

REPORTING ON THE FINANCIAL CONDITION OF THE STATES: 2002-2010

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ABSTRACT. The Governmental Accounting Standards Board (GASB) set forth a new model for financial reporting for state and local governments when it issued Statement No. 34 in 1999. Under the new financial reporting model, state and local governments are now required to develop financial statements that report on the operating activities and financial position of the government as a whole. This study provides a review of the financial health of state governments in the period before, during, and after the Great Recession. Virtually every state reported revenue losses and an operating deficit in 2009. 41 states continued to report an operating deficit in 2010. For a vast majority of the states, their 2010 general revenues were still below 2008 levels. Smaller governments (e.g., Alaska, Wyoming, and North Dakota) reported robust operating and financial positions. This is partially attributable to their natural resource base. Larger governments (e.g., California, Connecticut, Hawaii, Illinois, Massachusetts, and New Jersey) consistently reported weaker operating and financial positions.

INTRODUCTION

The Governmental Accounting Standards Board (GASB) set forth a new model for financial reporting for state and local governments when it issued Statement No. 34, *Basic Financial Statements – and Management’s Discussion and Analysis – for State and Local Governments* in 1999. States and local governments are now

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required to develop government-wide financial statements and report on the operating activities and financial position of the government as a whole. This paper uses the GASB-34 financial statements to report on the operating activities and financial position of the state governments from 2002 through 2010. This is an especially critical period, as states recover from the worst recession since the Great Depression. This study finds states reporting their strongest operating and financial positions in 2004 through 2007. States reported their worst operating and financial positions in 2009 through 2010. Smaller governments reported robust operating and financial positions in large part due to their rich natural resource base. Some of the larger governments e.g., California, Connecticut, Hawaii, Illinois, Massachusetts, and New Jersey reported deficits often (at least six out of the nine years). Their anemic operating position subsequently led to rating downgrades in 2010. States maintained a strong liquidity position, albeit weakened in the post-recessionary period. Their long-term debt levels were also at sustainable levels as well.

This study begins with a brief overview of the financial crisis and its impact on state government revenues. It continues with a review of the current financial reporting model and presents a set of financial condition indicators for the 50 states for the nine-year period. Because the mean (and median) is reported for each indicator on an annual basis and for each state for the nine-year period, one can compare the financial performance of an individual state to another state and to the sector as a whole.

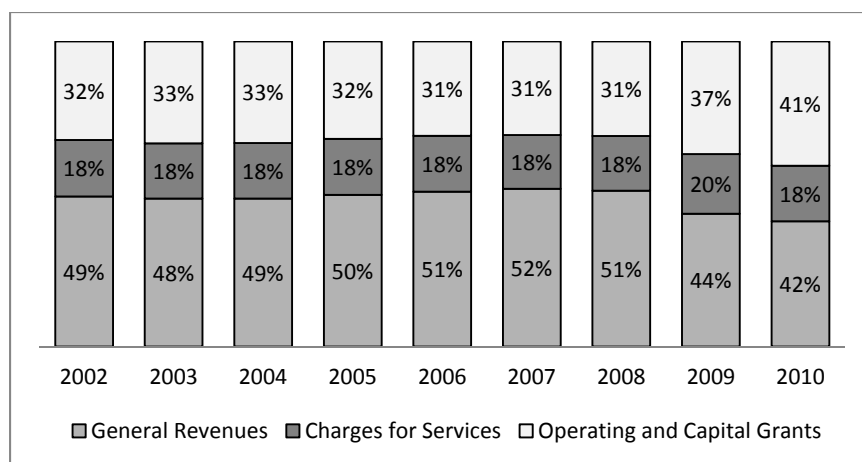
IMPACT OF THE GREAT RECESSION ON GOVERNMENT REVENUES

The subprime mortgage crisis was one of the first indicators of the imminent recession. Home values peaked in mid-2006, and after a brief rise in interest rates, home values began to free fall. By 2008, foreclosures were endemic and the U.S. economy was in the midst of a financial crisis. By mid-2009, unemployment levels were at an all-time high of 10.1 percent. Taxable consumption fell sharply in this period (Boyd, 2011). States began reporting revenue losses as early as mid-2007 (see Table 1). By 2009, tax revenues had plummeted with states reporting five consecutive quarters of revenue losses beginning with the last quarter of 2008 through the last quarter of 2009 (Boyd, 2011). In three out of these five quarters, revenue losses were more than 10 percent (Dadayan and Ward, 2011).

Virtually every state reported revenue losses, with median losses of more than 8 percent in 2008-09.¹ An additional 25 states continued to report revenue losses in 2009-10 (see Table 1).

The federal government responded with a number of stimulus packages. The American Recovery and Reinvestment Act (ARRA) specifically addressed revenue shortfalls state and local governments were experiencing at the time. The \$787 billion stimulus package appropriated roughly \$280 billion to state and local governments through 2016. As Graph 1 illustrates, the composition of state government revenues for 2009 and 2010 changed significantly as a result of the unprecedented shortfalls in revenues and the influx the federal stimulus dollars. Unfortunately, federal stimulus funds did not sufficiently address existing budget gaps through its budget relief program. 49 states reported operating deficits in 2009, while 41 states reported operating deficits in 2010. In fact, for a vast majority of states, their 2010 general revenues were below their 2008 levels and in a number of states – their 2010 general revenues were below their 2007 levels as well.

GRAPH 1
Total Primary Government Revenue Source Share



Notes: Excluding CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: State Comprehensive Annual Financial Reports (CAFRs) and authors calculations.

TABLE 1
Annual Percent Change in Total Primary Government Revenues by Source and Expenses

Year	# of States	General Revenues		Charges and Services		Operating and Capital Grants		Total Expenses	
		Mean	Median	Mean	Median	Mean	Median	Mean	Median
2002-03	49*	7.5878	3.5899	6.1559	5.9730	10.2846	9.7354	4.5001	4.2789
2003-04	50	8.6138	6.5732	9.5103	8.3350	7.6411	8.2983	4.2327	4.1658
2004-05	50	10.0222	8.9528	8.3198	7.4067	2.5218	2.0969	4.6918	4.1424
2005-06	50	10.2313	9.5087	7.0591	7.6346	4.3819	3.0373	5.5080	5.6258
2006-07	50	7.2823	6.4906	2.1550	0.9906	3.9503	3.4781	5.7600	5.5346
2007-08	50	1.0008	0.9463	4.1593	2.6264	3.1555	2.9986	7.8502	7.8391
2008-09	50	-11.8308†	-8.8543	3.2776	4.0637	18.2912	17.2708	8.0822	7.9495
2009-10	47*	-10.4495†	-0.6857	9.6569	5.5488	28.7553	27.4465	6.6875	6.8244

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

†Alaska is an extreme outlier. The mean general revenue growth for the states excluding Alaska was -9.53 percent and 1.20 percent for 2008-09 and 2009-10 respectively.

Source: State CAFRs and authors calculations.

While this recession officially ended in June 2009, a vast majority of the states will not report a positive operating position until 2012 and perhaps even through 2014. Revenue collections are higher in most states, but the National Association of State Budget Officers (NASBO) reports revenues for 2012 will remain below their 2008 levels by nearly \$20.8 billion (NASBO, 2011). Moreover, with the European debt crisis largely unresolved, volatility in global markets, and the impending congressional action to reduce the federal deficit, stability of all the revenue streams will remain a primary concern for the governments.

THE FINANCIAL REPORTING MODEL

The Comprehensive Annual Financial Reports (CAFR) of governments now include the government-wide financial statements – the *Statement of Net Assets* and the *Statement of Activities* which report the financial position and operating results of a government as a single economic entity.

Before this change, financial statements spread information among individual funds and fund types, used different measurement foci, and different bases of accounting. Under the new financial reporting model, the governmental funds are to be consolidated and reported under governmental activities (i.e., activities financed primarily by general revenues, intergovernmental revenues, and other non-exchange or non-market transaction based revenue sources). All enterprise funds are also to be consolidated and reported as business-type activities (i.e., activities financed primarily by revenue from prices charged to parties e.g., user fees, user charges, license fees, etc.). Combined, governmental activities and business-type activities present the operating results and financial position of the primary government. The government-wide financial statements do not include financial information related to a government's fiduciary activities (e.g., public pension funds or any other resources held in trust). These activities are reported separately in the fiduciary fund financial statements of the CAFR.

The government-wide financial statements also integrate a long-term view of a government's financial position by reporting the government's fixed assets in addition to its cash and current financial resources, as well as its current and long-term debt. Since these government-wide financial statements are prepared using full accrual accounting, revenues and expenses are now reported in the financial year in which the transactions took place, regardless of period when funds were transferred.

FINANCIAL CONDITION ANALYSIS

Financial condition can be broadly defined as a government's ability to meet its obligations on a continuing basis. In assessing the financial condition of a government, emphasis is placed on the government's ability to meet its obligations within the fiscal year (**budget solvency**), its ability to pay its current obligations as they come due (**cash solvency**), its ability to maintain existing service levels (**service-level solvency**), as well as meet outstanding obligations in the future (**long-term solvency**). The goal is to assess whether overall, a government's financial condition is improving or deteriorating over time and in comparison with similar governments.

A vast majority of financial condition models are based in part on the Financial Trend Monitoring System (FTMS) that was developed by

the Inter City-County Management Association (see Nollenberger, Groves, & Valente, 2003). The FTMS has developed more than forty indicators over three dimensions – financial, environmental, and organizational, with a vast majority of these measures focusing explicitly on the financial condition of a local government.

In an effort to simplify the process of assessing the financial condition of a local government, Kenneth Brown developed the 10-Point test of financial condition (1993; also see Maher & Nollenberger, 2009). In developing this model, Brown argued that the 10-point test was an effective tool for assessing the financial condition of a government without the use of analytical techniques that are costly, time-consuming, or complex, making such assessments difficult if not impossible.

The government-wide financial statements provide us with “new” information that can be used to develop financial condition indicators for the government as a whole. A vast majority of the studies that incorporate government-wide information are either limited in scope or duration. Chaney, Mead, and Schermann (2002) for example report on the financial condition of two medium sized cities – Alexandria, Virginia and Corona California. While reporting on a single local government, Mead (2006) updates the Kenneth Brown 10-point test by incorporating information reported in the government-wide financial statements. At the state level, Kamnikar, Kamnikar and Deal (2009) develop three financial condition indicators for the states for 2003 and 2004 while Wang, Dennis, and Tu (2007) develop multiple financial condition indicators for a single year - 2003.

Johnson, Kioko, and Hildreth (2012) is the only study to report on an annual basis the financial condition of the 50 state governments over multiple years (2002 through 2005). The authors report the ratios for governmental activities (GA) separately from business-type activities (BTA) as well as report the ratios for total primary government (TPG). At the local level, Rivenbark, Roenigk, and Allison (2010) report ratios for GA, BTA, and TPG for the Village of Pinehurst, North Carolina. They also report indicators for fund financial health (i.e., governmental funds and enterprise funds but exclude fiduciary funds and internal service funds) and report the village’s financial condition indicators relative to a local government benchmark.

This study sought to report on the financial condition of the 50 states over a nine-year period. It reports on the financial condition of these governments on an annual basis, but also on a state by state basis. The mean and the median for all states for a single fiscal year are reported together with the mean for each state for the nine-year period. Such information remains largely unavailable as a vast majority of publicly available financial condition reports describe the operating activities and financial position of the general fund and not the government as a whole.

There is little agreement as to what dimensions of financial condition are relevant and what should be reported when performing financial condition of a government. As Frank and Gianakis (2010) note, “there is no Yahoo! Finance” module for governments. This study retained as far as possible the nomenclature that already exists in the private sector and in a vast majority of the studies that currently report on the financial condition of governments under the GASB-34 financial reporting model. It reports on the financial condition of state governments across the four dimensions (budget, cash, service-level, and long-term solvency). The measures that are reported here are not exhaustive nor are they widely applicable to all governments. The objective here is to report on the financial condition of the states using multiple indicators with greater emphasis on simplicity. Therefore, when determining the financial condition of a particular jurisdiction, consider tailoring the measures in order to make them more relevant to that specific jurisdiction.

DATA COLLECTION AND ANALYSES

This study sourced CAFRs for the states from 2002 through 2010.² For each state and for each year, data were extracted from the government’s *Statement of Activities* and *Statement of Net Assets*.

The *Statement of Activities* reports the annual cost of services by major category (i.e., GA, BTA, TPG, and component units) alongside program revenues to produce a net column – either net revenue or net expense, which is then offset by general revenues to produce change in net assets. From the *Statement of Activities* data was collected on total expenses, program revenues including charges for services and fees, operating grants and contributions, as well as capital grants and contributions. These categories are reported

separately in the *Statement of Activities*. Data was also collected on the state's general revenues, change in net assets, net assets at the beginning of the fiscal year and net assets at the end of the fiscal year. Each of these items was recorded by major category. Excluded are component units which are reported in the government-wide financial statement, but operate with significant autonomy from the reporting government.

In the *Statement of Net Assets*, data was collected data on total assets, total liabilities as well as current assets and current liabilities if reported by the state.³ Since Net Assets are also reported in the *Statement of Activities*, the only additional data collected from this statement was the unrestricted net assets. Unrestricted net assets report, on a cumulative basis, whether the government's revenues exceeded full costs of programs. It represents assets accumulated over time, but does not necessarily represent assets that are available and in a readily spendable form, like cash (Mead, 2001).

For simplicity, data reported on a line item basis in the CAFRs (e.g., total tax revenues, income tax revenues) were excluded. While these individual line items and other data are important to various stakeholders, the objective here is to develop indicators and report on the financial condition of the government's on major elements, thereby assisting in the interpretation of financial information and providing a benchmark for which additional analysis by line item or other financial statements can be incorporated. This study does not incorporate information reported in the fund-based statements as Rivenbark et al. (2010) encourages nor does it integrate any socio-economic data as Wang et al. (2007) does. In the case of the former, the objective was to assess the financial condition of the governments using information reported in the government-wide statements. These financial statements report on the financial position and operating activities of a government on an accrual basis of accounting using an economic resources measurement focus. With regard to the latter, this study measures financial performance of a government relative to its reported revenues, expenses, assets, or liabilities in order to avoid any subjectivity that may arise from using any socio-economic data. As Rivenbark et al. (2010) note, these demographic factors do not represent actual financial condition and do lend themselves to subjective interpretation. Wang et al (2007) notes inclusion of these socioeconomic factors is questionable as

they may affect the financial condition, but are not financial condition itself (p. 5).

FINANCIAL CONDITION OF THE STATES 2002-2010

A series of measures report on the budget, cash, service-level, and long-term solvency of the states for the period 2002 through 2010. For each indicator, the mean and the median are reported. In some instances, indicators are reported on the basis of activities e.g., governmental activities (GA), business-type activities (BTA), and/or total primary government (TPG). Each indicator is reported on an annual basis; a limited number of indicators are reported on a state by state basis for all years, thereby reporting on the differences in outcomes across time - and more importantly across states.

Budget solvency often refers to the government's ability to balance its budgets i.e., raise sufficient revenues to meet all its expenses or consistently run moderate surpluses. It is also a measure of inter-period equity. If governments fail to balance their current budget, the burden is placed on future taxpayers (Rivenbark et al., 2010). Budget solvency is estimated as a ratio of operating revenue to expenses (**Operating Revenue/Expenses**). Operating revenue in this instance is the sum of general revenues, charges for services and operating grants and contributions but excludes capital grants and contributions (Johnson, et al., 2012).⁴ Expenses are the full costs of services in the current period. Governments should at least break even or report moderate surpluses (i.e., a ratio greater than or equal to 1.00).

Table 2 reports the operating position for the states over the nine year period. In 2002, the first year CAFRs were published, only 12 states reported a GA operating surplus and only 10 states reported a TPG operating surplus. This was the period following the September 11th terror attacks where revenue growth for a vast majority of the states was weakened (see Table 1). However, by the end of FY 2006, revenue growth across the states was strong. This is also reflected in their operating position. In 2004, at least half the states reported a TPG operating surplus and by 2006 only 9 states reported a TPG operating deficit.

The effects of the recession were felt by a number of states as early as 2007 where 36 states reported a TPG operating surplus – 5

TABLE 2
Operating Position (Operating Revenue/Expenses)

Year	Number of States	Governmental Activities (GA)			Total Primary Government (TPG)		
		Mean	Median	# of states whose ratio>1	Mean	Median	# of states whose ratio>1
2002	49*	0.9569	0.9567	12	0.9528	0.9635	10
2003	50	0.9809	0.9841	18	0.9748	0.9787	13
2004	50	1.0156	0.9999	25	1.0145	1.0022	26
2005	50	1.0361	1.0226	33	1.0413	1.0281	35
2006	50	1.0796	1.0364	37	1.0654	1.0396	41
2007	50	1.0534	1.0181	33	1.0607	1.0283	36
2008	50	0.9950	0.9836	14	0.9967	0.9818	16
2009	50†	0.9055	0.9324	3	0.9091	0.9208	1
2010	47*	0.9908	0.9821	14	0.9755	0.9748	

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

†Alaska is an extreme outlier here; the median is more representative of the operating position of the states for 2009.

Source: State CAFRs and authors calculations.

less than the previous year. Growth in general revenues was 7.28 percent; substantially less than the 10.23 percent in the previous year (see Table 1). At the heart of the crisis – FY 2009, only 3 states reported a GA operating surplus⁵ and only one state - North Dakota reported a TPG operating surplus (1.0580). Growth in operating and capital grants was eight to nine times higher than previous years (18.29 percent and 28.76 percent in 2008-09 and 2009-10 respectively) while growth in general revenues (i.e., tax revenues) was significantly lower with more than half the states reporting negative growth rates (-8.85 percent in 2008-09 and 0.69 percent in 2009-10). Without the ARRA funding, the financial position of the states would have been considerably worse. For example, 48 states reported general revenue losses in 2008-09, while 25 states reported general revenue losses in 2009-10.⁶ In 41 states, their 2010 primary government general revenues were below the 2008 levels with only six states⁷ reporting general revenues greater than or equal to their 2008 TPG general revenues. As a result, grants and contributions (operating and capital) now play a significant role. The share of grants

and contributions was up almost 10 percentage points from 31 percent in 2006 to 41 percent in 2010 (see Graph 1).

Table 3 reports the mean operating position for each state by GA and TPG for the nine-year period. The table also reports the number of years in which each state reported an operating deficit. Data is sorted in descending order on the basis of the state's mean TPG operating position. For comparative purposes, the state's ranking by operating revenue is also included. It's important to note that while a government may have reported a GA operating deficit, it may report a TPG operating surplus *if* its BTA's operating surplus was sufficiently large to cover its GA operating deficit and vice versa.⁸

Only 19 states reported a mean operating surplus for either TPG or GA - though not the same states in each of these categories. In the TPG category, the first nine states - Wyoming through Montana reported exceptional performance with their average operation position ratio being greater than 1.03. These states also reported an operating deficit no more than three out of the nine years. This however is not surprising given their size. The average operating revenue for these states was \$6.5 billion (with a range from 2 billion up to 13 billion). The mean operating revenue for the 50 states was \$29 billion and the highest ranking state - California reporting operating revenues of \$198 billion. This was \$71 billion more than the state of New York, which is ranked second. Texas through South Carolina reported a mean TPG operating position that was at least greater than one. These states reported an operating deficit no more than six out of the nine years. Also note that Texas and Pennsylvania are the only large states (ranked of 3 and 5 respectively) to report a mean operating surplus for the period. The remaining 31 states reported a deficit at least three out of the nine years, with most states reporting deficits at least two thirds of the time. For these states, their annual operating losses ranged from 0.15 percent of operating revenue up to 7.86 percent of operating revenue. The data also shows three states - Wisconsin, Michigan, and Illinois, never posted a primary government operating surplus in the nine-year period. Alaska on the other hand reported the largest revenue loss and the lowest GA and TPG operating position of all states (0.2391 and 0.2637 respectively). This was in large part due to large investment losses in the Alaska Permanent Fund (\$6.46 billion in 2009). In spite of this outcome, its exceptional performance in previous years made up for

TABLE 3
Operating Position by State

	State	Total Primary Government		Governmental Activities		Rank by Operating Revenue
		Mean	Years of Negative TPG Operating Position	Mean	Years of Negative GA Operating Position	
1	Wyoming	1.2811	1	1.3984	1	48
2	Alaska	1.2620	3	1.2723	3	50
3	North Dakota	1.0738	2	1.0948	2	46
4	Utah	1.0731	2	1.0674	2	36
5	South Dakota*	1.0451	1	1.0397	1	49
6	Nebraska	1.0388	3	1.0385	3	41
7	Idaho	1.0379	3	1.0445	2	42
8	Oklahoma	1.0360	3	1.0357	2	30
9	Montana	1.0313	2	1.0331	2	45
10	Texas	1.0174	5	0.9987	5	3
11	Tennessee	1.0163	3	1.0164	3	21
12	Iowa	1.0140	2	1.0124	3	29
13	West Virginia	1.0112	4	0.9967	6	35
14	Maine	1.0081	5	1.0113	3	40
15	Arkansas	1.0075	3	1.0073	3	31
16	Indiana	1.0040	6	1.0168	4	18
17	Nevada	1.0030	5	1.0084	4	38
18	Pennsylvania	1.0030	5	1.0143	1	5
19	South Carolina	1.0024	5	0.9985	5	23
20	Florida	0.9982	3	0.9987	2	4
21	North Carolina	0.9960	6	1.0031	5	11
22	Arizona	0.9952	5	0.9971	5	19
23	Colorado	0.9940	4	0.9824	5	26
24	Minnesota	0.9937	6	0.9924	6	15
25	Delaware	0.9930	4	1.0257	2	43
26	Alabama	0.9928	5	0.9917	5	28
27	Missouri	0.9885	5	0.9915	5	24
28	Mississippi	0.9864	7	0.9865	7	32
29	Virginia	0.9857	6	0.9899	6	16
30	Rhode Island	0.9850	7	0.9879	7	37
31	Kansas	0.9804	6	0.9492	6	34
32	Wisconsin	0.9701	9	0.9647	8	14
33	Ohio	0.9686	7	0.9726	9	7
34	Vermont	0.9675	8	0.9747	8	47
35	New Hampshire	0.9671	7	0.9673	7	44
36	New York*	0.9660	6	0.9680	6	2
37	Georgia	0.9660	7	0.9592	8	12
38	Louisiana	0.9656	6	0.9642	6	20
39	Oregon	0.9655	6	0.9536	8	27
40	Kentucky	0.9593	6	0.9596	7	25

TABLE 3 (Continued)

	State	Mean	Years of Negative TPG operating Position	Mean	Years of Negative GA Operating Position	Rank by Operating Revenue
41	Maryland	0.9589	7	0.9511	7	17
42	Michigan	0.9561	9	0.9664	9	9
43	Washington	0.9442	5	1.0009	5	13
44	Massachusetts	0.9438	5	0.9346	6	10
45	California	0.9430	7	0.9409	7	1
46	New Mexico	0.9351	7	0.9267	8	33
47	New Jersey	0.9319	8	0.9329	8	8
48	Hawaii*	0.9311	7	0.9298	7	39
49	Connecticut	0.9309	8	0.8849	9	22
50	Illinois*	0.9214	8	0.9159	8	6

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: State CAFRs and authors calculations.

this large loss. The state's mean GA and TPG operating position for the nine-year period was second to Wyoming. These were the only states to report an operating position greater than 1.20.⁹

An alternative measure of budget solvency is the total margin ratio. The traditional approach to estimating the total margin ratio¹⁰ is **Changes in Net Assets/Operating revenue**. The total margin ratio is a measure of the size of the surplus or deficit relative to its operating revenue. One may also report this measure on a per-capita basis (see Maher & Nollenberger, 2009; Wang, et al., 2007). The numerator - change in net assets is a measure of the government's surplus or deficit i.e., the sum of its revenues, expenses, gains, and losses reported in the government-wide *Statement of Activities* on a full accrual basis (Mead, 2001). The measure for operating revenue remains the same i.e., general revenues, plus charges for services, operating grants and contributions, -- excluding capital grants and contributions.

Table 4 reports the total margin ratio for the 50 states from 2002 through 2010. Findings here are somewhat comparable to those reported in Table 2. In 2002, more than half the states reported deficits, however, as revenues rebounded especially in 2004 through

TABLE 4
Total Margin Ratio (Change in Net Asset/Operating revenue)

Year	# of States	Governmental Activities (GA)			Total Primary Government (TPG)		
		Mean	Median	# of states reporting a negative Change in Net Asset Position	Mean	Median	# of states reporting a negative Change in Net Asset Position
2002	49*	-0.0246	-0.0181	27	-0.0279	-0.0156	28
2003	50	0.0036	0.0052	22	-0.0044	-0.0060	28
2004	50	0.0321	0.0358	14	0.0305	0.0260	14
2005	50	0.0522	0.0466	8	0.0551	0.0419	7
2006	50	0.0724	0.0602	4	0.0758	0.0611	2
2007	50	0.0627	0.0455	10	0.0686	0.0515	9
2008	50	0.0133	0.0075	22	0.0143	0.0059	23
2009	50†	-0.1076	-0.0403	41	-0.1085	-0.0583	44
2010	47*	0.0088	0.0084	17	-0.0004	-0.0009	25

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

†Alaska is an extreme outlier here; the median is more representative of the mean total margin ratio of the states for 2009

Source: State CAFRs and authors calculations.

2007, a vast majority of states reported surpluses. The mean GA total margin ratio in this period was 3.21 percent (in 2004), 5.22 percent (in 2005), 7.24 percent (in 2006) and 6.27 percent (in 2007) while the mean TPG total margin ratio was 3.05 percent (in 2004), 5.51 percent (in 2005), 7.58 percent (in 2006), and 6.86 percent (in 2007). When general revenue growth was weak, the number of states that reported a negative change in net asset position doubled to 23 in 2009 and again in 2010 to 44 states. The median GA total margin ratio was below 1 percent in the three-year period 2008-2010. The median TPG total margin ratio was not only below 1 percent, but also below what the states had reported as their GA total margin ratio, an indicator that states also reported a negative change in net asset position (or deficit) in their BTA.

A measure often used in the private sector is the return to asset ratio (ROA). Often, the ROA measure is used to assess an organization's profitability relative to its assets (i.e., a measure of asset-use efficiency). Given the public sector context, one should interpret the ratio differently i.e., not as a measure used to determine

asset-use efficiency but rather as a measure of the government's ability to maintain or expand its asset base. ROA is a ratio of change in net assets to total assets (i.e., **Change in Net assets/Total Assets**).¹¹ The numerator is as reported in the *Statement of Activities* while the denominator is the sum of current and long-term assets (including capital assets) as reported in the *Statement of Net Assets*.

An appropriate ROA figure needs to be at least as high as the rate of inflation, and higher if the organization needs to replace its assets. If the ROA was greater than inflation, it meant that the government could invest in additional assets (current and long-term). If the ROA is greater than zero but below the rate of inflation, it meant that the government's "book-value" of assets was eroded. A negative ROA ratio is an indicator of the government's inability to maintain or ensure growth of its assets (i.e., its cash and investments in the short-term and non-current assets including physical assets over the long run). Government's that report recurring deficits will likely report a reduction in accumulated assets - especially current assets and long-term investments. They are also more likely to report larger liabilities including long-term obligations (e.g., debt and pension obligations). Results are tabulated in Table 5 and Table 6.

TABLE 5
Return on Asset Ratio (Change in Net Asset/Total Assets)

Year	Number of States	Governmental Activities (GA)		Total Primary Government (TPG)	
		Mean	Median	Mean	Median
2002	49*	-0.0116	-0.0100	-0.0146	-0.0106
2003	50	-0.0056	0.0042	-0.0108	-0.0047
2004	50	0.0182	0.0346	0.0148	0.0261
2005	50	0.0311	0.0373	0.0311	0.0357
2006	50	0.0495	0.0456	0.0489	0.0454
2007	50	0.0384	0.0406	0.0398	0.0398
2008	50	-0.0023	0.0047	-0.0007	0.0050
2009	50	-0.0465†	-0.0379	-0.0533†	-0.0476
2010	47*	-0.0133†	0.0083	-0.0185†	-0.0009

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010). †Alaska is an outlier here; the median is more representative of the Return on Asset Ratio for the states for 2009 and 2010

Source: State CAFRs and authors calculations.

Table 5 reports the ROA ratio for the 50 states from 2002 through 2010. Again, as revenues rebounded especially in 2006 the GA and TPG ROA position was robust – 4.95 and 4.89 percent respectively. The ROA position is significantly lower in 2009 through 2010. TPG ROA position was negative in 2009 (-4.76 percent) and 2010 (-0.09 percent).

Table 6 reports the state's mean TPG total margin ratio as well as the state's mean TPG return on asset ratio. The data is sorted in

TABLE 6
Total Margin and Return to Asset Ratios by State

Rank	State	Total Margin Ratio	Return on Asset Ratio	Number of years the state reported a negative Change in Net Asset Position	Rank by Operating Revenue
1	Wyoming	0.1960	0.0669	1	48
2	Montana	0.1135	0.0689	0	45
3	North Dakota	0.0874	0.036	1	46
4	Utah	0.0766	0.0378	2	36
5	West Virginia	0.0535	0.0377	2	35
6	Louisiana	0.0451	0.0359	1	20
7	South Dakota*	0.0443	0.0245	1	49
8	Tennessee	0.043	0.0338	1	21
9	Texas	0.0413	0.0223	2	3
10	Idaho	0.0373	0.0251	2	42
11	Nebraska	0.0366	0.0219	3	41
12	Arkansas	0.0356	0.0273	1	31
13	Oklahoma	0.0333	0.0267	3	30
14	South Carolina	0.0306	0.0213	2	23
15	Mississippi	0.0300	0.0247	2	32
16	Iowa	0.0297	0.0279	0	29
17	Alabama	0.0288	0.0245	2	28
18	Florida	0.0257	0.0170	2	4
19	Maine	0.0217	0.0239	2	40
20	North Carolina	0.0196	0.0147	1	11
21	Colorado	0.0192	0.0115	3	26
22	Virginia	0.0188	0.0186	3	16
23	Delaware	0.0154	0.0109	3	43
24	Arizona	0.0121	0.0120	5	19
25	Kansas	0.0054	0.0037	4	34
26	Rhode Island	0.0053	0.0145	4	37
27	Vermont	0.0052	0.0078	3	47
28	New Hampshire	0.0037	0.0039	4	44
29	Pennsylvania	0.0028	0.0026	4	5
30	Ohio	0.0021	0.0033	3	7
31	Indiana	0.0020	0.0034	6	18

TABLE 6 (Continued)

Rank	State	Total Margin Ratio	Return on Asset Ratio	Number of years the state reported a negative Change in Net Asset Position	Rank by Operating Revenue
32	Minnesota	0.0012	0.0013	4	15
33	Nevada	0.0011	-0.0039	5	38
34	Missouri	-0.0019	-0.0008	5	24
35	Wisconsin	-0.0020	-0.0019	4	14
36	Washington	-0.0021	0.0017	5	13
37	Georgia	-0.0079	-0.0074	7	12
38	Kentucky	-0.0080	-0.0078	4	25
39	Maryland	-0.0136	-0.0112	6	17
40	New York*	-0.0226	-0.0222	6	2
41	Michigan	-0.0303	-0.0426	8	9
42	New Mexico	-0.0341	-0.017	5	33
43	Oregon	-0.0371	-0.0236	6	27
44	Alaska	-0.0416	0.0418	2	50
45	Connecticut	-0.0500	-0.0501	7	22
47	Hawaii*	-0.0549	-0.0253	6	39
46	Massachusetts	-0.0549	-0.0760	5	10
48	California	-0.0563	-0.0723	7	1
49	Illinois*	-0.0671	-0.0888	7	6
50	New Jersey	-0.0735	-0.1064	8	8

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: State CAFRs and authors calculations.

descending order on the basis of the state's TPG total margin ratio. For comparative purposes, the state's ranking by operating revenue is also included. For informative purposes, Table 6 also reports the number of years the state reported a negative change in net asset position.

Wyoming and Montana outperformed all other states. Wyoming, for example reported an average annual surplus of 19.6 percent of its revenues for the period 2002 through 2010; Montana reported an average surplus of 11.35 percent of its revenues for the same period. Their return on asset position was also very strong, their mean return on asset position was 6.69 percent and 6.89 percent respectively. 19 states reported a mean total margin ratio greater than 2 percent (i.e., Wyoming through Maine), and 18 states reported a mean return on asset ratio greater than 2 percent (i.e., Wyoming through Maine,

except for Florida). These states reported a negative change in net asset position no more than three out of the nine years.

An additional 14 states reported a positive mean primary government total margin ratio. These states reported a negative change in net asset position more often – up to six out of the nine years. For most of these states, their mean return on asset ratio was positive but less than or equal to 2 percent. 17 states reported a negative total margin ratio as well as a negative return on asset ratio. These states reported a negative change in net asset position more often, with some states reporting a positive change in net asset position only once or twice in the nine-year period.¹² Six states California, Connecticut, Hawaii, Illinois, Massachusetts, and New Jersey reported annual deficits that were on average greater than or equal to 5 percent of their annual operating revenue.¹³ These states experienced a significant erosion in “book value” of their assets or increase in current and long-term liabilities of at least 5 percent each year (see return on asset ratio). New Jersey (ranked 50th on both criteria) for example reported a mean return on asset ratio that was -10.64 percent and a mean total margin ratio that was -7.35 percent.

Cash solvency refers to the government’s ability to make payments on its bills as they come due. The current ratio is used to estimate cash solvency (**Current Assets/Current Liabilities**, Table 7).

TABLE 7
Current Ratio (Current Assets/Current Liabilities)

Year	Number of States‡	Governmental Activities		Business-type Activities		Total Primary Government	
		Mean	Median	Mean	Median	Mean	Median
2002	25	2.1009	1.9989	7.9303	4.0960	2.4361	2.3378
2003	27	1.8775	1.6675	6.3239	3.5451	2.1189	1.9770
2004	27	1.8632	1.6994	8.0836	3.0911	2.0582	1.9841
2005	27	1.8889	1.7138	8.5572	3.1286	2.0870	1.8801
2006	25	2.0164	1.8646	7.5357	3.3434	2.1928	2.0701
2007	25	2.0851	1.9347	7.5179	3.5118	2.2465	2.1533
2008	25	1.9807	1.7952	7.0180	3.2366	2.1486	1.8890
2009	25	1.8537	1.6432	4.1281	2.5138	1.9124	1.6876
2010	25	1.8102	1.5329	3.4447	2.7856	1.8432	1.7759

Notes: ‡The number of states reported in the table is limited to states that report current assets and current liabilities separately from other assets and liabilities respectively.

Source: State CAFRs and authors calculations.

The cash ratio focuses on liquid assets available to meet current obligations. It's critical that a government maintain sufficient current assets, as non-current assets are less likely to be converted into cash quickly without significant losses in value. Under GASB-34, governments are encouraged, but not required to separate assets and liabilities into current and long-term groups. Table 7 only reports the results of the 25 (sometimes 27 states) that self-report current assets and current liabilities in the *Statement of Net Assets*.¹⁴

The GA current ratio was above 1.00; however for most states, the GA current ratio was below 2.00, the benchmark often used in the private sector. The data shows that for some states, the liquidity problems intensified during the recession. Arizona's GA current ratio was 0.79 in 2009 – it reported a stronger ratio in 2010 of 0.99. Connecticut reported a GA current ratio below the 1.00 threshold four out of the nine years. In 2010, it reported its lowest ratio for the nine-year period at 0.79.

The current ratio for BTA is higher with significant variation across states. As a result the median is more representative of the data.¹⁵ Governments have drawn down on their current assets - especially unemployment reserve funds, more so than they did in 2002-03. The median BTA current ratio was down more than 1.3 points to 2.79 in 2010, though well above the 2.00 threshold. The BTA portion of TPG was current asset rich (approximately 25 percent of TPG current assets); consequently, all 25 states reported a TPG ratio above 1.00.¹⁶

Long-term solvency (**Unrestricted Net Assets /Expenses**) refers to the government's ability to maintain the provision of basic government services. The ratio is a variation of the fund balance divided by expenses ratio (Chaney, et al., 2002). Unrestricted net assets (UNA) is the residual component of net assets that are not invested in capital assets (net of related debt) or restricted by any externally (e.g., creditors) or internally (constitutional or statutory provisions) imposed constraints. Unrestricted net assets represent net assets accumulated and available for the provision of future government services although they are not in cash form (Johnson, et al., 2012). Unlike local or smaller governments, states have placed greater restrictions on their net assets; as a result, a number of states report a negative unrestricted net assets position.

The financial position ratio is small (or negative) as the number of states reporting a negative unrestricted net assets position grows. This is true indicator that these governments did not maintain large unrestricted economic resources prior to the recession (i.e., unrestricted net assets, see Table 8).¹⁷ The number of states reporting a negative total primary government unrestricted net assets

TABLE 8
Financial Position Ratio (Unrestricted Net Assets/Expenses)

Governmental Activities				
Year	Number of States	Mean	Median	Number of states with a negative UNA position
2002	49*	0.0207	0.0267	20
2003	50	-0.0161	-0.0025	26
2004	50	-0.0235	-0.0053	26
2005	50	0.0113	0.0129	24
2006	50	0.0507	0.0310	18
2007	50	0.0562	0.0349	17
2008	50	0.0452	0.0181	21
2009	50	-0.0169	-0.0186	28
2010	47*	-0.0151	-0.0195	33
Business-type Activities				
Year	Number of States	Mean	Median	Number of states with a negative UNA position
2002	49*	0.1752	0.0630	10
2003	50	0.1518	0.0585	12
2004	50	0.1669	0.0686	12
2005	50	0.2041	0.0573	13
2006	50	0.1895	0.0525	13
2007	50	0.2525	0.0853	9
2008	50	0.2260	0.0750	10
2009	50	0.1079	0.0411	17
2010	47*	0.0399	0.0453	21
Total Primary Government				
Year	Number of States	Mean	Median	Number of states with a negative UNA position
2002	49*	0.0313	0.0497	18
2003	50	-0.0030	0.0104	24
2004	50	-0.0073	0.0090	24
2005	50	0.0263	0.0377	21
2006	50	0.0485	0.0440	20
2007	50	0.0689	0.0495	18
2008	50	0.0574	0.0184	20
2009	50	-0.0074	-0.0090	26
2010	47*	-0.0015	-0.0265	30

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: State CAFRs and authors calculations.

position in 2002 was 18, but that number increased to 24, before a slight recovery in 2007. By the end of FY 2010, 30 states reported a negative primary government unrestricted net assets position. The median TPG financial position ratio in 2002 was 4.97 percent. In 2003 through 2004, the median TPG financial position was less than 1 percent.

While the states posted a slight recovery through 2007 (TPG financial position ratio was 4.95 percent), the deficits reported in 2009 – 2010 eroded any such gains and for the second year in a row more than half the states reported a negative TPG financial position. States are reporting a negative unrestricted net assets position due in part to problems laid bare in the *Statement of Net Assets* (Chaney, et al., 2002; Johnson, et al., 2012). The treatment of non-capital debt or debt on behalf of another government will negatively affect the governments unrestricted net assets position.¹⁸ Recurring deficits and mounting non-capital obligations (e.g., pension and post-employment benefit obligations) also impact the states unrestricted net asset position negatively, in some instances, the state's negative unrestricted net assets position is greater than the state's restricted net assets i.e., if the state liabilities exceed its reported assets (net of fixed assets), that negatively impacts unrestricted net assets. In 2010 for example, the following states reported a negative net asset position - California (-\$4.96 billion), Connecticut (-\$9.39 billion), Illinois (-\$27.37 billion for 2009), Massachusetts (-\$18.60 billion), and New Jersey (-\$28.97 billion).

Table 9 reports TPG financial position ratio for the states. Also reported in Table 9 is the number of years the state reported a negative primary government unrestricted net assets position. The first 15 states (Wyoming through Nebraska) reported strong financial position ratios with states maintaining unrestricted net assets sufficient to meet 10 percent of their expenses. Alaska for example reports a mean financial position ratio of 1.33, i.e., the state reported an unrestricted net assets position that was sufficient to meet 133 percent of its current expenses. In 2008, the ratio was 240 percent. The difference is the result of investment losses reported in the Alaska Permanent Fund in 2009. The state now reports a 2010 TPG financial position ratio of 185 percent. Wyoming also reported a strong TPG financial position ratio. In 2006, the state maintained

TABLE 9
Total Primary Government Financial Position Ratio by State

	State	Mean	# of Years reporting UNA<0		State	Mean	# of Years reporting UNA<0
1	Alaska	1.3352	0	26	Virginia	0.0103	3
2	Wyoming	0.6481	1	27	Minnesota	0.0014	5
3	North Dakota	0.4027	0	28	South Carolina	0.0007	4
4	Indiana	0.2034	0	29	Maryland	-0.0119	5
5	Hawaii*	0.2018	0	30	Pennsylvania	-0.0196	7
6	South Dakota*	0.1981	0	31	Arizona	-0.0198	6
7	Oklahoma	0.1902	0	32	Maine	-0.0198	8
8	Utah	0.1855	0	33	Vermont	-0.0297	9
9	Delaware	0.1736	0	34	Washington	-0.0501	5
10	Arkansas	0.1669	0	35	Michigan	-0.0529	8
11	Texas	0.1471	0	36	Missouri	-0.0538	7
12	Idaho	0.1328	0	37	Ohio	-0.0763	9
13	Montana	0.1221	0	38	North Carolina	-0.0778	9
14	Colorado	0.1185	0	39	Louisiana	-0.0886	7
15	Nebraska	0.1111	0	40	Rhode Island	-0.1413	9
16	New Mexico	0.09	0	41	Florida	-0.1596	9
17	Kansas	0.0749	0	42	West Virginia	-0.173	6
18	Iowa	0.0712	0	43	Kentucky	-0.1797	9
19	Tennessee	0.0703	0	44	New York*	-0.2033	8
20	New Hampshire	0.0679	0	45	Wisconsin	-0.256	9
21	Georgia	0.0568	2	46	California	-0.3064	9
22	Oregon	0.0453	1	47	Massachusetts	-0.31	9
23	Mississippi	0.0295	1	48	New Jersey	-0.3963	9
24	Alabama	0.0188	2	49	Connecticut	-0.5236	9
25	Nevada	0.0134	5	50	Illinois*	-0.6013	8

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: State CAFRs and authors calculations.

unrestricted net assets sufficient to meet 102 percent of its current expenses. At the end of FY 2010, the state reported a financial position ratio of 88 percent.

An additional 13 states (i.e., New Mexico through South Carolina) reported a positive mean TPG financial position ratio. The remaining 22 states reported a negative mean TPG financial position ratio. The last 10 states (Rhode Island through Illinois) reported large

negative TPG financial position ratio. These states also either reported large non-capital obligations, obligations on behalf of its local governments, or large or frequent deficits (five out of the nine years). Some states did report a negative financial position ratio even though they did not report recurring operating deficits (e.g., North Carolina and Louisiana) while others did report a positive financial position even though they reported recurring operating deficits (e.g., Hawaii and Indiana).

Service-level solvency is a measure of the government's ability to meet all expenses related to business-type activities with non-tax revenues (i.e., **Program Revenues/Expenses**). Business-type activities are usually expected to be self-supporting. Expenses should be covered for the most part with user charges and fees, and to some extent - operating and capital grants. Business-type activities are generally not expected to rely on tax revenues to cover costs. In order to more appropriately report service level solvency program revenues (i.e., the sum of charges for services, operating grants, and capital grants) as reported in the *Statement of Activities* are used to estimate service level solvency.

The mean self-sufficiency ratios for each year and for each state are reported in Table 10 and Table 11. For the most part, BTA program revenues are sufficient to meet BTA expenses - except during an economic downturn when revenues were slightly lower but

TABLE 10
Self-Sufficiency Ratio (Program Revenues/Expenses)

Year	Number of States	Business-type Activities		Business-type Activities Share of Total Primary Government
		Mean	Median	
2002	49*	0.9294	0.9401	14.05%
2003	50	0.9146	0.8814	14.01%
2004	50	1.0051	0.9738	13.32%
2005	50	1.1108	1.0972	13.16%
2006	50	1.1252	1.0998	12.97%
2007	50	1.1390	1.1085	12.94%
2008	50	1.0428	1.0225	12.75%
2009	50	0.8593	0.8282	14.25%
2010	47*	0.8943	0.8884	17.54%

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: *State CAFRs and authors calculations.*

TABLE 11
Self-Sufficiency Ratio for the States

	State	Ratio	BTA share of TPG		State	Ratio	BTA share of TPG
1	South Dakota*	2.4312	4%	26	Hawaii*	0.9996	8%
2	Alaska	1.2947	5%	27	Wyoming	0.9649	10%
3	New Hampshire	1.2361	14%	28	Colorado	0.9500	30%
4	Florida	1.2235	11%	29	California	0.9180	13%
5	Oklahoma	1.2230	3%	30	Vermont	0.9132	6%
6	Delaware	1.2224	16%	31	New York*	0.9005	15%
7	West Virginia	1.2202	22%	32	Texas	0.8954	27%
8	Utah	1.2109	7%	33	North Dakota	0.8879	34%
9	Maryland	1.2073	10%	34	Kansas	0.8816	11%
10	Louisiana	1.1990	4%	35	South Carolina	0.8561	24%
11	Virginia	1.1647	8%	36	Iowa	0.8502	26%
12	Illinois*	1.1327	9%	37	Mississippi	0.8467	3%
13	Maine	1.1321	6%	38	Washington	0.8427	22%
14	Rhode Island	1.1218	26%	39	Wisconsin	0.8327	25%
15	Missouri	1.1212	7%	40	Connecticut	0.8303	21%
16	Nebraska	1.1045	4%	41	Idaho	0.8274	19%
17	Ohio	1.0821	15%	42	Minnesota	0.8255	12%
18	New Jersey	1.0776	11%	43	Alabama	0.8205	11%
19	Michigan	1.0623	10%	44	Indiana	0.7734	5%
20	Montana	1.0544	8%	45	Massachusetts	0.7511	14%
21	Kentucky	1.0518	11%	46	Arizona	0.7378	16%
22	North Carolina	1.0431	6%	47	Georgia	0.7190	25%
23	Oregon	1.0310	24%	48	New Mexico	0.6846	24%
24	Tennessee	1.0152	6%	49	Arkansas	0.6505	24%
25	Pennsylvania	1.0009	13%	50	Nevada	0.4964	10%

Notes: * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: State CAFRs and authors calculations.

more importantly expenses especially those related to unemployment benefits were higher (see 2002-2003 as well as 2009-2010). At least 57 percent or 255 out of 446 states reported a self-sufficiency ratio less than 1.00, but only 97 states report a ratio less than 0.80.¹⁹

The data in Table 11 is sorted in descending order using the mean self-sufficiency ratio for each state. Included in Table 11 is a measure of the relative size of BTA i.e., BTA share of TPG. Governments reporting a large BTA share of TPG report a significant proportion of their activities under BTA. On average BTA expenses were 13 percent of TPG - but with significant variation. For example

Colorado, Georgia, Iowa, North Dakota, Rhode Island, and Wisconsin reported a BTA expense share of more than 25 percent; another seven states reported a BTA expense share of more than 20 percent. If business-type activities are a larger portion of TPG, its imperative that these activities are self-sufficient, so as not to draw down on general revenues that would be used to support governmental activities.

The first 25 states (South Dakota through Pennsylvania) reported a mean self-sufficiency ratio greater than 1.00. The remaining 25 states report a mean self-sufficiency measure of less than 1.00, for some states e.g., Nevada, that measure was below 0.50, while for six other states, the measure was below 0.80.

Long-term solvency is a measure of a government's ability to meet its long-term obligations as they come due. Two measure are used to report long-term solvency - (i) debt to asset ratio and (ii) liability to asset ratio. Table 12 and 13 report the TPG long-run solvency ratios.

The debt measure includes all outstanding long-term debt reported by the state for the fiscal year as reported in the required statistical information (RSI) section of the CAFRs. The measure

TABLE 12
Long Run Solvency Ratio (Debt/Assets, Liability/Assets)

Year	Total Primary Government Debt To Asset Ratio			Total Primary Government Liability to Asset Ratio		
	Mean	Median	Number of States	Mean	Median	Number of States
2002	0.2052	0.1810	47‡	0.4165	0.3232	49*
2003	0.2366	0.2022	49‡	0.4451	0.3555	50
2004	0.2455	0.1982	49‡	0.4591	0.3905	50
2005	0.2364	0.1969	50	0.4612	0.3857	50
2006	0.2292	0.1912	50	0.4514	0.3966	50
2007	0.2305	0.1801	50	0.4515	0.3931	50
2008	0.2389	0.1962	50	0.4638	0.4150	50
2009	0.2570	0.2164	50	0.5064	0.4425	50
2010	0.2585	0.2223	46‡	0.5272	0.4550	47*

Notes: ‡Excludes debt data for New York (2002), Connecticut (2002), Missouri (2002-2004), Hawaii, Illinois, Rhode Island, and South Dakota (2010) * Excludes CAFR data for New York (2002) and South Dakota, Illinois, and Hawaii (for FY 2010).

Source: State CAFRs and authors calculations.

therefore includes all general obligation debt as well as revenue debt, certificates of participation, capital leases etc. As Mead (2006) notes, general obligation debt is no longer the dominant financing mechanism. Therefore reporting only general obligation debt would understate the government's long-term obligations. The second measure - liability to asset ratio, is a ratio of the government's liabilities as a percent of reported assets. The liability measure incorporates the government's short-term and long-term obligations. It includes accounts payables, accrued liabilities, as well as pension and post-employment obligations and all the long-term debt.

Debt issuance was significantly lower following the financial crisis (up only 2.86 percent, 2007-08). However, issuance in the subsequent years was robust, in part due to federal programs (e.g., the Build America Bonds programs). Growth in long-term debt was 4.28 percent and 6.49 percent in 2008-09 and 2009-10 respectively. This is also evident in the debt to asset ratio. The median debt to asset ratio is up from a low of 0.1801 in 2007 to a high of 0.2328 in 2010, the highest debt to asset ratios for the nine-year period. This is also evident when one examines the median liability to asset ratio which in 2007 was 0.3931. In 2010, the median liability to asset ratio was 0.4550.

Table 13 reports the mean debt to asset ratio as well as the mean liability to asset ratio for the states for the period. Also included in Table 13 is the Debt Share of Liabilities, as well as the state's rank based on its operating revenue. The state's debt share of liabilities is a measure of the state's long-term debt as a percent of its liabilities i.e., what proportion of its long-term obligations are bonded. In New Jersey for example, 71 percent of its liabilities are in the form of outstanding bond issues while in Nebraska, only 3 percent of its liabilities are in the form of a long-term debt issue. To illustrate the implications of converting a long-term obligation into a bonded security, consider the case of the Illinois. In 2003, the state issued a \$10 billion pension obligation bonds. In doing so, the state converted a long-term obligation to its pension fund to a general obligation debt. The states debt to asset ratio was significantly higher following the issue - 0.6110 in 2003 compared to 0.4280 in 2002. Its debt share of liabilities was also somewhat higher - 0.4851 up from 0.3665 in 2002.

TABLE 13
Debt and Liability Ratios by State

	State	Debt to Asset Ratio	Liability to Asset Ratio	Debt as a percent of Liabilities	Rank by Operating revenue
1	New Jersey	0.8676	1.2463	71%	8
2	Connecticut‡	0.7494	1.1181	67%	22
3	Illinois‡	0.6669	1.4175	47%	6
4	Rhode Island‡	0.6661	0.8322	81%	37
5	Massachusetts	0.5556	1.2292	45%	10
6	California	0.5341	0.8693	62%	1
7	New York‡	0.3925	0.6561	60%	2
8	Hawaii‡	0.3561	0.4535	79%	39
9	Nevada	0.3329	0.5549	60%	38
10	Maryland	0.3249	0.5254	62%	17
11	Wisconsin	0.3210	0.5941	54%	14
12	Oregon	0.3139	0.4895	64%	27
13	Louisiana	0.2804	0.3843	73%	20
14	South Carolina	0.2763	0.4491	62%	23
15	Georgia	0.2558	0.4072	62%	12
16	New Hampshire	0.2444	0.3928	63%	44
17	Kansas	0.2429	0.3240	75%	34
18	Delaware	0.2408	0.3906	62%	43
19	Florida	0.2291	0.4493	51%	4
20	Mississippi	0.2210	0.3455	64%	32
21	Washington	0.2180	0.6912	31%	13
22	Michigan	0.2156	0.4866	45%	9
23	Arizona	0.2150	0.3452	62%	19
24	Minnesota	0.2066	0.5106	41%	15
25	Utah	0.2027	0.2661	76%	36
26	Vermont	0.1951	0.4596	43%	47
27	Ohio	0.1926	0.6759	28%	7
28	North Dakota	0.1768	0.5003	35%	46
29	Pennsylvania	0.1742	0.4852	36%	5
30	Kentucky	0.1704	0.3799	45%	25
31	Virginia	0.1670	0.4524	37%	16
32	Colorado	0.1658	0.2900	57%	26
33	Texas	0.1429	0.3040	47%	3
34	West Virginia	0.1420	0.5437	27%	35
35	North Carolina	0.1407	0.3606	39%	11
36	Iowa	0.1366	0.2798	49%	29
37	New Mexico	0.1346	0.2693	50%	33
38	Maine	0.1321	0.3568	37%	40
39	Arkansas	0.1289	0.2725	47%	31
40	Oklahoma	0.1164	0.2622	46%	30
41	Missouri‡	0.1004	0.1899	48%	24
42	South Dakota‡	0.0859	0.1820	47%	49
43	Idaho	0.0738	0.2063	36%	42
44	Indiana	0.0727	0.3057	24%	18
45	Alabama	0.0678	0.1631	41%	28
46	Montana	0.0576	0.2035	29%	45
47	Tennessee	0.0504	0.1335	38%	21

TABLE 13 (Continued)

	State	Debt to Asset Ratio	Liability to Asset Ratio	Debt as a percent of Liabilities	Rank by Operating revenue
48	Alaska	0.0301	0.1208	30%	50
49	Wyoming	0.0084	0.3409	3%	48
50	Nebraska	0.0051	0.1473	3%	41

Notes: ‡Excludes debt data for New York (2002), Connecticut (2002), Missouri (2002-2004), Hawaii, Illinois, Rhode Island, and South Dakota (2010).

Source: State CAFRs and authors calculations.

For a vast majority of the states, their debt to asset ratio was below 0.30 and at least 25 states report their liability to asset ratio to be below 0.45. For five states – California, Connecticut, Illinois, Massachusetts, and New Jersey, their liability to asset ratio was reported to be greater than 1 more than once in the nine-year period. In other words the state’s reported liabilities exceed its reported book value of assets. This is in part due to recurring deficits that eroded the government’s unrestricted net assets position and mounting non-capital obligations or long-term debt for which there is no corresponding asset. Ohio, Pennsylvania, and Texas are but few of the larger states that report a debt to asset ratio that is below the mean (0.1926, 0.1742, and 0.1429 respectively).

OUTLOOK ON THE FINANCIAL CONDITION OF STATE GOVERNMENTS

This study reports on the financial condition of the states using GASB-34 information currently reported in the government’s CAFRs. It develops key indicators of financial condition and contributes to broader measures of fiscal health (e.g., credit ratings) and financial performance (e.g., Government Performance Project Grades).

This study also reports on the financial condition of states following the worst recession since the Great Depression. Virtually every state reported an operating deficit in 2009, and 41 states reported an operating deficit in 2010. This study found smaller states outperforming larger states. This is partially attributable to their natural resource base (e.g., Alaska, North Dakota, and Wyoming). Three large states (Florida, Pennsylvania, and Texas) reported strong fiscal performance prior to the recessionary period while six others

consistently reported operating deficits (e.g., California, Connecticut, Hawaii, Illinois, Massachusetts, and New Jersey). For these states, their anemic fiscal performance led to rating downgrades in the post-recessionary period.²⁰ For most governments, their liquidity remained strong, albeit weakened in 2008 through 2010. Even though a municipal debt crisis has been widely speculated, states report sustainable long-term debt levels as their long-term debt obligations did not exceed their reported assets or operating revenue.²¹

Even though this recession officially ended in June 2009, a vast majority of the states will not report a positive operating position until 2012 and perhaps even through 2014. Their fiscal performance and long-term fiscal health will be determined by a number of factors. First – robust growth in tax revenues. State tax collections have grown each quarter since the beginning of 2010. This growth has been driven by a recovering economy as well as changes in tax policy (Dadayan and Ward, 2011). In some states, double-digit growth in revenues was reported in the first two quarters of 2011, though it's not expected to be sustainable over the long run (Boyd, 2011). Moreover, even with this growth in tax collections, revenues for a vast majority of the states remain below their pre-recession peak levels (NASBO, 2011). Second – their fiscal health will depend upon their ability to close budget gaps as federal stimulus dollars are exhausted. Over the medium-term, states will need to address budget gaps that will emerge once Congress acts to reduce its deficit. Third – their long-term fiscal health will depend upon their ability to restore depleted reserve funds and resolve their long-term obligation funding issues. For a few states, there will be greater urgency to address their underfunded pensions and unfunded other post-employment benefit obligations. States will need to address retirement benefits for current and future employees and ensure annual contributions to pension and other post-employment benefit programs are met consistently overtime.

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NOTES

1. The only states to report growth in general revenues in 2008-09 were North Dakota (6.01 percent) and Montana (2.05 percent).
2. New York 2002 financial statements do not reflect changes from GASB Statement 34; South Dakota did not publish their 2010 CAFR in time for the initial data collection. Hawaii and Illinois did not have their 2010 CAFR available as of Aug 1, 2011.
3. GASB does not require governments to classify assets or liabilities into current (short-term) and non-current (long-term) groups. To avoid any subjectivity, current assets and current liabilities are as reported in the CAFRs.
4. Capital grants and contributions were approximately 2 to 3 percent of total revenues for either GA or TPG. The only states to report capital grants and contributions outside of this range were Alabama (4.3 percent), Alaska (9.2 percent), Louisiana (7.7 percent), and Mississippi (4.2 percent).
5. Indiana and Maine reported a GA operating position of 1.0004 and 1.0125 respectively; North Dakota reported a strong GA operating position of 1.12.
6. The only states to report growth in general revenues in 2008-09 were North Dakota (6.01 percent) and Montana (2.05 percent).
7. North Dakota and Wyoming were the only states to report significantly higher revenues in 2010 compared to 2008 levels (14 and 15 percent respectively). Alaska's 2010 primary government general revenues were 9 percent higher than the 2008 levels but more than 16 percent lower than its 2007 levels. Alabama, New Hampshire, and West Virginia 2010 primary government general revenues were only marginally greater than their 2008 (0.7, 0.05, and 0.4 percent respectively). Only 7 states in 2010 reported their primary government's general revenues to be higher than their 2007 levels. They include Iowa (1.4 percent), Kansas (0.5 percent), Missouri (1.4 percent), North Dakota (37 percent), Oregon (4.3 percent), West Virginia (2 percent) and Wyoming (9.7 percent).
8. While BTA operating position is not reported, the data shows that out of the 50 states, at least 29 states reported a mean

operating surplus for the nine-year period. There is significant volatility in BTA outcomes within and between states.

9. Consider the following: the operating position for Alaska's is estimated to be 1.260 operating position. This would translate to an average annual surplus of \$2,520. Wyoming's operating position of 1.2811. This would translate to an average surplus of \$1,681 per capita. New York's average annual operating deficit per capita for the period would be \$231 per capita while that of Georgia would be \$138 per capita, nearly half that of New York even though both states reported an operating position of 0.9660. The per capita basis makes subjective interpretation of a fiscal measure using a socio-economic variable. New York's deficit is not significantly larger than that of Georgia nor is Alaska's surplus significantly greater than that of Wyoming given the government's operating revenues. A per capita measure would give that impression, even though these differences do not actually exist.
10. Margin ratios (gross margin or total margin ratios) generally focus on size of an organization profit or loss relative to its revenues.
11. An alternative measure is **Change in Net Assets/Net Assets** (Johnson, et al., 2012; Mead, 2006; Rivenbark, et al., 2010). Since a number of states (California, Connecticut, Illinois, Massachusetts, New Jersey and Rhode Island) report a negative change in net asset position as well as a negative net asset position (resulting in a large positive ratio), this ratio is not estimated in this study. While one may exclude these observations from reported descriptive statistics, the results that would have been reported would be biased upwards especially in 2008 through 2010.
12. New Jersey, Illinois, and Michigan reported a positive change in net asset position only once in the nine-year period while California, Hawaii, and Connecticut reported a positive change in net asset position twice in the nine-year period.
13. The state reformed its transportation system by creating a new entity - Massachusetts Department of Transportation (MassDOT) which in effect merged several entities including the Highway Department, Registry of Motor Vehicles, Massachusetts

Turnpike Authority, Massachusetts Port Authority, as well as the Massachusetts Bay Transportation Authority. In FY 2010, the state reported transfers to MassDOT of \$8.9 billion and a negative change in net position of \$10.4 billion. The ROA for the state for FY 2010 was -44.05 percent and its total margin ratio for the year was -26.30; without the transfers to MassDOT, the state's fiscal picture would have been much better, although its mean ratio for the nine-year period would more likely still have been negative.

14. The following states report the current assets separately – Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Mississippi, New Hampshire, New Jersey, New Mexico, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Texas, Vermont, West Virginia, and Wyoming.
15. For the nine-year period the BTA current ratio for Mississippi was 37.72, while Kansas reported a current ratio of 26.08. Vermont and Maine reported a current ratio of 16.60; Indiana was 14.93, while Oklahoma was 13.68. Rhode Island also reported a large current ratio of 6.78.
16. BTA expenses are approximately 14 percent of TPG while BTA assets are approximately 20 percent of TPG. For the 25 states, their BTA current assets are approximately 25 percent of TPG current assets, with some states reporting significantly higher proportions (e.g., Iowa and Oregon report a BTA current asset share of 42 percent; Colorado, Connecticut, Kansas, Texas and West Virginia report BTA current asset share greater than 34 percent).
17. One must keep in mind that the expenses may be met using restricted assets; therefore the measure reported here is but a rough estimate (Chaney, et al., 2002).
18. Generally debt sold to finance capital assets is deducted from the value of the asset and reported in the line “invested in capital assets, net of related debt”. However, debt used to finance non-capital assets, or used to provide financial resources for other governments (e.g., school districts or public authorities) will have the liability shown as a direct reduction in UNA

19. While not a critical measure for GA since these are financed primarily through tax revenues, the data shows that program revenues (charges for fees, operating grants, and capital grants) cover at least 46 percent of total expenses.
20. Of these five states, Standard and Poor's downgraded California from an A+ to an A-, downgraded Illinois from AA to A+, and downgraded New Jersey from an AA to an AA-.
21. The mean debt to asset and debt to operating revenue ratios for 2009 were 0.2592 and 0.3181 respectively, with Connecticut, Hawaii, New Jersey, Illinois, and Massachusetts reporting ratios greater than 0.60. For a vast majority of states, their debt to asset and debt to operating revenue ratios were below 0.40.

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