MUNICIPAL CREDIT RESEARCH

State of the States

OCTOBER 2017

PAUL MANSOUR, MANAGING DIRECTOR

The State of the States report is Conning's proprietary ranking of the U.S. states by credit quality. States are the largest issuers of municipal bonds, and we believe that a sound understanding of their credit quality is a prerequisite to effective municipal bond investing. This report forms the basis for our internal ratings, which also consider security features and fiscal management, yielding a comprehensive assessment of both credit quality and direction. This solid foundation centers our disciplined approach to constructing and managing municipal bond portfolios.

KEY FINDINGS

- Conning maintains its declining outlook on state credit quality
- State tax revenues are lagging expenditure growth
- Consistent, albeit slow, growth is improving state credit quality
- Top rankings for Utah, Idaho, Florida, Nevada, and Colorado
- Slower growth combined with high fixed costs dragging down some states

EXECUTIVE SUMMARY

Conning maintains its declining outlook on state credit quality. State revenue growth, although improved since our last report, is still falling short of expenditure growth and placing aggregate state reserves under pressure.

While our outlook for the states overall is declining, there are many states enjoying strong growth in personal income, employment, and GDP, especially in the Pacific Northwest and Southeast. A common thread among our top-ranked states is a favorable business climate as measured by regulations, state tax policies, and state leadership. We expect that the above-average economic activity in these states foreshadows credit upgrades and better price performance.

Several states recently failed to meet their deadlines to pass budgets, including Illinois, Maine, New Jersey, New York, Rhode Island, Wisconsin, Pennsylvania, and Connecticut. The latter two still had no budget as of early October for fiscal years that began July 1. Slower revenue growth, which has made for tough choices, is a common reason why. Adding to the difficulty is state legislators being reluctant to once again raise taxes due to lower-than-expected revenues.

Illinois ended its two-year budget impasse on July 6, 2017, enacting a $36.1 billion spending plan with about $5 billion in tax increases - a very positive credit event. However, any further improvement in the state's credit quality will be dependent on an improved economy, progress in reducing pension underfunding, and success in reducing unpaid bills. Illinois ranked 50th in this report primarily because of its slow economic growth relative to other states during the past year.

STATE REVENUES—SLOW GROWTH IN 2017

State revenues increased an anemic 0.4% during 2016, according to U.S. Census Bureau data. Depressed oil prices, weak equity markets, and lower corporate profits were the underlying drivers.

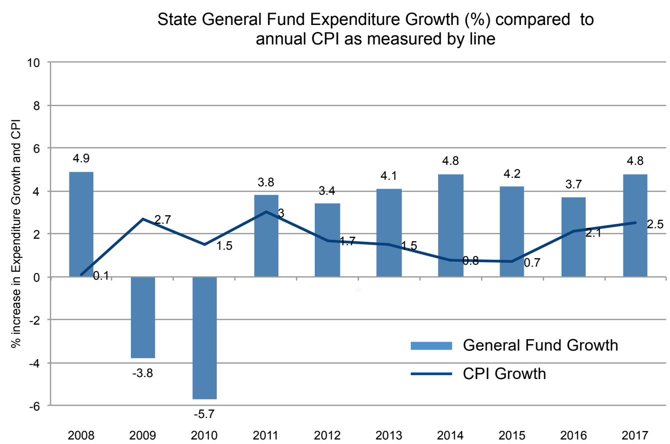
During the first six months of 2017, state tax revenues were 2.6% higher than the same period last year, as illustrated in Exhibit 1. The improvement is primarily due to individual income tax and sales tax growth, which increased 2.62% and 3.84% YoY, respectively. Stabilized oil and gas prices also contributed to state revenue growth. Many oil/gas-dependent states saw their rankings improve in this report, although the rate of revenue growth remains low and below the rate of expenditure growth.

Exhibit 1: State Revenues

Calendar Year	State Revenues $ in Billions	% Change
January–June 2017	509.0	2.6%
January–June 2016	496.0	–
2016	934.6	0.4%
2015	930.7	5.0%
2014	884.3	2.0%
2013	866.7	8.0%
2012	802.7	4.0%

Prepared by Conning, Inc. Source: U.S. Census Bureau, Department of Commerce (2012–2017)

Exhibit 2: State General Fund Expenditures Compared to CPI



Prepared by Conning, Inc. Source: © 2008–2017 The National Association of State Budget Officers (NASBO), Fiscal Survey of the States, Spring 2017

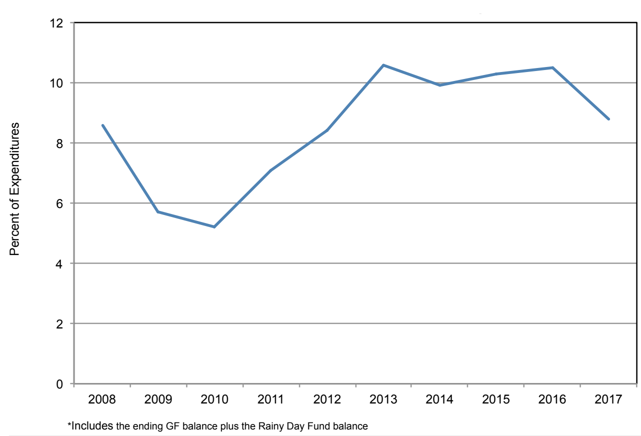
STATE EXPENDITURES—GROWING FASTER THAN INFLATION

While state tax-revenue growth has been lackluster, state General Fund expenditures were up 4.8% in 2017, per the Spring Fiscal Survey of the States from the National Association of State Budget Officers (NASBO). As Exhibit 2 illustrates, state expenditures continue to grow faster than CPI. The implication of expenditure growth exceeding both state revenues and CPI is that choices must be made between higher taxes, program changes, or reserve drawdowns.

GENERAL FUND BALANCES—DECLINE EXPECTED IN 2017

General Fund reserve balances (General Fund balances + "rainy day" fund balances) are a key measure of a state's fiscal health. States rely on budget reserves to protect against revenue volatility caused by recessions. Conning views a healthy state-reserve balance to be equal to 10% of its annual General Fund expenditures, and as Exhibit 3 shows, General Fund reserves are expected to have declined in 2017. The average aggregate state General Fund reserve for 2017 is 8.5%, as estimated by NASBO.

Exhibit 3: Year-End Fund Balances as a Percentage of Expenditures



Prepared by Conning, Inc. Source: © 2008–2017 The National Association of State Budget Officers (NASBO), The Fiscal Survey of the States, Spring, 2017

Reserve balances vary dramatically among states: they are 158% in Alaska and 22% in Texas. Meanwhile, 13 states ended the fiscal year with General Fund balances less than 5% of their General Fund expenditures.

Among the larger states with limited reserves are Illinois, New Jersey, Pennsylvania, and Connecticut.

STATE PENSION UPDATE—NO IMPROVEMENT

In state pension plans, the aggregate funding gap grew in 2016 as the aggregate funding ratio declined from 74.5% in FY 2015 to 71.1% in FY 2016, according to financial reports. Part of the decline can be attributed to changes in the way actuarial liabilities are calculated, most notably through a lowering of the discount rate, which raises the present value of liabilities. Conning expects some improvement in funding ratios for FY 2017 once higher FY 2017 investment returns are factored in. Exhibit 4 lists the states with the lowest funded ratios.

States report a wide dispersion in funded ratios: some have fully funded plans, while others have huge unfunded obligations created by years of underfunding, plan changes, and poor investment performance. Many states now required to make higher pension contributions are choosing to not fund their entire annual contribution, most notably New Jersey. Other states are extending the time to reach fully funded status, most notably Illinois. Both moves make the pension liability even greater.

Exhibit 4: Pension Funded Ratio

State	2016 Funded Ratio
New Jersey	30.9%
Kentucky	31.4%
Illinois	35.6%
Connecticut	44.1%
Colorado	46.0%

Prepared by Conning, Inc. Sources: State Comprehensive Annual Financial Reports (CAFRs) and © 2016 Bloomberg L.P.

ECONOMIC DEBT—TRIPLE THE AMOUNT OF STATED DEBT

Economic debt measures each state's total fixed-cost obligations, not just direct or stated debt issued. It tallies stated debt plus a state's net pension liability (NPL) and its unfunded other post-retirement benefits (OPEB) liabilities. Conning believes economic debt is a more comprehensive measure of fixed costs and as such is an important credit factor.

While aggregate FY2016 state debt was $517 billion, Conning calculated that economic debt (including stated debt) for the same period was $1.6 trillion. The difference is NPL plus unfunded OPEB. Although the failure to make annual contributions to these accounts does not constitute an event of default, these are long-term obligations and, for many states, it is all but impossible to reduce vested benefits. While states generally have more control over setting OPEB benefits, these are often subject to collective bargaining agreements.

Many of our lower-ranked states have high economic debt levels, and the annual expense to service their fixed-cost obligations can account for 20% or more of their General Fund expenditures. States with little economic debt do not have this burden, giving them a material credit and competitive advantage. Illinois, New Jersey, Connecticut, and Pennsylvania have fixed costs exceeding 20% of their expenditures. Median state economic debt as a percentage of personal income is 5.4% as calculated by Conning, but as Exhibits 5 and 6 illustrate, the dispersion by state is quite wide.

Exhibit 5: States with low economic debt

State	Economic Debt per Personal Income	Indicator Rank
Nebraska	0.38%	1
South Dakota	1.10%	2
Iowa	1.33%	3
Tennessee	1.36%	4
Idaho	1.49%	5
North Dakota	1.60%	6
Wyoming	2.86%	7
Florida	3.17%	8
Utah	3.21%	9
Ohio	3.57%	10

Exhibit 6: States with high economic debt

State	Economic Debt per Personal Income	Indicator Rank
Alaska	54.37%	50
New Jersey	35.75%	49
Connecticut	28.88%	48
Illinois	26.93%	47
Hawaii	26.10%	46
Kentucky	24.89%	45
Delaware	22.45%	44
Massachusetts	20.38%	43
New Mexico	13.35%	42
Vermont	13.17%	41

Prepared by Conning, Inc. Source: State Comprehensive Annual Financial Reports (CAFRs) 2016

GENERAL FUND RESERVES—MAJOR DIFFERENCES BY STATE

General Fund reserves provide an important cushion in the event revenues and expenditures fall out of balance. The median state General Fund reserve balance as estimated by NASBO in its Spring 2017 report is 7.7%. The state leaders and laggards are set forth in Exhibits 7 and 8.

Exhibit 7: States with the largest General Fund reserves

State	General Fund reserves as a percentage of GF expenditures for FY 2017	Indicator Rank
Alaska	158.4%	1
Wyoming	103.0%	2
Texas	22.3%	3
West Virginia	19.8%	4
Nebraska	18.6%	5
Tennessee	13.4%	6
Minnesota	12.6%	7
Nevada	12.5%	8
Oregon	12.3%	9
Idaho	11.4%	10

Source: © 2017 The National Association of State Budget Officers (NASBO), The Fiscal Survey of the States, Spring 2017

Exhibit 8: States with the lowest General Fund reserves

State	General Fund reserves as a percentage of GF expenditures for FY 2017	Indicator Rank
Pennsylvania	-1.9%	50
New Mexico	-1.1%	49
Arkansas	0.0%	48
North Dakota	0.4%	47
Illinois	0.4%	46
New Jersey	1.4%	45
Connecticut	1.4%	44
Kansas	1.6%	43
Louisiana	2.7%	42
Virginia	3.1%	41

Prepared by Conning, Inc. Source: © 2016 The National Association of State Budget Officers (NASBO), State Expenditure Report, Fall 2016. 2017 numbers are projected.

GDP GROWTH—MAJOR DIFFERENCES BY STATE

Real gross domestic product (GDP) increased in 43 states and the District of Columbia in the first quarter of 2017 on an annualized basis, per the U.S. Bureau of Economic Analysis. For purposes of this report, we measured year-over-year GDP growth, and all states reported growth, with many of the previous lagging states showing strong results. A breakout of the fastest- and slowest-growing states during the past year is set forth in Exhibits 9 and 10.

Exhibit 9: State GDP Growth Leaders

State	Percent Change in Real Gross Domestic Product (GDP) by State, 2016:1-2017:1	Indicator Rank
West Virginia	6.84%	1
Nevada	6.38%	2
Kentucky	6.34%	3
Texas	6.02%	4
New Mexico	5.73%	5

Exhibit 10: State GDP Growth Laggards

State	Percent Change in Real Gross Domestic Product (GDP) by State, 2016:1-2017:1	Indicator Rank
New York	1.32%	50
Mississippi	1.75%	49
Illinois	1.95%	48
Kansas	2.22%	47
Arkansas	2.30%	46

Prepared by Conning, Inc. Source: Bureau of Economic Analysis, U.S. Department of Commerce (2015–2017)

STATE EMPLOYMENT—IMPRESSIVE GROWTH

During the past 12 months, the U.S. economy added almost three million jobs and all states gained employment, except Kansas and Wyoming. Employment growth is valuable as it drives state tax revenue, housing prices, and personal income.

Unemployment rates were also lower since our last report. North Dakota, Colorado, Hawaii, Idaho, New Hampshire, and Nebraska all reported unemployment rates below 3%, while only Alaska and New Mexico report unemployment rates above 6%.

Exhibit 11: State Employment Growth Leaders

State	Percent Employment Growth the past 12 months August to August	Indicator Rank
Nevada	3.178%	1
Utah	2.723%	2
Florida	2.577%	3
Georgia	2.561%	4
Oregon	2.480%	5

Exhibit 12: State Employment Growth Laggards

State	Percent Employment Growth the past 12 months August to August	Indicator Rank
Kansas	-0.51%	50
Wyoming	-0.32%	49
Alaska	0.20%	48
West Virginia	0.35%	47
Illinois	0.41%	46

Prepared by Conning, Inc. Source: Bureau of Labor Statistics, U.S. Department of Labor (2016–2017)

Employment growth by state is listed in Exhibits 11 and 12.

PERSONAL INCOME—HIGHER FOR MOUNTAIN, PACIFIC, AND SOUTHEASTERN STATES

State personal income grew at a 2.1% annual rate during the first half of 2017 following 3.6% growth in 2016, per estimates from the Bureau of Economic Analysis. State personal income is defined as the sum of net earnings by place of residence, property income, and personal current transfer receipts.

Exhibit 13: State Personal Income Leaders

State	Personal Income Growth
Nevada	5.94%
Utah	5.57%
Florida	4.86%
Washington	4.77%
Georgia	4.76%

Exhibit 14: State Personal Income Laggards

State	Personal Income Growth
North Dakota	-0.46%
Oklahoma	0.77%
Iowa	0.84%
Kansas	0.94%
Connecticut	0.98%

Prepared by Conning, Inc. Source: Census Bureau, U.S. Department of Commerce (2015-2017)
Annualized personal income levels from the 2nd quarter of 2017 over the 2nd quarter of 2016

For the 12-month period ending June 30, 2017, the states with the most growth in personal income were in the Pacific Northwest or Southeast, as illustrated in Exhibit 13. The laggards are energy states, farm states, and Connecticut, as shown in Exhibit 14.

HOME PRICE APPRECIATION—LED BY WESTERN AND MOUNTAIN STATES

The Home Price Index (HPI) is calculated by the Federal Housing Finance Agency using conventional, conforming mortgages that are backed by either Fannie Mae or Freddie Mac. Over the past year, the HPI for the nation rose 6.6%, with 48 states posting higher home prices. There were significant differences by state and region in HPI growth rates over the past year. Washington, Colorado, and Idaho all experienced home increases of more than 10%, while West Virginia and Alaska were the only two states that experienced home price declines over the past year.

Home price appreciation is driven by many factors including inventory, interest rates, and demand. Differences in home price appreciation by state reflect each state's general economic health as growth in employment, personal income, and state GDP all drive the demand for housing. Housing price levels are also a forward indicator of the overall credit health of local governments as local governments receive 75% of their General Fund revenues from property taxes, which are based on assessed values.

The Pacific region experienced the strongest home price appreciation (8.9%), followed by the Mountain region (8.3%). The New England (5.6%) and Middle Atlantic (4.1%) regions saw the slowest growth in home prices over the past year.

States with the fastest and slowest home price appreciation in 2016 are listed in Exhibits 15 and 16.

Exhibit 15: State Home Price Leaders

State	Year-over- year price increase 2016	Indicator Rank
Washington	12.40%	1
Colorado	10.41%	2
Idaho	10.30%	3
Florida	9.40%	4
Utah	9.25%	5
Oregon	8.61%	6
North Carolina	8.49%	7
Arizona	8.43%	8
California	8.33%	9
Texas	8.26%	10

Exhibit 16: State Home Price Laggards

State	Year-over-year price increase 2016	Indicator Rank
West Virginia	-1.22%	50
Alaska	-0.33%	49
Wyoming	0.94%	48
Delaware	1.77%	47
North Dakota	2.08%	46
Connecticut	2.18%	45
New Jersey	2.98%	44
Maryland	3.16%	43
Vermont	3.51%	42
Mississippi	3.66%	41

Prepared by Conning, Inc. Source: Federal Housing Finance Agency (FHFA) (2017) press release dated February 23, 2017

STATE OF THE STATES METHODOLOGY

Conning computes and aggregates 13 economic and government-obligation credit ratios to calculate our state rankings. Our indicators measure a state's business climate, credit-specific metrics, economic and income levels, and housing activity. Exhibit 17 sets forth the indicators and their respective weightings. Conning emphasizes the economic indicators that we think are forward-looking and correlate to future financial results.

The definitions and sources of each of the indicators can be found in Appendix A.

THE RESULTS: UTAH REMAINS 1ST, ILLINOIS 50TH

Conning's five top-ranked states are: Utah, Idaho, Florida, Nevada, and Colorado. Common threads among these states are strong economic growth, favorable business conditions, low legacy costs, and lack of commodity exposure.

Our five lowest-ranked states are Illinois, New Mexico, Mississippi, Connecticut, and West Virginia. These states have some combination of high commodity-revenue reliance, high legacy costs, slow economic growth, and a less favorable business climate in common. The challenge for many of our lagging states is to be able to grow employment in high-paying sectors.

Exhibit 17: Quantitative Measures of State Performance

Credit Indicator	Weighting
State Credit Metrics	**40%**
ALEC-Laffer Economic Outlook Ranking -2017	8%
Economic Debt per personal income	8%
FY 2016 General Fund Balance as a % of General Fund Expenditures	8%
Net Pension Liability per capita	8%
Tax Revenue Growth	8%
Economic and Income Measures	**60%**
GDP per capita	8%
Real State GDP Growth	8%
Employment Growth	8%
Personal Income Growth	8%
Unemployment Rate	8%
Median Family Income	8%
Home Price Growth	8%
Population Growth	4%
Total	**100%**

Exhibit 18 provides a list of Conning's rankings and raw score. The state rankings by each indicator can be found in Appendix B.

Exhibit 18: State Raw Scores per Conning Analysis

State	Raw	Overall Rank
Utah	9.48	1
Idaho	13.28	2
Florida	13.76	3
Nevada	13.80	4
Colorado	14.84	5
Tennessee	16.20	6
Washington	16.20	7
Texas	19.32	8
Minnesota	19.36	9
North Carolina	19.40	10
South Dakota	19.76	11
Georgia	19.76	12
Oregon	19.84	13
New Hampshire	21.08	14
Arizona	21.36	15
Nebraska	21.72	16
Virginia	22.04	17
Michigan	22.40	18
Wisconsin	22.80	19
Indiana	23.08	20
Ohio	23.92	21
North Dakota	23.96	22
California	24.44	23
South Carolina	24.56	24
Massachusetts	24.76	25

State	Raw	Overall Rank
Maryland	25.28	26
Wyoming	25.64	27
Iowa	25.68	28
Delaware	27.20	29
Hawaii	27.32	30
Rhode Island	27.72	31
Alaska	27.80	32
Missouri	28.08	33
Montana	28.20	34
New York	29.32	35
Alabama	30.44	36
Arkansas	30.48	37
Oklahoma	30.56	38
Maine	30.68	39
Pennsylvania	31.24	40
Louisiana	32.80	41
Kentucky	32.80	42
Kansas	33.68	43
New Jersey	34.20	44
Vermont	34.32	45
West Virginia	35.76	46
Connecticut	37.44	47
Mississippi	38.48	48
New Mexico	38.96	49
Illinois	39.80	50

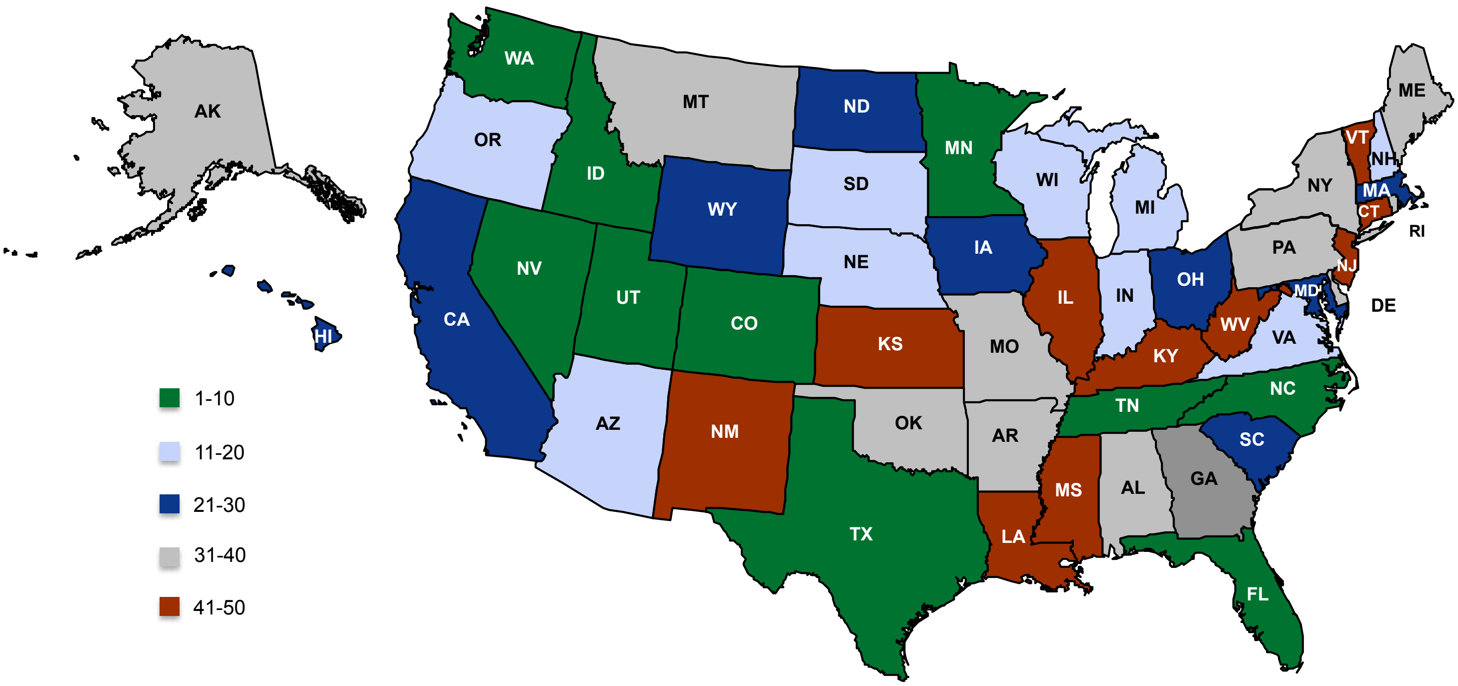
Exhibit 19 provides our current rankings alphabetically by state and whether the rank has materially improved, declined, or remained stable from our last report.

Exhibit 19: State Improvement/Decline – Alphabetically

State	Overall Rank	Improved/Stable or Declined
Alabama	36	Improved
Alaska	32	Improved
Arizona	15	Stable
Arkansas	37	Stable
California	23	Stable
Colorado	5	Improved
Connecticut	47	Stable
Delaware	29	Improved
Florida	3	Stable
Georgia	12	Declined
Hawaii	30	Improved
Idaho	2	Improved
Illinois	50	Stable
Indiana	20	Stable
Iowa	28	Stable
Kansas	43	Declined
Kentucky	42	Improved
Louisiana	41	Stable
Maine	39	Stable
Maryland	26	Stable
Massachusetts	25	Declined
Michigan	18	Improved
Minnesota	9	Improved
Mississippi	48	Declined
Missouri	33	Declined

State	Overall Rank	Improved/Stable or Declined
Montana	34	Declined
Nebraska	16	Stable
Nevada	4	Stable
New Hampshire	14	Declined
New Jersey	44	Declined
New Mexico	49	Stable
New York	35	Declined
North Carolina	10	Stable
North Dakota	22	Declined
Ohio	21	Improved
Oklahoma	38	Improved
Oregon	13	Declined
Pennsylvania	40	Stable
Rhode Island	31	Improved
South Carolina	24	Declined
South Dakota	11	Stable
Tennessee	6	Stable
Texas	8	Improved
Utah	1	Stable
Vermont	45	Declined
Virginia	17	Improved
Washington	7	Declined
West Virginia	46	Improved
Wisconsin	19	Declined
Wyoming	27	Improved

Exhibit 20 – State Ranking Results



Credit highlights for the best and worst states are displayed in Exhibits 21 and 22

Exhibit 21: Top-Ranked States

State	Overall Rank	Key credit factors
Utah	1	Best state competitive index with very strong employment, personal income, GDP, and population growth.
Idaho	2	Strong employment, personal income, GDP growth with low economic debt and a favorable business climate.
Florida	3	Strong employment, personal income, home price growth with favorable business climate.
Nevada	4	Leading state for employment and personal income growth, offset by low median family income.
Colorado	5	Top state for employment growth percentage, tax revenue, and population growth, with low economic debt.

Exhibit 22: Lowest-Ranked States

State	Overall Rank	Key credit factors
Illinois	50	High economic debt levels with no General Fund reserves and a slow-growing economy. Recent tax increases should improve government obligation metrics over time.
New Mexico	49	Highest unemployment rate among all states, very low per capita income and lack of GDP growth.
Mississippi	48	Lowest median family income among all states, slow employment and low personal income growth.
Connecticut	47	Very high legacy costs, lower tax revenues, and no increase in home prices, with sluggish economic growth.
West Virginia	46	Slowest-growing state, with home price declines and low median family income. Recent GDP growth has helped off a low base.

RATING AGENCY ACTIONS—IN LINE WITH OUR OUTLOOK

In 2017, actions by the major Rating Agencies have been negative: nine states have been downgraded by one or more rating agency. Only one state - Wisconsin - has been upgraded.

CONNING'S MUNICIPAL CREDIT RESEARCH TEAM

Conning manages more than $9 billion of municipal bonds held in client portfolios. Its dedicated municipal research team follows the firm's existing holdings and makes recommendations for new purchases.

Paul Mansour, a Managing Director and Head of Municipal Credit Research, joined Conning in 2006. Previously, Mr. Mansour was employed by MBIA Corporation as a Managing Director and business leader for revenue producing units where he prepared and approved municipal credit reports while also supervising credit analysts for 23 years. Paul started his career at the New York State Power Authority serving four years as a revenue and power forecasting analyst. Mr. Mansour is a graduate of Colgate University with a degree in Economics and earned an MBA from Pace University. He is a member of MAGNY and the Municipal Bond Club of New York.

Karel Citroen, a Director Municipal Credit Research joined Conning in 2015. Previously, Mr. Citroen was employed by MBIA Corporation as a Vice President of municipal portfolio surveillance. Prior to obtaining an MBA from the Yale School of Management, he worked in the Netherlands as a banking and securities law lawyer for different financial institutions. Mr. Citroen earned an LL.M from the University of Amsterdam in 2000. He is a member of MAGNY and has 10 years of industry experience.

Diane Diaz, an Assistant Vice President, joined Conning in 2014. Prior to joining Conning, Ms. Diaz held positions in the public and non-profit sectors. Ms. Diaz earned a BA from the University of Pittsburgh and a Master of Public Administration from the University of Connecticut. She is a member of the National Federation of Municipal Analysts and the Municipal Analyst Group of New York.

Nolan Cicerrella, an Analyst, joined Conning in 2015. Nolan is responsible for municipal credit research. Prior to joining Conning in 2015, Mr. Cicerrella was employed by Bank of America as a Residential Credit Analyst. Mr. Cicerrella is a graduate of the University of Connecticut with a degree in Economics.

ABOUT CONNING

Conning (www.conning.com) is a leading global investment management firm with a long history of serving the insurance industry. Conning supports institutional investors, including pension plans, with investment solutions and asset management offerings, award-winning risk modeling software, and industry research. Founded in 1912, Conning has offices in Boston, Cologne, Hartford, Hong Kong, London, New York, and Tokyo.

Appendix A — DESCRIPTION OF INDICATORS

Laffer State Competitive Environment (8% weight)

Arthur Laffer, a supply-side economist, developed the Laffer State Economic Competitive Index. The report assigns an Economic Outlook Rank based on a state's current standing in 16 state policy variables including top marginal personal and corporate income tax rates, property and sales tax burdens, and state minimum wage. Rankings are from his 10th edition.

Source: © 2017 American Legislative Exchange Council (ALEC), Rich States Poor States, Authors: Dr. Arthur B. Laffer, Jonathan Williams, and Stephen Moore, 10th Edition – used with permission, http://www.alec.org/publications/rich-states-poor-states/

Economic Debt per personal income (8% weight)

This indicator ranks each state according to its economic debt as a percentage of each state's first quarter personal income. Conning defines "Economic Debt" for each state as its net tax-supported debt + State Unemployment Trust Fund Loan Balance (if any) + Unfunded Pension Liabilities + Unfunded OPEB Liabilities. Each state's Economic Debt is then divided by its personal income.

Economic Debt = Net Tax Supported Debt + State Trust Fund Loans + Unfunded Pensions + OPEB Liabilities/ personal income

Sources: © 2017 Moody's Investor Services, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates – used with limited permission – using data from Employment and Training Administration, U.S. Department of Labor (2017). https://workforcesecurity.doleta.gov/budget.asp#tfloans

FY16 General Fund Balance as a percentage of GF Expenditures (8% weight)

This indicator ranks the states according to their General Fund balance as a percentage of expenditures for FY16. Each state's ending balance and budget stabilization fund are added together to equal their total funds. Each state's total fund is then divided by that state's expenditures. This data was taken from The Spring Fiscal Survey of States (April 2017), published by the National Association of State Budget Officers (NASBO).

Sources: State Comprehensive Annual Financial Reports (CAFRs) and © 2017 The National Association of State Budget Officers (NASBO), http://www.nasbo.org/publications-data/fiscal-survey-of-the-states

Net Pension Liability Per Capita (8%)

This accounts for differences among the state in terms of state and local responsibility for debt issuance.
Dividing state and local debt by GDP provides a measure of a state's ability to service its overall debt.

Source: State Comprehensive Annual Financial Reports (CAFRs)

Tax Revenue Growth (8% weight)

This indicator ranks the states according to their tax revenue growth for the 12months ended June 30, 2017 as compared same period a year earlier. The data was obtained from the U.S. Census Bureau.

Source: Census Bureau, U.S. Department of Commerce (2017), http://www.census.gov/govs/qtax/index.html

Gross Domestic Product (GDP) Growth by State (8% weight)

This indicator ranks each state's annual growth in GDP. This information comes from the U.S. Bureau of Economic Analysis.

Source: Bureau of Economic Analysis, U.S. Department of Commerce (2015–2017), https://bea.gov/newsreleases/regional/gdp_state/qgsp_newsrelease.htm

Year-over-Year Employment Growth (8% weight)

This indicator ranks the states based on their year over year total employment growth August 2017 vs. August 2016. The data was obtained through the Bureau of Labor Statistics using seasonally adjusted figures.

Source: Bureau of Labor Statistics, U.S. Department of Labor (2016-2017), https://www.bls.gov/

Median Family Income(8% weight)

This indicator ranks states by their median family income level. Information is from the most recent survey dated September 14, 2017

Source: Census Bureau, U.S. Department of Commerce (2017). https://www.census.gov/newsroom/press-releases/2017/acs-single-year.html

Unemployment Rate (8% weight)

This indicator ranks the states by their August 2017 unemployment rate. The unemployment rate is the percentage of the labor force that is unemployed but is actively seeking employment and is willing and able to work. The data were obtained from the Bureau of Labor Statistics.

Source: Bureau of Labor Statistics, U.S. Department of Labor (2016), http://www.bls.gov/

Year over Year Personal Income Growth (8% weight)

This indicator ranks the states according to their personal income growth over the most recent 12 months ending June 30, 2017.

Source: Bureau of Economic Analysis, U.S. Department of Commerce (2016) https://bea.gov/national/index.htm

One-Year change in Home Prices (8% weight)

This indicator ranks the states based on their one-year change in home prices. The data were obtained through the Federal Housing Finance Agency (FHFA) and covers the quarter ended June 2017.

Source: Federal Housing Finance Agency (FHFA) (2017), August 22, 2017 https://www.fhfa.gov/AboutUs/Reports/Pages/US-House-Price-Index-Report-2Q-2017.aspx

Population Change (4% weight)

Annual change in population by state from July 2015 to July 2016

Source: Census Bureau, U.S. Department of Commerce https://www.census.gov/programs-surveys/popest.html

Appendix B—STATE RANKINGS BY CREDIT INDICATOR

State	Raw	October 2017 Rank	Laffer 8%	Economic Debt/PI 8%	GF Balance/GF Expenditures 8%	NPL/capita 8%	Tax Revenue Growth 8%	State GDP/capita 8%	Employment Growth 8%	GDP Growth 8%	Unemployment Rate 8%	Personal Income Growth 8%	One Year Home Price Change 8%	Mediain Family Income 8%	Population Growth 4%
Utah	9.48	1	1	7	24	12	4	28	2	8	14	2	5	11	1
Idaho	13.28	2	10	6	10	8	6	48	11	9	4	14	3	36	2
Florida	13.76	3	6	8	20	9	9	40	3	6	22	5	4	38	4
Nevada	13.80	4	13	11	8	21	3	32	1	2	38	1	14	27	3
Colorado	14.84	5	15	19	33	36	14	17	15	10	2	7	2	12	7
Tennessee	16.20	6	5	5	6	6	10	35	17	24	17	11	16	43	15
Washington	16.20	7	40	28	18	14	5	9	10	31	31	3	1	10	5
Texas	19.32	8	9	35	3	33	38	15	6	4	30	29	10	25	9
Minnesota	19.36	9	45	15	7	22	28	13	19	22	16	15	18	13	18
North Carolina	19.40	10	3	33	23	3	19	30	21	23	27	9	7	39	11
South Dakota	19.76	11	12	2	17	1	8	23	33	30	11	45	29	29	14
Georgia	19.76	12	17	17	21	19	13	31	4	35	35	4	15	30	12
Oregon	19.84	13	41	21	9	10	24	22	5	34	28	24	6	21	6
New Hampshire	21.08	14	18	26	28	18	48	18	9	27	5	20	28	7	23
Arizona	21.36	15	8	12	31	26	15	43	31	11	39	8	8	31	8
Nebraska	21.72	16	32	1	5	7	37	14	26	44	6	43	26	22	17
Virginia	22.04	17	11	18	41	16	25	16	30	33	19	16	32	8	21
Michigan	22.40	18	20	22	14	20	16	37	18	18	33	19	12	33	36
Wisconsin	22.80	19	14	16	37	2	20	26	40	26	12	28	23	24	34
Indiana	23.08	20	2	25	11	38	17	29	25	32	20	13	27	35	29
Ohio	23.92	21	19	9	25	13	7	25	36	12	45	34	21	34	38
North Dakota	23.96	22	4	3	47	15	49	5	27	19	1	50	46	17	33
California	24.44	23	47	36	29	37	23	7	23	15	46	12	9	9	25
South Carolina	24.56	24	27	30	12	23	12	45	22	29	29	10	22	41	10
Massachusetts	24.76	25	25	43	40	45	40	1	13	25	18	25	17	4	27
Maryland	25.28	26	34	40	34	44	27	11	7	16	21	23	43	1	30
Wyoming	25.64	27	7	10	2	28	50	8	49	21	15	44	48	19	39
Iowa	25.68	28	29	4	22	11	29	21	38	43	9	48	31	26	20
Delaware	27.20	29	37	44	15	30	34	3	41	20	40	6	47	15	16
Hawaii	27.32	30	43	46	13	42	30	19	45	41	3	21	11	5	45
Rhode Island	27.72	31	36	39	26	43	42	24	8	13	25	41	13	18	37
Alaska	27.80	32	30	50	1	46	1	6	48	14	49	42	49	2	19
Missouri	28.08	33	24	14	35	27	22	36	14	38	24	40	24	37	32
Montana	28.20	34	39	24	36	34	11	44	12	45	10	26	25	40	13
New York	29.32	35	50	37	16	5	43	2	24	50	37	32	33	14	47

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Appendix B—STATE RANKINGS BY CREDIT INDICATOR (continued)

State	Raw	October 2017 Rank	Laffer 8%	Economic Debt/PI 8%	GF Balance/GF Expenditures 8%	NPL/capita 8%	Tax Revenue Growth 8%	State GDP/capita 8%	Employment Growth 8%	GDP Growth 8%	Unemployment Rate 8%	Personal Income Growth 8%	One Year Home Price Change 8%	Mediain Family Income 8%	Population Growth 4%
Alabama	30.44	36	21	29	19	24	39	46	28	28	26	22	35	46	35
Arkansas	30.48	37	23	20	48	17	36	49	16	46	13	18	36	48	22
Oklahoma	30.56	38	16	13	38	4	46	38	35	17	34	49	38	42	24
Maine	30.68	39	42	27	27	35	21	42	42	39	8	33	20	32	31
Pennsylvania	31.24	40	38	31	50	31	35	20	32	7	42	27	34	23	41
Louisiana	32.80	41	28	34	42	32	2	33	34	42	48	17	37	47	28
Kentucky	32.80	42	33	45	39	47	26	41	20	3	44	35	19	45	26
Kansas	33.68	43	26	23	43	25	31	27	50	47	23	47	30	28	42
New Jersey	34.20	44	48	49	45	50	18	10	29	37	36	37	44	3	43
Vermont	34.32	45	49	41	30	41	33	34	43	36	7	30	42	20	46
West Virginia	35.76	46	31	38	4	40	32	47	47	1	47	36	50	49	50
Connecticut	37.44	47	46	48	44	48	41	4	44	40	32	46	45	6	48
Mississippi	38.48	48	22	32	32	29	47	50	37	49	41	31	41	50	40
New Mexico	38.96	49	35	42	49	39	45	39	39	5	50	38	40	44	44
Illinois	39.80	50	44	47	46	49	44	12	46	48	43	39	39	16	49

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