State and Local Government Credit Forum
Atlanta, GA
November 3rd, 2017

Robin Prunty, Managing Director, Head of Analytics and Research
Agenda – Pensions

Analytical Framework for Pensions
- How are pensions factored into the rating process at S&P
- How OPEB factored into the rating process

Pension Fund Performance
- 50 State Pension Fund Survey
- 50 State OPEB Survey
- Pension and OPEB trends we are seeing

Q&A
- Q&A
State Pensions and OPEB
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
  - OPEB risk assessment

Indicative credit level

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

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

State rating

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S&P State Ratings Pension Approach

Funding History
Actuarial Basis
Plan Contributions
Funding Progress

FUNDING DISCIPLINE

- Assumed rate of return vs. actual performance
- Amortization method
- Ratio of actives to beneficiaries
- Frequency of updates to experience studies
- Cash flow assumptions underlying GASB plan
  asset depletion projections
S&P State Ratings Pension Approach

Initial Pension Assessment

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

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

Final Pension Liabilities Assessment

3-Year Average Pension Funded Ratio

Pension Funding Discipline
State Pension Survey Funded Ratios

OPEB Survey Unfunded Liability Per Capita

Source: S&P Global Ratings U.S. State Retiree Medical And OPEB Liabilities Keep Rising As States Prioritize Other Obligations, October 18, 2017

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 around 7.5%.

<table>
<thead>
<tr>
<th>Plan Description</th>
<th>Current Rate</th>
<th>New Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>California PERS</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
<tr>
<td>California STRS</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Connecticut SERS</td>
<td>8.0%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Hawaii ERS</td>
<td>7.65%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Oregon's PERS</td>
<td>7.75%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Illinois TRS</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
<tr>
<td>New York ERS</td>
<td>7.50%</td>
<td>7.0%</td>
</tr>
<tr>
<td>New Jersey TPAF</td>
<td>7.90%</td>
<td>7.65%</td>
</tr>
</tbody>
</table>
In our view, states that consistently fund full required contributions on an actuarial basis and use conservative assumptions and methods are more likely to effectively manage their pension liabilities and the associated long-term budgetary costs than states that do not.
Rate of return assumptions and amortization methods are among the key actuarial drivers that, if currently misaligned with experience could result in significant growth in future reported pension liabilities and annual costs.
Investment Risk in U.S. State Pension Plans

Plans Increase Riskier Investment Allocation to Meet Return Targets

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% as of 2015 and grew by more than 8% compared to the allocation five years earlier.

Data from reported plan investment allocations between 2010 and 2015 found on the Public Plans Data website maintained by the Center for Retirement Research at Boston College or from plan reports.
S&P: 2017 YTD Pension/OPEB Publications

“Pension Pressures Will Weigh On 15 Largest U.S. Cities' Budgets” March 8, 2017

“California Pension Giants Take the Long-Term View in Preserving Credit Quality” March 15, 2017

“Dallas And Houston Start To Address Pension Liabilities, But Substantial Work Remains” February 9, 2017

“Dallas Pension Reforms Cemented via State Legislature Vote” June 1, 2017

“South Carolina's Proposed Pension Reform Provides Path To Improve Funding, But Challenges Remain” March 14, 2017

“Pennsylvania Pension Reform Doesn't Address Near-Term Credit Pressures” June 13, 2017

“Jacksonville Adopts Pension Reform, But The Ultimate Impact On Credit Quality Remains Uncertain” May 24, 2017

“Chicago's Alternate Pension Funding Plan Would Stave Off Immediate Credit Pressure But Not Stabilize Liabilities” July 5, 2017

“State Steps In To Stabilize Michigan Schools' Pension Liabilities With Reforms, Fiscal 2018 Budget” June 29, 2017

“U.S. State Pensions: Funded Ratios Declined Again in 2016” October 18, 2017

"Rising OPEB Liabilities For The 15 Largest U.S. Cities Could Strain Budgets And Pose Credit Risks" October 10, 2017

“U.S. State Retiree Medical And Other Postemployment Benefit Liabilities Keep Rising As States Prioritize Other Obligations” October 18, 2017

As of October 16, 2017

S&P Global
Ratings
Thank you

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