Disability Rates

Overall Summary

What is the Disability Rate Assumption and how is it Used?

Rates of disability represent the probability that members might collect a disability benefit. As used in this report, "disabled" and "disability" mean that an eligible member has experienced an incident of disability and selected a disability benefit (instead of a return of contributions benefit if available).

We estimate rates of disability based on the experience of a large population and adjust the rates as our data evolve and our confidence in the data increases.

This assumption is generally age-based. However, where appropriate we have set assumptions that vary by service level and gender.

High-Level Takeaways

Generally, we found that experience matched our assumptions well, and we made slight adjustments to disability assumptions for most plans. We did not change disability rates in the Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) Plan 1 or the Teachers' Retirement System (TRS) Plans 2/3.

We considered several changes to the format and structure of the disability rate assumption and, ultimately, made some plan-specific changes. Please see the individual system summary sections in the **Appendices** for more information.

We saw that the data during the Great Recession reduced the ratio of actual to expected disabilities in some systems. Given the magnitude of the Great Recession's impact on actual disability rates, and the fact that it is likely a once-in-a-career event, we chose to remove those data years for the Public Employees' Retirement System (PERS) Plans 2/3, TRS 2/3, and the School Employees' Retirement System (SERS) Plans 2/3. However, we chose not to exclude the Great Recession data for the Plans 1 (PERS 1 and TRS 1) or the Public Safety systems (LEOFF, the Public Safety Employees' Retirement System [PSERS], and the Washington State Patrol Retirement System [WSPRS]). In the Plans 1 and the public safety plans, we observed that actual disability rates did not appear as affected by the Great Recession as those in the Plans 2/3. We suspect this is due to higher incomes and/or benefit adequacy.

Assumptions

Except as otherwise noted, all assumptions used in the development of disability rates match those disclosed in the *2012 Actuarial Valuation Report*.

Data

We began with 18 years of experience study records, from 1995-2012. The exception to this rule is LEOFF 2, where we started with experience study records from 2005-2012. To study the LEOFF 2 total (catastrophic) disability benefit only, we used preliminary 2013 valuation data to identify members who had this particular disability status within the study period. We studied this assumption using a different data format because the benefit is relatively new and studying the data at a single point in time is equivalent to studying rates by valuation year.

We chose to remove SERS data from the year 2000 and WSPRS data from 1995 due to quality concerns.[1]

We chose to remove valuation years 2001 and 2007 for all plans since they were odd-length valuation periods.[2] We wanted to ensure the number of expected disabilities was consistent throughout the measurement period for actual disabilities.

As noted above, we chose to remove data for the Great Recession years (2008-2012) for the Plans 2/3 (PERS 2/3, TRS 2/3, and SERS 2/3).

Counting Method

In some cases, we changed the count and timing of disabilities to address delayed disability benefits. We did not take this approach in the *2001-2006 Experience Study*.

Specifically, there were some records where members would go from active status to terminated status. Then, after remaining in terminated status for several years (up to eight years in a row), the member would change to a disability status. In those cases, we changed the member's years of terminated status to years of disabled status. This is because we assume that the actual disability incident probably occurred immediately prior to the member terminating employment, but that some disabilities are not immediately approved by the approving entity.

[1]*For example, SERS officially opened just a few months before the end of the valuation cycle. As a result, the 2000 SERS valuation year was only four months long.*

[2]*For example, in 2007 the Legislature changed the valuation dates to match the fiscal year. Specifically, the valuation dates changed from September 30 to June 30 of each year.*

Law Changes

Since the last study, no law changes have affected the disability assumption. However, several changes to LEOFF 2 disability benefits occurred just before the creation of that report. We discuss those changes in the LEOFF section in the Appendices.

Methods and Assumptions

General Methodology

For each year and retirement plan we counted both the members who started the year as active members (exposures), and the members who started receiving disability benefits during the year (disablements). We then divided the number of disablements by the number of exposures to arrive at an observed, or actual, disability rate.

For most plans, we counted only the active members who were not eligible to retire. This is because we assume that members of most plans, if offered the choice, would choose a service retirement. For LEOFF and WSPRS we counted all members, regardless of eligibility for service retirement. This is because their tax-free disability benefits are in some ways better than their after tax service retirement benefits, and we assume they may choose a disability benefit if presented the option.

Additional Considerations

As noted above, both an incidence of disability and selection of a disability benefit must occur before an eligible member can begin receiving a disability benefit.

For most plans, the Department of Retirement Systems (DRS) determines whether an individual who has experienced an incident of disability is eligible for a disability benefit. For LEOFF 1 members, this determination is made by local disability boards, and for WSPRS, it is made by the chief of the Washington State Patrol.

Plan definitions (e.g. "service" versus "total" disability) and eligibility requirements (e.g. medical check-ups) vary by plan. Please see the respective plan handbooks on the DRS Publications page for additional information.

Not all eligible members who experience an incident of disability will choose to receive a disability benefit. Some will choose to keep working, while others will choose a traditional service retirement or choose a new career (possibly withdrawing their contributions).

This selection aspect of the disability assumption is difficult to predict because that decision can be driven by many individual factors unrelated to the actual disability benefit provisions, such as health, job satisfaction, financial security, etc.

Results

All Plan Summary

Generally, we saw that the disability assumptions were a good fit to actual data. We made slight adjustments to the disability assumptions in most plans. We did not change disability rates in LEOFF 1 or TRS 2/3.

The table to the right shows Actual-to-Expected (A/E) counts before and after the assumption changes.

Please see the Appendices for results on all plans.

Summary of A/E Ratios

	Under Old Rates	Under New Rates
PERS 1	0.90	0.93
PERS 2/3	0.98	1.00
TRS 1	0.89	0.89
TRS 2/3	1.05	1.05
SERS 2/3	0.77	0.87
PSERS*	0.45	0.45
LEOFF 1	0.79	0.79
LEOFF 2	0.46	0.70
WSPRS 1/2	0.58	0.82

**Ratios of rates for less than 10 years of PSERS service; very little experience.*