

SECTOR PROFILE

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 Rate this Research

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State government – US

Medians - State debt declined in 2019, but likely to grow in coming years

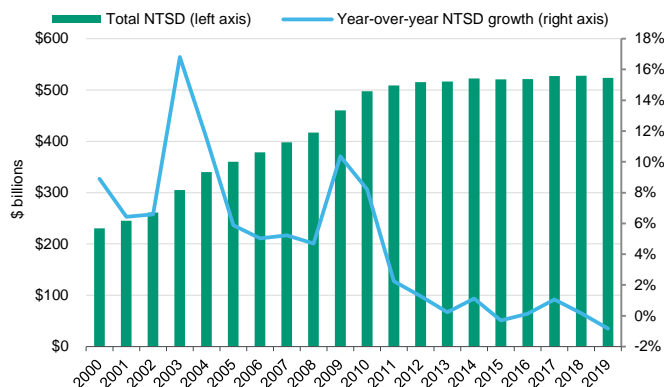
Total net tax-supported debt (NTSD) for the 50 states declined modestly in 2019, falling to just above 2014 levels. Last year's growth in state economies and populations yielded declines in most debt metrics, lessening many states' debt burdens. These improvements help position states to respond to the financial effects of the coronavirus. While some issuances were canceled or postponed in the early stages of the pandemic, increased issuance is likely over the next year, owing to debt restructuring and deficit financing. Additionally, states that relied on pay-go financing of infrastructure projects in recent years will likely return to debt financing, as excess revenue diminishes.

- » **Total NTSD declined by 0.8% in 2019.** NTSD fell or grew modestly in most states, with significant growth occurring in just a few states.
- » **Debt ratios continued multiyear improvements in many states.** Growth in state GDP, population, personal incomes and state revenue yielded declining debt ratios in 2019. Median NTSD to state GDP fell to 1.9%, the lowest level since 2006.
- » **General obligation (GO) debt remained the most prevalent type of debt.** More than 50% of outstanding state debt was GO debt in 2019. All but 12 states have outstanding GO debt.
- » **Median debt service costs fell for the sixth straight year, to 3.8%.** Lower interest rates and recent refundings drove down costs.
- » **States that have a larger capital asset depreciation ratio¹ may have a greater need for new infrastructure spending and thus debt financing.** The capital asset depreciation ratio provides more insight into debt needs for states with a larger percentage of assets subject to depreciation relative to total assets.

Exhibit 1

State debt declined, but will likely increase in coming years

NTSD stands for net tax-supported debt



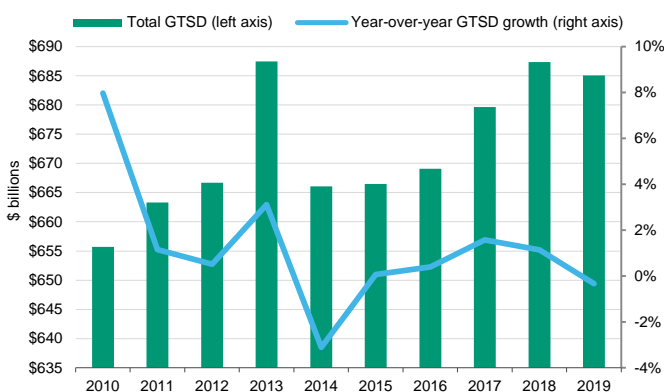
Some historical figures have been updated and may not match prior published reports.

Source: Moody's Investors Service

Net tax-supported debt declined in 2019, continuing a nearly decade-long trend of low growth or declines

- » Total NTSD declined by 0.8% in 2019 to \$523.5 billion from \$527.9 billion.
- » NTSD declined for two-thirds of states. Of the 17 states where debt grew, nine saw growth above 5%, with Virginia (Aaa stable) having the largest debt outstanding among this group.
- » New York (Aa1 negative) was the only state to add more than \$1 billion of NTSD. California (Aa2 stable) and Illinois (Baa3 negative) had declines of more than \$1.5 billion.
- » Over the next few years, NTSD growth is likely to accelerate as states manage the coronavirus-induced fiscal difficulties.

Exhibit 2

Gross tax-supported debt (GTSD) declined, but at a slower rate than net tax-supported debt

Some historical figures have been updated and may not match prior published reports.

Source: Moody's Investors Service

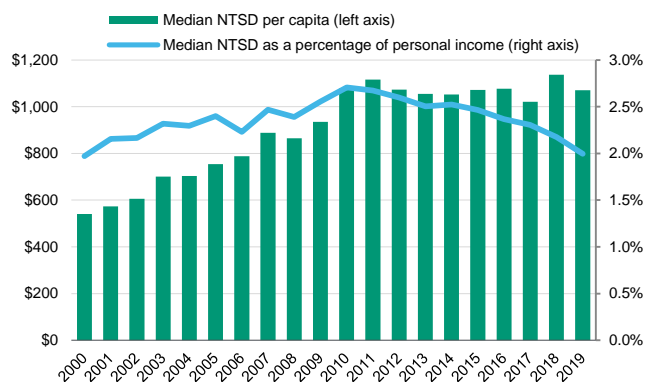
Gross tax-supported debt declined less than NTSD

- » Gross tax-supported debt (GTSD) declined by 0.3% to \$685.0 billion as states continue to employ self-supporting and contingent debt programs.
- » Minnesota (Aa1 stable) had considerable growth of GTSD owing to an increase in guarantees and moral obligations. Notable declines of GTSD of \$2.2 billion (7.9%) and \$1.5 billion (6.8%) occurred in Texas (Aaa stable) and Florida (Aaa stable).

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Exhibit 3
Population and personal income growth contributed to shrinking debt ratios

NTSD stands for net tax-supported debt



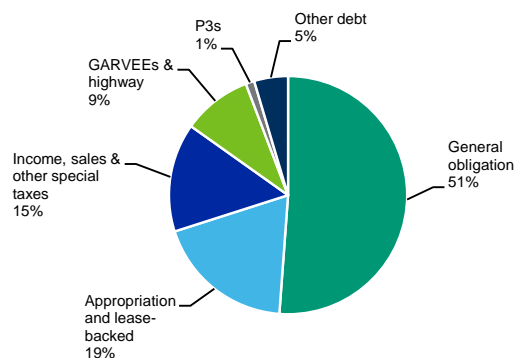
Some historical debt figures have been updated and may not match prior published reports.

Source: Moody's Investors Service

Debt ratios continued multiyear improvement trend

- » Median NTSD per capita declined 5.8% to \$1,071 in 2019, while the range of NTSD per capita remained wide — from \$19 in [Nebraska](#) (Aa1 stable) to \$6,637 in [Connecticut](#) (A1 stable).
- » Median NTSD as a share of personal income declined to 2.0%. All but 11 states had an improvement in this metric, with only [West Virginia](#) (Aa2 stable) showing a significant increase.
- » Given continued economic growth, median NTSD to state GDP fell for the fourth consecutive year to 1.9% — the lowest level since 2006.

Exhibit 4
GO debt constituted more than half of outstanding net tax-supported debt in 2019
 (% , 2019)



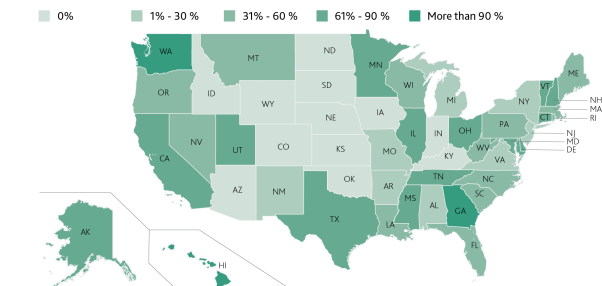
GARVEE stands for grant anticipation revenue vehicle bonds. Highway refers to highway revenue bonds. P3s stands for public-private partnerships.

Source: Moody's Investors Service

General obligation debt continued to account for most state NTSD

- » General obligation debt constituted more than half (51.2%) of all outstanding NTSD in 2019.
- » Appropriation and lease-backed debt, at 18.9%, again accounted for the second largest share of outstanding state debt. Like GO debt, roughly 80% of states have appropriation and lease-backed debt outstanding.
- » Special tax debt accounted for 14.8% of NTSD, although fewer than half of the states relied on it. Just two states — New York (65.5%) and [Massachusetts](#) (Aa1 stable) at 15.1% — accounted for 81% of all special tax debt, with another seven states accounting for 16.6%.
- » Many states (36) relied on highway revenue or GARVEE debt, which together constituted 9.4% of total NTSD.

Exhibit 5
Most states had general obligation (GO) debt in 2019
 (GO debt as % of NTSD)



Source: Moody's Investors Service

Use of GO debt varies by state

- » Nearly 80% of states rely on GO debt; however, the extent of use varies considerably by state, depending on constitutional restrictions and political considerations.
- » Twelve states — from low-debt North Dakota (Aa1 stable) to high-debt Kentucky (Aa3 stable) — do not issue GO debt. In three states — Georgia (Aaa stable), Washington (Aaa stable) and Hawaii (Aa1 negative) — more than 90% of outstanding NTSD is GO debt.
- » States that do not issue GO debt tend to rely on lease appropriation debt — led by Oklahoma (Aa2 stable) and Indiana (Aaa stable), for which lease debt constitutes 95.0% and 76.4% of NTSD, respectively.

Exhibit 6
Most states have capital asset depreciation ratios below 55%
 Accumulated depreciation as a % of gross depreciable assets in 2019

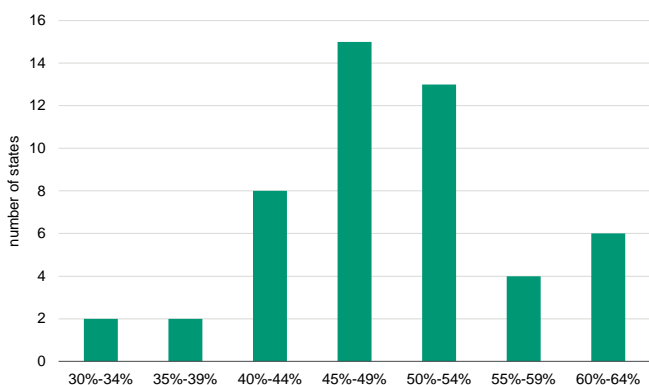


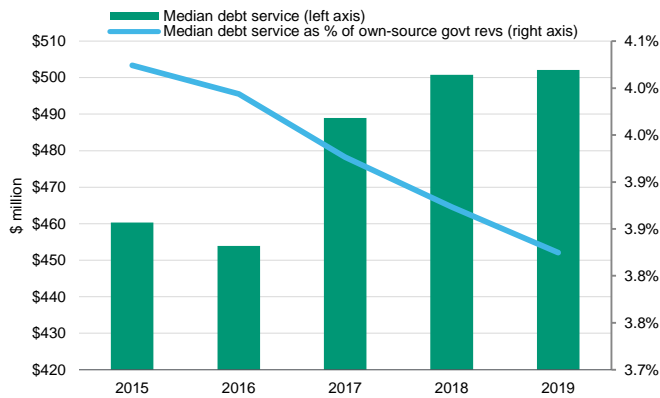
Exhibit only includes assets subject to depreciation. Non-depreciable assets are excluded.
 Sources: State comprehensive annual financial reports and Moody's Investors Service

A high capital asset depreciation ratio² may indicate a near-term need for additional debt

- » In 40 states less than 55% of gross depreciable capital assets have been depreciated. The 10 states with higher depreciation ratios may need to issue debt in the near term to replace aging assets or face asset deterioration that could increase operating costs.
- » Eighteen states do not depreciate the bulk of their capital assets, instead using the "modified approach" to account for infrastructure assets; bonding needs in these states may be driven by other factors.³
- » Most states have been using operating revenue to support infrastructure investment, giving them capacity to issue debt for this purpose when operating budgets tighten.

Exhibit 7

Median debt service costs continue to decline



Some historical figures have been updated and may not match prior published reports. Own-source revenue is reported total governmental revenue less funds received from federal sources. Additional adjustments have been made to own-source revenue for Delaware, Massachusetts and Washington to reflect inclusion or exclusion of certain funds.

Source: Moody's Investors Service

Debt service costs relative to revenue continue to decline

- » Median debt service payments rose slightly to \$502 million, while the median debt service ratio (debt service as a share of own-source revenue) declined to 3.8%.
- » The debt service ratio remained highest in Connecticut (14.7%) and Massachusetts (10.5%).
- » Mississippi (Aa2 stable) had the largest improvement in debt service ratio — declining to 6.4% from 7.8%, while Iowa's (Aaa stable) 1.5 percentage point increase was the largest.

Appendix: Key metrics for US state debt medians

Exhibit 8

Net tax-supported debt per capita and as % of personal income (2019)

Net tax-supported debt per capita			Rating	Net tax-supported debt as a % of personal income		
1	Connecticut	\$6,637	A1	1	Hawaii	9.6%
2	Massachusetts	\$6,258	Aa1	2	Connecticut	8.4%
3	Hawaii	\$5,528	Aa1	3	Massachusetts	8.3%
4	New Jersey	\$4,125	A3	4	Delaware	6.1%
5	New York	\$3,314	Aa1	5	New Jersey	5.8%
6	Delaware	\$3,289	Aaa	6	Kentucky	5.2%
7	Illinois	\$2,635	Baa3	7	Mississippi	4.8%
8	Washington	\$2,579	Aaa	8	New York	4.6%
9	Maryland	\$2,323	Aaa	9	Illinois	4.5%
10	Rhode Island	\$2,308	Aa2	10	Rhode Island	4.1%
11	Kentucky	\$2,278	Aa3	11	West Virginia	4.0%
12	California	\$2,147	Aa2	12	Washington	4.0%
13	Oregon	\$2,018	Aa1	13	Oregon	3.8%
14	Mississippi	\$1,901	Aa2	14	Maryland	3.5%
15	West Virginia	\$1,700	Aa2	15	California	3.2%
16	Virginia	\$1,677	Aaa	16	Louisiana	3.2%
17	Louisiana	\$1,545	Aa3	17	Wisconsin	2.8%
18	Pennsylvania	\$1,519	Aa3	18	Kansas	2.8%
19	Wisconsin	\$1,514	Aa1	19	Virginia	2.8%
20	Kansas	\$1,491	Aa2	20	Pennsylvania	2.6%
21	Minnesota	\$1,406	Aa1	21	New Mexico	2.5%
22	Alaska	\$1,229	Aa3	22	Arkansas	2.4%
23	Ohio	\$1,158	Aa1	23	Minnesota	2.4%
24	New Mexico	\$1,117	Aa2	24	Ohio	2.3%
25	Arkansas	\$1,081	Aa1	25	Georgia	2.0%
26	Vermont	\$1,061	Aa1	26	Alaska	2.0%
27	Georgia	\$971	Aaa	27	Maine	1.9%
28	Maine	\$958	Aa2	28	Alabama	1.9%
29	Alabama	\$822	Aa1	29	Vermont	1.9%
30	Florida	\$780	Aaa	30	Florida	1.5%
31	Utah	\$720	Aaa	31	Utah	1.5%
32	New Hampshire	\$709	Aa1	32	North Carolina	1.2%
33	Colorado	\$603	Aa1	33	Idaho	1.2%
34	Michigan	\$593	Aa1	34	Michigan	1.2%
35	Nevada	\$592	Aa1	35	Nevada	1.2%
36	North Carolina	\$586	Aaa	36	New Hampshire	1.1%
37	Idaho	\$540	Aa1	37	Arizona	1.1%
38	Arizona	\$508	Aa1	38	South Carolina	1.0%
39	South Dakota	\$493	Aaa	39	Colorado	1.0%
40	South Carolina	\$469	Aaa	40	Missouri	0.9%
41	Missouri	\$464	Aaa	41	South Dakota	0.9%
42	Texas	\$379	Aaa	42	Texas	0.7%
43	Oklahoma	\$337	Aa2	43	Oklahoma	0.7%
44	Tennessee	\$292	Aaa	44	Tennessee	0.6%
45	Indiana	\$251	Aaa	45	Indiana	0.5%
46	Iowa	\$150	Aaa	46	Iowa	0.3%
47	Montana	\$106	Aa1	47	Montana	0.2%
48	North Dakota	\$64	Aa1	48	North Dakota	0.1%
49	Wyoming	\$28	NGO*	49	Wyoming	0.0%
50	Nebraska	\$19	Aa1	50	Nebraska	0.0%
	Mean	\$1,506			Mean	2.6%
	Median	\$1,071			Median	2.0%

*No general obligation debt or issuer rating.

Sources: Moody's Investors Service, US Census Bureau and US Bureau of Economic Analysis

Exhibit 9

**State net tax-supported debt and gross tax-supported debt
(2019)**

Net tax-supported debt (\$ thousands)			Rating	Gross tax-supported debt (\$ thousands)		Gross to net ratio	
1	California	\$84,850,860	Aa2	1	California	\$90,521,537	1.07
2	New York	\$64,468,263	Aa1	2	New York	\$64,776,678	1.00
3	Massachusetts	\$43,136,088	Aa1	3	Massachusetts	\$43,666,693	1.01
4	New Jersey	\$36,640,956	A3	4	New Jersey	\$41,476,756	1.13
5	Illinois	\$33,389,269	Baa3	5	Washington	\$35,703,934	1.82
6	Connecticut	\$23,664,466	A1	6	Illinois	\$34,592,069	1.04
7	Washington	\$19,639,634	Aaa	7	Connecticut	\$28,769,936	1.22
8	Pennsylvania	\$19,449,476	Aa3	8	Minnesota	\$26,432,567	3.33
9	Florida	\$16,750,823	Aaa	9	Texas	\$25,576,270	2.33
10	Virginia	\$14,310,583	Aaa	10	Pennsylvania	\$23,873,245	1.23
11	Maryland	\$14,044,517	Aaa	11	Michigan	\$20,343,735	3.44
12	Ohio	\$13,541,134	Aa1	12	Florida	\$19,982,398	1.19
13	Texas	\$10,994,229	Aaa	13	Ohio	\$19,168,026	1.42
14	Georgia	\$10,310,529	Aaa	14	Virginia	\$18,791,090	1.31
15	Kentucky	\$10,175,381	Aa3	15	Oregon	\$18,091,335	2.13
16	Wisconsin	\$8,815,554	Aa1	16	Kentucky	\$14,333,002	1.41
17	Oregon	\$8,512,887	Aa1	17	Maryland	\$14,044,517	1.00
18	Minnesota	\$7,932,022	Aa1	18	Colorado	\$13,472,826	3.88
19	Hawaii	\$7,827,018	Aa1	19	Wisconsin	\$13,238,957	1.50
20	Louisiana	\$7,183,553	Aa3	20	Georgia	\$10,310,529	1.00
21	North Carolina	\$6,140,848	Aaa	21	Alabama	\$9,564,191	2.37
22	Michigan	\$5,918,950	Aa1	22	Utah	\$8,270,421	3.58
23	Mississippi	\$5,658,952	Aa2	23	Louisiana	\$8,242,098	1.15
24	Kansas	\$4,344,866	Aa2	24	Hawaii	\$7,848,045	1.00
25	Alabama	\$4,030,776	Aa1	25	North Carolina	\$6,140,848	1.00
26	Arizona	\$3,698,286	Aa1	26	Mississippi	\$5,954,667	1.05
27	Colorado	\$3,472,826	Aa1	27	Maine	\$4,615,045	3.58
28	Arkansas	\$3,263,055	Aa1	28	West Virginia	\$4,544,122	1.49
29	Delaware	\$3,202,999	Aaa	29	Kansas	\$4,344,866	1.00
30	West Virginia	\$3,047,370	Aa2	30	Tennessee	\$4,067,620	2.04
31	Missouri	\$2,850,105	Aaa	31	Indiana	\$3,963,476	2.35
32	Rhode Island	\$2,445,273	Aa2	32	North Dakota	\$3,763,062	76.86
33	South Carolina	\$2,412,597	Aaa	33	Arizona	\$3,698,286	1.00
34	New Mexico	\$2,342,230	Aa2	34	Arkansas	\$3,303,615	1.01
35	Utah	\$2,307,166	Aaa	35	Delaware	\$3,202,999	1.00
36	Tennessee	\$1,992,370	Aaa	36	Rhode Island	\$3,076,996	1.26
37	Nevada	\$1,824,324	Aa1	37	Missouri	\$2,850,105	1.00
38	Indiana	\$1,687,842	Aaa	38	Alaska	\$2,632,500	2.93
39	Oklahoma	\$1,332,715	Aa2	39	Idaho	\$2,563,086	2.66
40	Maine	\$1,287,945	Aa2	40	South Carolina	\$2,470,128	1.02
41	Idaho	\$964,509	Aa1	41	New Mexico	\$2,342,230	1.00
42	New Hampshire	\$963,953	Aa1	42	Nevada	\$2,183,077	1.20
43	Alaska	\$899,200	Aa3	43	Oklahoma	\$2,182,304	1.64
44	Vermont	\$661,983	Aa1	44	New Hampshire	\$1,942,108	2.01
45	Iowa	\$474,175	Aaa	45	Iowa	\$1,792,175	3.78
46	South Dakota	\$435,837	Aaa	46	Vermont	\$1,454,683	2.20
47	Montana	\$113,753	Aa1	47	South Dakota	\$512,592	1.18
48	North Dakota	\$48,963	Aa1	48	Montana	\$299,317	2.63
49	Nebraska	\$37,575	Aa1	49	Nebraska	\$37,575	1.00
50	Wyoming	\$16,291	NGO*	50	Wyoming	\$16,291	1.00
Total				Total	\$ 685,044,629		
Mean				Mean	\$13,700,893	3.21	
Median				Median	\$6,047,758	1.24	

*No general obligation debt or issuer rating.

Sources: Moody's Investors Service

Exhibit 10

Net tax-supported debt as % of state gross domestic product

2017 NTSD as % of state GDP		2018 NTSD as % of state GDP		2019 NTSD as % of state GDP				
1	Connecticut	8.75%	1	Connecticut	8.81%	1	Connecticut	8.28%
2	Hawaii	8.39%	2	Hawaii	8.26%	2	Hawaii	8.05%
3	Massachusetts	7.85%	3	Massachusetts	7.53%	3	Massachusetts	7.24%
4	New Jersey	6.48%	4	New Jersey	5.95%	4	New Jersey	5.68%
5	Kentucky	5.18%	5	Kentucky	5.17%	5	Mississippi	4.76%
6	Mississippi	5.02%	6	Mississippi	4.63%	6	Kentucky	4.74%
7	Illinois	4.52%	7	Delaware	4.22%	7	Delaware	4.25%
8	Delaware	4.22%	8	Illinois	4.05%	8	West Virginia	3.90%
9	Rhode Island	3.96%	9	Rhode Island	3.87%	9	Rhode Island	3.85%
10	New York	3.81%	10	New York	3.80%	10	New York	3.72%
11	Washington	3.76%	11	Washington	3.48%	11	Illinois	3.72%
12	Oregon	3.69%	12	Maryland	3.43%	12	Oregon	3.38%
13	Maryland	3.32%	13	Oregon	3.36%	13	Maryland	3.28%
14	Louisiana	3.19%	14	West Virginia	3.35%	14	Washington	3.28%
15	California	3.07%	15	California	2.89%	15	Louisiana	2.72%
16	Wisconsin	2.99%	16	Louisiana	2.76%	16	California	2.70%
17	Arkansas	2.96%	17	Wisconsin	2.72%	17	Virginia	2.58%
18	Kansas	2.81%	18	Arkansas	2.64%	18	Wisconsin	2.54%
19	West Virginia	2.62%	19	Kansas	2.63%	19	Kansas	2.51%
20	Virginia	2.53%	20	Pennsylvania	2.58%	20	Arkansas	2.45%
21	New Mexico	2.52%	21	Virginia	2.52%	21	Pennsylvania	2.39%
22	Pennsylvania	2.32%	22	New Mexico	2.49%	22	New Mexico	2.25%
23	Minnesota	2.27%	23	Vermont	2.15%	23	Minnesota	2.08%
24	Alabama	2.08%	24	Minnesota	2.15%	24	Ohio	1.94%
25	Ohio	2.02%	25	Ohio	2.00%	25	Maine	1.91%
26	Alaska	2.00%	26	Alabama	1.93%	26	Vermont	1.90%
27	Maine	1.94%	27	Georgia	1.77%	27	Alabama	1.75%
28	Vermont	1.91%	28	Alaska	1.77%	28	Georgia	1.67%
29	Florida	1.89%	29	Maine	1.74%	29	Alaska	1.62%
30	Georgia	1.82%	30	Florida	1.66%	30	Florida	1.53%
31	Utah	1.43%	31	Utah	1.40%	31	Utah	1.22%
32	Arizona	1.36%	32	New Hampshire	1.23%	32	Idaho	1.19%
33	Michigan	1.33%	33	Michigan	1.19%	33	Michigan	1.09%
34	New Hampshire	1.29%	34	Idaho	1.15%	34	New Hampshire	1.09%
35	Nevada	1.20%	35	Arizona	1.15%	35	North Carolina	1.04%
36	North Carolina	1.17%	36	Nevada	1.13%	36	Nevada	1.03%
37	South Carolina	1.16%	37	South Carolina	1.09%	37	Arizona	1.01%
38	Idaho	1.14%	38	North Carolina	0.98%	38	South Carolina	0.98%
39	Missouri	1.07%	39	Missouri	0.94%	39	Colorado	0.89%
40	South Dakota	0.96%	40	South Dakota	0.81%	40	Missouri	0.86%
41	Colorado	0.78%	41	Colorado	0.74%	41	South Dakota	0.82%
42	Texas	0.70%	42	Oklahoma	0.62%	42	Oklahoma	0.65%
43	Oklahoma	0.63%	43	Texas	0.62%	43	Texas	0.58%
44	Tennessee	0.61%	44	Tennessee	0.57%	44	Tennessee	0.52%
45	Indiana	0.56%	45	Indiana	0.49%	45	Indiana	0.45%
46	Montana	0.39%	46	Iowa	0.34%	46	Iowa	0.24%
47	Iowa	0.38%	47	Montana	0.31%	47	Montana	0.22%
48	North Dakota	0.19%	48	North Dakota	0.18%	48	North Dakota	0.09%
49	Wyoming	0.06%	49	Wyoming	0.05%	49	Wyoming	0.04%
50	Nebraska	0.03%	50	Nebraska	0.04%	50	Nebraska	0.03%
	Mean	2.51%		Mean	2.41%		Mean	2.34%
	Median	2.01%		Median	1.97%		Median	1.91%

Some historical debt figures have been updated and may not match prior published reports.

Sources: Moody's Investors Service and US Bureau of Economic Analysis

Exhibit 11

Net tax-supported debt as a % of personal income

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Alabama	2.4%	2.4%	2.5%	2.4%	2.4%	2.4%	2.2%	2.2%	2.3%	2.2%	2.1%	1.9%
Alaska	2.0%	3.1%	2.8%	3.2%	2.5%	3.0%	2.7%	2.5%	2.7%	2.5%	2.2%	2.0%
Arizona	2.4%	2.2%	2.7%	2.7%	2.5%	2.4%	2.2%	2.0%	1.7%	1.5%	1.3%	1.1%
Arkansas	1.2%	1.0%	1.1%	1.0%	1.1%	1.6%	3.5%	3.2%	2.9%	2.9%	2.6%	2.4%
California	4.2%	5.6%	5.9%	5.8%	5.5%	5.0%	4.6%	4.2%	3.8%	3.6%	3.5%	3.2%
Colorado	0.8%	1.0%	1.2%	1.2%	1.1%	1.1%	0.9%	0.8%	0.7%	0.9%	0.8%	1.0%
Connecticut	8.0%	8.8%	9.2%	9.0%	8.7%	8.6%	8.5%	9.0%	9.3%	9.1%	8.9%	8.4%
Delaware	5.2%	6.3%	6.6%	6.4%	5.7%	5.6%	6.6%	6.2%	6.4%	6.2%	6.1%	6.1%
Florida	2.9%	2.9%	2.9%	2.9%	2.6%	2.5%	2.3%	2.3%	2.1%	1.9%	1.6%	1.5%
Georgia	2.9%	3.3%	3.2%	3.0%	2.8%	2.8%	2.6%	2.5%	2.3%	2.2%	2.1%	2.0%
Hawaii	9.1%	9.5%	9.9%	9.1%	9.5%	10.5%	10.3%	9.3%	9.8%	9.9%	9.8%	9.6%
Idaho	1.6%	1.7%	1.6%	1.7%	1.5%	1.4%	1.3%	1.1%	1.0%	1.1%	1.2%	1.2%
Illinois	4.4%	4.4%	5.6%	5.8%	5.5%	5.5%	5.4%	4.9%	4.8%	5.4%	4.8%	4.5%
Indiana	1.4%	1.4%	1.3%	1.3%	1.1%	1.4%	0.8%	0.8%	0.7%	0.6%	0.6%	0.5%
Iowa	0.2%	0.2%	0.7%	0.8%	0.7%	0.6%	0.6%	0.5%	0.5%	0.5%	0.4%	0.3%
Kansas	3.1%	2.9%	3.1%	3.0%	2.6%	2.4%	2.3%	3.2%	3.3%	3.2%	2.9%	2.8%
Kentucky	4.6%	5.2%	5.9%	6.0%	5.6%	5.7%	7.2%	6.6%	6.2%	5.7%	5.7%	5.2%
Louisiana	3.2%	3.4%	3.4%	3.6%	3.5%	3.6%	3.7%	3.7%	3.8%	3.7%	3.3%	3.2%
Maine	2.1%	2.1%	2.3%	2.2%	2.0%	2.4%	2.2%	2.1%	2.0%	1.9%	1.7%	1.9%
Maryland	3.1%	3.3%	3.2%	3.4%	3.3%	3.4%	3.5%	3.4%	3.5%	3.6%	3.7%	3.5%
Massachusetts	8.5%	9.3%	8.9%	9.0%	8.9%	8.7%	9.5%	9.2%	9.3%	9.1%	8.7%	8.3%
Michigan	2.2%	2.2%	2.2%	2.1%	2.1%	2.0%	1.8%	1.6%	1.5%	1.5%	1.3%	1.2%
Minnesota	2.0%	2.5%	2.7%	2.6%	2.8%	2.9%	3.1%	2.9%	2.8%	2.6%	2.5%	2.4%
Mississippi	5.0%	4.9%	4.9%	5.4%	5.2%	5.2%	5.1%	5.1%	5.2%	5.1%	4.7%	4.8%
Missouri	1.9%	2.2%	2.1%	1.9%	1.8%	1.7%	1.5%	1.4%	1.3%	1.2%	1.0%	0.9%
Montana	1.1%	1.0%	1.0%	1.0%	0.8%	0.7%	0.6%	0.6%	0.5%	0.4%	0.3%	0.2%
Nebraska	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Nevada	2.1%	2.5%	2.4%	2.1%	1.9%	1.6%	1.6%	1.4%	1.3%	1.4%	1.3%	1.2%
New Hampshire	1.2%	1.6%	1.9%	1.7%	1.8%	1.7%	1.6%	1.5%	1.3%	1.3%	1.2%	1.1%
New Jersey	7.1%	7.3%	7.6%	7.5%	7.3%	7.2%	7.1%	6.8%	7.1%	6.7%	6.1%	5.8%
New Mexico	4.3%	4.2%	5.3%	4.1%	3.7%	3.4%	3.4%	3.2%	3.2%	2.9%	2.9%	2.5%
New York	6.1%	6.7%	6.5%	6.3%	6.0%	5.7%	5.5%	5.2%	5.0%	4.8%	4.7%	4.6%
North Carolina	2.4%	2.2%	2.2%	2.3%	2.3%	2.1%	1.8%	1.7%	1.5%	1.4%	1.2%	1.2%
North Dakota	0.9%	0.8%	0.8%	0.6%	0.5%	0.5%	0.4%	0.3%	0.3%	0.3%	0.2%	0.1%
Ohio	2.7%	2.6%	2.8%	2.7%	2.6%	2.6%	2.6%	2.5%	2.4%	2.4%	2.4%	2.3%
Oklahoma	1.4%	1.6%	1.7%	1.2%	1.1%	0.9%	0.8%	0.7%	0.8%	0.7%	0.7%	0.7%
Oregon	4.5%	5.1%	5.4%	5.3%	5.0%	4.8%	4.5%	4.2%	4.0%	4.2%	3.8%	3.8%
Pennsylvania	2.4%	2.3%	2.7%	2.7%	2.7%	2.5%	2.5%	2.5%	2.7%	2.5%	2.8%	2.6%
Rhode Island	4.4%	5.1%	5.2%	4.5%	4.5%	4.4%	4.1%	3.7%	4.2%	4.2%	4.0%	4.1%
South Carolina	2.8%	2.8%	2.7%	2.5%	2.2%	2.1%	1.8%	1.5%	1.4%	1.2%	1.2%	1.0%
South Dakota	0.7%	0.4%	0.9%	0.9%	0.8%	0.9%	0.9%	1.1%	1.0%	1.1%	0.9%	0.9%
Tennessee	0.7%	0.9%	1.0%	0.9%	0.9%	0.8%	0.8%	0.7%	0.7%	0.7%	0.7%	0.6%
Texas	1.3%	1.3%	1.6%	1.5%	1.4%	1.4%	0.9%	0.8%	0.8%	0.9%	0.8%	0.7%
Utah	1.5%	3.0%	4.0%	4.1%	3.6%	3.2%	2.8%	2.3%	1.9%	1.8%	1.7%	1.5%
Vermont	1.8%	1.8%	1.8%	1.9%	1.8%	1.9%	2.0%	2.0%	2.1%	1.9%	2.1%	1.9%
Virginia	1.8%	2.0%	2.3%	2.5%	2.7%	2.7%	2.7%	2.6%	2.8%	2.8%	2.7%	2.8%
Washington	4.9%	5.2%	6.0%	5.8%	6.1%	6.1%	5.6%	5.1%	4.9%	4.5%	4.2%	4.0%
West Virginia	3.4%	3.4%	3.7%	3.5%	3.2%	3.0%	2.6%	3.2%	3.1%	2.7%	3.5%	4.0%
Wisconsin	3.8%	4.6%	4.7%	4.6%	4.4%	4.3%	4.0%	3.8%	3.7%	3.4%	3.0%	2.8%
Wyoming	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Mean	3.0%	3.2%	3.4%	3.3%	3.2%	3.1%	3.1%	3.0%	2.9%	2.8%	2.7%	2.6%
Median	2.4%	2.6%	2.7%	2.7%	2.6%	2.5%	2.5%	2.5%	2.4%	2.3%	2.2%	2.0%

Some historical debt figures have been updated and may not match prior published reports.

Sources: Moody's Investors Service and US Bureau of Economic Analysis

Exhibit 12

Debt service ratio

	FY 2017		FY 2018		FY 2019			
1	Connecticut	13.8%	1	Connecticut	13.5%	1	Connecticut	14.7%
2	Hawaii	10.5%	2	New Jersey	9.9%	2	Massachusetts	10.5%
3	Massachusetts	10.1%	3	Massachusetts	9.6%	3	Illinois[1]	9.9%
4	Kentucky	9.9%	4	Hawaii	9.5%	4	Hawaii	9.8%
5	New Jersey	9.4%	5	Kentucky	9.3%	5	New Jersey	9.6%
6	Illinois	9.2%	6	Illinois	8.4%	6	Kentucky	9.3%
7	New York	8.1%	7	Mississippi	7.8%	7	New York	7.5%
8	Maryland	7.0%	8	Maryland	7.1%	8	Washington	7.3%
9	Mississippi	6.9%	9	New York	6.7%	9	Maryland	6.8%
10	Washington	6.6%	10	Delaware	6.6%	10	Mississippi	6.4%
11	Georgia	6.4%	11	Washington	6.3%	11	Rhode Island	5.8%
12	Wisconsin	5.9%	12	Georgia	5.9%	12	Delaware	5.7%
13	Delaware	5.7%	13	Ohio	5.4%	13	Ohio	5.5%
14	Ohio	5.6%	14	Rhode Island	5.4%	14	Georgia	5.4%
15	Utah	5.3%	15	Oregon	5.3%	15	Wisconsin	5.1%
16	Oregon	5.2%	16	Wisconsin	5.1%	16	Oregon	4.8%
17	Maine	5.1%	17	Louisiana	4.8%	17	New Mexico[1]	4.8%
18	Rhode Island	5.1%	18	Maine	4.8%	18	Louisiana	4.7%
19	Louisiana	4.9%	19	Virginia	4.5%	19	Maine	4.6%
20	Virginia	4.8%	20	New Mexico	4.4%	20	Virginia	4.6%
21	California	4.6%	21	Florida	4.4%	21	Kansas	4.3%
22	Florida	4.4%	22	California	4.3%	22	California[1]	4.2%
23	Kansas	4.4%	23	Nevada	4.2%	23	West Virginia	4.1%
24	New Hampshire	4.0%	24	Utah	4.1%	24	Nevada	3.9%
25	Nevada	3.9%	25	Alabama	4.0%	25	Alabama	3.8%
26	Alabama	3.9%	26	New Hampshire	3.9%	26	New Hampshire	3.8%
27	Arizona	3.9%	27	Pennsylvania	3.8%	27	Utah	3.7%
28	New Mexico	3.9%	28	Arizona	3.7%	28	Florida	3.6%
29	Pennsylvania	3.6%	29	Kansas	3.7%	29	Pennsylvania	3.5%
30	Missouri	3.5%	30	Missouri	3.4%	30	Missouri	3.3%
31	Arkansas	3.5%	31	Minnesota	3.3%	31	Minnesota	3.2%
32	West Virginia	3.5%	32	West Virginia	3.3%	32	Arizona	3.1%
33	Minnesota	3.4%	33	North Carolina	3.1%	33	North Carolina	2.9%
34	North Carolina	3.1%	34	Texas	2.6%	34	Texas	2.5%
35	South Carolina	2.7%	35	South Dakota	2.4%	35	Michigan	2.4%
36	Texas	2.7%	36	South Carolina	2.4%	36	Iowa	2.2%
37	Michigan	2.5%	37	Michigan	2.3%	37	Vermont	2.1%
38	Colorado	2.2%	38	Vermont	2.0%	38	South Carolina	2.0%
39	South Dakota	2.1%	39	Arkansas	1.9%	39	South Dakota	2.0%
40	Vermont	2.1%	40	Oklahoma	1.7%	40	Arkansas	1.9%
41	Oklahoma	1.9%	41	Idaho	1.3%	41	Oklahoma	1.6%
42	Idaho	1.5%	42	Alaska	1.3%	42	Idaho	1.4%
43	Alaska	1.4%	43	Tennessee	1.2%	43	Alaska	1.3%
44	Montana	1.3%	44	Colorado	1.2%	44	Colorado	1.2%
45	Tennessee	1.3%	45	Montana	1.2%	45	Tennessee	1.2%
46	Indiana	1.2%	46	Indiana	1.1%	46	Indiana	1.1%
47	Iowa	0.6%	47	Iowa	0.7%	47	Montana	0.9%
48	North Dakota	0.4%	48	North Dakota	0.3%	48	North Dakota	0.2%
49	Nebraska	0.2%	49	Nebraska	0.2%	49	Nebraska	0.2%
50	Wyoming	0.1%	50	Wyoming	0.1%	50	Wyoming	0.1%
	Mean	4.5%		Mean	4.3%		Mean	4.3%
	Median	3.9%		Median	4.0%		Median	3.8%

[1] Figures use fiscal 2018 own-source revenue; fiscal 2019 audited financial statements not available at time of publication. Own-source revenue is reported total governmental revenue less funds received from federal sources. Additional adjustments have been made to own-source revenue for Delaware, Massachusetts and Washington to reflect inclusion or exclusion of certain funds.

Source: Moody's Investors Service

Exhibit 13

Capital assets and capital asset depreciation ratio (2019)

State	Capital assets subject to depreciation				Capital assets not subject to depreciation		
	Gross capital assets (\$ million)	Gross capital assets (% of GDP)	Accumulated depreciation (\$ million)	Capital asset depreciation ratio (%) [1]	Gross capital assets (\$ million)	Gross capital assets (% GDP)	Share of capital assets not subject to depreciation
Indiana[3][4]	3,374	0.9%	-2,161	64%	16,046	4.3%	82.6%
Nebraska[3][4]	1,301	1.0%	-817	63%	8,710	6.9%	87.0%
New Mexico[2]	22,205	22.1%	-13,761	62%	1,400	1.4%	5.9%
Louisiana[4]	33,077	12.5%	-20,447	62%	4,013	1.5%	10.8%
Hawaii[4]	21,672	22.3%	-13,236	61%	5,796	6.0%	21.1%
Connecticut	34,909	12.2%	-20,984	60%	7,908	2.8%	18.5%
Alaska	21,034	38.0%	-12,004	57%	3,296	5.9%	13.5%
Ohio[3]	17,058	2.4%	-9,660	57%	26,532	3.8%	60.9%
Maryland[4]	45,596	10.6%	-25,550	56%	11,477	2.7%	20.1%
Wisconsin[3][4]	14,487	4.2%	-8,116	56%	24,050	6.9%	62.4%
Wyoming[3][4]	1,428	3.6%	-751	53%	569	1.4%	28.5%
Oklahoma	38,788	18.8%	-20,315	52%	3,500	1.7%	8.3%
Georgia	62,973	10.2%	-32,852	52%	9,638	1.6%	13.3%
West Virginia	22,448	28.7%	-11,679	52%	2,961	3.8%	11.7%
Maine[3][4]	1,482	2.2%	-770	52%	3,642	5.4%	71.1%
New Hampshire	8,877	10.0%	-4,562	51%	1,026	1.2%	10.4%
Pennsylvania	78,275	9.6%	-39,982	51%	10,779	1.3%	12.1%
Iowa	29,484	15.1%	-15,008	51%	2,030	1.0%	6.4%
New York[3][4]	41,983	2.4%	-21,353	51%	87,226	5.0%	67.5%
Arkansas	27,669	20.8%	-13,969	50%	3,412	2.6%	11.0%
Missouri	66,856	20.1%	-33,679	50%	5,742	1.7%	7.9%
Massachusetts[4]	20,890	3.5%	-10,465	50%	2,291	0.4%	9.9%
North Dakota	9,975	17.5%	-4,985	50%	2,018	3.5%	16.8%
Rhode Island	10,576	16.6%	-5,228	49%	1,589	2.5%	13.1%
Arizona[3][4]	13,935	3.8%	-6,839	49%	23,940	6.5%	63.2%
Illinois	59,563	6.6%	-29,196	49%	6,806	0.8%	10.3%
Michigan[3]	14,404	2.7%	-7,038	49%	21,590	4.0%	60.0%
Florida[3]	41,242	3.8%	-19,825	48%	97,078	8.9%	70.2%
Minnesota[3]	22,816	6.0%	-10,960	48%	17,179	4.5%	43.0%
Washington[3][4]	29,699	5.0%	-14,260	48%	29,758	5.0%	50.0%
Idaho[3]	5,656	7.0%	-2,669	47%	5,704	7.1%	50.2%
Nevada[3]	6,593	3.7%	-3,089	47%	9,670	5.4%	59.5%
Kansas[3]	8,667	5.0%	-4,037	47%	13,700	7.9%	61.3%
Alabama[3]	19,494	8.4%	-9,066	47%	22,054	9.5%	53.1%
New Jersey[4]	38,135	5.9%	-17,589	46%	8,411	1.3%	18.1%
California[2][3]	104,508	3.5%	-48,121	46%	121,797	4.1%	53.8%
Kentucky[3]	12,034	5.6%	-5,419	45%	25,726	12.0%	68.1%
Vermont[4]	4,102	11.8%	-1,836	45%	822	2.4%	16.7%
Utah[3]	17,091	9.1%	-7,595	44%	19,500	10.3%	53.3%
Tennessee[3]	13,566	3.6%	-5,917	44%	29,352	7.7%	68.4%
Delaware[3][4]	5,706	7.6%	-2,483	44%	5,477	7.3%	49.0%
Colorado[4]	31,759	8.1%	-13,317	42%	4,075	1.0%	11.4%
Oregon	25,272	10.0%	-10,464	41%	3,733	1.5%	12.9%
South Carolina	34,991	14.2%	-14,486	41%	8,792	3.6%	20.1%
South Dakota	7,547	14.2%	-3,115	41%	1,275	2.4%	14.4%
Montana	8,627	16.5%	-3,519	41%	2,321	4.4%	21.2%
Virginia	72,056	13.0%	-28,239	39%	12,156	2.2%	14.4%
Mississippi	22,616	19.0%	-8,369	37%	7,573	6.4%	25.1%
Texas	166,244	8.8%	-56,628	34%	42,020	2.2%	20.2%
North Carolina	72,490	12.3%	-24,289	34%	25,674	4.4%	26.2%

[1] The capital asset depreciation ratio measures the ratio of accumulated depreciation to gross depreciable assets.

[2] Audits for California and New Mexico for fiscal 2019 were not available as of publication. Data is for 2018 for these states.

[3] These states use a modified approach, under GASB 34, for reporting certain capital assets, which allows the state to expense certain maintenance and preservation costs and not report depreciation on the respective assets.

[4] Capital assets for certain component units are excluded for these states owing to state financial reporting.

Source: Moody's Investors Service

Basis for state debt data

Our 2020 state debt medians report is based on our analysis of calendar year 2019 debt issuance and fiscal year 2019 debt service.

In considering debt burden, our focus is largely on net tax-supported debt (NTSD), which we characterize as debt secured by statewide taxes and other general resources, net of obligations that are self-supporting from pledged sources other than state taxes or operating resources — such as utility or local government revenue. We also examine gross debt, which captures debt supported by revenue other than state taxes and general resources. This includes self-supporting general obligation (GO) debt, special assessment bonds and contingent debt liabilities that may not have direct tax support but represent commitments to make debt service payments under certain conditions (e.g., state guarantees and bonds backed by state moral obligation pledges that have never been tapped).

The debt and debt service ratios of some states are relatively high because they issue debt for purposes that in other states would be financed at the local level, such as for schools or mass transit. Some states' debt service ratios rank higher than their NTSD ratios because of conservative debt management practices, such as rapid debt amortization. Conversely, some states' debt service ratios rank relatively lower because of the use of capital appreciation bonds or long maturity schedules.

Exhibit 14

Comparison of NTSD and gross tax-supported debt (GTSD)

Generally included in NTSD	Generally Excluded from NTSD/ Included in GSTD
General obligation debt paid from statewide taxes and fees	Self-supporting general obligation debt with an established history of being paid from sources other than taxes or general revenue
Appropriation backed bonds	Moral obligation debt with an established history of being paid from sources other than taxes or general revenue
Lease revenue bonds	Tobacco securitization bonds, with no state backup
Special tax bonds secured by statewide taxes and fees	Unemployment insurance obligation bonds
Highway bonds, secured by gas taxes and DMV fees	Debt guaranteed, but not paid, by the state
GARVEE bonds	Special assessment bonds
Lottery bonds	
Moral obligation debt paid from statewide taxes and fees	
Capital leases	
P3s with state concession obligation	
Pension obligation bonds	

Source: Moody's Investors Service

These ratios have been calculated based on our definition of net tax-supported debt, debt service and own-source governmental revenue, and in most cases will differ from a state's own published calculations of debt limits or debt affordability. There is no correlation between our ratios and a state's compliance with its internal policies.

Endnotes

- 1 The capital asset depreciation ratio measures the ratio of accumulated depreciation to gross depreciable assets.
- 2 The capital asset depreciation ratio measures the ratio of accumulated depreciation to gross depreciable assets.
- 3 Three additional states used the modified approach but still depreciate more than 50% of their capital assets.

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