

TWO: DEVELOPMENT OF DEMOGRAPHIC ASSUMPTIONS

RETIREMENT RATES

What is the Retirement Rates Assumption and How Do We Use it?

The Retirement Rates assumption represents the probability that a retirement-eligible individual will stop working and start collecting their pension benefit immediately. The goal of this assumption is to project when members will leave employment and move into retirement. We then use the assumed retirement behavior, along with other assumptions, to estimate how long members will collect their retirement benefits for purposes of plan funding.

This assumption generally varies by amount of service and age. However, where appropriate, we also varied the assumption by plan selection.

High-Level Takeaways

In general, retirement data available since the Great Recession (2008-2017) showed consistently lower rates of retirement than prior to the recession (1995-2007). When members work longer, we see fewer actual retirements annually and lower rates of retirement. In the prior experience study, we had removed 2008-2012 data for PERS, TRS, and SERS systems because of impacts from the recession. We removed the recession data because we did not think there was sufficient experience after the recession in which to observe an economic recovery. We included 2008-2017 data in this study due to the continued trend of later retirements. As a result, we lowered the old retirement rate assumption toward the level of retirements observed in the study period.

The following list demonstrates some of the economic and demographic changes that possibly changed retirement behavior over the last decade:

- ❖ **Life Expectancy** – Washington State employees are living longer than in the past. Members could be deferring retirement to save money and build a larger retirement benefit instead of retiring earlier with a reduced benefit.
- ❖ **Plan 3 Retirement Accounts** – The Great Recession heavily affected Plan 3 Defined Contribution (DC) retirement account balances. The size of their Plan 3 DC account may impact their decision to retire. If a Plan 3 member's DC account is large enough, they may choose to retire earlier. Plan 3 members could still be recovering from the market downturn.
- ❖ **Cost of Health Insurance** – Some members may continue working prior to Medicare eligibility in order to retain employer provided health insurance that is typically cheaper than other options.

Two significant changes were made to PERS, TRS, and SERS retirement rates assumptions: gender-neutral rates and plan-specific rates. Overall, we observed male and female members to have similar retirement behavior. We expect the similar retirement behavior to continue in future years. We believe Plan 2 and Plan 3 members of PERS, TRS, and SERS systems will have different retirement behavior and we confirmed this with the data from this experience study. The additional data available in this study provided us enough evidence to move from combined Plan 2/3 rates to plan-specific rates.

TWO: DEVELOPMENT OF DEMOGRAPHIC ASSUMPTIONS

RETIREMENT RATES

continued

Data and Assumptions

We looked at 23 years of experience study records, from 1995-2017. No special data was added for this assumption, but some data was removed as noted below.

Consistent with prior studies, we removed valuation years 2001 and 2007 because of a shortened valuation year. Including data for 2001 and 2007 would lead to valuation periods of unequal length. We also removed 2000 data for SERS Plans 2/3 because the plan was created in 2000. SERS experienced a low number of retirements in 2000 compared to subsequent years. We do not believe the 2000 retirement experience is representative of expected longer-term experience.

For PERS, TRS, and LEOFF Plans 1, we considered a 1995-2017 study period for setting rates in these closed plans. However, we believe recent rates of retirement are more indicative of future rates of retirement for the relatively small group of remaining actives in these closed plans. Therefore, we relied on data after the end of the last experience study, 2013-2017, to set new assumptions.

Because PSERS is a relatively new system, we do not have sufficient data to set a credible retirement rates assumption for PSERS from plan experience. Instead, we relied on the PERS Plan 2 retirement rates assumption to inform the PSERS Plan 2 assumption and then made subsequent adjustments based on differences in plan provisions between PERS and PSERS. PSERS was created for PERS members meeting certain job specifications and has similar retirement provisions as PERS.

Additionally, SERS is another relatively new system. However, we were able to gather SERS data prior to the creation of the plan by selectively pulling data for PERS members employed at school districts that would have been eligible for SERS had it been in place at that time.

Law Changes

There were four law changes since the last study that could impact member retirement behavior:

- ❖ **SB 5046 (2013)** – Modifies mandatory retirement provision for judges of PERS.
- ❖ **E2SSB 6455 (2016)** – Opens a window for TRS 2/3 retirees selecting a lower early retirement benefit reduction to return to work as a substitute teacher.
- ❖ **E2SHB 2872 (2016)** – Provides WSPRS members a recruitment and retention bonus.
- ❖ **SB 5274 (2017)** – Allows voluntary overtime to be included in salaries for calculating retirement benefits of WSPRS members.

We did not see a significant impact to retirement behavior resulting from SB 5046 or E2SSB 6455. E2SHB 2872 and SB 5274 do not directly impact WSPRS retirement provisions, but the additional benefits provided in the bills potentially changed retirement behavior at later ages. In general, we saw some older members of WSPRS defer retirement to presumably take advantage of the new provisions.

TWO: DEVELOPMENT OF DEMOGRAPHIC ASSUMPTIONS

RETIREMENT RATES

continued

General Methodology

For each retirement plan, we calculated the actual retirement rate by dividing the number of members that retired by the total number of members eligible to retire. We then compared the actual rate of retirement to our expected rate of retirement based on our last experience study. We considered this actual to expected measurement over the full time period and on an annual basis. This helped us identify trends in the data where the assumption was over or underestimating retirement behavior.

We then developed new retirement rates, based on historical experience as well as professional judgment on future retirement behavior.

We considered an alternate approach of studying retirement rates weighted by salary instead of headcount. We created salary-weighted rates by dividing the salary that left the system through retirement by the total salary eligible for retirement. This approach attempts to adjust the rates to better model the salary leaving the system. We studied PERS using salary-weighted rates because of the large dispersion in member salaries in the system. Overall, we did not see a large enough difference in rates to justify a method change. We decided to maintain our prior approach of using headcount weighted rates and did not pursue the salary-weighted approach with other systems.

Results

For most plans, we reduced the retirement rates assumption to reflect longer working careers and older retirement ages. The notable exception is WSPRS Plans 1/2, where younger members generally elect retirement upon reaching 25 years of service. However, we reduced rates for older WSPRS members because of delayed retirements similar to the other retirement systems.

We calculated an Actual-to-Expected (A/E) ratio to better understand how our assumptions compare to plan experience in our study period. The “actual” represents the number of retirements we observed during the study period, and the “expected” represents the number of retirements our assumption produced based on the number of eligible members. In general, an A/E ratio less than 1.00 indicates lower actual rates of retirement relative to our assumption. We see a ratio above 1.00 when members retire at higher rates than we assume. Please see the **Retirement Rates Appendix** for additional information on how we set this assumption.

Summary of A/E Ratios		
	Under Old Assumptions	Under New Assumptions
PERS 1	0.81	0.99
PERS 2/3	0.80	0.93
TRS 1	0.90	0.98
TRS 2/3	0.52	0.89
SERS 2/3	0.67	0.83
PSERS 2*	N/A	N/A
LEOFF 1	1.00	1.00
LEOFF 2	0.88	0.92
WSPRS 1/2	1.14	1.03

**PSERS lacks sufficient retirement experience to compare with assumptions.*