Actuarial Impact of Conceptual Reforms

Highlighted Concepts

- Individual Account Program Redirect
- Reamortization of Tier One & Tier Two Unfunded Actuarial Liability over a 22-Year Period
- Work After Retirement
- Change of Annuitization Rate for Money Match Calculation
- Change to Final Average Salary Limit

Cumulative Actuarial Impact

PERS Administrative Impacts
Actuarial Assumptions

Unless otherwise noted all calculations are based on:

- Current Assumed Rate of Return of 7.2%
- Current Economic Assumptions
- Current Demographic Assumptions

Note: Economic assumptions and actuarial methods to be used for the December 31, 2019 valuation will be adopted at the July 26, 2019 PERS Board Meeting
Individual Account Program Redirect

Conceptual Intent (Effective July 1, 2021)

• Sets up Employee Pension Stability Account (EPSA) for each active member
• Redirects portion of Individual Account Program (IAP) contributions to the EPSA
• Redirect contribution rates apply when salary is above $2,500 per month (amount indexed yearly):
  • Tier One/Tier Two 2.50% to EPSA/3.50% to IAP
  • OPSRP 0.75% to EPSA/5.25% to IAP
• When salary is under $2,500/mo., 6.00% goes to IAP
• Allows voluntary member contribution to IAP on an after tax basis (not eligible for pick up per Tax Code restrictions) in amount equal to EPSA redirect contribution
Individual Account Program Redirect

Conceptual Intent (Effective July 1, 2021)

• EPSA will be applied to the cost of the member’s pension benefit at retirement for benefits accrued on or after July 1, 2021
• EPSA will not be subject to matching employer funds in Money Match calculations for Tier One & Tier Two members
• Serves as an offset of employer Normal Cost rate contributions
## Individual Account Program Redirect

### Actuarial Impact

| Employer Rate Offset as a Percent of Total Subject Salary Provided by Redirecting 2.5% of Tier 1/Tier 2 Payroll and 0.75% of OPSRP Payroll for Members Over $30,000 Threshold Starting January 2020 |
|---|---|---|
| From Tier 1/Tier 2 | From OPSRP* | Total |
| 2019-2021 | 0.7% | 0.3% | 1.0% |
| 2021-2023 | 0.7% | 0.5% | 1.2% |
| 2023-2025 | 0.6% | 0.5% | 1.1% |
| 2025-2027 | 0.5% | 0.5% | 1.0% |
| 2027-2029 | 0.3% | 0.6% | 0.9% |
| 2029-2031 | 0.3% | 0.6% | 0.9% |

*Redirection is shown prior to any estimated effects of a return of member contributions for OPSRP members who fail to satisfy minimum vesting requirements. Estimating any such effects would require an articulated policy regarding interest crediting on returned member contributions for members who leave PERS-covered employment prior to satisfying OPSRP vesting requirements. The cost would be a minor fraction of 0.75% of OPSRP payroll.*

<table>
<thead>
<tr>
<th>Example</th>
<th>Illustrative Reduction in IAP Balance at Retirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1 (2.5% redirect for final 5 years)</td>
<td>(7.8%)</td>
</tr>
<tr>
<td>Tier 2 (2.5% redirect for final 10 years)</td>
<td>(12.5%)</td>
</tr>
<tr>
<td>OPSRP (0.75% redirect for final 20 years)</td>
<td>(7.1%)</td>
</tr>
</tbody>
</table>
Tier One & Tier Two UAL Amortization

Conceptual Intent (Effective on passage)

• Reamortize the Tier One & Tier Two Unfunded Actuarial Liability (UAL) over 22 years for the December 31, 2019 valuation
• Maintain OPSRP amortization period of 16 years for the December 31, 2019 valuation
• PERS Board to adopt as part of valuation economic assumptions and actuarial methods for the December 31, 2019 valuation at the July 26, 2019 PERS Board Meeting
• Revert Tier One & Tier Two UAL amortization period back to 20 years in successive valuations
Tier One & Tier Two UAL Amortization

Actuarial Impact

Reamortizing the Tier One & Tier Two UAL reduces the 2021-2023 contribution rates on a system wide basis is as follows:

• Uncollared Base Rate by 3.90%
• Collared Base Rate by 3.40%

Reamortizing the Tier 1 & Tier 2 UAL can be viewed as financing modifications, as opposed to benefit modifications for the Tier 1, Tier 2 and OPSRP programs. As such, they would not affect the Total Liability or Accrued Liability for the system.
Work After Retirement

Conceptual Intent (Effective January 1, 2020)

• Removes hour limitations on PERS retiree work after retirement and exceptions to those limits

• Current limits - 1,039 hours for Tier One & Tier Two members and 600 hours for OPSRP members

• Employers would be required to pay the net base rate contributions on retiree member payroll

• Effective during calendar years 2020-2024. Sunset on January 2, 2025 allows for efficacy review
## Work After Retirement

### Actuarial Impact

**Projected Rehired Retiree Biennial Payroll and Base Contributions ($Millions)**

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</tr>
</thead>
<tbody>
<tr>
<td>Payroll</td>
<td>$568.2</td>
<td>$608.7</td>
<td>$652.0</td>
<td>$698.5</td>
<td>$748.2</td>
<td>$801.5</td>
<td>$858.6</td>
<td>$919.7</td>
<td>$985.2</td>
<td>$1,055.4</td>
</tr>
<tr>
<td>Contributions</td>
<td>$0.0</td>
<td>$106.8</td>
<td>$184.4</td>
<td>$208.4</td>
<td>$223.3</td>
<td>$243.5</td>
<td>$296.3</td>
<td>$321.1</td>
<td>$338.0</td>
<td>$320.0</td>
</tr>
</tbody>
</table>

**Estimated Rate Equivalent of Projected Rehired Retiree Contributions ($Millions)**

<table>
<thead>
<tr>
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<td>$296.3</td>
<td>$321.1</td>
<td>$338.0</td>
<td>$320.0</td>
</tr>
<tr>
<td>Biennial Payroll*</td>
<td>$20,200</td>
<td>$21,600</td>
<td>$23,200</td>
<td>$24,800</td>
<td>$26,600</td>
<td>$28,500</td>
<td>$30,500</td>
<td>$32,700</td>
<td>$35,000</td>
<td>$37,500</td>
</tr>
<tr>
<td>Rate Equivalent</td>
<td>0.0%</td>
<td>0.5%</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.8%</td>
<td>0.9%</td>
<td>1.0%</td>
<td>1.0%</td>
<td>1.0%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

*Projected biennial payroll currently subject to pension contributions (i.e. excluding projected payroll for rehired retired members.)*
Change in Interest Rate for Money Match Benefit Calculation

Conceptual Intent (Effective July 1, 2021)

- Reduces the Money Match Annuitization interest rate - used to convert account balances to monthly lifetime annuities - from the current assumed rate of return to one-half the current assumed rate of return
- Will also apply to Full Formula+Annuity benefit
- Current rate is 7.20% - Proposed rate is 3.60%
Change in Interest Rate for Money Match Benefit Calculation

Actuarial Impact

The table below shows the percentage decrease in the factors of a single life annuity retirement for non-disabled Tier 1 / Tier 2 members at two sample retirement ages.

<table>
<thead>
<tr>
<th>Change to Money Match Benefit Factor*</th>
<th>Age 55 Retirement</th>
<th>Age 65 Retirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.60% Annuitzation Rate</td>
<td>-33.8%</td>
<td>-28.5%</td>
</tr>
</tbody>
</table>

*Basis on mortality assumption in effect for 2018-2019 retirements
Change in Final Average Salary

Conceptual Intent (Operative January 2, 2021)

• Caps annual salary for all purposes under the plan including final average salary and employer/employee contributions

• Limit would apply to the calculation of all OPSRP pension benefits and for Tier One & Tier Two benefits determined under the Full Formula or Formula Plus Annuity calculation methods

• Does not impact Money Match calculation for Tier One & Tier Two members

• $195,000 limit would be indexed on a yearly basis
Change in Final Average Salary

Actuarial Impact

The percentage of active members by tier as of the December 31, 2017 actuarial valuation who are projected to have 2018 salary in excess of the proposed initial limit of $195,000 are shown below:

<table>
<thead>
<tr>
<th>Tier</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 1</td>
<td>0.8%</td>
</tr>
<tr>
<td>Tier 2</td>
<td>0.3%</td>
</tr>
<tr>
<td>OPSRP</td>
<td>0.2%</td>
</tr>
</tbody>
</table>
Cumulative Actuarial Impact

Contribution Rate Impact

<table>
<thead>
<tr>
<th>Description</th>
<th>Normal Cost</th>
<th>UAL</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated 12/31/2019 Pension Valuation Results</td>
<td>11.10%</td>
<td>21.20%</td>
<td>32.30%</td>
</tr>
<tr>
<td>IAP Redirect: 2.5% of Tier 1/Tier 2 and 0.75% of OPSRP for over $30,000 (as indexed)</td>
<td>(1.20%)</td>
<td>(0.00%)</td>
<td>(1.20%)</td>
</tr>
<tr>
<td>FAS Limit of $195K (as indexed)*</td>
<td>(0.02%)</td>
<td>(0.01%)</td>
<td>(0.03%)</td>
</tr>
<tr>
<td>Lower Money Match interest rate to 3.60%**</td>
<td>(0.00%)</td>
<td>(0.40%)</td>
<td>(0.40%)</td>
</tr>
<tr>
<td>Reamortize Tier 1/Tier 2 UAL over 22 years</td>
<td>(0.00%)</td>
<td>(3.90%)</td>
<td>(3.90%)</td>
</tr>
<tr>
<td>Contributions on Rehired Retired Members***</td>
<td>(0.00%)</td>
<td>(0.80%)</td>
<td>(0.80%)</td>
</tr>
</tbody>
</table>

* Shown with estimated 2019-2021 rate impacts for illustration.

** Shown with estimated 2019-2021 rate impacts for illustration. Effect of Money Match interest rate change is before consideration of potential changes in retirement behavior. Much of the estimated liability reduction is tied to inactive members, many who may be able to retire prior to the effective date of any change.

*** Rates shown for contributions on rehired retired members are estimated rate equivalents on projected salary currently subject to pension contributions and are not anticipated to serve as up-front offsets to employer contribution rates. Reamortization of Tier 1/Tier UAL would lower employer rates and thus contributions from rehired retired member payroll.
Cumulative Actuarial Impact

Contribution Rate Impact

Analysis of Legislative Concepts:
Effect of Tier 1/Tier 2 Reamortization, Member Redirect, and Rehired Retiree Contributions

System Average Employer Collared Base Pension Rates

+7.20% Actual Annual Future Return

- Current Policy
- Legislative Change Concepts

10%  15%  20%  25%  30%  35%

Cumulative Actuarial Impact

Projected System Funded Status (Excluding Side Accounts)

Analysis of Legislative Concepts:
Effect of Tier 1/Tier 2 Reamortization, Member Redirect, and Rehired Retiree Contributions

System Average Funded Status (Excluding Side Accounts)

+7.20% Actual Annual Future Return

- Current Policy
- Legislative Change Concepts

Cumulative Actuarial Impact

Unfunded Actuarial Liability Impact (Excluding Side Accounts)

Analysis of Legislative Concepts:
Effect of Tier 1/Tier 2 Reamortization, Member Redirect, and Rehired Retiree Contributions

Unfunded Actuarial Liability (Excluding Side Accounts)

+7.20% Actual Annual Future Return

[Graph showing unfunded actuarial liability trend from 2017 to 2035]
PERS Administrative Impacts

Conceptual Reforms will have a significant impact on PERS capabilities to administer the System

- Significant technology system changes mainly due to IAP Redirect and new EPSA accounts for all members
  - Benefit estimates are the only calculations not impacted
  - Employer Interface will require a complete rewrite
  - Two-year implementation window will be challenging
- Fund accounting cash flow impacts including move to Member Choice for IAP; Potential new Side Account processes
- Communications to employers to explain new processes
- Communications to members to explain benefit revisions and their impacts
- Administrative Rules & Policy Changes
Additional Resources

Milliman December 31, 2017 System Valuation
• Annual actuarial report of the system assets and liabilities

PERS by the Numbers – Updated October 2018
• Summary of information about system demographics, benefits, funding, revenue, and history

PERS Agency Website
• PERS website
  https://www.oregon.gov/pers/Pages/index.aspx
Thank You

Kevin Olineck
PERS Director
2019

www.oregon.gov/pers