Whither Goest CalPERS?

CSMFO Annual Conference

Richard Costigan, Board Member
Marcie Frost, CEO
Scott Terando, Chief Actuary

February 8, 2017
WELCOME
About CalPERS

- More than 3,900 Actuarial Valuations
- 1.8 Million Members
- $20.5 Billion Annual Retirement Benefits

Total Membership by Category

- State: 31%
- School: 38%
- Local Public Agency: 31%
Financial Highlights

- $300 B Assets Under Management
- 0.61% 2015/16 Portfolio Return
- 5.1% 10 - Yr Annualized Return
- 7.03% 20 - Yr Annualized Return
CalPERS Investments
Asset Allocations, as of September 2016

![Asset Allocations Pie Chart]

- **Public Equity**: 46%
- **Private Equity**: 9%
- **Income**: 20%
- **Real Assets**: 13%
- **Liquidity**: 8%
- **Inflation**: 4%

**Asset Allocations**
ASSET LIABILITY MANAGEMENT
WHAT IS DRIVING RISK?
Factors Driving Funding Risk

Plan Demographics
- Plans are maturing
- Public employees are living longer
- Increase cash outflows

Benefit Structure
- Asset and liability to payroll ratios increase with higher benefit formulas

Market Volatility
- Current risk return includes significant volatility
- Market return expectations
PLAN DEMOGRAPHICS
Pension Funds are Maturing

Ratio of Actives to Retirees

CalPERS Actives  CalPERS Retirees  NASRA Public Fund Survey  CalPERS
Life Expectancy is Increasing

Male & Female Life Expectancy at Age 55 for Healthy Recipients

<table>
<thead>
<tr>
<th>Year</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994 Study</td>
<td>30</td>
<td>30.3</td>
</tr>
<tr>
<td>2004 Study</td>
<td>27.3</td>
<td>30.3</td>
</tr>
<tr>
<td>2009 Study</td>
<td>29.4</td>
<td>31.9</td>
</tr>
<tr>
<td>Projected 2028</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Plan Demographics Mitigation

• Actuarial Experience Study
• Change in Actuarial Assumptions
• Funding Level & Risk Report
BENEFIT STRUCTURE
Life Expectancy & Average Retirement Pension Benefits

June 30, 2007
- 80 yrs
- 84 yrs

June 30, 2015
- 82 yrs
- 85 yrs

$1,881
$2,627
Benefit Structure Mitigation

- Funding Level & Risk Report
- New actuarial policies
- Smoothing
- Amortization
- Treasury Management
MARKET VOLATILITY
Lower Interest Rates = More Risk and Lower Returns for All Investors

[Graph showing the relationship between interest rates, risk, and returns for investors over time.]
Funded Status & Investment Returns

Fiscal Year Ending June 30

Investment Returns by %

Funded Status by %

Investment Returns

Funded Status

CalPERS
Market Volatility Mitigation

- Actuarial Valuation Report
- Investment Allocation
- New Actuarial Policies: Smoothing/Amortization
- Funding Risk Mitigation Policy
WHY A DISCOUNT RATE CHANGE NOW?
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
Change in Market Conditions Led to this Action

- **2014 ALM Assumptions**
  - Years 1-30
  - Rate of Return: 7.1%, 8.05%, 7.5%

- **Current Environment**
  - December 2016
  - Rate of Return: 6.2%, 7.83%, 7.5%

Assumed rate of return chart.
Discount Rates are Trending Downward

Assumed Rates of Return Above & Below 7.5%

- Less than or equal to 7.5%
- Greater than 7.5%

Based on 2016 NASRA Survey

Since 2012
59 Assumed Rate of Return

8.0%
2012 Median Assumed Rate Of Return

7.5%
Current Median Assumed Rate of Return
Other Driving Factors

- 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
WHAT DID THE BOARD ADOPT AND HOW WILL IT BE IMPLEMENTED?
## 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>Employers</th>
<th>Contribution Rate Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>17/18</td>
</tr>
<tr>
<td>Schools</td>
<td>18/19</td>
</tr>
<tr>
<td>Public Agencies</td>
<td>18/19</td>
</tr>
</tbody>
</table>
Public Agency - Employer Contribution Increases – Misc. Plan

<table>
<thead>
<tr>
<th>FY Impact</th>
<th>Normal Cost</th>
<th>UAL Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-19</td>
<td>0.25% - 0.75%</td>
<td>2% - 3%</td>
</tr>
<tr>
<td>2022-23</td>
<td>1.0% - 3.0%</td>
<td>20% - 25%</td>
</tr>
</tbody>
</table>
Public Agency - Employer Contribution Increases –Safety Plan

<table>
<thead>
<tr>
<th>FY Impact</th>
<th>Normal Cost</th>
<th>UAL Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-19</td>
<td>0.50% - 1.25%</td>
<td>2% - 3%</td>
</tr>
<tr>
<td>2022-23</td>
<td>2.0% - 5.0%</td>
<td>20% - 25%</td>
</tr>
</tbody>
</table>
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
LOOKING AHEAD
Next Steps

- Public Agency valuations distributed in July 2017
- Begin Asset Liability Management cycle of reviews
  - Asset allocation
  - Capital market assumptions
  - Experience study
- Reconsider discount rate in February 2018
QUESTIONS

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