Administrative Factors

Corban Nemeth Associate Policy and Data Analyst

Presentation to: LEOFF Plan 2 Retirement Board





 $x^{2}\sqrt{x^{2}} \pm g^{2} dx = -(2x^{2} + g^{2})\sqrt{x^{2}} \pm g^{2} -$

September 26, 2018

Office of the State Actuary

Today's Presentation

Background Information on Administrative Factors

- What are Administrative Factors?
- How is an Admin Factor Developed?
- Admin Factor Types
- LEOFF 2 Admin Factor Updates
- Anti-selection Risk and Risk Management
- Next Steps
- No action required



Background: Why Is This Before The Board?

The Board has authority to adopt factors
DRS adopts factors for all other plans
The Board will be adopting factors later this fall

Background: What Are Administrative Factors?

Admin factors convert benefits to varying forms
Applied to optional benefit calculations and purchases

 Specifically, optional benefits to offset the additional plan costs
 Provides more ways to provide the same amount of money

Give members flexibility without increasing plan costs
Sometimes called "reduction" or "actuarial" factors



Background: Administrative Factor Example

- The total expected value of an age 55 retiree's pension is \$500,000
- Administrative factors transform \$500,000 in cost-neutral ways
- For example
 - A single lifetime pension of \$2,500/month
 - A J&S 100% pension of \$2,000/month

How Is An Admin Factor Developed?

An administrative factor takes a lump-sum dollar amount and converts it to a stream of future cash flows and vice versa
Takes into account survivorship option, expected lifetime, and investment returns



Admin Factors Depend On Assumptions

Example: Optional Annuity Purchase

- At the time of annuity purchase, the age and plan of the retiree is known
- Based on age and plan, assumptions are used to estimate future experience of the annuitant
- The only thing we know for certain is that the future won't look exactly like what we assume

Two Basic Types Of Admin Factors

Reduction Factors

- Reduce monthly pensions to pay for optional benefits
 - Early Retirement
 - Joint and Survivor Benefits

Annuity Factors

- Convert between one-time and lifetime payments
 - Service Credit Restoration
 - Monthly Benefit per \$1 of Accumulation

LEOFF 2 Has Four Sets Of Factors To Update

Reduction Factors

- Early Retirement Factors (ERFs)
- Joint and Survivor Option Factors (J&S Factors)

Annuity Factors

- Service Credit Restoration Factors (SCRFs)
- Monthly Benefit per \$1.00 of Accumulation (Annuity Factors)

Early Retirement Factors

- ERFs reduce a member's benefit for early payments
- Applies to non-duty disability or death benefits prior to Normal Retirement Age
- When benefits start earlier, they are paid longer and the total cost of a member's expected lifetime benefits increases
- Example
 - LEOFF 2 member with \$500,000 in earned benefits choosing between \$2,500/month at normal retirement, or \$2,100/month two years earlier



Joint And Survivor Option Factors

- J&S factors reduce a member's benefit to provide an ongoing benefit for their survivor
- Three types of survivor benefits available under the plan
 - J&S 100%
 - J&S 66 2/3%
 - J&S 50%
 - Example
 - Member with \$500,000 in expected benefits choosing between single life of \$2,500/month or, J&S 100 of \$2,000/month

Service Credit Restoration Factors

- Factors used to calculate the cost of the increase in a member's benefit if they restore prior service credit
 - Service withdrawn in the past and member wants to restore it after window to pay contributions with interest
- Dependent upon additional assumptions, because purchase is made before the member is at retirement
 - When the member will retire
 - How much their salary will increase
- Example
 - To restore service, the value the extra service is providing in total retirement benefit must be estimated before the time of retirement
 - If restoring service credit increases the value of a member's earned benefit from \$500,000 to \$550,000, how much will that cost 20 years prior to retirement?

Monthly Benefit Per \$1.00 Of Accumulation Factors

- "Annuity" factors convert a lifetime monthly benefit to a lump sum
- Calculation is made at retirement
- Applies to cash-out of small monthly pension or purchase of additional pension
 - "Air time" provides up to five years of service credit
 - Optional life annuity purchase
- Unlike SCRFs, the purchase is made at retirement
- Example
 - Age 55 plan member purchases an annuity with \$100,000
 - Results in additional monthly annuity of \$500



Actuarial Equivalence Depends On Assumptions

- Admin factors are intended to be actuarially equivalent
- However, experience can be different
 - Members may live longer than expected
 - Investment returns can have a lower future expectation
 - Members may anti-select based on their health.
- What happens if the factors aren't actuarially equivalent?
 - The costs or savings are passed on to current members and employers
 - No true-up for those retired
 - Example: ROR reduced from 8% to 7.4% and mortality improvements

Anti-Selection May Lead To System Risk

- Admin factors are designed so that positive and negative experience will offset in the long run
- Anti-selection occurs when a higher-cost group makes more purchases than a lower-cost group but at the price for the average member
 - Individual plan members have better information about expected lifespan
 - Example: If only the healthy half of LEOFF 2 retirees purchase annuities, then risks to the system may emerge
 - Anti-selection may also occur in other admin factors



Potential System Risks Could Be Managed

- Based on administrative policy, current annuity purchases are priced based on the same assumptions used to fund the plan
- Risk management strategies using admin factors are being studied by OSA
 - Different assumptions could be used for annuities
 - Longer lifespans could be adopted to manage anti-selection concerns
 - Assets could reflect shorter investment time frame
 - Annuity factors could be priced at inflation cap
 - Other methods could be put in place to protect against system risks
- Actuaries will report back with recommendations

Next Steps

- No action required
- OSA will provide additional information and tables of new factors
- Board adopts final factors
- DRS will communicate factor changes to members and implement new factors effective October 2019



Questions?



O:\LEOFF 2 Board\2018\9-26-2018\LEOFF2.Admin.Factors.pptx

Office of the State Actuary