Understanding the CalPERS Discount Rate and the Effect on Employer Contributions

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Presenters

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Investment Officer

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Chief Actuary
Why a Discount Rate Change Now?

• ALM cycle requires us to recognize changing conditions
• Market conditions have changed
• Seeing more uncertainty in the forecast
• Next 10 years are consequential
• To close the cash flow funding gap
• Risks in system continue to grow
Lower Interest Rates = More Risk and Lower Returns for All Investors

Attachment 1
Change in Market Conditions Led to this Action

- **2014 ALM Assumptions**
  - Rate of Return in %
  - Assumed rate of return
  - Years 1-30
  - 8.05% (Years 1-8)
  - 7.5% (Years 9-30)
  - Rate in %
  - 7.1% (Years 1-30)

- **Current Environment**
  - Rate of Return in %
  - Assumed rate of return
  - Years 1-30
  - 7.83% (Years 1-8)
  - 7.5% (Years 9-30)
  - Rate in %
  - 6.2% (Years 1-30)

December 2016
Historical & Projected PERF Contributions & Investments for Benefit Payments

- Current Contribution
- Add'l Contribution at 7% Disc Rate
- Investments Used
## Approved Discount Rate Phase-In

<table>
<thead>
<tr>
<th>Valuation Date</th>
<th>FY Required Contribution</th>
<th>Discount Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 30, 2016</td>
<td>2018-19</td>
<td>7.375%</td>
</tr>
<tr>
<td>June 30, 2017</td>
<td>2019-20</td>
<td>7.25%</td>
</tr>
<tr>
<td>June 30, 2018</td>
<td>2020-21</td>
<td>7.00%</td>
</tr>
</tbody>
</table>
## Timing of Change to Annual Valuations

<table>
<thead>
<tr>
<th>Public Agencies</th>
<th>18/19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Schools</strong></td>
<td>18/19</td>
</tr>
<tr>
<td><strong>State</strong></td>
<td>17/18</td>
</tr>
<tr>
<td><strong>Affiliate Plans</strong></td>
<td>17/18</td>
</tr>
</tbody>
</table>
## Public Agency Contribution Increases

<table>
<thead>
<tr>
<th>Valuation Date</th>
<th>FY Impact</th>
<th>Normal Cost</th>
<th>UAL Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/30/2016</td>
<td>2018-19</td>
<td>0.25% - 0.75%</td>
<td>0.5% - 1.25%</td>
</tr>
<tr>
<td>6/30/2017</td>
<td>2019-20</td>
<td>0.5% - 1.5%</td>
<td>1.0% - 2.5%</td>
</tr>
<tr>
<td>6/30/2018</td>
<td>2020-21</td>
<td>1.0% - 3.0%</td>
<td>2.0% - 5.0%</td>
</tr>
<tr>
<td>6/30/2019</td>
<td>2021-22</td>
<td>1.0% - 3.0%</td>
<td>2.0% - 5.0%</td>
</tr>
<tr>
<td>6/30/2020</td>
<td>2022-23</td>
<td>1.0% - 3.0%</td>
<td>2.0% - 5.0%</td>
</tr>
<tr>
<td>6/30/2021</td>
<td>2023-24</td>
<td>1.0% - 3.0%</td>
<td>2.0% - 5.0%</td>
</tr>
<tr>
<td>6/30/2022</td>
<td>2024-25</td>
<td>1.0% - 3.0%</td>
<td>2.0% - 5.0%</td>
</tr>
</tbody>
</table>
How to Estimate the Increase (Public Agencies)

Normal Cost

1. Reference your current valuation report’s normal cost (percentage of payroll)
2. Use the “Public Agency Contribution Increases” table and add this percentage to your current normal cost percentage
3. Repeat for all fiscal years listed on the table
4. Apply percentages to your current payroll for dollar estimates
Example

1. Current valuation report’s normal cost percentage of payroll = 15%

2. Projection of increase for FY 2018-19: 0.25% to 0.75%

3. Add: 15% + 0.25% to 0.75% = 15.25% to 15.75% for FY 2018-2019

4. Projection of increase for FY 2022-23: 1% to 3%

5. Add: 15% + 1% to 3% = 16% to 18% for FY 2022-23
How to Estimate the Increase (Public Agencies)

Unfunded Accrued Liability (UAL)

1. Reference your current valuation report’s UAL cost
2. Use the projected payments for each fiscal year and apply percentage increase listed on the table
3. Repeat for all fiscal years listed on the table
Example

1. Current projected UAL payment for FY 2018-19 = $500,000
2. Current projected UAL payment for FY 2022-23 = $600,000
3. Projected UAL % increase for FY 2018-19: 2% to 3%
4. Multiply: $500,000 x 2% / $500,000 x 3% = $510,000 to $515,000 for FY 2018-2019
5. Projected UAL percentage increase for FY 2022-23: 20% to 25%
6. Multiply: $600,000 x 20% / $600,000 x 25% = $720,000 to $750,000 for FY 2022-23
### School Employer Contribution Rates – Before and After

<table>
<thead>
<tr>
<th>Valuation Date</th>
<th>FY Impact</th>
<th>From June 30, 2015 Annual Valuation Report with Discount Rate of 7.5%</th>
<th>Projection with Discount Rate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/30/2015</td>
<td>2016-17</td>
<td>13.888%</td>
<td>13.888%</td>
</tr>
<tr>
<td>6/30/2016</td>
<td>2017-18</td>
<td>15.8%</td>
<td>15.8%</td>
</tr>
<tr>
<td>6/30/2017</td>
<td>2018-19</td>
<td>17.7%</td>
<td>18.7%</td>
</tr>
<tr>
<td>6/30/2018</td>
<td>2019-20</td>
<td>19.7%</td>
<td>21.6%</td>
</tr>
<tr>
<td>6/30/2019</td>
<td>2020-21</td>
<td>21.1%</td>
<td>24.9%</td>
</tr>
<tr>
<td>6/30/2020</td>
<td>2021-22</td>
<td>21.5%</td>
<td>26.4%</td>
</tr>
<tr>
<td>6/30/2021</td>
<td>2022-23</td>
<td>n/a</td>
<td>27.4%</td>
</tr>
<tr>
<td>6/30/2022</td>
<td>2023-24</td>
<td>n/a</td>
<td>28.2%</td>
</tr>
</tbody>
</table>
How to Estimate the Cost (Schools)

Apply the projections to your payroll

1. Reference your projected payroll

2. Use the “School Employer Contribution Rates” table to find the revised percentage rate for each year

3. Apply these percentages to your projected payroll to calculate the expected cost for each year
Example

1. Projected payroll is $1 million
2. Projection of increase for FY 2018-19 was 17.7%
3. Projection with Discount Rate change is now 18.7%
4. Multiply: $1,000,000 \times 18.7\% = $187,000 for FY 2018-19
5. $187,000 is your projected contribution for FY 2018-19
Benefits of Reducing the Discount Rate

• Strengthens long-term sustainability of the fund to pay promised benefits
• Reduces negative cash flow; additional contributions will help to offset growing pension payments
• Reduces the long-term chances of falling below a 50% or 60% funded status that would weaken the sustainability of the fund
• Reduces the risk of contribution increases in the future from volatile investment markets
Next Steps

• State and Schools projected rates announced April 2017
• State and Schools valuation reports distributed Summer 2017
• Public Agency valuations distributed in July 2017
• Begin Asset Liability Management cycle of reviews
  – Capital market assumptions
  – Experience study
  – Asset allocation
• Reconsider discount rate in February 2018
FAQ’s

• How does lowering the discount rate impact the funded status?
• How much will it cost?
• What’s the difference between normal cost and unfunded actuarial liability (UAL)?
• What is smoothing and amortization and why does CalPERS “ramp up” changes in contributions over five years?
• Are we done with changes?
Questions?

• Call (888) CalPERS or (888) 225-7377

• Email calpers_stakeholder_relations@calpers.ca.gov

• Recorded webinar will be available on www.CalPERS.ca.gov by Wednesday, February 8, 2017
Definitions

- **Asset Liability Management (ALM)** — An integrated look at our assets and liabilities to determine the right mix of investments for our portfolio, specifically designed to achieve a sound and sustainable fund. Done on a rolling 4-year cycle.

- **Discount Rate** — Also known as the “assumed rate of return”. It is what we assume our $304 billion in investments will return in a typical fiscal year, July 1 to June 30.

- **Normal Cost** — The annual cost of service accrual for the upcoming fiscal year for active employees. The normal cost should be viewed as the long term contribution rate.

- **Risk Mitigation Policy** — A mechanism that automatically reduces discount rate by a set amount when returns exceed a certain threshold.

- **Unfunded Liability / Unfunded Actuarial Accrued Liability (UAL)** — When a plan or pool’s Market Value of Assets is less than its Accrued Liability, the difference is the plan or pool’s Unfunded Liability. If the Unfunded Liability is positive, the plan or pool will have to pay contributions exceeding the Normal Cost.