



Economic Experience Study Overview

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Office of the State Actuary
"Securing tomorrow's pensions today."

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Today's Presentation

- What is an economic experience study?
 - Review of economic assumptions
- Why do we do it?
 - Determine whether assumptions remain reasonable or should be changed
- How do we do it?
 - Analyze past experience, future expectations, and conditions that led to certain experience
- What's the outcome?
 - Possible assumption changes and fiscal impacts
- Next steps
 - No action required today - informational only



OSA Performs Economic And Demographic Experience Studies

- Economic Experience Studies are performed every two years
 - Includes some plan-specific data as well as national and regional economic data
- Demographic Experience Studies are performed at least every six years
 - More focus is placed on historical experience at a plan-specific level
 - Covers assumptions such as termination, mortality, retirement, disability, etc.
 - Study currently underway for the 2007-2012 period
 - Results presented next summer
 - Assumption changes incorporated into the 2013 Actuarial Valuation



Economic Assumptions

- Include
 - Rate of inflation
 - Rate of general salary increases
 - Rate of investment return
 - Growth in system membership
- Help us estimate
 - Future benefits payable from the plans
 - Today's value of those benefits
 - Funding requirements (contribution rates) needed to secure those benefits



Rate Of Inflation

- Broad economic inflation with adjustments for national and regional price inflation
- Regional CPI (Seattle, Tacoma, Bremerton) is the basis for post-retirement Cost of Living Adjustments (COLAs) in LEOFF 2
- Inflation assumption used in our valuation model to estimate the amount of COLAs provided under the plan
- Inflation is a component of future salary increases



Rate Of General Salary Increases

- Represents the rate of change in an individual's salary
- Future salary levels impact an individual's benefit and contributions to the plan
- Includes
 - Inflation
 - Productivity growth
- Excludes promotions or merit/step increases that are included in plan-specific demographic assumptions



Rate Of Investment Return

- Reflects anticipated returns on plan's current and future assets
- Assumption used to determine today's value of future benefit payments and salaries
- Key assumption for determining contribution requirements
- Components include
 - Inflation
 - Real rate of return



Growth In System Membership

- Represents rate of change in number of active members covered under the plan
- Used in the calculation of amortization payments for the Plans 1 UAAL
 - No UAAL payments are required for LEOFF 1 while the plan is fully funded
- Used for actuarial projections when analyzing the impact of bringing future new members into the system
- Not used for actuarial valuations that are “closed group” and based on current members only

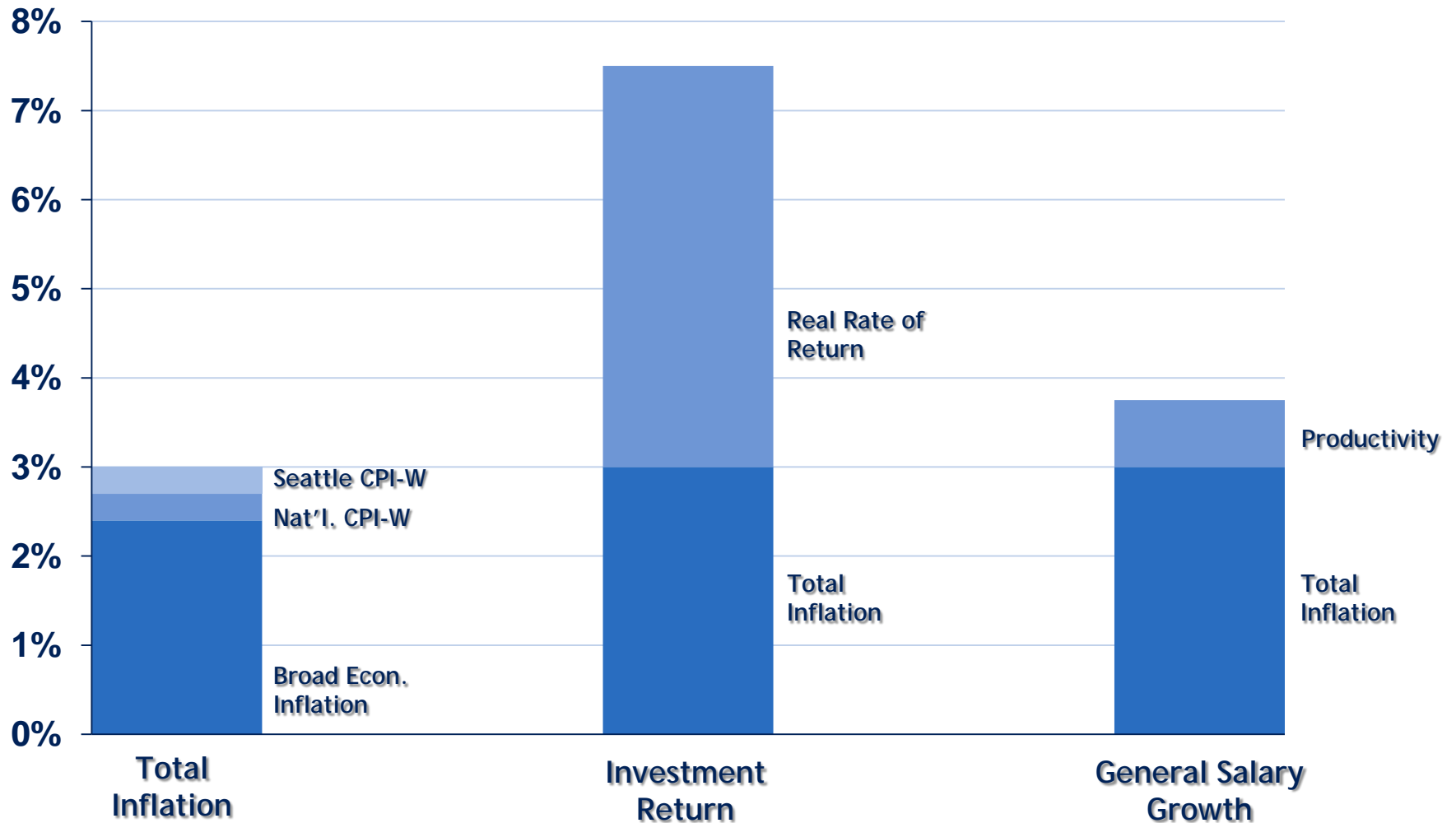


How The Assumptions Interact

- Developed using the building block method
 - One of the recommended approaches under Actuarial Standards of Practice (ASOPs)
 - Ensures set of assumptions is consistent
- Inflation is the base for salary growth and investment return assumptions



Building Block Example



Economic Experience Study Performed Every Two Years

- Required in statute 41.45.030 for reporting to the PFC
 - All plans except LEOFF 2
 - LEOFF 2 Board typically follows the PFC timeline
- Actuarial services must satisfy applicable ASOPs
- Things change
 - Policy or benefit structures
 - Economic conditions, future expectations
- Reasonable assumptions contribute to reasonable funding
- Appropriate funding levels help manage risks
 - Pensions are promises to pay lifetime benefits
 - Insufficient accumulation of assets increases risk of additional funding requirements — intergenerational ‘inequity’



Managing Risk

- Assumptions used to project future outcomes
 - Involve uncertainty/risk
- When assumptions are wrong
 - Plan may be underfunded
 - Want to be on the “right side” of risk (reasonable conservatism)
- Risk isn’t symmetrical
 - Best estimate assumption may not fall in the center of the best estimate range
- Balance risk management with other stakeholder needs
 - State and local budgets
 - Member take-home pay
 - Benefit/plan security



Experience Studies Consider Past And Future Experience

- Analyze historical data and experience
 - Plan or system experience
 - National or regional experience
- Review projections for future expectations
 - Collaborate with other state agencies
- Analyze conditions that created certain experience
 - Are they outliers — highly unlikely to occur again?
 - May remove or limit reliance on those data points
 - Are they within range of expected outcomes?
 - Keep the data points and comment on the conditions and likelihood they occur again
 - Did they occur because of policy or plan changes?
 - Data points may require adjustment



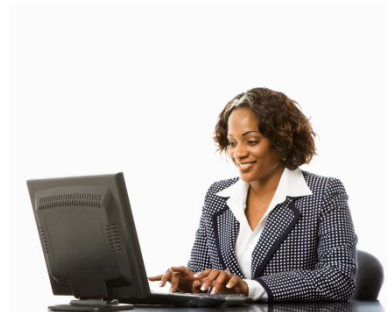
Data Sources By Assumption

| | Inflation | Investment Return | General Salary Growth | System Growth |
|------------------------------------------|-----------|----------------------|-----------------------------|------------------|
| DRS | | | X | X |
| WSIB | X | X | | |
| OFM | | | | X |
| Social Security Administration | X | | | |
| Bureau of Labor and Statistics | X | | X | |
| Congressional Budget Office | X | | | |
| Economic and Revenue Forecast Council | X | | | |
| Global Insight | X | | | |
| Bureau of Economic Analysis | X | | | |



Past And Future Experience Is Blended Together

- Develop best estimate range
- Develop single point best estimate assumption
- Mix of art and science
- Actuaries follow guidance in ASOPs
- Requires professional judgment
 - Past is not always the best predictor of the future
 - Part of actuary's training and development



Recommended Assumptions Presented For Adoption

- Entire set of economic assumptions should be consistent
- If no changes are recommended
 - Actuary's best estimate is identical or very close to current assumptions
- If changes are recommended for one or all assumptions
 - Actuary's best estimate is materially different from the current assumptions to support a change
 - Fiscal impact will likely result
 - Important to maintain appropriate funding levels and manage risks
 - Actuary will comment on whether current assumptions remain reasonable
 - Fall within best estimate range
- Adoption of new assumptions incorporated in the next rate-setting valuation



What's Next For The Board?

- OSA finalizes analysis and recommendations
- Recommendations presented to the Board in September
 - Supporting analysis provided with the recommendations
- Possible follow-up of fiscal impacts for any recommended change in assumptions
- Board action to adopt any changes, if needed



Questions?

