensions and represent a liability that may be impaired, reduced, or eliminated. Thus, as liabilities go, they pose less of a risk to taxpayers and provide less of a guarantee to beneficiaries.

When the total pension and OPEB liabilities payable to public sector employees over the coming decades are included, many states are in an acute situation with regard to the large claims on future revenues. A few states, including Alaska, Arizona, Ohio, Oregon, and Utah, have partially funded or well-funded OPEB systems.

Table 8 presents the rankings for the states according to trust fund solvency.

17. Weinberg and Norcross, "Judge in Their Own Cause."
18. We apply the rate for June 30, 2015, of 2.59 percent.

TABLE 8. RANKING OF STATES BY TRUST FUND SOLVENCY (FISCAL YEAR 2015)

Rank	State	Trust fund index	Rank	State	Trust fund index
1.	Oklahoma	6.91	26.	Pennsylvania	–0.29
2.	Tennessee	2.54	27.	Arkansas	–0.39
3.	Nebraska	2.16	28.	Rhode Island	–0.40
4.	North Dakota	2.11	29.	West Virginia	–0.41
5.	Wisconsin	1.92	30.	Colorado	–0.44
6.	Indiana	1.62	31.	Missouri	–0.51
7.	North Carolina	0.99	32.	Michigan	–0.53
8.	Florida	0.98	33.	Minnesota	–0.54
9.	Delaware	0.93	34.	Alabama	–0.70
10.	New Hampshire	0.81	35.	South Carolina	–0.73
11.	Virginia	0.78	36.	Connecticut	–0.83
12.	South Dakota	0.65	37.	Wyoming[b]	–0.83
13.	Idaho	0.61	38.	Louisiana	–0.94
14.	Maryland	0.33	39.	New Jersey	–0.96
15.	Texas	0.27	40.	Montana	–1.02
16.	Vermont	0.21	41.	California	–1.10
17.	Georgia	0.14	42.	Hawaii	–1.27
18.	Arizona	0.13	43.	Oregon	–1.28
19.	Massachusetts	0.12	44.	Kentucky	–1.41
20.	Kansas[a]	0.12	45.	Nevada	–1.43
21.	New York	0.10	46.	Illinois	–1.45
22.	Washington	0.09	47.	Mississippi	–1.53
23.	Utah	–0.04	48.	Ohio	–1.65
24.	Maine	–0.07	49.	New Mexico	–1.71
25.	Iowa	–0.17	50.	Alaska	–1.88

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Notes: The trust fund solvency index is the sum of the standardized values of the pension and OPEB to income ratios.
(a) Massachusetts's solvency score is 0.1206, and Kansas's is 0.1176. This is why Massachusetts is ranked 19th and Kansas is ranked 20th, though the rounded scores are the same.
(b) Connecticut's trust fund solvency score is –0.8260, and Wyoming's is –0.8300. This is why Connecticut is ranked 36th and Wyoming is ranked 37th, though the rounded scores are the same.

Overall Ranking of the States

To construct an overall fiscal ranking of the states, the scores for the five dimensions of solvency are weighted and added together. The weights applied to each dimension for FY 2015 are similar to the weights used in the FY 2014 and FY 2013 rankings. Short-term measures are given greater weight than long-term measures. Cash and budget solvency scores are each assigned a weight of 35 percent because a weak cash or budget position presents an immediate problem for states in a recession. Long-run, service-level, and trust fund solvency are each assigned a weight of 10 percent because these indices measure a longer horizon, with solvency affected by future policy decisions and economic factors.

For FY 2015, we also present the rankings on an unweighted basis, recognizing that the weights we assign in the rankings favor the short term over the long term. A counterargument can be made that evidence of long-run fiscal stress may place increasing demands on short-term resources. Things such as large and growing pension liability, OPEB, or a growing amount of debt may place increasing pressure on budget and cash solvency. This interpretation of fiscal performance suggests the long run is as indicative of fiscal health as the short run. Table 9 presents the weighted rankings of states by fiscal condition. Table B6 in the appendix presents the unweighted ranking.

Table 9 ranks the states by fiscal condition. On a weighted basis, the top five states are Florida, North Dakota, South Dakota, Utah, and Wyoming. Capping Alaska's cash metrics had the effect of dropping Alaska's ranking to 17. As explained earlier in the methodology section, this cap was put in place to reflect the fact that the majority of Alaska's large cash reserves are not easily accessible and do not reflect the full reality of Alaska's fiscal health, which is subject to oil price shocks. The states at the bottom of the rankings for FY 2015 are Maryland, Kentucky, Massachusetts, Illinois, and New Jersey.

On an unweighted basis, the top five states are Nebraska, Oklahoma, South Dakota, Florida, and Tennessee, and the bottom five states are New Mexico, Kentucky, Massachusetts, Illinois, and New Jersey.

2. THE BIGGEST MOVERS

The implementation of GASB 68, which requires the reporting of pension liabilities on the balance sheet; a steep drop in the price of oil; the effects of tax policy; and budget cuts all factor into the change in the performance of several states. In this section, we review these year-to-year changes for states that moved by more than five places in the year since the FY 2014 rankings.

TABLE 9. RANKING OF STATES BY FISCAL CONDITION — WEIGHTED RANKING (FISCAL YEAR 2015)

Rank	State	Fiscal condition index	Rank	State	Fiscal condition index
1.	Florida	3.52	26.	Washington	–0.50
2.	North Dakota	3.48	27.	Hawaii	–0.51
3.	South Dakota	3.02	28.	Iowa	–0.55
4.	Utah	2.86	29.	Wisconsin	–0.56
5.	Wyoming	2.25	30.	Colorado	–0.60
6.	Nebraska	2.02	31.	Delaware	–0.62
7.	Oklahoma	1.80	32.	Kansas	–0.67
8.	Tennessee	1.72	33.	Arizona	–0.72
9.	Idaho	1.36	34.	Mississippi	–0.74
10.	Montana	1.32	35.	Maine	–0.84
11.	Missouri	0.86	36.	Michigan	–0.87
12.	Alabama	0.56	37.	Connecticut	–0.89
13.	Ohio	0.40	38.	Rhode Island	–0.92
14.	Nevada	0.37	39.	New York	–0.93
15.	North Carolina	0.36	40.	Vermont	–0.96
16.	Indiana	0.07	41.	New Mexico	–0.97
17.	Alaska	0.04	42.	West Virginia	–1.04
18.	Virginia	0.03	43.	California	–1.06
19.	South Carolina	–0.02	44.	Louisiana	–1.08
20.	Arkansas	–0.03	45.	Pennsylvania	–1.09
21.	Oregon	–0.10	46.	Maryland[(b)]	–1.09
22.	Georgia[(a)]	–0.10	47.	Kentucky	–1.38
23.	Texas	–0.30	48.	Massachusetts	–2.00
24.	Minnesota	–0.32	49.	Illinois	–2.05
25.	New Hampshire	–0.35	50.	New Jersey	–2.18

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Notes: The fiscal condition index is the sum of the cash, budget, long-run, and service-level solvency indices weighted as follows: (0.35 × cash solvency score) + (0.35 × budget solvency score) + (0.1 × long-run solvency score) + (0.1 × service-level solvency score) + (0.1 × trust fund solvency score).
(a) Oregon's fiscal condition score is –0.0983, and Georgia's is –0.1019. Oregon is ranked 21st, and Georgia is ranked 22nd, though the rounded scores are the same.
(b) Pennsylvania's fiscal condition score is –1.0871, and Maryland's is –1.0937. Pennsylvania is ranked 45th, and Maryland is ranked 46th, though the rounded scores are the same.

"On an unweighted basis, the top five states are Nebraska, Oklahoma, South Dakota, Florida, and Tennessee, and the bottom ranked states are New Mexico, Kentucky, Massachusetts, Illinois, and New Jersey."

Seven states shifted up in the rankings by more than five places in FY 2015. Arkansas moved up eight places from 28th to 20th. Connecticut jumped 13 places from 50th to 37th. Delaware moved up seven places to 31st. Hawaii moved from 45th to 27th. Maine improved eight places from 43rd to 35th. North Carolina moved from 21st to 15th, and Oregon improved its ranking by nine places from 30th to 21st. Six states fell in the rankings by more than five places. Due to a change in the methodology for ranking cash solvency, Alaska dropped 16 places to 17th. Colorado fell by eight places to 30th. Louisiana dropped by 11 spots from 33rd to 44th. New Mexico fell by seven places from 34th to 41st. Pennsylvania fell six places to 45th, and Texas dropped seven spots to 23rd place in the FY 2015 rankings. We next review the reason for big swings in state performance in each subranking.

Cash Solvency

Three states' cash positions changed significantly between FY 2014 and FY 2015.

Hawaii improved its cash solvency by seven places due to a modest increase in cash and a small decrease in current liabilities from FY 2014. North Carolina also improved significantly, moving up eight spots for cash solvency. The state's cash position increased alongside a decline in liabilities. Oregon also improved its cash position by seven spots due to a decline in current liabilities from $4.0 billion to $2.9 billion.

Budget Solvency

Budget solvency is sensitive to large changes in ranking because of the fluctuations in a state's overall fiscal direction. In FY 2015, 27 states changed their rank by more than five places—an increase from last year, in which 16 states experienced significant changes from the previous year.

Of the 27 states that moved by more than five places in FY 2015, 14 moved in a positive direction.[19] One of them was Arkansas. Its improved position in budget solvency is due to the state reporting increased assets. These assets—including new roads, bridges, and overlays, and improved higher education infrastructure—resulted in an increase in reported net position.[20]

California's net position increased by 27.8 percent in FY 2015 due to an increase in revenues that exceeded the increase in expenses.[21] Connecticut's striking improvement in budget solvency from 50th to 3rd in FY 2015 was driven by two factors. First, revenues increased by 4.2 percent while expenses fell by 11.5 percent, giving Connecticut a significant boost for budget solvency. In FY 2014, Connecticut's revenues only covered 94 percent of its expenses; however, in FY 2015, revenues exceeded expenses by 11 percent. The improvement in revenues was primarily due to increases from operating grants and contributions, whereas the decline in expenses was driven by decreased spending in human services. Second, the state's net position improved from a deficit of $38.1 billion to a deficit of $35.3 billion, allowing Connecticut to report a positive change in net position or a per capita surplus of $783.91 in FY 2015. The state still has a total net position deficit of $35.3 billion, which is accounted for in the long-run fiscal metrics, but Connecticut's position is *less negative*.

Hawaii moved up nine places in budget solvency. The state's net position increased by $243.2 million, or 37 percent, in FY 2015. Revenues exceeded expenses by 2 percent, an improvement over FY 2014 when revenues were short of expenses by 1 percent.[22] Hawaii's net position for governmental activities actually decreased, primarily because of the implementation of GASB 68. But this was offset by increases in business-type activities caused by improvement in the net position of the four different funds: the Unemployment Compensation Fund, Airports, Harbors, and Nonmajor Proprietary Funds.[23]

An increase in revenues paired with the implementation of GASB 68 accounts for Indiana's improvement in operating ratio and net position. Approximately $10.2 billion of the decrease in net position can be attributed to the

19. These states are Arkansas, California, Connecticut, Hawaii, Indiana, Kentucky, Maine, Maryland, Missouri, New York, Oklahoma, Rhode Island, Tennessee, and Vermont.
20. *Arkansas Department of Finance and Administration, Arkansas Comprehensive Annual Financial Report: Fiscal Year Ended June 30, 2015*, December 2015, 37.
21. California Office of the State Controller, *State of California Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015*, March 2016, 31.
22. Hawaii Department of Accounting and General Services, *State of Hawaii Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015*, December 2015, 26.
23. *Hawaii CAFR*, 21.

restatement of the net pension liability, per the new GASB rule.[24] An improvement in the state's unemployment compensation fund accounts for the increase in revenues. Employer contributions to the fund increased by $200 million in FY 2015, and federal revenues into the fund decreased by $131 million.[25] Like Hawaii and Indiana, increased revenues, decreased claims, and the elimination or reduction of federal loans for the joint state-federal unemployment compensation program accounts for part of the improvement in net position for Kentucky, [26] Missouri,[27] New York,[28] and Tennessee.[29]

Increased revenues account for the improvement in budget solvency for several states. Maine moved up 27 places for budget solvency due to increases in income and sales and use tax revenues totaling $257.9 million and a decrease in expenses of $208.0 million. Maryland's position improved six places, primarily because increases in the net position of the Maryland Transportation Authority and the Unemployment Insurance Program offset decreases in capital assets and rising liabilities for governmental activities.[30] Missouri's improvement in tax revenues pushed the state up by 11 places. Revenues exceeded expenses for governmental activities in New York. An increase of $147.9 million in income tax collections helped to move Oklahoma up seven places in the rankings for budget solvency.[31] Rhode Island's tax revenues grew by $231 million over the previous year.[32] In Tennessee, revenues exceeded expenses by 5 percent in 2015.[33] In addition, Tennessee's net position improved due to the capitalization of expenses related to road construction and a decrease in the state's net pension obligation

24. Indiana Auditor of State, *Indiana: Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2015*, December 2015, 97.
25. *Indiana CAFR*, 35.
26. Office of the Controller, *Commonwealth of Kentucky Comprehensive Annual Financial Report for Fiscal Year Ended June 30, 2015*, December 2015, 29.
27. Office of Administration, Division of Accounting, *State of Missouri Comprehensive Annual Financial Report: Fiscal Year Ended June 30, 2015*, January 2016, 29.
28. Office of the State Comptroller, *State of New York: Comprehensive Annual Financial Report for Fiscal Year Ended March 31, 2015*, September 2015, 34.
29. Tennessee Department of Finance and Administration, *Tennessee State Government: Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015*, December 2015, 25.
30. Comptroller of Maryland, *Comprehensive Annual Financial Report: State of Maryland, Fiscal Year Ended June 30, 2015*, December 2015, 18.
31. Oklahoma Office of Management and Enterprise Services, *State of Oklahoma 2015 Comprehensive Annual Financial Report*, December 2015, 37.
32. Rhode Island Department of Administration, *State of Rhode Island Comprehensive Annual Financial Report 2015*, December 2015, 19.
33. *Tennessee CAFR*, 19.

of $918 million. Vermont's overall budget solvency position improved by six places due to increased revenues from income taxes, education taxes, charges for services, and the state lottery; these revenue increases more than exceeded the increase in expenses.[34]

Thirteen states' net positions decreased by more than five places in FY 2015.[35] These states still report a positive net position, but all experienced downward movement in net position. The most striking decline is Alaska's drop in budget solvency from 1st place in FY 2014 to 50th in FY 2015. The budget solvency metrics measure direction rather than absolute position. Alaska's free fall in this category is directly attributable to the drop in oil prices from $100 per barrel in early 2014 to $26 per barrel at the close of 2015.[36] Alaska's revenues, 90 percent of which are derived from oil and gas production, declined from $2.9 billion in FY 2014 to $513.0 million in FY 2015. Interest and investment income dropped from $8.2 billion to $2.8 billion. As a result, Alaska's operating ratio fell dramatically. Revenues only cover 67 percent of expenses in FY 2015. A deficit of $5,733 per capita captures the $10 billion drop in Alaska's position from the previous year. With oil prices remaining low in FY 2016, it is unlikely that Alaska's tax revenues will improve within the next fiscal year.[37]

Alaska's drop in overall rank can also be attributed to a decrease in its net position that resulted from the restatement of pension liabilities under GASB 68.[38]

Colorado has a positive net position in FY 2015 with revenues exceeding expenses, though its position is not as robust as it was in the previous year, causing it to fall in the rankings. Iowa's net position also fell from the previous year, accounting for its drop in the rankings by eight places, though the state still reports an overall positive budget position.

Kansas's drop by seven places in the rankings is driven by a decline in its overall net position. In FY 2015, Kansas reports a total net position of $9.7 billion, a decrease of $2.1 billion over the previous year, resulting in a negative change in net assets or a per capita deficit of $75.72. Additionally, in FY 2014, revenues

34. Vermont Department of Finance and Management, *Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 2015*, December 2015, 29.

35. These states are Alabama, Alaska, Colorado, Iowa, Kansas, Mississippi, Nebraska, New Mexico, Ohio, South Carolina, Texas, Washington, and Wisconsin.

36. US Energy Information Administration, "Alaska North Slope First Purchase Price," *eia.gov*, last modified March 1, 2017, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=F005071__3&f=M.

37. Oil prices ranged from $20.89 to $39.17 per barrel between January and October 2016.

38. Alaska Department of Administration, Division of Finance, *State of Alaska: Comprehensive Annual Financial Report for Fiscal Year July 1, 2014–June 30, 2015*, December 2015, 7.

exceeded expenses by 1 percent, while in FY 2015, revenues were sufficient to cover only 98 percent of expenses.

The remaining states have healthy underlying metrics, but their performance is weaker relative to the average performance in the states. Mississippi retains a positive overall position, though its net position is lower than it was in FY 2014, which the CAFR attributes to an increase in Medicaid enrollments.[39] Nebraska's revenues exceed expenses by 3 percent, though this is less than the average and represents a decline from FY 2014 in which revenues exceeded expenses by 7 percent.[40] New Mexico also maintains its positive budget position with metrics that are less than the average performance in the states, accounting for a drop of eight places in the rankings. Ohio's budgetary metrics also fell in FY 2015. While the state saw revenue gains, expenses increased by 6.7 percent, largely due to increased Medicaid caseloads. A decline in unemployment compensation payouts increased Ohio's position in its business activities.[41] The budget solvency rankings of Mississippi, Nebraska, New Mexico, and Ohio were also negatively influenced by their restatement of prior year data as a result of GASB 68.[42]

Texas's net position decreased by $27.9 billion; of that, $24.8 billion represents the net pension liability now reported as part of GASB 68. The state's absolute financial condition also worsened, due to a decline in tax revenues and a simultaneous increase in expenses of $6.6 billion, mainly in health care and education spending. In FY 2014, Texas's revenues exceeded expenses by 13 percent. In FY 2015, revenues exceed expenses by 3 percent—a sizable decline. Washington state's budget solvency rank dropped 18 spots. The implementation of GASB 68 and offsetting adjustments to correct prior accounting practices accounted for $2.14 billion of the decrease in net position for governmental activities.[43] Revenues were strong in FY 2015, but expenses also grew by $511 million in K–12 education to meet state supreme court requirements on education spending. At the same time, a decline in unemployment compensation and

39. Mississippi Department of Finance and Administration, *Mississippi: Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015*, April 2016, 26.
40. Nebraska Administrative Services, *State of Nebraska Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 2015*, December 2015, 23.
41. Ohio Office of Budget and Management *Comprehensive Annual Financial Report: The State of Ohio—Fiscal Year Ended June 30, 2015*, December 2015, 37.
42. As mentioned previously on page 12, a retroactive restatement of FY 2014 data can cause this year's rank change to seem larger than actual underlying financial performance. These states' condition still worsened between FY 2014 and FY 2015 (or are less bad in some cases), but their rank change is concealing both actuarial accounting changes and changes in fiscal condition.
43. State of Washington Office of Financial Management, *Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015*, October 2015, 24.

an increase in premium income helped Washington maintain a positive position, though lower than the previous year's performance.[44] Wisconsin dropped in the rankings relative to other states despite a strong fiscal performance. In FY 2015, revenues exceed assets by 4 percent, a decline from the previous year in which revenues exceeded assets by 6 percent.[45] Implementation of GASB 68 led to an increase in net position of $1.17 billion. South Carolina's budget solvency was positive in FY 2015, though slightly lower than reported in FY 2014 metrics. The state's revenues exceed expenses by 5 percent.[46]

Long-Run Solvency

Long-run solvency consists of the net asset ratio, long-term liability ratio, and long-term liabilities per capita. Ten states moved more than five places in the rankings for FY 2015. Five states—Florida, North Carolina, Oregon, Virginia, and Wisconsin—improved their position.

Florida's 14-place jump is due to its performance relative to other states. Florida's underlying metrics are similar in FY 2014 and FY 2015, but these metrics are much higher than the average performance in the states for FY 2015. Florida's net asset ratio in FY 2015 is 0.10, while the average of the states is –0.17. In FY 2014, Florida's net asset ratio is 0.11, while the average is –0.03. Similarly, Florida's long-term liability ratio in both FY 2015 and FY 2014 is 0.34. The average long-term liability ratio for the states in FY 2015 is 0.61, an increase from the FY 2014 average long-term liability ratio of 0.47. In other words, as the average state's performance worsened with liabilities growing as a percentage of total assets, Florida's performance remained the same with a relatively low level of liabilities to assets.

Oregon's rank for long-run solvency improved by seven places, yet Oregon's net asset ratio and long-term liability ratio were weaker on an absolute basis than they were in the previous year. However, these slightly weaker metrics are better than the average for the states in FY 2015. In addition, Oregon's long-term liability per capita fell slightly, from $3,175 to $3,112. A similar story can be told for Virginia, which improved by 10 places in the rankings. Virginia's metrics are marginally weaker than in FY 2014, with long-term liabilities growing relative to total assets as a result of issuing new debt. These metrics are still more

44. *Washington CAFR*, 34.
45. State Controller's Office, *State of Wisconsin Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015*, December 2015, 30.
46. Comptroller General's Office, *State of South Carolina Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015*, November, 2015, 28.

robust than the average performance of the states in FY 2015, placing Virginia higher in this year's rankings.

North Carolina also moved up in rank by nine places for long-run solvency. This can be attributed to both relative and actual improvement in the metrics. North Carolina's net asset ratio increased from 0.00 to 0.03, and the long-term liability ratio fell from 0.19 to 0.17, indicating that liabilities are falling relative to total assets. The total liability per capita also decreased from $1,104 to $1,028. Wisconsin's position improved by 10 places due to a slight improvement in its underlying metrics and an improvement relative to the average performance in the states for FY 2015.

Five states declined by more than five positions for long-run solvency. Colorado dropped by 17 places due to a steep increase in the amount of liabilities relative to assets, attributable to the recognition of a $9.1 billion net pension liability. An increase in pension liabilities accounts for the decline in the long-run solvency rankings for Maine, Vermont, and West Virginia, as well as for the 25-place drop in Indiana's rank. In addition to a restatement leading to an increase in pension liabilities, Vermont's drop of seven places was also a result of the issuance of new general obligation debt.[47]

Service-Level Solvency

As with previous fiscal rankings, variations in the metrics for service-level solvency are very small for most states from year to year, resulting in little change in ranking among the states in this category. There are four exceptions this year. Arizona and Iowa both dropped by seven spots due to small increases in one or more of the underlying metrics that placed them further away from the mean performance in the states in FY 2015. In the case of Wisconsin, a nine-point improvement in ranking for service-level solvency is due to taxes falling from 9 percent of personal income to 6 percent while expenses remained at 13 percent of personal income. Alaska's improvement in the service-level solvency rankings by 39 places is an anomaly that reflects Alaska's unique fiscal situation. It is also a reflection of the subjectivity involved in interpreting the metrics. A steep decline in taxes as a percentage of personal income implies that Alaska has low taxes (amounting to 1 percent of state personal income, the lowest in the United States) and has the room to increase taxes to pay for services. However, Alaska does not tax income and relies on oil revenues—a volatile source of income for the state. Alaska's improvement in ranking for service-level solvency when taken in this context is

47. *Vermont CAFR*, 34 and 160.

not particularly meaningful when it comes to understanding the state's health. The underlying metrics underscore the structural stress Alaska is under, with expenses far out of sync with revenues and taxes.

Trust Fund Solvency

Four states moved by more than five places for trust fund solvency in FY 2015. North Dakota moved up by nine places in the rankings. North Dakota's unfunded pension liability is 24 percent of personal income, significantly lower than the average of 35 percent for the states.

Oregon fell by six spots in trust fund solvency due to an increase in unfunded pension liabilities. Vermont and Wyoming dropped in the rankings by 10 places and 30 places, respectively. Vermont's pension liability as a percentage of personal income increased from 15 percent to 27 percent, and OPEB liabilities as a percentage of personal income increased slightly, contributing to Vermont's drop in rank for trust fund solvency. Wyoming's drop in rank is attributable to an increase in its unfunded pension liability, which rose from 33 percent of total personal income to 40 percent in FY 2015. In addition, this year's trust fund solvency does not include debt because that is accounted for in long-run solvency. Removing debt from the calculation of trust fund solvency weakens Wyoming's overall trust fund score, since Wyoming is a low-debt state.

3. THE TOP FIVE AND BOTTOM FIVE STATES

We discuss the fiscal performance of the top and bottom five states.

The Top Five States

Table 10 provides metrics data for each of the top five states in the fiscal rankings.

"In FY 2015, Florida ranks in 1st place for fiscal condition, displacing Alaska as the top-performing state. Alaska's three-year run as the top state was driven by its unique fiscal situation."

TABLE 10. DESCRIPTIVE STATISTICS FOR THE TOP FIVE PERFORMERS IN FISCAL CONDITION SOLVENCY (FISCAL YEAR 2015)

	Florida	North Dakota	South Dakota	Utah	Wyoming	State mean
Cash ratio*	8.19	4.91	6.14	4.05	6.44	2.68
Quick ratio*	9.99	7.43	8.36	9.77	6.88	3.66
Current ratio*	10.01	7.48	8.51	10.07	7.13	3.93
Cash solvency score	8.01	4.36	5.75	5.88	4.77	0.00
Operating ratio	1.07	1.27	1.04	1.13	1.11	1.04
Surplus (deficit) per capita	$278.56	$2,810.21	$647.01	$481.03	$857.98	$149.98
Budget solvency score	0.66	5.88	0.64	1.59	1.76	0.00
Net asset ratio	0.10	0.58	0.34	0.26	0.72	–0.17
Long-term liability ratio	0.34	0.13	0.10	0.23	0.10	0.61
Long-term liability per capita	$2,303.14	$4,417.82	$802.91	$2,336.16	$4,136.17	$4,271.90
Long-run solvency score	0.11	1.60	4.19	0.70	2.53	0.00
Tax to income ratio	0.04	0.13	0.04	0.06	0.08	0.06
Revenue to income ratio	0.09	0.24	0.10	0.11	0.16	0.13
Expenses to income ratio	0.09	0.19	0.10	0.10	0.14	0.13
Service-level solvency score	3.79	–4.77	3.04	1.79	–2.03	0.00
Pension to income ratio	0.22	0.24	0.25	0.30	0.40	0.35
OPEB to income ratio	0.02	0.00	n/a	0.00	0.01	0.04
Trust fund solvency score	0.98	2.11	0.65	–0.04	–0.83	0.00

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Note: Each solvency score is the sum of the standardized values of the preceding financial indicators. For example, cash solvency is composed of the cash, quick, and current ratios.
OPEB = other postemployment benefits.
*Cash, quick, and current ratio averages are calculated before capping outliers.

In FY 2015, Florida ranks in 1st place for fiscal condition, displacing Alaska as the top-performing state. Alaska's three-year run as the top state was driven by its unique fiscal situation, which we try to address in this report by capping Alaska's cash metrics. Alaska holds a high level of cash reserves and total assets at $71 billion in FY 2015, leaving the state with 24 times the cash on hand to cover short-term obligations. However, the metrics do not reflect the fact that most of the state's net position (73.5 percent) is made up of investments in the Alaska Permanent Fund. The principal of the fund ($45.6 billion) may not be spent. The remaining 26.5 percent of the state's net position represents $7.5 billion in investment in capital assets and $1.7 billion in restricted funds, leaving $9.8 billion in unrestricted assets.[48]

48. *Alaska CAFR*, 10.

Florida earns the top position for fiscal solvency due to high levels of cash solvency, with between 8 to 10 times the cash needed to cover short-term obligations. Revenues exceed expenses by 7 percent, and the state's net position improved slightly, by $278.56 per capita. On a long-run basis, Florida has a low liability to asset ratio relative to other states. Liabilities are 34 percent of total assets, much lower than the state average of 61 percent. Florida's net asset ratio of 10 percent is the lowest of the top five states but is higher than the average of –0.17 across the states. On a guaranteed-to-be paid basis, unfunded pension obligations account for 22 percent of state personal income. Total debt is low at $24.5 billion, or 3 percent of state personal income.

North Dakota is 2nd in fiscal condition for FY 2015, though its metrics were also affected by the decline in oil prices. Revenues decreased by 8.6 percent. North Dakota is less reliant than Alaska on oil and gas production for its revenues. Oil, gas, and coal taxes account for 52.0 percent of collections in FY 2015 in North Dakota, with sales taxes making up 25.0 percent and income taxes 9.1 percent.[49] North Dakota continues to have a high level of cash and assets relative to liabilities. The drop in revenues represents a decline, but it was not large enough to have a negative effect on North Dakota's budget solvency. Revenues exceed expenses by 27 percent in FY 2015, and the state's overall net position moved in a positive direction, bringing about a change in net asset surplus of $2,810 per capita. North Dakota's net asset ratio of 0.58 means that after debts have been met, net assets are 58 percent of total assets. A low long-term liability ratio of 13 percent indicates liabilities are small relative to total assets. Unfunded pensions and OPEB are small relative to personal income and to the average in the states.

South Dakota's cash metrics increased slightly from last year, driven by an increase in tax collections. Revenues exceeded expenses in FY 2015, and overall net position moved in a positive direction. South Dakota has a high level of net assets remaining after debts have been met, with a net asset ratio of 34 percent. Long-term liabilities are small relative to total assets at 10 percent.

Utah's 4th place rank is largely due to a high level of cash and budget solvency. Utah holds between 4 and 10 times the cash needed to meet short-term obligations. Revenues exceed expenses by 13 percent. A surplus per capita of $481 indicates that Utah's net position moved in a positive direction in FY 2015. The Management Discussion and Analysis mentions that this improvement reflects a growing economy and increased revenues from income and corporate taxes as

49. State of North Dakota, Office of State Tax Commissioner, *52nd Biennial Report for the Biennial Period of July 1, 2013 through June 30, 2015*, December 2015, 18.

well as revenues generated from the sale of lands in the state's Trust Land Fund. On a long-run basis, Utah's liabilities are 23 percent of total assets, which is far lower than the national average of 61 percent. Unfunded pension liabilities on a guaranteed-to-be-paid basis are 30 percent of state personal income.

Wyoming ranks 5th due to robust performance in several categories. The state holds a strong cash position with between six and seven times the cash needed to cover short-term liabilities. Revenues exceed expenses by 11 percent. On a long-run basis, after meeting debts, Wyoming's net assets are 72 percent of total assets, far above the national average of –17 percent. Wyoming is a state with low debt, though it also carries a high level of unfunded pension obligations. Total unfunded pension on a guaranteed-to-be-paid basis is $12.9 billion, accounting for 40 percent of state personal income.

The Bottom Five States

Table 11 presents metrics for the bottom five states in this year's fiscal rankings.

In FY 2015, Illinois, Kentucky, Massachusetts, and New Jersey remain in the bottom five performing states. Connecticut leaves the bottom five due to a very strong increase in revenues and a reduction in expenses in FY 2015 that boosted the state's budget solvency ranking from 50th to 3rd. But this factor by itself does not mean Connecticut is fiscally robust. Connecticut continues to have weak metrics in other areas, including very low levels of cash, high liabilities, and high levels of debt relative to assets. Maryland joins the bottom five at number 46. The state's cash position is weak, with cash covering between 55 percent and 148 percent of short-term obligations. Maryland's revenues exceeded expenses by 1 percent. On a long-run basis, Maryland's fiscal metrics point to the state's reliance on debt to finance its operations. Long-term liabilities are 94 percent of total assets. Noncurrent liabilities amount to $39 billion and assets totaled $41 billion in FY 2015. The largest noncurrent liabilities include $16.5 billion in bonds and notes and $24.0 billion in unfunded pension obligations.

Kentucky, Massachusetts, Illinois, and New Jersey have three commonalities: weak levels of cash solvency, large liabilities relative to assets, and unfunded pension and OPEB liabilities that are large relative to the income of state residents. On a cash-solvency basis and using the strictest measure of cash solvency, all four states have insufficient cash to cover short-term liabilities. When including less liquid forms of cash, Massachusetts and Illinois have the weakest measures of cash solvency, with current ratios of 1.11 and 1.34, respectively.

TABLE 11. DESCRIPTIVE STATISTICS FOR THE BOTTOM FIVE PERFORMERS IN FISCAL CONDITION SOLVENCY (FISCAL YEAR 2015)

	Maryland	Kentucky	Massachusetts	Illinois	New Jersey	State mean
Cash ratio*	0.55	0.84	0.45	0.52	0.84	2.68
Quick ratio*	1.33	1.76	1.10	0.96	2.10	3.66
Current ratio*	1.48	2.23	1.11	1.34	2.11	3.93
Cash solvency	–2.60	–1.98	–2.88	–2.81	–1.90	0.00
Operating ratio	1.01	1.02	0.96	0.96	0.91	1.04
Surplus (deficit) per capita	$88.21	$122.13	–$319.43	–$27.65	–$677.88	$149.98
Budget solvency	–0.34	–0.21	–1.47	–1.26	–2.55	0.00
Net asset ratio	–0.50	–1.16	–1.84	–2.77	–2.92	–0.17
Long-term liability ratio	0.94	1.33	2.39	3.17	3.60	0.61
Long-term liability per capita	$6,554.04	$9,248.84	$9,918.71	$12,118.22	$16,820.87	$4,271.90
Long-run solvency	–1.83	–2.90	–3.95	–5.28	–5.54	0.00
Tax to income ratio	0.06	0.07	0.06	0.06	0.06	0.06
Revenue to income ratio	0.11	0.15	0.13	0.11	0.11	0.13
Expenses to income ratio	0.11	0.15	0.14	0.12	0.12	0.13
Service-level solvency	0.85	–1.80	–0.96	0.47	0.27	0.00
Pension to income ratio	0.26	0.53	0.28	0.54	0.42	0.35
OPEB to income ratio	0.03	0.03	0.04	0.08	0.15	0.04
Trust fund solvency	0.33	–1.41	0.12	–1.45	–0.96	0.00

Source: Authors' analysis of the FY 2015 CAFRs for all 50 states.

Note: Each solvency score is the sum of the standardized values of the preceding financial indicators. For example, cash solvency is composed of the cash, quick, and current ratios.
OPEB = other postemployment benefits
*Cash, quick, and current ratio averages are calculated before capping outliers.

On a budget basis, Massachusetts, Illinois, and New Jersey each have operating ratios of less than 1, indicating that revenues fell short of expenses during the fiscal year. New Jersey's operating ratio is the lowest with revenues covering only 91 percent of expenses.

Kentucky's net position moved in a positive direction with the state reporting a per capita surplus of $122.13. Massachusetts, Illinois, and New Jersey each moved in a negative direction in net position, with per capita deficits of $319.43, $27.65, and $677.88, respectively.

On a long-run basis, each of the bottom five states have negative net assets ranging from –2.92 for New Jersey to –0.50 for Maryland. Illinois has the second-weakest net asset ratio, of –2.77. This is a significant decrease from FY 2014, in which New Jersey and Illinois had negative net asset ratios of –1.14 and –1.46, respectively. In the case of New Jersey, the decline is attributed to GASB 68,

which recognizes the net pension liability on the balance sheet. In addition, New Jersey's CAFR points to the financing of liabilities associated with pension obligation bonds, school construction bonds, and the securitization of the annual tobacco master settlement agreement. In FY 2015, Illinois experienced a $75.7 billion (167.5 percent) decline in net position. This was largely due to the implementation of GASB 68, which resulted in the recognition of $72.3 billion in net pension liabilities previously unreported on the balance sheet. Illinois also has an additional liability of $32.4 billion in bonds payable. Long-term liabilities exceed assets by a factor of 3.17 in Illinois and 3.60 in New Jersey. Long-term debt per capita is $12,118 in Illinois and $16,821 in New Jersey, several times larger than the average in the states, which is $4,272. Long-term measures in Massachusetts are also weak. Liabilities grew relative to assets in FY 2015 due to several factors: the implementation of GASB 68, which required the state to report a $24.9 billion net pension liability; a $6.128 billion net liability due to school construction; $12.0 billion in transportation-related debt; and OPEB liabilities.[50]

The Management Discussion and Analysis of these states' CAFRs makes it clear that the recognition of net pension liabilities is a significant factor in driving net position downward. The net pension liabilities of these states are based on GASB 68's recommendation that states measure their liabilities based on a blended discount rate. In practice, and contrary to expectations, this has meant that most states continue to value their pensions using high discount rates, rather than the lower "blended rate."[51] New Jersey is an exception. In FY 2015, the state applied a more conservative set of assumptions to value the unfunded liability, and, as a result, reports a far larger unfunded liability. Other states, such as Illinois, continue to use more generous assumptions. The end result is that New Jersey, by reporting a more accurate unfunded liability, performs more negatively in long-run solvency.

Trust fund solvency metrics help to correct for the inconsistent application of GASB 68. Of the five bottom-ranked states, Kentucky and Illinois perform the worst. Unfunded pension liabilities on a guaranteed-to-be-paid basis represent 53 percent and 54 percent, respectively, of the income of state residents. New Jersey's unfunded pension obligations are 42 percent of residents' income.

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50. As of June 30, 2015, the OPEB liability in Massachusetts is $5.605 billion, which the state funds on a pay-as-you-go basis. Going forward, the commonwealth will dedicate payments from the Master Settlement Agreement with tobacco companies to fund OPEB. The payments will be phased in over 10 years and will increase from $74 million in FY 2015 to $250 million in FY 2024. This is according to the Office of the Comptroller, *Commonwealth of Massachusetts Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 2015*, May 2016, 19.
51. Weinberg and Norcross, "Judge in Their Own Cause."

Maryland performs the strongest, with unfunded pension obligations accounting for 26 percent of resident income. New Jersey and Illinois have the highest levels of OPEB relative to state personal income at 15 percent and 8 percent, respectively.

Taken together, risk-adjusted unfunded pension obligations and OPEB are 62 percent of resident income in Illinois, 57 percent in New Jersey, and 56 percent in Kentucky; and they require ongoing attention and fiscal and policy reforms. Maryland performs the best of all five states in this area, with unfunded pensions and OPEB accounting for 29 percent of state personal income. Massachusetts follows with pensions and OPEB making up 32 percent of state personal income. Taken with the state's plan to fund OPEB obligations, the long-term fiscal metrics in Massachusetts are likely to improve over time.

4. CONCLUSION

With another year of data, we update the ranking of state fiscal condition for FY 2015. New accounting standards that require states to report their net pension liability on the books had an impact on the relative ranking of many states in terms of budget solvency and long-run solvency. With larger liabilities, many states' net position declined, resulting in deficits per capita. Larger liabilities resulting from GASB 68 also had a strong effect on long-term metrics leading to larger liabilities per capita. In addition, the decline in oil prices affected Alaska's metrics, pushing the state out of its number one spot and driving its budget solvency rank to last among the states. A few surprises emerged. Connecticut, a state that continues to have a weak long-run position and poor cash solvency, addressed its budget position with policy actions such as spending reductions. These cuts in expenses, coupled with stronger revenues, pushed the state up from last in the overall rankings to 37th in FY 2015.

For the most part, the top states and the bottom states remain the same for the same reasons. Despite Alaska's budgetary fall, a large amount of reserves guarantees its spot as number one for cash solvency and a strong long-run position. North Dakota did not suffer the same decline in revenues due to oil prices falling because its revenues are more diversified. The state maintains a strong overall position with high cash reserves, high assets, and low liabilities. Nebraska, Florida, and South Dakota—consistently top performers—are states with high levels of cash solvency, revenues that exceed expenses, net assets remaining after debts are paid, low levels of unfunded pension liabilities, and OPEB and debts relative to resident income.

Three of the worst performing states remain stuck in place due to persistently large and growing liabilities. These liabilities have put a strain on the finances of Kentucky, Illinois, and New Jersey, resulting in weak budget solvency and cash solvency metrics.

Although there are limits to what a ranking can tell about states' financial health, at the very least, such metrics can make state financial information more accessible. By generating these metrics over time and by developing absolute benchmarks of performance, we can better measure state fiscal performance. The ultimate goal is to help policymakers and the public by providing information on states' fiscal health, revealing potential economic and fiscal risks, and offering a view of states' varying strategies for addressing shortfalls and windfalls.

APPENDIX A. METHODOLOGY

This study calculates 13 financial metrics, as described in table 2 on page 11, to create five dimensions of solvency: cash, budget, long run, service level, and trust fund. The individual metrics are grouped and summed according to the dimension of solvency to which they contribute. For some metrics, a higher value indicates a higher degree of solvency. These include the cash ratio, quick ratio, current ratio, operating ratio, surplus per capita, and net asset ratio. For several metrics, a lower value indicates higher solvency. To construct a ranking that is intuitive to interpret, the following metrics are transformed by taking the inverse of each: long-term liability ratio, long-term liability per capita, taxes to income, revenue to income, expenses to income, pension affordability ratio, and OPEB affordability ratio.

For each metric within the cash solvency subindex, we use an inner quartile method to establish an upper boundary at which to cap outliers. We do so by separating the data into quartiles and then setting the outer boundary at three times the inner quartile range outside of quartile three. Doing so sets a clear boundary for us to identify any major outliers to cap.

For example, for the cash ratio:

Inner Quartile Range (IQR) = Quartile 3 – Quartile 1
Cash ratio IQR = 3.13 – 0.96
Cash ratio IQR = 2.17

Upper boundary = Q3 + (IQR × 3)
Upper boundary for cash ratio = 3.13 + (2.16 × 3)
Upper boundary for cash ratio = 9.61

The only state with a cash ratio above 9.61 is Alaska, with a value of 24.69. We replace Alaska's value of 24.69 with 9.61. We repeat this process for the quick and current ratios to get upper boundaries of 12.52 and 12.18, respectively.

To illustrate how a ranking is calculated from the individual indicators, table A2 uses Alabama's financials to calculate the cash solvency index score for that state. The financial data are expressed in thousands.

cash solvency index score = σ
(z-scores for cash ratio, quick ratio, current ratio)

1. Calculate Each Ratio

Cash ratio = (cash + cash equivalents + investments)/current liabilities
Alabama cash ratio = $7,765,455/$1,880,469
Alabama cash ratio = 4.13
Interpretation: Alabama has 4.13 times the amount of cash needed to cover its current liabilities. "Cash" includes the most liquid items, such as petty cash and deposits, and excludes items that may take longer to convert to cash. Cash is all the money available to pay bills immediately.

Quick ratio = (cash + cash equivalents + investments + receivables)/current liabilities
Alabama quick ratio = $8,978,205/$1,880,469
Alabama quick ratio = 4.77
Interpretation: Alabama has 4.77 times the amount of cash it needs to cover current liabilities. This ratio also includes less liquid forms of cash, such as investments that expire in one year and receivables or obligations owed to the government.

Current ratio = current assets/current liabilities
Alabama current ratio = $10,408,032/$1,880,469
Alabama current ratio = 5.53
Interpretation: The current ratio includes all the elements of the cash and current ratios plus internal balances and government-wide inventories. Alabama has 5.53 times the level of assets it needs to cover current liabilities.

These three metrics form the components of the cash solvency index score. Owing to wide variations in the size of individual states' financials, each of these metrics is put on the same scale so that fiscal performance across states may be meaningfully compared. To do this, the z-score of each indicator is calculated. The z-score, also known as a standard score, measures how far away the value for one state's indicator is from that indicator's mean value for all 50 states. The z-score is calculated by subtracting the mean of the population from the value of the indicator and dividing by the standard deviation of the population. The formula is as follows:

Table A1 indicates what various z-score values represent.

The z-scores for each indicator are grouped and summed according to the dimension of solvency being measured.

TABLE A1. MEANING OF Z-SCORE VALUES

Z-score	Interpretation
0	Value is equal to the mean
< 0	Value is less than the mean
> 0	Value is greater than the mean
1	Value is 1 standard deviation greater than the mean
−1	Value is 1 standard deviation less than the mean
2	Value is 2 standard deviations greater than the mean
−2	Value is 2 standard deviations less than the mean

Continuing with the example, we calculate Alabama's cash solvency index score by standardizing each of the previous indicators (cash ratio, quick ratio, and current ratio) based on the mean and standard deviation for the 50 states for those ratios.

2. Calculate the Z-Score for the Cash Ratio, Given the Following

Mean value for the cash ratio for the 50 states (after capping outliers) = 2.38
Standard deviation for the cash ratio for the 50 states (after capping outliers) = 2.00
Alabama cash ratio = 4.13

$$\text{Z cash ratio} = \frac{X - \mu}{\sigma}$$

$$\text{Z cash ratio} = \frac{4.13 - 2.38}{2.00}$$

$$\text{Z cash ratio} = 0.875$$

3. Calculate the Z-Score for the Quick Ratio, Given the Following

Mean value for the quick ratio for the 50 states (after capping outliers) = 3.41
Standard deviation for the quick ratio for the 50 states (after capping outliers) = 2.56
Alabama quick ratio = 4.77

$$\text{Z quick ratio} = \frac{X - \mu}{\sigma}$$

$$\text{Z quick ratio} = \frac{4.77 - 3.41}{2.56}$$

$$\text{Z quick ratio} = 0.533$$

(Variance in numbers given here is accounted for by rounding.)

4. Calculate the Z-Score for the Current Ratio, Given the Following

Mean value for the current ratio for the 50 states (after capping outliers) = 3.66
Standard deviation for the current ratio for the 50 states (after capping outliers) = 2.50
Alabama current ratio = 5.53

$$\text{Z current ratio} = \frac{X - \mu}{\sigma}$$

$$\text{Z current ratio} = \frac{5.53 - 3.66}{2.50}$$

$$\text{Z current ratio} = 0.748$$

5. Calculate the Cash Solvency Score, or Rank

$$\sum (Z \text{ cash ratio}, Z \text{ quick ratio}, Z \text{ current ratio})$$
$$= \sum (0.875, 0.533, 0.748)$$
$$= 2.156$$

Alabama's cash solvency score is two standard deviations above the mean value for the 50 states. Alabama is ranked 9th among the states for cash solvency.

The other four dimensions of solvency are computed accordingly:

budget solvency index = sum of z-scores for (operating ratio + surplus/deficit per capita)
long-run solvency index = sum of z-scores for (net asset ratio + inverse of long-term liability ratio + inverse of long-term liability per capita)
service-level solvency index = sum of z-scores for (inverse of tax income ratio + inverse of revenue income ratio + inverse of expenses income ratio)
trust fund solvency index = sum of z-scores for (inverse of pension income ratio + inverse of OPEB income ratio)

To arrive at an overall final ranking that aggregates each dimension of solvency, the ranking for each dimension of solvency is assigned a weight. Cash solvency and budget solvency are each assigned a weight of 35 percent. Long-run solvency, service-level solvency, and trust fund solvency are each assigned a weight of 10 percent.

These weights are selected based on the budgetary immediacy of each dimension. Changing the weights would change the ranking of the states. This

TABLE A2. ALABAMA'S FIVE INDEX SCORES AND CALCULATION OF OVERALL SOLVENCY (FISCAL YEAR 2015)

State	Cash solvency score (0.35)	Budget solvency score (0.35)	Long-run solvency score (0.10)	Service-level solvency score (0.10)	Trust fund solvency score (0.10)	Overall solvency (sum of five solvency scores)
Alabama	2.16	–0.62	0.08	0.84	–0.70	1.76
Score multiplied by weight	0.76	–0.22	0.01	0.08	–0.07	0.56

study gives more weight to the short term and medium term rather than the long term, which includes total pension and health care obligations. States' ability to meet these obligations depends on unknowns, such as future budget and legal, fiscal, and economic circumstances. After applying these weights, the final overall solvency score is assigned to each state. As table A2 shows for Alabama, summing each individual solvency score and multiplying it by the assigned weight yields a final overall solvency score of 0.56, meaning Alabama's overall solvency is slightly above the mean for the population of states. Alabama is ranked 12th for overall fiscal solvency.

APPENDIX B. DATA TABLES

TABLE B1. COMPONENTS OF CASH SOLVENCY: CASH, QUICK, AND CURRENT RATIOS FOR THE STATES (FISCAL YEAR 2015)

State	Cash ratio	Quick ratio	Current ratio	State	Cash ratio	Quick ratio	Current ratio
Alabama	4.13	4.77	5.53	Montana	4.85	5.79	6.31
Alaska[a]	24.69	25.13	25.72	Nebraska	3.59	4.66	4.77
Arizona	0.96	1.23	1.42	Nevada	1.98	3.35	3.39
Arkansas	3.07	3.79	3.98	New Hampshire	0.62	1.36	2.51
California	0.75	1.12	1.54	New Jersey	0.84	2.10	2.11
Colorado	1.25	1.76	2.02	New Mexico	1.46	1.99	2.41
Connecticut	0.44	1.04	1.11	New York	0.79	1.75	1.76
Delaware	2.30	3.32	3.36	North Carolina	1.28	2.26	2.46
Florida	8.19	9.99	10.01	North Dakota	4.91	7.43	7.48
Georgia	1.86	2.86	2.96	Ohio	4.03	5.07	5.42
Hawaii	2.64	3.52	3.72	Oklahoma	3.14	3.77	3.83
Idaho	3.84	4.89	5.47	Oregon	2.71	3.35	3.59
Illinois	0.52	0.96	1.34	Pennsylvania	0.71	1.07	1.36
Indiana	1.76	2.55	3.06	Rhode Island	0.78	1.46	1.87
Iowa	1.41	2.34	2.44	South Carolina	2.26	3.04	3.32
Kansas	1.22	2.32	2.35	South Dakota	6.14	8.36	8.51
Kentucky	0.84	1.76	2.23	Tennessee	3.72	5.21	5.29
Louisiana	1.62	2.19	2.81	Texas	1.48	1.99	2.31
Maine	0.61	1.29	1.95	Utah	4.05	9.77	10.07
Maryland	0.55	1.33	1.48	Vermont	1.28	2.18	2.22
Massachusetts	0.45	1.10	1.11	Virginia	1.68	2.39	2.46
Michigan	1.01	1.71	2.28	Washington	1.73	2.88	3.59
Minnesota	2.04	2.71	2.73	West Virginia	1.45	1.72	1.95
Mississippi	2.20	2.52	2.80	Wisconsin	0.97	1.91	1.96
Missouri	2.63	5.17	5.22	Wyoming	6.44	6.88	7.13

(a) This table lists the underlying cash metrics for each state. As a result, it reflects Alaska's values before they are capped. After transforming the data to cap outliers, Alaska's cash, quick, and current ratios become 9.61, 12.52, and 12.18, respectively.

TABLE B2. COMPONENTS OF BUDGET SOLVENCY: OPERATING RATIO AND SURPLUS OR DEFICIT PER CAPITA (FISCAL YEAR 2015)

State	Operating ratio	Surplus or deficit per capita ($)	State	Operating ratio	Surplus or deficit per capita ($)
Alabama	1.00	1.36	Montana	1.08	425.21
Alaska	0.67	−5,733.82	Nebraska	1.03	158.25
Arizona	1.05	245.33	Nevada	1.06	203.89
Arkansas	1.04	287.48	New Hampshire	1.01	46.61
California	1.06	403.40	New Jersey	0.91	−677.88
Colorado	1.03	145.05	New Mexico	1.04	382.72
Connecticut	1.11	783.91	New York	1.04	319.62
Delaware	1.01	58.03	North Carolina	1.12	492.64
Florida	1.07	278.56	North Dakota	1.27	2,810.21
Georgia	1.05	209.26	Ohio	1.01	86.98
Hawaii	1.02	169.88	Oklahoma	1.07	337.72
Idaho	1.10	467.22	Oregon	1.08	−9.14
Illinois	0.96	−27.65	Pennsylvania	1.02	110.52
Indiana	1.06	285.12	Rhode Island	1.06	447.73
Iowa	1.03	178.76	South Carolina	1.05	227.76
Kansas	0.98	−75.72	South Dakota	1.04	647.01
Kentucky	1.02	122.13	Tennessee	1.05	212.61
Louisiana	0.94	−0.33	Texas	1.03	166.97
Maine	1.06	367.64	Utah	1.13	481.03
Maryland	1.01	88.21	Vermont	1.04	358.13
Massachusetts	0.96	−319.43	Virginia	1.03	139.69
Michigan	1.02	137.77	Washington	1.01	42.08
Minnesota	1.05	364.69	West Virginia	1.03	220.85
Mississippi	1.02	134.67	Wisconsin	1.04	226.99
Missouri	1.05	211.42	Wyoming	1.11	857.98

TABLE B3. COMPONENTS OF LONG-RUN SOLVENCY: NET ASSET RATIO, LONG-TERM LIABILITY RATIO, AND LONG-TERM LIABILITIES PER CAPITA (FISCAL YEAR 2015)

State	Net asset ratio	Long-term liability ratio	Long-term liability per capita ($)	State	Net asset ratio	Long-term liability ratio	Long-term liability per capita ($)
Alabama	–0.02	0.32	2,137	Montana	0.22	0.21	2,336
Alaska	0.78	0.10	11,473	Nebraska	0.28	0.05	379
Arizona	0.06	0.36	2,267	Nevada	–0.04	0.47	1,967
Arkansas	0.10	0.33	2,772	New Hampshire	–0.09	0.54	2,529
California	–0.62	0.93	5,476	New Jersey	–2.92	3.60	16,821
Colorado	0.01	0.46	3,043	New Mexico	0.53	0.20	3,551
Connecticut	–1.69	2.21	15,937	New York	–0.24	0.56	4,355
Delaware	–0.14	0.58	7,018	North Carolina	0.03	0.17	1,028
Florida	0.10	0.34	2,303	North Dakota	0.58	0.13	4,418
Georgia	–0.06	0.48	2,220	Ohio	0.07	0.55	3,620
Hawaii	–0.19	0.87	11,779	Oklahoma	0.36	0.10	610
Idaho	0.36	0.12	1,114	Oregon	0.13	0.39	3,112
Illinois	–2.77	3.17	12,118	Pennsylvania	–0.27	0.59	2,922
Indiana	–0.11	0.47	1,971	Rhode Island	–0.53	0.89	5,377
Iowa	0.17	0.21	1,592	South Carolina	0.13	0.28	1,509
Kansas	0.00	0.35	2,128	South Dakota	0.34	0.10	803
Kentucky	–1.16	1.33	9,249	Tennessee	0.12	0.10	585
Louisiana	–0.20	0.65	4,197	Texas	0.24	0.33	3,259
Maine	–0.26	0.52	2,542	Utah	0.26	0.23	2,336
Maryland	–0.50	0.94	6,554	Vermont	–0.28	0.62	4,282
Massachusetts	–1.84	2.39	9,919	Virginia	–0.06	0.34	1,752
Michigan	–0.08	0.43	1,790	Washington	0.00	0.68	8,445
Minnesota	0.05	0.35	2,333	West Virginia	–0.13	0.43	4,223
Mississippi	–0.06	0.36	2,799	Wisconsin	–0.02	0.36	2,693
Missouri	–0.02	0.27	1,816	Wyoming	0.72	0.10	4,136

TABLE B4. COMPONENTS OF SERVICE-LEVEL SOLVENCY: TAXES, REVENUES, AND EXPENSES TO TOTAL STATE PERSONAL INCOME (FISCAL YEAR 2015)

State	Taxes/ personal income	Revenues/ personal income	Expenses/ personal income	State	Taxes/ personal income	Revenues/ personal income	Expenses/ personal income
Alabama	0.05	0.12	0.12	Montana	0.06	0.14	0.13
Alaska	0.01	0.21	0.31	Nebraska	0.05	0.09	0.09
Arizona	0.05	0.13	0.12	Nevada	0.04	0.08	0.08
Arkansas	0.07	0.18	0.17	New Hampshire	0.03	0.09	0.09
California	0.07	0.13	0.13	New Jersey	0.06	0.11	0.12
Colorado	0.04	0.11	0.11	New Mexico	0.08	0.24	0.23
Connecticut	0.06	0.12	0.11	New York	0.06	0.14	0.14
Delaware	0.09	0.18	0.18	North Carolina	0.06	0.12	0.10
Florida	0.04	0.09	0.09	North Dakota	0.13	0.24	0.19
Georgia	0.05	0.12	0.11	Ohio	0.05	0.12	0.12
Hawaii	0.09	0.16	0.15	Oklahoma	0.05	0.11	0.10
Idaho	0.06	0.14	0.13	Oregon	0.06	0.15	0.14
Illinois	0.06	0.11	0.12	Pennsylvania	0.06	0.12	0.12
Indiana	0.06	0.12	0.11	Rhode Island	0.06	0.15	0.14
Iowa	0.05	0.15	0.15	South Carolina	0.05	0.13	0.12
Kansas	0.05	0.10	0.10	South Dakota	0.04	0.10	0.10
Kentucky	0.07	0.15	0.15	Tennessee	0.05	0.11	0.10
Louisiana	0.04	0.12	0.13	Texas	0.04	0.11	0.10
Maine	0.07	0.14	0.13	Utah	0.06	0.11	0.10
Maryland	0.06	0.11	0.11	Vermont	0.10	0.20	0.19
Massachusetts	0.06	0.13	0.14	Virginia	0.05	0.09	0.09
Michigan	0.06	0.13	0.13	Washington	0.05	0.13	0.13
Minnesota	0.08	0.14	0.13	West Virginia	0.08	0.18	0.17
Mississippi	0.07	0.16	0.16	Wisconsin	0.06	0.14	0.13
Missouri	0.04	0.10	0.10	Wyoming	0.08	0.16	0.14

TABLE B5. COMPONENTS OF TRUST FUND SOLVENCY: UNFUNDED PENSIONS AND OTHER POSTEMPLOYMENT BENEFITS AS A PERCENTAGE OF PERSONAL INCOME (FISCAL YEAR 2015)

State	Pensions/personal income	OPEB/personal income	State	Pensions/personal income	OPEB/personal income
Alabama	0.37	0.06	Montana	0.43	0.01
Alaska	0.73	0.09	Nebraska	0.18	n/a
Arizona	0.32	0.00	Nevada	0.54	0.01
Arkansas	0.33	0.02	New Hampshire	0.23	0.03
California	0.45	0.04	New Jersey	0.42	0.15
Colorado	0.34	0.01	New Mexico	0.64	0.04
Connecticut	0.39	0.09	New York	0.28	0.07
Delaware	0.22	0.13	North Carolina	0.22	0.07
Florida	0.22	0.02	North Dakota	0.24	0.00
Georgia	0.28	0.04	Ohio	0.62	0.03
Hawaii	0.49	0.13	Oklahoma	0.28	0.00
Idaho	0.25	0.00	Oregon	0.56	0.00
Illinois	0.54	0.08	Pennsylvania	0.32	0.03
Indiana	0.20	0.00	Rhode Island	0.33	0.01
Iowa	0.31	0.00	South Carolina	0.38	0.05
Kansas	0.29	0.00	South Dakota	0.25	n/a
Kentucky	0.53	0.03	Tennessee	0.16	0.01
Louisiana	0.42	0.04	Texas	0.27	0.06
Maine	0.30	0.03	Utah	0.30	0.00
Maryland	0.26	0.03	Vermont	0.27	0.07
Massachusetts	0.28	0.04	Virginia	0.23	0.01
Michigan	0.35	0.05	Washington	0.28	0.03
Minnesota	0.36	0.00	West Virginia	0.33	0.04
Mississippi	0.58	0.01	Wisconsin	0.18	0.00
Missouri	0.35	0.01	Wyoming	0.40	0.01

OPEB = other postemployment benefits.

TABLE B6. RANKING OF STATES BY FISCAL CONDITION — UNWEIGHTED RANKING (FISCAL YEAR 2015)

Rank	State	Fiscal condition index	Rank	State	Fiscal condition index
1.	Nebraska	3.27	26.	Iowa	–0.38
2.	Oklahoma	2.95	27.	Arizona	–0.38
3.	South Dakota	2.85	28.	Washington	–0.46
4.	Florida	2.71	29.	Oregon	–0.47
5.	Tennessee	2.29	30.	Minnesota	–0.48
6.	Utah	1.98	31.	Arkansas	–0.49
7.	North Dakota	1.83	32.	Michigan	–0.71
8.	Wyoming	1.24	33.	Maryland	–0.72
9.	Idaho	1.14	34.	Pennsylvania	–0.73
10.	Missouri	0.85	35.	Maine	–0.77
11.	North Carolina	0.75	36.	Louisiana	–0.87
12.	Nevada	0.72	37.	New York	–0.88
13.	Virginia	0.68	38.	Delaware	–0.90
14.	Montana	0.60	39.	Mississippi	–1.00
15.	New Hampshire	0.59	40.	Rhode Island	–1.05
16.	Alabama	0.35	41.	Hawaii	–1.05
17.	Indiana	0.32	42.	Connecticut	–1.13
18.	Alaska[a]	0.32	43.	California	–1.15
19.	Texas	0.17	44.	West Virginia	–1.21
20.	Georgia	0.07	45.	Vermont	–1.25
21.	South Carolina	0.00	46.	New Mexico	–1.32
22.	Ohio	–0.08	47.	Kentucky	–1.66
23.	Kansas	–0.12	48.	Massachusetts	–1.83
24.	Wisconsin	–0.19	49.	Illinois	–2.07
25.	Colorado	–0.21	50.	New Jersey	–2.14

Source: Authors' analysis of FY 2015 CAFRs for all 50 states.

Notes: The "unweighted" fiscal condition index is the sum of the subindexes with equal weights for each, as follows: (0.20 × cash solvency score) + (0.20 × budget solvency score) + (0.20 × long-run solvency score) + (0.20 × service-level solvency score) + (0.20 × trust fund solvency score).
(a) Indiana's unweighted fiscal condition score is 0.3237, and Alaska's is 0.3223. Indiana is ranked 17th, and Alaska is ranked 18th, though the rounded scores are the same.

TABLE B7. STATE DEBT (FISCAL YEAR 2015)

State	Total general obligation bonds ($ thousands)	Total primary government debt ($ thousands)	Personal income ($ thousands)	Ratio of debt to personal income	Total primary debt per capita ($)
Alabama	n/a	n/a	184,784,917	0.00	n/a
Alaska	656,599	1,874,621	41,312,407	0.05	2,538
Arizona	0	10,006,384	266,755,995	0.04	1,465
Arkansas	1,602,810	4,098,619	116,485,302	0.04	1,376
California	80,509,802	114,456,650	2,061,337,141	0.06	2,923
Colorado	0	6,429,751	275,107,294	0.02	1,178
Connecticut	16,402,537	22,404,499	240,519,358	0.09	6,238
Delaware	2,067,323	3,058,315	45,093,172	0.07	3,233
Florida	11,080,000	24,557,000	894,189,554	0.03	1,211
Georgia	9,367,381	14,095,984	414,274,158	0.03	1,380
Hawaii	5,963,928	8,112,352	68,373,394	0.12	5,666
Idaho	0	1,329,908	62,082,853	0.02	803
Illinois	27,421,318	32,537,089	636,280,652	0.05	2,530
Indiana	0	1,057,910	271,425,899	0.00	160
Iowa	0	3,679,039	140,500,814	0.03	1,178
Kansas	0	3,699,167	133,590,648	0.03	1,270
Kentucky	0	7,706,270	172,550,404	0.04	1,741
Louisiana	4,672,593	12,603,436	202,048,237	0.06	2,698
Maine	430,947	1,208,234	55,940,671	0.02	909
Maryland	8,677,214	17,549,780	337,174,077	0.05	2,921
Massachusetts	20,801,956	28,432,229	414,723,656	0.07	4,184
Michigan	1,734,000	7,099,000	421,043,532	0.02	715
Minnesota	6,885,776	9,106,240	277,482,539	0.03	1,659
Mississippi	4,381,327	5,528,472	106,074,837	0.05	1,847
Missouri	266,275	3,627,792	260,122,599	0.01	596
Montana	134,795	257,741	42,646,600	0.01	249
Nebraska	0	15,475	91,039,758	0.00	8
Nevada	1,607,930	3,513,195	121,973,291	0.03	1,215
New Hampshire	992,080	1,614,702	72,947,535	0.02	1,213
New Jersey	2,372,695	44,234,882	535,604,084	0.08	4,937
New Mexico	326,755	2,895,590	80,200,588	0.04	1,388
New York	3,189,000	57,390,000	1,142,485,112	0.05	2,899
North Carolina	3,469,220	8,496,607	408,364,221	0.02	846
North Dakota	0	1,725,459	41,165,870	0.04	2,279
Ohio	9,149,055	17,712,676	504,992,961	0.04	1,525
Oklahoma	107,395	2,223,048	173,186,712	0.01	568
Oregon	7,116,789	11,287,737	173,170,241	0.07	2,801
Pennsylvania	12,976,531	17,564,940	629,709,649	0.03	1,372

(*CONTINUED*)

State	Total general obligation bonds ($ thousands)	Total primary government debt ($ thousands)	Personal income ($ thousands)	Ratio of debt to personal income	Total primary debt per capita ($)
Rhode Island	1,022,895	2,625,036	52,905,465	0.05	2,485
South Carolina	1,126,138	3,108,192	186,285,746	0.02	635
South Dakota	0	555,504	38,637,376	0.01	647
Tennessee	1,960,437	2,178,722	277,706,507	0.01	330
Texas	18,132,000	46,970,000	1,284,262,294	0.04	1,710
Utah	2,950,000	5,930,000	116,992,288	0.05	1,979
Vermont	585,200	628,470	29,967,864	0.02	1,004
Virginia	675,371	7,135,834	437,111,414	0.02	851
Washington	19,872,000	24,819,000	366,789,878	0.07	3,461
West Virginia	412,368	2,084,960	68,328,638	0.03	1,130
Wisconsin	7,449,469	13,694,133	263,301,072	0.05	2,373
Wyoming	0	26,636	32,417,226	0.00	45

TABLE B8. PENSION LIABILITIES UNDER STATE DISCOUNT RATE ASSUMPTIONS (FISCAL YEAR 2015)

State (number of plans)	Assets ($ thousands)	Liabilities ($ thousands)	Unfunded liability ($ thousands)	Funded ratio (%)	Unfunded liability/ personal income (%)
Alabama (3)	31,201,904	46,398,986	15,197,083	67	8
Alaska (5)	14,533,857	20,653,185	6,119,327	70	15
Arizona (4)	41,217,599	59,207,616	17,990,017	70	7
Arkansas (6)	23,571,429	29,520,651	5,949,222	80	5
California (8)	532,954,124	716,564,170	183,610,047	74	9
Colorado (6)	41,333,244	66,980,815	25,647,571	62	9
Connecticut (5)	29,408,013	55,544,928	26,136,916	53	11
Delaware (7)	9,105,122	9,913,313	808,190	92	2
Florida (1)	143,195,531	165,548,928	22,353,397	86	2
Georgia (7)	76,724,022	95,174,089	18,450,067	81	4
Hawaii (2)	14,463,670	23,238,395	8,774,725	62	13
Idaho (3)	14,393,568	15,887,880	1,494,312	91	2
Illinois (6)	114,023,112	230,514,913	116,491,801	49	18
Indiana (8)	30,322,475	46,268,666	15,946,191	66	6
Iowa (4)	30,703,877	36,860,891	6,157,014	83	4
Kansas (3)	17,408,578	25,947,781	8,539,203	67	6
Kentucky (4)	29,330,864	60,006,702	30,675,839	49	18
Louisiana (10)	38,666,600	59,564,792	20,898,192	65	10
Maine (4)	12,876,269	15,403,693	2,527,424	84	5
Maryland (8)	46,170,624	66,281,781	20,111,157	70	6
Massachusetts (2)	46,666,919	77,794,919	31,128,000	60	8
Michigan (6)	59,642,490	95,641,291	35,998,801	62	9
Minnesota (9)	58,136,807	73,675,696	15,538,889	79	6
Mississippi (4)	24,882,024	41,205,125	16,323,101	60	15
Missouri (7)	55,267,624	68,069,869	12,802,246	81	5
Montana (9)	9,875,615	13,570,989	3,695,374	73	9
Nebraska (5)	11,645,457	12,939,940	1,294,484	90	1
Nevada (1)	33,717,900	46,070,100	12,352,200	73	10
New Hampshire (2)	7,321,898	12,384,349	5,062,451	59	7
New Jersey (7)	86,918,342	145,849,865	58,931,523	60	11
New Mexico (6)	25,766,795	37,065,300	11,298,506	70	14
New York (3)	303,820,800	309,920,800	6,100,000	98	1
North Carolina (7)	88,518,068	91,617,821	3,099,753	97	1
North Dakota (4)	4,341,727	6,646,147	2,304,420	65	6
Ohio (4)	172,236,291	227,414,329	55,178,038	76	11
Oklahoma (6)	27,805,606	36,595,067	8,789,462	76	5
Oregon (2)	55,638,800	73,398,800	17,760,000	76	10
Pennsylvania (3)	86,320,167	143,093,594	56,773,427	60	9
Rhode Island (5)	7,843,106	12,651,639	4,808,533	62	9

(CONTINUED)

State (number of plans)	Assets ($ thousands)	Liabilities ($ thousands)	Unfunded liability ($ thousands)	Funded ratio (%)	Unfunded liability/ personal income (%)
South Carolina (5)	31,853,737	50,687,596	18,833,859	63	10
South Dakota (1)	10,352,405	10,352,405	0	100	0
Tennessee (1)	42,905,200	43,407,300	502,100	99	0
Texas (8)	210,447,304	259,440,230	48,992,926	81	4
Utah (8)	27,124,095	31,140,335	4,016,240	87	3
Vermont (3)	3,728,979	5,526,982	1,798,002	67	6
Virginia (6)	64,392,482	88,268,952	23,876,470	73	5
Washington (11)	71,466,000	83,583,300	12,117,300	86	3
West Virginia (8)	11,397,709	16,949,245	5,551,536	67	8
Wisconsin (1)	91,502,400	91,526,500	24,100	100	0
Wyoming (9)	7,863,264	9,956,013	2,092,749	79	6
TOTAL	3,031,004,491	4,061,926,673	1,030,922,182		

Source: Governmental Accounting Standards Board, "Statement No. 27 of the Governmental Accounting Standards Board: Accounting for Pensions by State and Local Governmental Employers" (No. 116-C, Governmental Accounting Standard Series, November 1994).

TABLE B9. PENSION LIABILITIES DISCOUNTED USING RISK-FREE DISCOUNT RATE (FISCAL YEAR 2015)

State (number of plans)	Market value of liability (MVL) ($ thousands)	Market value of unfunded liability ($ thousands)	Funded ratio (%)	Unfunded liability/ personal income (%)
Alabama (3)	100,297,331	69,095,427	31	37
Alaska (5)	44,613,787	30,079,930	33	73
Arizona (4)	126,806,203	85,588,604	33	32
Arkansas (6)	62,279,461	38,708,032	38	33
California (8)	1,458,647,984	925,693,860	37	45
Colorado (6)	135,052,287	93,719,043	31	34
Connecticut (5)	124,153,601	94,745,588	24	39
Delaware (7)	19,167,485	10,062,363	48	22
Florida (1)	340,848,540	197,653,009	42	22
Georgia (7)	191,543,911	114,819,889	40	28
Hawaii (2)	47,845,511	33,381,841	30	49
Idaho (3)	29,870,822	15,477,254	48	25
Illinois (6)	458,869,056	344,845,943	25	54
Indiana (8)	83,990,427	53,667,952	36	20
Iowa (4)	74,399,698	43,695,821	41	31
Kansas (3)	56,089,440	38,680,862	31	29
Kentucky (4)	120,854,908	91,524,044	24	53
Louisiana (10)	122,521,681	83,855,081	32	42
Maine (4)	29,472,158	16,595,888	44	30
Maryland (8)	134,578,270	88,407,646	34	26
Massachusetts (2)	162,418,303	115,751,384	29	28
Michigan (6)	206,686,591	147,044,101	29	35
Minnesota (9)	158,079,492	100,114,154	37	36
Mississippi (4)	86,027,038	61,145,014	29	58
Missouri (7)	145,872,811	90,605,187	38	35
Montana (9)	28,333,175	18,457,560	35	43
Nebraska (5)	27,853,861	16,208,404	42	18
Nevada (1)	99,586,402	65,868,502	34	54
New Hampshire (2)	24,124,689	16,802,791	30	23
New Jersey (7)	310,914,682	223,996,340	28	42
New Mexico (6)	77,384,015	51,617,220	33	64
New York (3)	624,888,081	321,067,281	49	28
North Carolina (7)	178,378,533	89,860,465	50	22
North Dakota (4)	14,093,798	9,752,071	31	24
Ohio (4)	484,333,882	312,097,591	36	62
Oklahoma (6)	76,793,577	48,987,971	36	28
Oregon (2)	153,240,195	97,601,395	36	56
Pennsylvania (3)	287,493,913	201,173,746	30	32

(*CONTINUED*)

State (number of plans)	Market value of liability (MVL) ($ thousands)	Market value of unfunded liability ($ thousands)	Funded ratio (%)	Unfunded liability/ personal income (%)
Rhode Island (5)	25,509,286	17,666,180	31	33
South Carolina (5)	102,200,545	70,346,808	31	38
South Dakota (1)	20,156,973	9,804,568	51	25
Tennessee (1)	87,521,407	44,616,207	49	16
Texas (8)	552,512,472	342,065,168	38	27
Utah (8)	62,787,732	35,663,637	43	30
Vermont (3)	11,864,577	8,135,598	31	27
Virginia (6)	165,954,559	101,562,077	39	23
Washington (11)	174,866,258	103,400,258	41	28
West Virginia (8)	34,174,477	22,776,768	33	33
Wisconsin (1)	139,238,169	47,735,769	66	18
Wyoming (9)	20,785,917	12,922,653	38	40
TOTAL	8,305,977,967	5,275,144,945		

TABLE B10. OTHER POSTEMPLOYMENT BENEFITS: RETIREE HEALTH BENEFITS (FISCAL YEAR 2015)

State	Total unfunded OPEB liability	Funded ratio	OPEB/ personal income	State	Total unfunded OPEB liability	Funded ratio	OPEB/ personal income
Alabama	11,638,490	10	6	Montana	466,986	0	1
Alaska	3,665,518	73	9	Nebraska	n/a	n/a	n/a
Arizona	116,632	94	0	Nevada	1,270,691	0	1
Arkansas	1,899,842	0	2	New Hampshire	2,138,000	0	3
California	73,200,000	1	4	New Jersey	81,454,700	0	15
Colorado	1,829,962	16	1	New Mexico	3,363,280	10	4
Connecticut	21,975,514	1	9	New York	78,781,031	0	7
Delaware	6,009,000	5	13	North Carolina	26,666,987	5	7
Florida	15,443,494	0	2	North Dakota	5,532	0	0
Georgia	16,319,720	7	4	Ohio	15,330,801	53	3
Hawaii	9,065,926	2	13	Oklahoma	4,817	0	0
Idaho	107,855	22	0	Oregon	135,800	75	0
Illinois	52,430,751	0	8	Pennsylvania	20,588,980	1	3
Indiana	299,404	25	0	Rhode Island	714,139	8	1
Iowa	630,200	0	0	South Carolina	9,339,497	8	5
Kansas	213,937	0	0	South Dakota	n/a	n/a	n/a
Kentucky	5,931,474	46	3	Tennessee	1,442,208	0	1
Louisiana	7,355,687	0	4	Texas	79,341,351	1	6
Maine	1,796,055	7	3	Utah	184,231	54	0
Maryland	9,359,278	3	3	Vermont	2,096,212	0	7
Massachusetts	15,892,800	4	4	Virginia	5,101,000	23	1
Michigan	19,598,865	17	5	Washington	10,878,616	0	3
Minnesota	666,638	0	0	West Virginia	2,734,642	20	4
Mississippi	732,127	0	1	Wisconsin	892,844	0	0
Missouri	3,332,002	4	1	Wyoming	243,728	0	1

OPEB = other postemployment benefits.

TABLE B11. PENSION PLANS (FISCAL YEAR 2015)

State	Plan
Alabama	Employees' Retirement System of Alabama Teachers' Retirement System of Alabama Judicial Retirement Fund
Alaska	Public Employees' Retirement System Teachers' Retirement System Judicial Retirement System National Guard and Naval Militia Retirement System Elected Public Officers Retirement System
Arizona	Arizona State Retirement System Public Safety Personnel Retirement Systems Corrections Officer Retirement Plan Elected Officials' Retirement Plan
Arkansas	Arkansas Public Employees' Retirement System Arkansas District Judges' Retirement System Arkansas Teacher Retirement System Arkansas State Police Retirement System Arkansas Judicial Retirement System Arkansas State Highway Employees' Retirement System
California	Public Employees' Retirement Fund Legislators' Retirement Fund Judges' Retirement Fund Judges' Retirement Fund II California State Teachers' Retirement System - DB Plan California State Teachers' Retirement System - Cash Balance Plan California State Teachers' Retirement System - DB Supplement University of California Retirement Plan
Colorado	Fire and Police Pension Association Fire and Police Pension Association - Hybrid Plan The State Division Trust Fund The School Division Trust Fund The Local Government Division Trust Fund The Judicial Division Trust Fund
Connecticut	State Employees' Retirement System Teachers' Retirement System Judges, Family Support Magistrates Municipal Employees' Retirement System Probate Judges' and Employees' Retirement System
Delaware	State Employees' Plan New State Police Plan Revised Judicial Plan Diamond State Port Corporation Plans Volunteer Fireman Pension Plans County and Municipal Plan - General County and Municipal Plan - Police and Firefighter
Florida	Florida Retirement System
Georgia	Employees' Retirement System of Georgia Public School Employees' Retirement System Legislative Retirement System Georgia Judicial Retirement System Georgia Military Pension Fund Teachers' Retirement System Firefighters' Pension Fund
Hawaii	Employees' Retirement System Police and Firefighters

State	Plan
Idaho	Public Employee Retirement System of Idaho Firefighters' Retirement Fund Judges' Retirement Fund
Illinois	State Employees' Retirement System Judges' Retirement System General Assembly Retirement System Teachers' Retirement System State Universities Retirement System Illinois Municipal Retirement System
Indiana	Public Employees' Retirement Fund Teachers' Retirement Fund 1977 Police Officers' and Firefighters' Pension and Disability Fund Judges' Retirement System State Excise Police, Gaming Agent, Gaming Control Officer, and Conservation Enforcement Officers' Retirement Plan Prosecuting Attorneys' Retirement Fund Legislators' Retirement System
Iowa	Iowa Public Employees' Retirement System Judicial Retirement Fund Peace Officers' Retirement, Accident, and Disability System Municipal Fire and Police Retirement System
Kansas	Kansas Public Employees' Retirement System Kansas Police and Firemen's Retirement System Kansas Retirement System for Judges
Kentucky	Kentucky Employees' Retirement System Teachers' Retirement System Judicial Retirement Plan Legislative Retirement Plan
Louisiana	Firefighters' Retirement System Louisiana State Employees' Retirement System Teachers' Retirement System of Louisiana Louisiana School Employees' Retirement System Louisiana State Police Retirement System
Maine	Maine Public Employees' Retirement System Maine Judicial Retirement Program Maine Legislative Retirement Program Maine Public Employees' Retirement System Consolidated Plan for Participating Local Districts
Maryland	Teachers' Retirement System Employees' Retirement System State Police Retirement System Judges' Retirement System Law Enforcement Officers' Pension System Correctional Officers' Retirement System Employees' Retirement System - Municipal Law Enforcement Officers' Pension System - Municipal
Massachusetts	State Employees' Retirement System Massachusetts Retirement System
Michigan	Legislative Retirement System State Police Retirement System State Employees' Retirement System Public School Employees' Retirement System Judges' Retirement System Municipal Employees' Retirement System of Michigan

State	Plan
Minnesota	State Employees' Retirement Fund State Patrol Retirement Fund Correctional Employees' Retirement Fund Statewide "specialty" retirement plans (judges, elected officials, and legislators) General Employees' Retirement Fund Public Employees' Police and Fire Fund Public Employees' Correctional Fund Municipal Employees' Retirement Fund Teachers' Retirement Association
Mississippi	Public Employees' Retirement System Mississippi Highway Safety Patrol Retirement System Municipal Retirement System Supplemental Legislative Retirement System
Missouri	Missouri State Employees' Plan Judicial Plan Missouri Department of Transportation and Highway Patrol Employees' Retirement System University of Missouri Retirement Plan Public School Retirement System Public Education Employee Retirement System
Montana	Public Employees' Retirement System Firefighters' United Retirement System Sheriffs' Retirement System Highway Patrol Officers' Retirement System Game Wardens' & Peace Officers' Retirement System Judges' Retirement System Montana Municipal Police Officers' Retirement System Volunteer Firefighters' Compensation System Teachers' Retirement System
Nebraska	Nebraska School Employees' Retirement System Nebraska Judges' Retirement System Nebraska State Patrol Retirement System State Employees' Retirement Benefit Fund County Employees' Retirement System
Nevada	Public Employees' Retirement System
New Hampshire	New Hampshire Retirement System Judicial Retirement Plan
New Jersey	Public Employees' Retirement System (State) Public Employees' Retirement System (Local) Teachers' Pension and Annuity Fund State Police Retirement System Judicial Retirement System Police and Firemen's Retirement System (State) Police and Firemen's Retirement System (Local)
New Mexico	Public Employees' Retirement Fund Legislative Retirement Fund Judicial Retirement Fund Magistrate Retirement Fund Volunteer Firefighters' Retirement Fund Educational Retirement Board
New York	Employees' Retirement System Police and Fire Retirement System Teachers' Retirement System

State	Plan
North Carolina	Teachers' and State Employees' Retirement System Consolidated Judicial Retirement System Legislative Retirement System Local Government Employees' Retirement System Firefighters' and Rescue Squad Workers' Pension Fund Registers of Deeds' Supplemental Pension Fund National Guard Pension Fund
North Dakota	Public Employees' Retirement System Highway Patrolmen's Retirement System Retirement Plan for Employees of Job Service North Dakota Teachers' Fund for Retirement
Ohio	Ohio Public Employees Retirement System School Employees' Retirement System State Teachers' Retirement System Police and Fire Pension Fund
Oklahoma	Oklahoma Public Employees' Retirement System Teachers' Retirement System of Oklahoma Uniform Retirement System for Justices and Judges Oklahoma Firefighters' Pension and Retirement System Oklahoma Police Pension and Retirement System Oklahoma Law Enforcement Retirement System
Oregon	Public Employees' Retirement System
Pennsylvania	State Employees' Retirement System Public School Employees' Retirement System Municipal Retirement System
Puerto Rico	Government Employees' Retirement System Teachers' Retirement System Judiciary Retirement System
Rhode Island	Employees' Retirement System of Rhode Island Teachers' Retirement System Municipal Employees' Retirement System Judicial Retirement Board Trust State Police Retirement Board Trust
South Carolina	South Carolina Retirement System Police Officers' Retirement System General Assembly Retirement System Judges' and Solicitors' Retirement System National Guard Retirement System
South Dakota	South Dakota Retirement System
Tennessee	Tennessee Consolidated Retirement System
Texas	Employees' Retirement System Law Enforcement and Custodial Officer Supplemental Retirement Fund Judicial Retirement System I Judicial Retirement System II Teacher Retirement System Municipal Retirement System County and District Retirement System Emergency Services Retirement System

State	Plan
Utah	Noncontributory Retirement System Contributory Retirement System Public Safety Retirement System Firefighters' Retirement System Judges' Retirement System Utah Governors' and Legislators' Retirement Plan Tier 2 Public Employees' Retirement System (Tier 2 PERS) Tier 2 Public Safety and Firefighters' Retirement System (Tier 2 PSFRS)
Vermont	State Employees' Retirement System State Teachers' Retirement System Municipal Employees' Retirement System
Virginia	Virginia Retirement System State Police Officers' Retirement System Virginia Law Officers' Retirement System Judicial Retirement System Political Subdivisions State Employees – Teachers
Washington	Public Employees' Retirement System Plan 1 Public Employees' Retirement System Plan 2/3 Teachers' Retirement System Plan 1 Teachers' Retirement System Plan 2/3 School Employees' Retirement System Law Enforcement Officers' and Fire Fighters' Retirement Plan 1 Law Enforcement Officers' and Fire Fighters' Retirement Plan 2 Washington State Patrol Retirement System Public Safety Employees' Retirement System Judicial Retirement System Judges' Retirement Fund
West Virginia	Public Employees' Retirement System Deputy Sheriff Retirement System Emergency Medical Services Retirement System Municipal Police Officers' and Firefighters' Retirement System Teachers' Retirement System Public Safety Death, Disability, and Retirement Fund State Police Retirement System Judges' Retirement System
Wisconsin	Wisconsin Retirement System
Wyoming	Public Employees' Pension Plan State Patrol, Game and Fish Warden, and Criminal Investigator Plan Volunteer Firefighters' Pension Plan Paid Firemen's Pension Plan A Paid Firemen's Pension Plan B Judicial Pension Plan Law Enforcement Pension Plan Volunteer Emergency Medical Technician Pension Plan Air Guard Firefighters' Pension Plan

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