Certain and Life Annuities

Overall Summary

What is the Certain and Life Annuity Assumption and how is it Used?

In many of the plans, the standard retirement option is a monthly benefit payable for the lifetime of the member. If a retired member dies before the total pension payments they've received exceed the value of their accumulated contributions, the difference is paid to their beneficiary or estate. We estimate the value of this benefit using a Certain and Life Annuity — a life annuity with a certain, or guaranteed, payment period.

High-Level Takeaways

We generally found that the current assumptions fit our experience and expectations well. We adjusted the assumptions for a few plans as necessary.

Assumptions

We developed the expected Plan 2 certain period assumptions by using new retirement rates, service-based salary increase scales, and Percent Male/Female assumptions detailed in this report. We also used early retirement factors adopted in 2012 and disclosed in the *2013 Actuarial Valuation Report* (AVR). All other assumptions used match those disclosed in the 2012 AVR.

General Methodology

To develop the certain and life annuity assumption, we determine the average ratio of accumulated contributions to annual retirement benefits.

For the closed Plans 1 that have very reliable retirement data and an average population that is close to retirement age, we use recent retiree data to calculate this ratio. It is simply the total savings funds divided by the total annual retirement benefits for all recent retirees.

For the open Plans 2 that have fewer retirements and a younger average population, our best estimate for a future certain and life annuity assumption is to model the future expectation of accumulated contributions and annual retirement benefits of a new entrant. For each plan, we project future accumulated contributions using the average entry age of a member, the Entry Age Normal Cost (EAN) contribution rate for that plan, the general salary increase assumption, the service-based salary scale, and the assumed savings fund interest rate of 5.5 percent. To calculate the future annual retirement benefit for each plan, we use the general salary increase assumption, the service-based salary scale, retirement rates, and early retirement factors. These calculations are developed for each eligible retirement age. The certain period is determined at each retirement age by dividing the accumulated contributions by the annual retirement benefit. Finally, we develop one average expected certain period for each plan by weighting each calculation by the probability of retirement at each age.

Data

We used records of new retirees in 2010–2013 to study the average ratio of accumulated contributions to annual retirement benefits for Plan 1 members. To study certain periods for Plan 2 members, we used active records from the 2012 valuation data.

No special data was added and we did not eliminate data from the Great Recession years since we did not see evidence that the results were impacted by the economy during that time.

Law changes

No law changes impacted our study of the Certain and Life Annuity assumption.

Results

All-Plan Summary

- Assumption staying the same for most plans.
- Increases in Public Employees' Retirement System (PERS) Plan 1 and the Washington State Patrol Retirement System (WSPRS) Plans 1/2.
- Decrease in the Teachers' Retirement system (TRS) Plan 1.

The table on the right shows the old and new assumptions by plan.

Plan	Old Assumption	New Assumption
PERS 1	3	4
PERS 2	4	4
TRS 1*	11	9
TRS 2	5	5
SERS 2	4	4
PSERS 2	4	4
LEOFF 1	3	3
LEOFF 2	5	5
WSPRS 1	3	4
WSPRS 2	4	5

**Applies to "annuity" portion of the TRS 1 disability benefit only. In the prior study, we assumed the annuity portion comprised 30% of the benefit. Based on new data, we've increased that assumption to 40% for this study.*

By System

Past Experience

PERS

PERS 1 analysis of recent retiree records results in a certain period of four years. This is higher than our current assumption of three years.

PERS 2, with an average entry age of 36, has an average future expected certain period of four years. This is consistent with our current assumption.

TRS

TRS 1 is different from other plans. The standard option for most benefits in this plan is a single life benefit with no guarantee of excess savings refund. The exception is the TRS 1 disability benefit,

and that guarantee only applies to the portion of the benefit attributable to the member's savings. TRS 1 analysis of recent disability retiree records results in a certain period of nine years, applied to 40 percent of the disability benefit. This is different from our current assumption of eleven years, applied to 30 percent of the disability benefit.

TRS 2, with an average entry age of 34, has an average future expected certain period of five years. This is consistent with our current assumption.

SERS

The School Employees' Retirement System Plan 2, with an average entry age of 40, has an average future expected certain period of four years. This is consistent with our current assumption.

PSERS

The Public Safety Employees' Retirement System Plan 2, with an average entry age of 32, has an average future expected certain period of four years. This is consistent with our current assumption.

LEOFF

The Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 1 analysis of recent retiree records results in a certain period of three years. This is consistent with our current assumption.

LEOFF 2, with an average entry age of 28, has an average future expected certain period of five years. This is consistent with our current assumption.

WSPRS

WSPRS 1 analysis of recent retiree records results in a certain period of four years. This is higher than our current assumption of three years.

WSPRS 2, with an average entry age of 27, has an average future expected certain period of five years. This is higher than our current assumption of four years.