

Service-Based Salary

Overall Summary

What is the Service-Based Salary Assumption and how is it Used?

Assumptions about total salary growth help us project salaries to determine the size of the members' future benefits and calculate contribution rates, which are collected as a percentage of payroll.

Total salary growth consists of two parts.¹

◆ Service-Based Salary.

We assume active members in each system will receive Service-Based Salary (SBS) increases in the future, so long as they remain active in their plan. This assumption includes increases in salary due to step (or merit increases), promotion, overtime, or extra contracts.

◆ General Salary Increase.

The General Salary Increase (GSX) assumption is a combination of inflation and productivity. GSX is an economic assumption and reviewed as part of a different process and cycle. We did, however, review the GSX assumption calculated in the [2013 Economic Experience Study](#) and found it was still reasonable for use here.²

Only SBS increases are addressed in detail in this study, but the GSX helps inform that assumption.

¹See *Actuarial Standards of Practice (ASOP) 27* for more information.

²Under current law, the current GSX assumption is 3.75%. For more information, please see RCW 41.45.035.

Please note that the National Board Certification bonuses for teachers will be addressed separately in the Teachers' Retirement System (TRS) Salary Bonus section.

High-Level Takeaways

In general, we observed lower-than-expected SBS for a member at the beginning of that member's career. However, we observed higher-than-expected SBS near the end of the SBS scale for each system. For some systems, we extended the number of steps at the end of the SBS scale.

Given the nature of budgetary cycles, it typically takes a year or two for governments to react to sizeable events like the Great Recession. We began to observe significant decreases in salary during the 2010 valuation and continuing into the 2012 valuation. These decreases in salary are the result of laws³ that temporarily reduced active member salaries. Considering that the Great Recession is likely a once-in-a-lifetime event, we chose to remove the 2010-2012 data from our SBS study.

Assumptions

We assume the SBS increase for new entrants (service equal to zero) will match the SBS increase for members with one year of service.

Except as noted, all assumptions used in the development of SBS rates match those disclosed in the [2012 Actuarial Valuation Report](#).

³See the *Law Changes* section.

Data

We began with 29 years of experience study records, from 1984-2012. No special data was added for this assumption, but some data was removed as noted below.

Counting Method

For each valuation year, we studied the active members who worked full time for at least two consecutive years.

TRS/SERS

We adjusted the counting methods for some the TRS and the School Employees' Retirement System (SERS) members in valuation years 2008-2012. TRS and SERS members begin their first year at the beginning of the school year (late August or early September), but the valuation cut-off date is June 30. As a result, we found that the full time members in their first year of employment appeared to receive less than a full valuation year of service. We adjusted our counting method to compensate.

WSPRS

We adjusted our counting method to include the Washington State Patrol Retirement System (WSPRS) members during 1984-1991. Based on our data, all WSPRS members during that period received half-length valuation years of service, even though they should have been granted a full year of service. However, we found that their total amount of service credit and salary for those years was accurate.⁴

⁴This issue was not addressed in the 2001-2006 Experience Study.

Great Recession

We chose to remove the data from 2010-2012 for two reasons.

- ◆ The data from 2010-2012 was significantly impacted by the Great Recession. Specifically, the average salary increase for valuation years 2010 through 2012 was lower than other valuation years to a material degree.
- ◆ When we calculated the GSX component of Total Salary Growth in the *2013 Economic Experience Study*, we did so based on data from 1984-2009. For consistency, we chose to keep the two time periods of data consistent between the two studies.

Data Adjustments

We eliminated data records that showed zero years of service at the end of the member's first full-time year. Either the service was incorrect or, more likely, the field indicating the full time status was an error. As a result, we deleted one Public Employees' Retirement System (PERS) record, two TRS records, and 23 WSPRS records.

Law Changes

Reductions in Employee Compensation

There were two bills that reduced employee compensation costs in different ways during the 2009-2011 Biennium.

- ◆ **SB 6157 (2009 Session):** Modified the definition of Average Final Compensation (AFC).
 - ▲ Applied to members of PERS.
 - ▲ At retirement, AFC will include any salary foregone due to time off without pay during the 2009-11 Biennium.

- ◆ **ESSB 6503 (2010 Session):** Reduction in employee compensation.
 - ▲ Applied to members of TRS Public Safety Employees' Retirement System (PSERS), Law Enforcement Officers' and Fire Fighters' Retirement System (LEOFF) and WSPRS.
 - ▲ Required agencies to reduce employee compensation, and expanded AFC protection (see SB 6157) to TRS, PSERS, LEOFF, and WSPRS.

There was one bill that reduced employee compensation costs during the 2011-2013 Biennium.

- ◆ **ESSB 5860 (2011 Session):** Temporary salary reduction.
 - ▲ Applied to members of all state retirement systems.
 - ▲ Required a temporary base salary reduction for all state employees during the 2011-13 Biennium.

Salary Step M

The Legislature created a new salary step (Step M), effective July 1, 2013. Members eligible to receive the Step M increase are Washington general service employees (excluding registered nurses) in PERS.

General Methodology

We began by observing the Total Salary Growth at each service level.

We then determined SBS by dividing the total salary increase at each service level by the actual inflation and actual productivity.

As noted in the **What is the Service-Based Salary Assumption and how is it Used?** section, we assumed the GSX component of Total

Salary Growth from the 2013 Economic Experience Study was valid for most systems,⁵ so we relied on it as accurate.

We then applied our professional judgment to set the new SBS rates. Our new SBS rates reflect future expectations as well.

Results

All-Plan Summary

Generally, we made modest changes to the salary merit rates. For most systems, we lowered the SBS assumption in the early steps and increased the SBS assumption for steps later in the members' career.

Summary of Actual to Expected Ratios for Total Salary Growth						
	Old			New		
	Actual	Expected*	A/E	Actual	Expected**	A/E
PERS***	5.46%	5.47%	100%	5.46%	5.46%	100%
TRS	5.96%	6.03%	99%	5.96%	6.00%	99%
SERS	5.37%	5.40%	99%	5.37%	5.44%	99%
LEOFF	5.91%	5.84%	101%	5.91%	6.02%	98%
WSPRS	5.68%	5.78%	98%	5.68%	5.68%	100%

*Expected reflects (1+old service based salary scale) * (1+actual GSX) -1.

** Expected reflects (1+new service based salary scale) * (1+actual GSX) -1.

*** We assume PSERS will have the same SBS for PERS.

Please see the **Appendices** for results on all plans.

⁵During the 2013 Economic Experience Study, we noted that LEOFF displayed a lower productivity than other systems. For the Demographic Experience Study, we made an adjustment to the LEOFF observed general salary increase assumption by upward adjusting the productivity rate so that it is more consistent with other systems. Please see the **LEOFF** section in the Appendix for more details.