U.S. States Ratings Distribution

CA, KA, LA, MI, PA, WV
CT, KY
NJ
IL

AAA
AA+
AA
AA-
A+
A-
BBB-

AAA: 30%
AA: 22%
AA+: 28%
A+: 4%
A-: 2%
AA-: 2%
BBB-: 12%
CT, KY: 4%
NJ: 2%
CA, KA, LA, MI, PA, WV: 2%

Source: S&P Global Ratings U.S. State Ratings And Outlooks: Current List 7/19/17

S&P Global Ratings
U.S. States Outlook Distribution

- Positive: 82%
- Stable: 16%
- Negative: 2%
- Watch Neg: 0%

Source: S&P Global Ratings U.S. State Ratings And Outlooks: Current List 7/19/17
Ratings Movements For U.S. States

Source: S&P Global Ratings

State Pension Survey Funded Ratios

Source: S&P Global Ratings  U.S. State Pensions: Weak Market Returns Will Contribute To Rise In Expense, September 12, 2016
Funding State Pensions

Contributions

Assumptions/Funding Discipline

Investment Returns

Benefits

S&P Global Ratings
Changing Landscape for State Pensions

- Slow economic recovery has contributed to sluggish pace of state and local government revenue growth

- Lackluster investment returns in 2015 and 2016 are contributing to lower funded ratios and rising liabilities

- Predictions of similarly low returns over the next decade have forced many pension administrators to rethink and, in many cases, lower their assumed rate of return

- Demographic variables and plan structure changes could also add to funding pressures
Revenue Recovery Lags Prior Expansions

Source: National Association of State Budget Officers (Fiscal Survey of the States)
Private Sector Payroll Vs. State And Local Payroll

Source: Bureau of Labor Statistics

S&P Global Ratings
Weak Market Returns And Lower Assumed Return Targets Suggest Contributions Will Rise

More plans are moving to gradually lower assumed rates of return, although many remain within the 7.5% to 8% band.

<table>
<thead>
<tr>
<th>Plan Name</th>
<th>Current Rate</th>
<th>New Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CalPERS</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
<tr>
<td>CalSTRS</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Washington</td>
<td>7.80%</td>
<td>7.70%</td>
</tr>
<tr>
<td>Hawaii Employee Retirement System</td>
<td>7.55%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Oregon's Public Employees Retirement system</td>
<td>7.75%</td>
<td>7.50%</td>
</tr>
<tr>
<td>Illinois Teachers' Retirement System</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>7.90%</td>
<td>7.65%</td>
</tr>
<tr>
<td>Iowa PERS</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
</tbody>
</table>
We note the proportion of the portfolio allocation among equity and alternative investments for the states' largest pension plan (measured by share of the state's net pension liability) averaged 68% and grew by more than 8% compared to the allocation five years earlier.
Managing Pension Risk

Waiting for Recovery: Navigating the Road Ahead

How pension plans and state governments manage current assets and future contributions is key to the future health of pension systems and state budgets.

In our view, these decisions represent a difficult tradeoff between reducing the long-term risk associated with uncertain and volatile market returns in exchange for increased budgetary pressure.
S&P State Ratings Overall Analytical Framework

Chart 1
Standard & Poor's Analytic Framework For Rating U.S. States

- Government framework
  - Fiscal policy framework
  - System support
  - Intergovernmental funding

- Financial management
  - FMA
  - Budget management

- Economy
  - Demographic profile
  - Economic structure
  - Wealth and income indicators
  - Economic development

- Budgetary performance
  - Budget reserves
  - Liquidity
  - Tax/revenue structure
  - Revenue forecasting
  - Service levels
  - Structural performance

- Debt and liability profile
  - Debt burden
  - Pension liabilities

Indicative credit level

Holistic analysis
(one-notch adjustment, subject to any applicable rating cap)

Overriding factors:
- System support
- Willingness to support debt
- Liquidity and capital market access
- High level of expected future debt/liabilities
- Weak structural budget performance
- High level of contingent liquidity risk

State rating

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S&P State Ratings Pension Approach

Positive adjustment
- Unfunded pension liability per capita at or below $500, or
- Unfunded pension liability as % of income at or below 2%.

Negative adjustment
- Unfunded pension liability per capita at or above $3500, or
- Unfunded pension liability as % of income at or above 7%.

Final Pension Liabilities Assessment
S&P State Ratings Pension Approach

Main Areas of Focus

- Pension funded ratios
- Size of pension liability
- Funding Discipline
  - Funding on actuarial basis
  - Annual progress in paying liability
- Funding Discipline Adjustment
- Fixed costs and structural budgetary balance
S&P State Ratings Pension Approach

Funding Discipline Adjustment

- Assumed rate of return vs. actual performance
- Amortization Method (length, open/closed, level $/level %)
- Ratio of actives to beneficiaries
- Frequency of updates to experience studies
- Assumptions in cash flow projections for plan asset depletion
Pension Reform: Challenges and Uncertainties

States continue to pass pension reform to address low funded ratios, long-term liability and contributions.

Focus is on how viable and realistic plans are to address low funding levels and the resultant impact over time, as well as whether these plans address the root causes of underfunding or simply delay budgetary pressures into the future.

Pension reform is highly litigated with varying outcomes – changing pensions for new hires does not have immediate effect.

Pension liability management is an ongoing effort, not a point-in-time solution.
Thank you

Sussan Corson
Director
T: 212.438.2014
sussan.corson@spglobal.com
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