Advisory Committee Meeting

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March 29, 2012
National Overview of COLA Trends
Where Are Public Plans Now?

- Sharp investment declines (but also rebounds) coupled with improvements in mortality
- Falling funded ratios
- Increasing contribution rates
- Increasing fiscal pressures on plan sponsors
- Political antagonism toward public plans
Several states have recently lowered their long-term rate of return assumption.

Many more are currently considering it.

<table>
<thead>
<tr>
<th>Plan</th>
<th>Prior</th>
<th>New</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>California PERS</td>
<td>7.75%</td>
<td>7.50%</td>
<td>-0.25%</td>
</tr>
<tr>
<td>South Carolina</td>
<td>8.00%</td>
<td>7.50%</td>
<td>-0.50%</td>
</tr>
<tr>
<td>Colorado PERA</td>
<td>8.50%</td>
<td>8.00%</td>
<td>-0.50%</td>
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<tr>
<td>California STRS</td>
<td>8.00%</td>
<td>7.75%</td>
<td>-0.25%</td>
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<td>New York</td>
<td>8.00%</td>
<td>7.50%</td>
<td>-0.50%</td>
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<tr>
<td>Illinois</td>
<td>8.50%</td>
<td>7.75%</td>
<td>-0.75%</td>
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<td>Virginia</td>
<td>7.50%</td>
<td>7.00%</td>
<td>-0.50%</td>
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<tr>
<td>Rhode Island</td>
<td>8.25%</td>
<td>7.50%</td>
<td>-0.75%</td>
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</tbody>
</table>
National Historical Trends

Life Expectancy in Years, Current Age 65

- Male
- Female

1960: 13.0, 15.8
1970: 13.0, 16.8
1980: 14.2, 18.4
1990: 15.1, 19.0
2000: 16.1, 19.1
2009: 17.3, 20.0

National Vital Statistics Reports, Vol 59, No 4, March 2011
Declining Funded Ratios

Public Pension Funded Ratios

Projected Funded Ratio for TMRS
Annual Required Contribution Experience

FY 2010 data based on updated information presented at 2011 NASRA Annual Conference.
How Did Public Plans Get Here?

- **External factors:**
  - Financial market declines (*TMRS lost only 1.3% during the 2008 market downturn*)
  - Rising unemployment
  - Economic decline
  - Falling housing values
  - Falling state and local revenues

- **Internal factors:**
  - Benefit increases in late 1990s
  - Investment risks
  - Employers contributing less than the ARC (*TMRS employers are required to pay the ARC*)
Where are Public Plans Going?

- Benefit changes – largely for new hires
  - Typically start with COLAs
- Changing GASB standards
10 states revised their automatic post-retirement COLAs (8 in 2010)

In 3 of these states, the changes affect current benefit recipients

In all 10 cases, the legislation reduced future COLAs

In Oklahoma, the change required future COLAs to be funded at time of enactment
Postemployment COLAs

In Arizona:

- The COLA is constrained by the funded ratio:
  - 2% if the funded ratio is at least 60% growing incrementally to 4% if the funded ratio is at least 80%
- In addition, the COLA must be funded by investment earnings in excess of 10.5% in the year preceding the year the COLA is given
- If the earnings in excess of 10.5% are not sufficient to fund the COLA, the increase is limited to only the amount that can be funded
- Any excess over the amount needed to fund the COLA in a given year is not available for future years
Postemployment COLAs

In Rhode Island:

- The COLA is constrained by the funded ratio:
  - 80% but allows for intermittent COLAs at five-year intervals before the target is reached
- COLA will be equal to the difference between the five-year smoothed investment return and 5.5%, not to be less than zero and not to exceed 4%
- COLA applies to the first $25,000 of a member’s benefit, a limit that will be indexed to inflation
Postemployment COLAs

- Connecticut and Hawaii reduced the amount of the automatic COLA:
  - Connecticut from 2.5% to 2.0%
  - Hawaii from 2.5% to 1.5%
Changing GASB Standards
Changing GASB Standards

In 2011, GASB released its Exposure Drafts (EDs) of potential changes to public pension accounting and reporting:

- Accounting and funding would be decoupled.
- The unfunded pension liability (or “net pension liability”) would be included on the employer’s financial statement rather than solely in the supplemental information.
Changing GASB Standards (cont.)

Potential implications of changing the standards include:

► Creation of separate accounting and funding measures may cause additional confusion about the “real” costs and funded status of a public pension plan.

► The net pension liability will likely be more volatile than the unfunded actuarial accrued liability that is currently disclosed.

► The EDs, if adopted, would likely increase the size of pension liabilities and expense reported in the employer’s financial statement.
Changing GASB Standards (cont.)

GASB will require valuing ad hoc COLAs to the extent they are considered to be "substantively automatic"

Considerations that might be relevant in determining whether such changes are substantively automatic include the historical pattern of granting the changes, the consistency in the amounts of the changes or in the amounts of the changes relative to a defined cost-of-living or inflation index, and whether there is evidence to conclude that changes might not continue to be granted in the future despite what might otherwise be a pattern that would indicate such changes are substantively automatic.
Current TMRS COLAs and Employer Flexibility
Current COLA Options

- 30%, 50% or 70% of CPI-U
- Repeating COLAs are advance funded over each active employee’s working career
- Ad-hoc COLAs are funded when granted over 15 years with level dollar amortization
**Plan Change Study**

<table>
<thead>
<tr>
<th>Proposed Plans</th>
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<tbody>
<tr>
<td><strong>Current</strong></td>
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<tr>
<td>Deposit Rate</td>
</tr>
<tr>
<td>Matching Ratio</td>
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<tr>
<td>Updated Service Credit</td>
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<td>Transfer USC **</td>
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<td>Amenity Increase</td>
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<td>20 Year/Any Age Ret.</td>
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<td>Vesting</td>
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<tr>
<td>Normal Cost Rate</td>
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<td>Prior Service Rate</td>
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<tr>
<td>Retirement Rate</td>
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<tr>
<td>Supplemental Death Rate</td>
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<tr>
<td>Total Rate</td>
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<tr>
<td>Unfunded Actuarial Liability</td>
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<tr>
<td>Amortization Period</td>
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<tr>
<td>Funded Ratio</td>
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<tr>
<td>Phase-In Total Rate</td>
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**GRID 2012**
For Informational Purposes Only  
Effective Date - January 1, 2012  
Report Date - March 25, 2012

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***This is the addition to the Initial Prior Service Rate for USC for transfers. There were 24 eligible transfer employees on the valuation date.***
Short Term Analysis

- Ad hoc rates lower in short run, but costs increase with each adoption; repeating rates are stable, but higher initially.
- After 10 years, rate for a plan granting ad hocs is similar to the repeating rate and will continue to increase thereafter.
- UAAL increases over time with ad hocs, decreases over time for repeating.
- Funded ratio improves over time with repeating, declines with ad hocs.
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<tr>
<td><strong>Full Rate for Calendar Year</strong></td>
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<td></td>
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<tr>
<td>Current Provisions</td>
<td>11.73 %</td>
<td>11.46 %</td>
<td>11.44 %</td>
<td>11.43 %</td>
<td>11.41 %</td>
<td>11.40 %</td>
<td>11.38 %</td>
<td>11.36 %</td>
<td>11.33 %</td>
<td>11.31 %</td>
</tr>
<tr>
<td>Repeating COLAs - 30%</td>
<td>14.91 %</td>
<td>14.82 %</td>
<td>14.81 %</td>
<td>14.80 %</td>
<td>14.79 %</td>
<td>14.77 %</td>
<td>14.76 %</td>
<td>14.74 %</td>
<td>14.72 %</td>
<td>14.70 %</td>
</tr>
<tr>
<td>Annual Ad Hoc - 30%</td>
<td>11.79 %</td>
<td>11.67 %</td>
<td>11.91 %</td>
<td>12.19 %</td>
<td>12.46 %</td>
<td>12.74 %</td>
<td>13.01 %</td>
<td>13.28 %</td>
<td>13.54 %</td>
<td>13.80 %</td>
</tr>
<tr>
<td>3% Ad hoc every three years beg. In 2015</td>
<td>11.73 %</td>
<td>11.46 %</td>
<td>11.44 %</td>
<td>12.41 %</td>
<td>12.42 %</td>
<td>12.38 %</td>
<td>13.31 %</td>
<td>13.29 %</td>
<td>13.22 %</td>
<td>14.15 %</td>
</tr>
</tbody>
</table>

| **UAAL As of December 31,**          |      |      |      |      |      |      |      |      |      |      |
| Current Provisions                   | $ 17.6 | $ 15.8 | $ 15.8 | $ 15.7 | $ 15.6 | $ 15.4 | $ 15.2 | $ 14.9 | $ 14.5 |      |
| Repeating COLAs - 70%                | 60.5  | 62.9  | 63.5  | 64.0  | 64.3  | 64.6  | 64.7  | 64.7  | 64.6  | 64.2  |
| Repeating COLAs - 30%                | 31.3  | 31.0  | 31.1  | 31.3  | 31.4  | 31.3  | 31.1  | 30.9  | 30.5  |      |
| Annual Ad Hoc - 30%                  | 17.8  | 17.1  | 18.1  | 19.3  | 20.4  | 21.4  | 22.4  | 23.3  | 24.1  | 24.8  |
| 3% Ad hoc every three years beg. In 2015 | 17.6  | 15.8  | 15.8  | 19.7  | 19.9  | 19.6  | 23.5  | 23.3  | 22.7  | 26.7  |

| **Funded Ratio As of December 31,**  |      |      |      |      |      |      |      |      |      |      |
| Current Provisions                   | 92.1 % | 93.1 % | 93.3 % | 93.6 % | 93.8 % | 94.0 % | 94.3 % | 94.5 % | 94.8 % | 95.1 % |
| Repeating COLAs - 70%                | 77.1 % | 77.2 % | 77.9 % | 78.7 % | 79.4 % | 80.1 % | 80.8 % | 81.4 % | 82.1 % | 82.8 % |
| Repeating COLAs - 30%                | 86.7 % | 87.3 % | 87.7 % | 88.1 % | 88.5 % | 88.9 % | 89.3 % | 89.7 % | 90.1 % | 90.5 % |
| Annual Ad Hoc - 30%                  | 92.0 % | 92.6 % | 92.4 % | 92.3 % | 92.1 % | 92.0 % | 91.9 % | 91.9 % | 91.9 % | 92.0 % |
| 3% Ad hoc every three years beg. In 2015 | 92.1 % | 93.1 % | 93.3 % | 92.1 % | 92.3 % | 92.6 % | 91.6 % | 91.9 % | 92.4 % | 91.4 % |

| **2010 Retiree Monthly Annuity for CY** |      |      |      |      |      |      |      |      |      |      |
| Current Provisions                   | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 |
| Repeating COLAs - 70%                | $ 1,010 | $ 1,032 | $ 1,053 | $ 1,076 | $ 1,099 | $ 1,123 | $ 1,148 | $ 1,173 | $ 1,200 | $ 1,227 |
| Repeating COLAs - 30%                | $ 1,004 | $ 1,014 | $ 1,023 | $ 1,033 | $ 1,043 | $ 1,053 | $ 1,063 | $ 1,074 | $ 1,086 | $ 1,097 |
| Annual Ad Hoc - 30%                  | $ 1,004 | $ 1,014 | $ 1,023 | $ 1,033 | $ 1,043 | $ 1,053 | $ 1,063 | $ 1,074 | $ 1,086 | $ 1,097 |
| 3% Ad hoc every three years beg. In 2015 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,030 | $ 1,030 | $ 1,030 | $ 1,061 | $ 1,061 | $ 1,061 | $ 1,093 |
Long Term Analysis

- Contribution rates for ad hoc COLAs granted consistently exceed the repeating COLA rate; year 13 for sample city
- In the long run, cumulative contributions for ad hoc COLAs exceed those for repeating COLAs; year 25 for sample city
- Investment earnings accumulated through advance funding accounts for difference in long term costs
COLAs are Retroactive

- Increases are calculated as if COLA had always been in effect since date of retirement
- Initial COLA or an increase in CPI percent results in large benefit increases for the year adopted; longer retired, higher the increase
- Reduction in CPI percent results in lower or no increase until cumulative increase at lower percent exceeds current benefit; longer retired, longer until another increase will be granted
COLAs are Retroactive (Cont.)

<table>
<thead>
<tr>
<th>DOR</th>
<th>LAST 70%</th>
<th>FIRST 50%</th>
<th>FIRST 30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>Jan-12</td>
<td>Jan-20</td>
<td>Jan-34</td>
</tr>
<tr>
<td>1985</td>
<td>Jan-12</td>
<td>Jan-19</td>
<td>Jan-31</td>
</tr>
<tr>
<td>1990</td>
<td>Jan-12</td>
<td>Jan-18</td>
<td>Jan-28</td>
</tr>
<tr>
<td>2000</td>
<td>Jan-12</td>
<td>Jan-16</td>
<td>Jan-22</td>
</tr>
<tr>
<td>2005</td>
<td>Jan-12</td>
<td>Jan-14</td>
<td>Jan-18</td>
</tr>
<tr>
<td>2007</td>
<td>Jan-12</td>
<td>Jan-14</td>
<td>Jan-16</td>
</tr>
<tr>
<td>2008</td>
<td>Jan-12</td>
<td>Jan-13</td>
<td>Jan-14</td>
</tr>
<tr>
<td>2009</td>
<td>Jan-12</td>
<td>Jan-13</td>
<td>Jan-14</td>
</tr>
<tr>
<td>2010</td>
<td>Jan-12</td>
<td>Jan-13</td>
<td>Jan-13</td>
</tr>
</tbody>
</table>
COLAs Based Upon Investment Earnings
Pros and Cons

● Pros:
  ▶ Spreads plan funding risks over employers and retirees
  ▶ Dampens growth of plan liabilities when returns are low

● Cons:
  ▶ COLAs are not guaranteed
Recent Examples

- Arizona – see slide 11
- Rhode Island – see slide 12
COLAs Based on a Bank or Reserves
The Retired Life Reserve Account:

- The Account used to pay monthly pension benefits

If investment returns produce a surplus in the Account, pension benefits may be increased

- Paid as a “dividend” in their terms
How it works

- Investment earnings have to be higher than 5%
- Investment returns are smoothed over a 5-year period to dampen dividend volatility
- Dividends are not guaranteed
- Dividends may be reduced
- Dividends may actually be negative if the Reserve Account falls below the value of the pension liabilities
How it works - example

- 2008 market decline caused assets to fall below the liabilities in the Account
  - As a result, a negative dividend of -2.1% was applied to all annuities

- The dividend is designed so that an individual’s current pension benefit cannot be less than the original benefit
This structure helps to allocate plan funding risks over employers and retirees.

It dampens growth of plan liabilities when returns are low.

It provides additional benefits when returns are high.

- COLAs have averaged 4.5% over the past 25 years.
- Dividends have been negative over the past 4 years as a result of 2008 market decline.
Employees’ Annuity Options for a COLA
How they work

● A retiring member elects a lower initial monthly benefit with the promise of a guaranteed annual cost-of-living increase at a fixed rate
  ▶ For example, a 2% increase every year throughout retirement

● Allows a retiring employee to “self fund” a Fixed Rate COLA where an employer provided COLA may not be available
How they work – an example

Let’s say a member is getting ready to retire at age 60 and has elected a 100% joint & survivor annuity that will provide a monthly benefit of $1,000 (the spouse is also age 60)

Let’s also assume that this individual is not entitled to an annual repeating Annuity Increase (COLA)

But this retiring member is concerned with the effects that increased cost-of-living standards will have in the future on the couple’s purchasing power
How they work – an example

- The retiring member elects a further optional form of benefit to provide an annual 2% increase in the monthly benefit throughout retirement.

- For this purpose, a reduction factor is applied to the original monthly benefit of $1,000:
  - Given the ages 60, the reduction factor = .794
  - Therefore, the monthly benefit becomes $794 but will increase each year at the rate of 2% per annum.
How they work – an example

- In this example, the member (or surviving spouse) will need to live twelve (12) years for the reduced benefit to overtake the original amount of $1,000, assuming annual increases of 2%.

- After 12 years, the member and/or spouse will be age 72.
If the member desires an actual monthly benefit of $1,000 but still wanted a COLA, the member would need to work an additional three (3) years to have the same replacement income.

In other words, a $1,000 monthly benefit that would still increase each year at the rate of 2% per annum.
How they work – another example

- Let’s say a member is getting ready to retire at age 65 and has elected a 100% joint & survivor annuity that will provide a monthly benefit of $1,000 (the spouse is also age 65)

- Let’s assume that this individual is also not entitled to an annual repeating Annuity Increase (COLA)
The retiring member elects a further optional form of benefit to provide an annual 2% increase in the monthly benefit throughout retirement.

For this purpose, a reduction factor is applied to the original monthly benefit of $1,000.

- Given the ages 65, the reduction factor = .815.
- Therefore, the monthly benefit becomes $815, but will increase each year at the rate of 2% per annum.
How they work – another example

- In this example, the member (or surviving spouse) will need to live ten years for the reduced benefit to overtake the original amount of $1,000, assuming annual increases of 2%

- After 10 years, the member and/or spouse will be age 75
Questions and Comments?
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