2018 State Pension Update

Rising Accrued Benefits and Flat Assets Push Pensions Higher

Special Report

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Long-Term Obligations Rise: The median long-term liability burden of states as measured by Fitch Ratings rose to 6% of personal income in fiscal year 2017 from 5.8% in fiscal 2016. Our measure of long-term liabilities combines tax-supported debt and the net pension liability (NPL) reported by states, adjusted to reflect a 6% discount rate for plans with higher assumed discount rates. Fitch views the median liability burden of states as being low relative to their resources.

Wide Range of Liability Burdens: The liability burden of individual states ranges from a high of 29% of personal income in Illinois to a low of 1.5% in Nebraska. Defined-benefit (DB) pension obligations are the primary driver of this wide range: the Fitch-adjusted NPL stands at 23.4% of personal income in Illinois, compared with 1.2% in Florida. By contrast, state debt falls into a narrower range, measuring 9.6% of personal income in Hawaii compared to less than 1% in eight states.

Fitch-Adjusted NPLs Surpass $1 Trillion: The median Fitch-adjusted NPL for states rose almost 11% in fiscal 2017 to 3.6% of personal income. NPL data is fundamentally more variable than debt data. In fiscal 2017, NPL growth was driven primarily by steady increases in the present value of future benefits, or the total pension liability (TPL), coupled with lackluster performance in pension assets, or the fiduciary net position (FNP). As a result, Fitch-adjusted NPLs in aggregate surpassed $1 trillion in fiscal 2017, up from $892 billion in fiscal 2016.

Highest Burden States Include Local Pensions: More than 40% of Fitch-adjusted state NPLs comprise pension obligations for non-state employees, usually local teachers, legally carried and directly funded by the state. Most local governments provide pensions through state-run cost-sharing plans, but the extent of the state role in funding these benefits varies considerably. Nearly all states with the highest pension burdens carry a significant share of local pension burdens.

Discount Rates Continue Falling: On a reported basis (before adjusting to a 6% discount rate), more than one-third of pension plans reported by states lowered their discount rates in fiscal 2017 compared to fiscal 2016, raising the resulting pension liabilities carried by the state. Falling discount rates in fiscal 2017 continue a longstanding shift by pensions to lower, less favorable discount rate assumptions.

Debt Burden Steady: The median level of tax-supported debt relative to personal income as of this report remained almost unchanged in fiscal 2017 compared to a year earlier, at 2.3% of personal income. States in general remain reluctant debt issuers, with well-established debt oversight practices and new issuance driven primarily by capital needs. Most states maintain consistent debt issuance practices, resulting in only gradual shifts in their debt burdens from year to year.

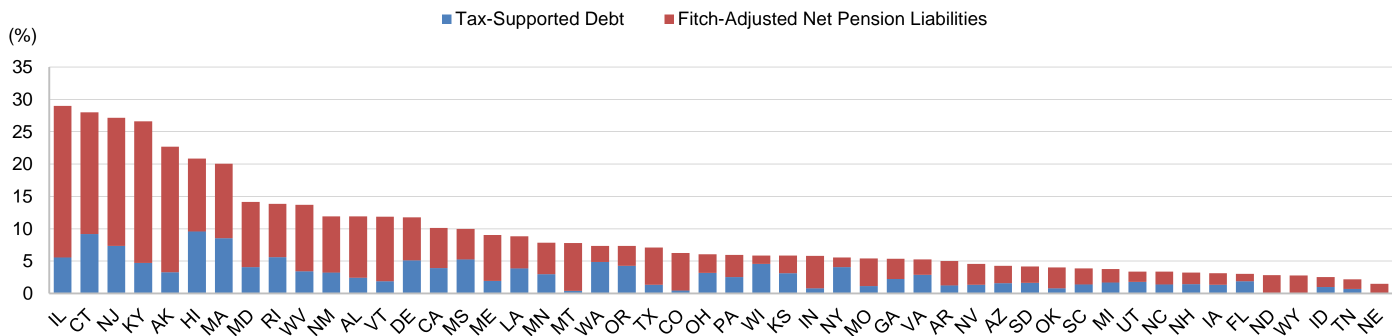
Total State Liability Burdens Inch Upward in Fiscal 2017

The median burden of long-term liabilities of U.S. states measured 6% of their personal income in fiscal 2017, up from 5.8% in fiscal 2016. This metric combines states' direct tax-supported debt as of their 2017 debt disclosure and the sum of NPLs reported in their fiscal 2017 financial statements, as adjusted by Fitch based on a 6% discount rate. (See text box on page 4 for more information.)

Under its *U.S. Public Finance Tax-Supported Rating Criteria*, dated April 2018, Fitch measures each state's debt and adjusted pension liabilities relative to its personal income, an economic measure representing the resource base from which liabilities will ultimately be repaid. The resulting metric informs Fitch's assessment of a state's long-term liability burden, a key rating driver in our overall evaluation of credit quality. Despite the slight increase of states' long-term liabilities, Fitch views the median liability burden at this level as being low and manageable relative to their resources.

As of fiscal 2017, the long-term liability burden of individual states varies widely, ranging from 29% of personal income in Illinois to 1.5% in Nebraska. Seven states, including Illinois, carry long-term liability burdens that Fitch considers elevated (above 20% of personal income). Another eight states carry moderate long-term liability burdens measuring between 10% and 20% of personal income. The remaining 35 states carry long-term liability burdens that Fitch views as being low, totaling less than 10% of personal income.

State Tax-Supported Debt and Adjusted Net Pension Liabilities as % of Personal Income



Source: Fitch Ratings, Fitch Solutions and state comprehensive annual financial reports.

Consistent with recent years, pensions rather than debt remain the main growth driver for states' long-term liabilities. As adjusted by Fitch, the median state-NPL-to-personal-income metric rose to 3.6% in fiscal 2017, from 3.1% in fiscal 2016, even as the median state-tax-supported-debt-to-personal-income metric held steady at 2.3%. Fitch-adjusted NPLs as a share of personal income rose in 40 states during fiscal 2017, with the dollar value of NPLs rising in 43 states. In contrast, tax-supported debt as a share of personal income rose in only 10 states in fiscal 2017, and the dollar value of outstanding tax-supported debt rose in 17 states.

Aggregate Fitch-Adjusted NPLs Now Exceed $1 Trillion

Almost two-thirds of aggregate state long-term liabilities are associated with retiree pensions; 40 states carry higher pension burdens than debt burdens. Net pension liabilities alone, adjusted to a 6% discount rate, range from a high of 23.4% of personal income in Illinois to a low of 1.2% of personal income in Florida. As of fiscal 2017, states in aggregate carry just over

$1 trillion in NPLs, as adjusted to reflect a 6% discount rate. This figure is 13% higher than the $892 billion figure reported one year earlier.

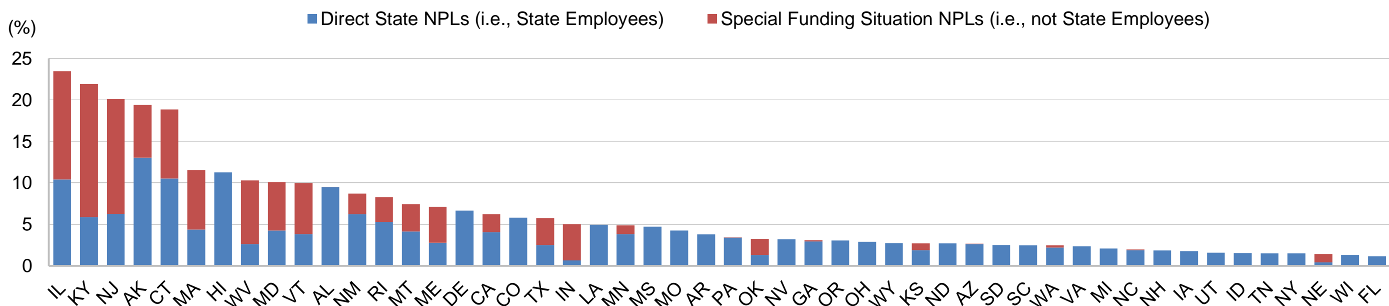
Bonded debt supported by tax revenue ranges over a narrower band, from 9.6% in Hawaii to virtually zero in Nebraska. Tax-supported debt in aggregate remains much lower than pensions, measuring $547 billion in fiscal 2017, and rose only $7 billion from fiscal 2016. Consistently low debt burdens reflect states' well-established, conservative debt management practices, which typically include amortizing debt profiles, centralized issuance and affordability guidelines that constrain borrowing. Differences among states reflect numerous factors, including their willingness to use borrowing for capital needs and the extent to which they borrow for local needs, especially schools.

Highest Burden States Carrying Local Pensions

One of the primary drivers for the prominence of pensions in states' overall long-term liability profiles is that many states assume legal and funding responsibility for the DB pensions of some local employees, typically school teachers, and carry the associated NPL on their own balance sheets.

Ordinarily under GASB accounting rules, a government carries the annual funding burden and the resulting liabilities associated with its own employees' pensions. However, this rule of thumb does not hold under narrow circumstances. If one government (typically a state) carries legal, direct funding responsibility for the pension benefits of another government's employees (typically school districts, but sometimes other local governments), a "special funding situation" may be triggered, shifting some or all of the resulting NPL to the non-employer responsible for funding pensions. Fitch adheres to GASB's allocation framework in calculating the liability metrics, as we view the NPL as being tied to the direct funder of the obligation.

State Pension Burdens for State vs. Local Employees, as % of Personal Income



NPL – Net pension liabilities.
Source: Fitch Ratings, Fitch Solutions and state comprehensive annual financial reports.

The Fitch-adjusted NPLs associated with state special funding situations are significant, measuring about one-fourth of aggregate state long-term liability burdens and 41% of aggregate pension burdens in fiscal 2017. Approximately one-half of states report special funding situations for at least some pensions provided for local government employees.

Nearly all of the states with the highest pension burdens carry an allocation for school teacher pensions, and for most of them, the NPLs for school teachers are larger than for their own direct state employees. (In one state, Hawaii, school teachers are direct state employees.) Often, states carry the entire school teacher NPL, but in some, such as Alaska, California and Texas, school teacher-related NPLs are divided between the state and local school districts.

Fitch's Long-Term Liability Metric

Each year, Fitch updates its metrics for the direct long-term liability burdens of U.S. states relative to their personal income. Under Fitch's *U.S. Public Finance Tax-Supported Rating Criteria*, dated April 2018, tax-supported debt and NPLs are viewed as equivalent long-term obligations. For the pension component of this metric, Fitch relies on data from all pensions detailed by states in their financial statement notes. Using reported NPLs, discount rate sensitivities and other available plan information, Fitch restates reported NPLs at a 6% discount rate, if the reported discount rate is higher. The 6% discount rate is viewed by Fitch as a more reasonable expectation for long-term returns on pension assets and improves the comparability of pension data across rated entities. A plan's reported NPL is left unadjusted if a plan assumes a discount rate below 6%, as the elevated risk posed by these plans is captured in the reported liability figure. This affects a relatively small number of plans that are either forecast to deplete assets before all accrued benefits are paid, or that are designated as pay-as-you-go plans by the state. State totals exclude a handful of plans that carry higher assets than liabilities following Fitch's discount rate adjustment, as the net pension assets of one plan are not legally available to offset the NPL of another.

Cost-Sharing Plan Approach

For cost-sharing pension plans, which have legally pooled assets and liabilities covering multiple, separate governments, Fitch attributes shares of the plans' TPL and FNP to the state, based on the state's reported share of the plan-wide NPL, as part of its analysis of state pension burdens. Fitch relies on GASB's allocation of NPLs as its starting point for assessing whether a cost-sharing plan's burden falls on the state or on local governments, but Fitch recognizes that these allocations may be subject to change, often in a manner favorable to states and detrimental to local governments and other participating entities.

The prevalence of special funding situations underscores the key role states play in authorizing and setting the legal and funding parameters of all DB pensions covering state, local and other public workers. School districts, local governments and other non-state entities often have little discretion over their pensions, particularly those participating in statewide cost-sharing multi-employer systems. Regardless of how much discretion such entities have over their own pensions, they still retain the responsibility for funding their share of the obligation in the absence of a special funding situation.

Rising Liabilities and Lagging Assets Push Pensions Higher

In fiscal 2017, the growth of state NPLs as adjusted by Fitch largely reflects the steady rise of projected future benefits, even as asset gains, including from market performance, lagged investment return targets. The median TPL attributable to states rose almost 3.7% in fiscal 2017 from the fiscal 2016 level, incorporating Fitch's 6% discount rate adjustment. TPLs rose in 44 states and fell in six. In contrast, the median FNP attributable to states fell 1.5% in fiscal 2017 and FNPs fell in 34 states, rising in only 16. (For states reporting a share of cost-sharing multi-employer plans, Fitch's figures attribute portions of TPLs and FNPs to the states based on their proportionate shares of plan NPLs.)

Holding all assumptions and benefit provisions unchanged, a plan's baseline TPL should be expected to rise each year, reflecting the value of newly-earned benefits plus interest on already accrued benefits, partly offset by benefit payouts to retirees. Layered on to this are other changes, including the effects of assumption changes from periodic experience studies or benefit adjustments. For example, 2016 experience studies in Delaware and Oregon changed inflation assumptions and re-estimated likely retiree lifespans, raising their major plans' forecast TPLs, which were ultimately reflected in the states' fiscal 2017 financial statements.

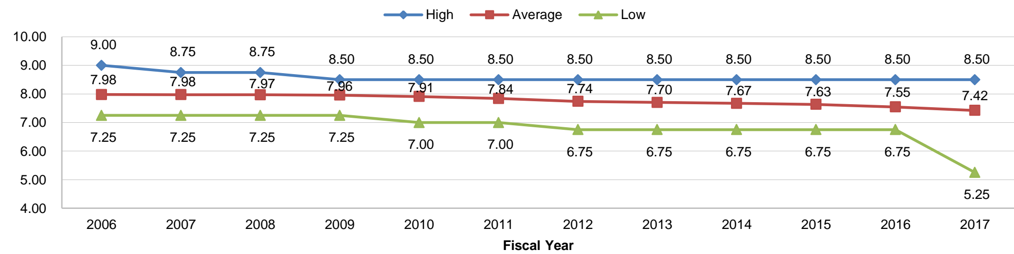
FNPs, by contrast, failed to keep up with TPL growth as of states' fiscal 2017 financial statements. Ideally, asset portfolios rise each year at the investment return assumption (which matches the discount rate for the TPL unless a blended discount rate is calculated); the trust fund balance is also affected by contribution inflows from employers and employees, benefit payments out and administrative costs. In actuality, market performance each year can shift dramatically, creating volatility in the FNP and in the resulting NPL under GASB's reporting framework.

Discount Rate Changes Also Affect State Pensions

On a reported basis (before adjusting to a 6% discount rate), 80 state-reported plans (out of approximately 225 total) lowered their discount rates from a year earlier, raising the reported TPL attributable to the state in the process.

Roughly one-half of these changes were policy choices by state legislatures or pension boards to set lower, more realistic investment return targets. Since the Great Recession, virtually all public DB plans have shifted to lower discount rates, and average discount rates continue to fall. For example, Hawaii lowered its pension plan discount rate to 7% from 7.65% as of the measurement date reported in the state's fiscal 2017 financial statement, and Connecticut's plan for state employees lowered its rate to 6.9% from 8%. Fitch expects this trend to continue. Across all major public plans, the average funding discount rates fell to 7.5% in fiscal 2016 (the source of most data reported in states' fiscal 2017 financial statements), and to 7.4% in fiscal 2017, from 8% as of fiscal 2009.

Major Public DB Plan Funding Discount Rates



Source: Fitch Ratings, Fitch Solutions, pension system comprehensive annual financial reports and actuarial data.

Approximately 42 state-reported plans had lower discount rates imposed by accounting rules, because those plans' assets were projected to be insufficient to cover all future benefits. Some of these are small pay-as-you-go plans whose unfunded status poses limited risk to the state.

Most are larger plans that use a blended discount rate for calculating the TPL because their actuaries have forecast the plans' depleting assets before all accrued liabilities are paid. Under GASB accounting rules, projected benefit payouts beyond the asset depletion date must be discounted at a very low bond index rate. Such plans experience considerable year-to-year volatility in reported TPLs as bond index rates shift up and down with market conditions. In fiscal 2016, bond index rates hit historic low points, raising the TPL attributable to those states in their fiscal 2017 financial statements.

Fitch views the presence of a blended discount rate as being the direct result of inadequate contribution practices. For such plans, in states such as Illinois, Kentucky and New Jersey, the cumulative effect of insufficient contributions in the past and the resulting foregone asset portfolio growth are now felt in the form of severely underfunded pensions and rising budgetary demands for pension contributions.

Fitch's 6% discount rate adjustment under the U.S. Tax-Supported Rating Criteria eliminates the impact of lowered discount rate assumptions on state TPLs for all but a handful of states with plans using discount rates below 6%. Exceptions include Kentucky and New Jersey, where very low blended discount rates in one or more exceptionally weak pension systems pushed up the TPL attributable to the state, including in the data used by Fitch. Both states have experienced multiple downgrades in part due to their pension challenges.

Additional exceptions include Colorado and Minnesota, states that had had longstanding, inadequate contribution practices and that saw newly-identified depletion dates for their major plans in fiscal 2016 push up the TPL attributable to the state in fiscal 2017 financial statements. In both, additional legislative reforms in 2018, including lower cost of living benefit adjustments and higher contributions, will likely eliminate projected depletion dates and lower TPLs, once fully reflected in state financial statements.

Appendix: 2018 State Tax-Supported Debt and Fitch-Adjusted Pensions[a]

	IDR	Debt	Debt/ PI (%)	Rank	Reported NPLs	Fitch-Adj. NPLs[b]	Fitch-Adj. NPL/PI (%)	Rank	Debt + Fitch-Adj. NPL	Debt + Fitch-Adj. NPL/PI (%)	Rank
Alabama[c]	AA+	4,817,672	2.4	26	11,962,280	18,860,432	9.5	40	23,678,104	11.9	39
Alaska	AA	1,394,665	3.3	33	4,906,465	8,196,031	19.4	47	9,590,696	22.7	46
Arizona	NR	4,789,284	1.6	18	5,318,749	7,942,781	2.7	16	12,732,065	4.3	15
Arkansas	NR	1,536,817	1.2	11	3,114,262	4,647,489	3.8	26	6,184,306	5.0	17
California	AA–	92,822,954	3.9	36	88,092,530	146,649,567	6.2	34	239,472,521	10.1	36
Colorado	NR	1,409,008	0.5	5	17,779,151	17,779,151	5.8	33	19,188,159	6.3	27
Connecticut	A+	23,662,820	9.2	49	37,451,820	48,486,634	18.8	46	72,149,454	28.0	49
Delaware	AAA	2,439,600	5.1	43	1,868,618	3,184,668	6.7	35	5,624,268	11.8	37
Florida	AAA	18,916,300	1.9	23	5,169,326	11,655,901	1.2	1	30,572,201	3.1	6
Georgia	AAA	10,320,199	2.2	25	8,458,068	14,302,013	3.1	22	24,622,212	5.3	19
Hawaii	AA	7,239,415	9.6	50	6,559,768	8,472,472	11.2	44	15,711,887	20.9	45
Idaho	AA+	718,191	1.0	9	537,875	1,103,280	1.5	6	1,821,471	2.5	3
Illinois	BBB	38,617,779	5.6	45	138,577,022	162,515,340	23.4	50	201,133,119	29.0	50
Indiana	AAA	2,387,063	0.8	7	13,490,808	15,136,877	5.0	31	17,523,940	5.8	22
Iowa	AAA	1,998,130	1.3	13	1,280,335	2,634,653	1.8	8	4,632,783	3.1	7
Kansas	NR	4,433,169	3.1	30	2,312,261	3,838,644	2.7	18	8,271,813	5.8	23
Kentucky	AA–	8,548,135	4.7	41	38,561,495	39,545,866	21.9	49	48,094,001	26.6	47
Louisiana	AA–	7,929,907	3.9	35	7,132,960	10,136,556	5.0	30	18,066,463	8.8	33
Maine	AA	1,197,660	1.9	24	3,038,573	4,415,495	7.1	36	5,613,155	9.0	34
Maryland	AAA	14,963,401	4.1	37	23,142,489	37,179,608	10.1	42	52,143,009	14.2	43
Massachusetts	AA+	39,648,832	8.5	48	38,370,204	53,478,483	11.5	45	93,127,315	20.1	44
Michigan	AA	7,751,020	1.7	20	6,090,672	9,545,147	2.1	11	17,296,167	3.8	11
Minnesota	AAA	8,999,033	3.0	29	14,454,087	14,721,308	4.9	29	23,720,341	7.8	32
Mississippi	AA	5,733,908	5.2	44	3,378,128	5,167,573	4.7	28	10,901,481	10.0	35
Missouri	AAA	3,198,631	1.2	10	7,331,991	11,671,167	4.2	27	14,869,798	5.4	20
Montana	AA+	192,944	0.4	4	2,012,258	3,531,912	7.4	37	3,724,856	7.8	31
Nebraska	NR	29,450	0.0	1	449,773	1,402,277	1.4	3	1,431,727	1.5	1
Nevada	AA+	1,867,931	1.3	14	2,210,577	4,452,735	3.2	23	6,320,666	4.6	16
New Hampshire	AA+	1,137,843	1.4	17	1,082,440	1,468,982	1.8	9	2,606,825	3.3	8
New Jersey	A	42,743,164	7.4	47	115,040,032	115,040,032	19.8	48	157,783,196	27.1	48
New Mexico	NR	2,696,866	3.2	32	5,390,084	7,223,519	8.7	39	9,920,385	11.9	40
New York	AA+	52,466,000	4.1	38	8,833,300	19,017,771	1.5	4	71,483,771	5.6	21
North Carolina	AAA	6,409,800	1.4	16	4,322,296	8,870,564	2.0	10	15,280,364	3.4	9
North Dakota	NR	57,980	0.1	3	552,211	1,064,300	2.7	17	1,122,280	2.8	5
Ohio	AA+	17,191,982	3.2	31	8,855,140	15,694,609	2.9	20	32,886,591	6.0	26
Oklahoma	AA	1,395,339	0.8	8	3,251,650	5,636,643	3.2	24	7,031,982	4.0	13
Oregon	AA+	8,525,836	4.3	39	3,105,262	6,083,129	3.1	21	14,608,965	7.3	29
Pennsylvania	AA–	17,227,298	2.5	27	18,054,210	23,523,282	3.4	25	40,750,580	6.0	25
Rhode Island	AA	3,127,178	5.6	46	3,476,256	4,617,284	8.3	38	7,744,462	13.8	42
South Carolina	AAA	2,922,195	1.4	15	3,716,840	5,203,500	2.5	14	8,125,695	3.9	12
South Dakota	AAA	702,281	1.7	19	129,009	1,061,203	2.5	15	1,763,484	4.2	14
Tennessee	AAA	2,119,080	0.7	6	1,824,571	4,582,269	1.5	5	6,701,349	2.2	2
Texas	AAA	17,763,256	1.3	12	47,098,436	77,210,110	5.8	32	94,973,366	7.1	28
Utah	AAA	2,420,764	1.8	21	1,057,962	2,144,303	1.6	7	4,565,067	3.4	10
Vermont	AAA	615,245	1.9	22	1,971,461	3,244,524	10.0	41	3,859,769	11.9	38
Virginia	AAA	13,460,807	2.9	28	7,875,409	11,008,493	2.4	12	24,469,301	5.2	18
Washington	AA+	20,928,893	4.9	42	5,666,188	10,539,119	2.5	13	31,468,012	7.3	30
West Virginia	AA	2,384,592	3.4	34	4,623,615	7,181,852	10.3	43	9,566,444	13.7	41
Wisconsin	AA+	13,003,519	4.6	40	232,791	3,672,931	1.3	2	16,676,451	5.9	24
Wyoming	NR	21,840	0.1	2	491,200	910,483	2.7	19	932,323	2.8	4
Median			2.3				3.6			6.0	
Low			0.0				1.2			1.5	
High			9.6				23.4			29.0	

[a]Aggregate pension data by state are calculated by Fitch for all state pension systems whose NPL is reported in the notes and required supplementary information sections of states' comprehensive annual financial reports. [b]Fitch-adjusted figures adjust the discount rate downward to 6% and the TPL upward based on a calculation of the individual plan's sensitivity to discount rate changes, derived from sensitivity data in financial statement notes. [c]Alabama data preliminary, unaudited. IDR – Issuer Default Rating. NR – Not rated. NPL – Net pension liability. TPL – Total pension liability.
Source: Personal income (PI) from U.S. Bureau of Economic Analysis as of Sept. 25, 2018. Tax-supported debt based on state bond disclosure documents and state comprehensive annual financial statements. Pension NPLs from state comprehensive annual financial statements, Fitch Ratings and Fitch Solutions.

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