

ACTUARIAL GAIN/LOSS

The following tables display actuarial gains and losses, expressed as contribution rate changes. Actuaries use gain/loss analysis to compare actual changes to assumed changes from various sources with respect to assets, liabilities, and salaries. We also use this analysis to determine:

- ❖ The accuracy of our valuation model and biennial processing.
- ❖ Why contribution rates changed.
- ❖ The reasonableness of the actuarial assumptions.

Actuarial gains will reduce contribution rates; actuarial losses will increase contribution rates. Under a reasonable set of actuarial assumptions, actuarial gains and losses will offset over long-term experience periods. The tables that follow provide more details on the individual contribution rate gains and losses for both the Normal Cost rate and the UAAL rate that employers pay.

II. ACTUARIAL EXHIBITS

Change in Employer and State Plan 2/3 Normal Cost Rate by Source			
Change in Normal Costs	PERS	TRS	SERS
2019 Normal Cost Before Laws of 2020	6.36%	8.05%	7.76%
Remove Rate Floor	0.00%	0.00%	0.00%
Remove Prior Employer Liability	0.00%	0.00%	0.00%
2019 Adjusted Normal Cost Rate	6.36%	8.05%	7.76%
Liabilities			
Salaries	0.29%	(0.19%)	(0.11%)
Termination	0.04%	(0.07%)	(0.20%)
Retirement	0.01%	0.02%	0.03%
Disability	0.02%	0.01%	0.02%
Mortality	0.04%	0.01%	0.01%
Growth / Return to Work	1.52%	1.63%	1.88%
New TAP 3 Annuity Purchases	0.05%	0.13%	0.13%
Other Liabilities	0.05%	(0.03%)	(0.05%)
Total Liability Gains/Losses	2.02%	1.51%	1.71%
Assets*			
Contributions	(0.01%)	0.29%	0.33%
New TAP 3 Annuity Purchases	(0.04%)	(0.12%)	(0.13%)
Disbursements	0.08%	0.03%	0.08%
Investment Returns	(1.50%)	(0.90%)	(1.28%)
Total Asset Gains/Losses	(1.47%)	(0.70%)	(0.99%)
Incremental Changes			
Plan Change	0.00%	0.00%	0.00%
Method Change	0.00%	0.00%	0.00%
Assumption Change	0.02%	0.02%	0.02%
Correction Change	(0.01%)	0.00%	0.00%
Experience Study Change	2.04%	1.83%	1.86%
Total Incremental Changes Gains/Losses	2.05%	1.85%	1.88%
Present Value of Future Salaries Gains/Losses	(1.77%)	(1.60%)	(1.92%)
Other Gains/Losses	0.01%	0.06%	0.03%
Total Change	0.84%	1.12%	0.71%
2021 Preliminary Normal Cost	7.20%	9.17%	8.47%
Increase from Applied Rate Floor	0.00%	0.00%	0.00%
Rate to Amortize Prior Employer Liability	0.00%	0.00%	0.00%
Excess Member Rate	0.00%	0.53%	0.00%
Laws of 2022	0.00%	0.00%	0.00%
2021 Adjusted Normal Cost	7.20%	9.70%	8.47%

Note: Totals may not agree due to rounding.

*Asset Gain/Loss performed on AVA not MVA.

Change in Employer and State Plan 2/3 Normal Cost Rate by Source <i>(Continued)</i>			
Change in Normal Costs	PSERS	LEOFF ¹	WSPRS ²
2019 Normal Cost Before Laws of 2020	6.50%	7.68%	18.41%
Remove Rate Floor	0.00%	(1.87%)	0.00%
Remove Prior Employer Liability ³	0.00%	0.00%	(5.64%)
2019 Adjusted Normal Cost Rate	6.50%	5.81%	12.77%
Liabilities			
Salaries	0.26%	0.34%	(0.47%)
Termination	(0.33%)	(0.06%)	(0.08%)
Retirement	0.02%	0.14%	(0.09%)
Disability	0.01%	0.00%	0.06%
Mortality	0.02%	0.01%	0.23%
Growth / Return to Work	3.17%	1.64%	1.96%
Other Liabilities	(0.09%)	0.19%	1.01%
Total Liability Gains/Losses	3.06%	2.26%	2.62%
Assets⁴			
Contributions	(0.19%)	(0.29%)	0.87%
Disbursements	0.06%	0.16%	0.17%
Investment Returns	(0.41%)	(1.71%)	(3.63%)
Total Asset Gains/Losses	(0.54%)	(1.84%)	(2.58%)
Incremental Changes			
Plan Change	0.00%	1.62%	0.02%
Method Change	0.00%	0.00%	0.00%
Assumption Change	0.00%	0.00%	0.62%
Correction Change	0.00%	0.00%	0.00%
Experience Study Change	1.11%	1.94%	4.92%
Total Incremental Changes Gains/Losses	1.11%	3.56%	5.56%
Present Value of Future Salaries Gains/Losses	(2.78%)	(1.13%)	(2.32%)
Other Gains/Losses	0.01%	(0.01%)	0.13%
Total Change	0.86%	2.84%	3.41%
2021 Preliminary Normal Cost	7.36%	8.65%	16.18%
Increase from Applied Rate Floor	0.00%	1.29%	0.00%
Rate to Amortize Prior Employer Liability	0.00%	0.00%	0.35%
Excess Member Rate	0.00%	0.00%	7.57%
Laws of 2022	0.10%	0.00%	0.00%
2021 Adjusted Normal Cost	7.46%	9.94%	24.10%

Note: Totals may not agree due to rounding.

¹ The LEOFF contribution rate represents the sum of the employer and state contribution rates. This rate is split 60/40 between local employers and the state.

² The WSPRS normal cost contribution rate applies to Plans 1 and 2.

³ For WSPRS, this rate is attributable to the excess member rate (4.32%), and the remaining (1.32%) is attributable to prior employer liability.

⁴ Asset Gain/Loss performed on AVA not MVA.

II. ACTUARIAL EXHIBITS

Change in Employer and State Plan 1 UAAL Rate by Source ¹			
Change in UAAL Rate	PERS, SERS, and PSERS ²	TRS	LEOFF ³
2019 UAAL Rate Before Laws of 2020	3.60%	5.96%	(27.53%)
Remove Rate Floor	(0.54%)	(1.59%)	0.00%
Remove Plan 1 Benefit Improvements	(0.10%)	(0.21%)	N/A
Fixed Amortization Date Adjustment ⁴	N/A	N/A	(50.81%)
2019 Adjusted UAAL Rate	2.96%	4.16%	(78.34%)
Liabilities	0.00%	0.00%	0.00%
Salaries	0.00%	0.00%	0.00%
Termination	0.00%	0.00%	0.00%
Retirement	0.00%	(0.01%)	(0.05%)
Disability	0.00%	0.00%	0.00%
Mortality	0.02%	0.04%	(0.52%)
Return to Work	0.00%	0.00%	0.00%
Inflation (CPI)	0.00%	0.00%	(2.48%)
Other Liabilities	0.01%	0.01%	1.70%
Total Liability Gains/Losses	0.03%	0.04%	(1.35%)
Assets⁵	0.00%	0.00%	0.00%
Contributions	(0.36%)	(0.63%)	(0.00%)
Disbursements	(0.00%)	0.01%	(0.24%)
Investment Returns	(0.46%)	(0.75%)	(16.51%)
Total Asset Gains/Losses	(0.82%)	(1.36%)	(16.75%)
Incremental Changes	0.00%	0.00%	0.00%
Plan Change	0.12%	0.22%	0.00%
Method Change	0.00%	0.00%	0.00%
Assumption Change	0.00%	0.00%	0.00%
Correction Change	0.00%	0.00%	0.00%
Experience Study Change	0.31%	0.51%	2.78%
Total Incremental Changes Gains/Losses	0.43%	0.73%	2.78%
Present Value of Future Salaries Gains/Losses	(0.57%)	(0.71%)	(0.99%)
Other Gains/Losses	0.01%	(0.14%)	0.21%
Total Change	(0.92%)	(1.44%)	(16.10%)
2021 Preliminary UAAL Rate	2.04%	2.72%	(94.44%)
Increase from Applied Rate Floor	1.46%	3.03%	0.00%
Increase from Plan 1 Benefit Improvements	0.21%	0.44%	N/A
Laws of 2022	0.14%	0.27%	7.92%
2021 Adjusted UAAL Rate	3.85%	6.46%	(86.52%)

Note: Totals may not agree due to rounding.

¹ WSPRS does not have a UAAL rate.

² Rate determined to fund the PERS Plan 1 UAAL. SERS and PSERS employers also pay the PERS 1 UAAL rate.

³ The LEOFF contribution rate is the UAAL rate for Plan 1. The plan has a surplus of assets over liabilities, so no rate is currently payable.

⁴ LEOFF 1 fixed amortization date is June 30, 2024.

⁵ Asset Gain/Loss performed on AVA not MVA.