# Contribution Rate Setting

*(July 2, 2004)*

**Issue**

The Select Committee on Pension Policy (SCPP) identified "contribution rate stability" as one of the top four priorities of the SCPP at the May 2004 Orientation.

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**Members Impacted**

A change to the rate setting process would impact members differently depending on their retirement plan. The member contribution rate for PERS and TRS Plans 1 is fixed in statute at 6%. Currently, LEOFF Plan 1 is fully funded, so no member contributions are required at this time. Prior to 2000, the LEOFF 1 member rate was fixed at 6%.

Members of PERS, TRS and SERS Plans 3 do not contribute to the defined benefit portion of Plan 3 (the employer provided life annuity). Members in these plans, therefore, would not be impacted.

Members of PERS, TRS, SERS, LEOFF Plans 2 and the WSP retirement system share in the cost of their retirement benefit with their employer. Therefore, a change to the rate setting process would impact Plan 2 and WSP members. As of September 30, 2002, there were 162,664 members in the Plans 2 and WSP combined. Of this count, 116,939 come from PERS Plan 2.

**Current Situation**

Provisions governing the current contribution rate setting process are codified under the Actuarial Funding Chapter - Chapter 41.45 RCW. In summary, these provisions provide for the systematic actuarial funding of the state retirement systems. Biennial actuarial valuations performed on odd-year valuation dates are the basis for contribution rate recommendations to the Pension Funding Council (PFC). Contribution rates adopted by the PFC in September of even-numbered years, referred to as "basic rates," are effective during the ensuing biennium subject to revision by the Legislature. Temporary and "supplemental rates" are charged in addition to the basic rates to fund the cost of benefit enhancements that are granted by the Legislature in between the 2-year basic rate cycles.

**History**

The Pension Funding Reform Act, Chapter 273, Laws of 1989, established a systematic actuarial funding process for the state retirement systems. Contribution rates under the initial Funding Reform Act were scheduled to remain in place for a 6-year period. Additionally, the current funding policy was established including the goal to fully amortize the plan 1 unfunded liability by June 30, 2024. Prior to the Funding Reform Act, pension contributions were subject to a discretionary appropriation by the Legislature.

Chapter 519, Laws of 1993, changed the 6-year cycle established in 1989 to a 2-year cycle. Beginning September 30, 1994, contribution rates were scheduled for adoption in September of even-numbered years and revisited every two years thereafter.

Chapter 11, Laws of 2001, E2, codified the asset smoothing method under law. The method was changed from a 3-year method, determined by the State Actuary, to a 4-year smoothing period established under law.

Chapter 11, Laws of 2003, E1, modified the asset smoothing method - allowing up to an 8-year smoothing period depending on the magnitude of the deviation between the actual investment return and what was assumed for the period.

Chapter 93, Laws of 2004, created a new asset smoothing corridor for valuations performed after July 1, 2004. Following the effective date of the new law, the actuarial or "smoothed" value of assets must not exceed 130% nor drop below 70% of the market value of assets at the valuation date.

**Actuarial Terms**

The following table defines key actuarial terms that will be used throughout this report:

| Term | Definition |
|---|---|
| *Actuarial Cost Method* | A procedure for allocating the actuarial present value of projected benefits and expenses to time periods, usually in the form of a normal cost and an actuarial accrued liability - ***"the funding method."*** |
| *Normal Cost* | Computed differently under different funding methods, the normal cost generally represents the portion of the cost of projected benefits allocated to the current plan year - ***"the cost of benefits in the current year under the funding method***." |
| *Entry Age Normal Cost* | Normal cost calculated under the Entry Age Normal actuarial cost method.<br><br>The normal cost is determined by the contribution rate which, if collected from a new member's entry date to retirement, would fully prefund their projected benefit - ***"long-term annual cost of the plan if all assumptions are realized (no short term gains or losses.)"*** |

| Term | Definition |
|---|---|
| *Amortization of Unfunded Actuarial Accrued Liability (UAAL)* | The method of funding the difference between the actuarial accrued liability and the actuarial value of assets, usually determined under the funding policy - ***"method for paying off unfunded prior service liability."*** |
| *Asset Valuation Method* | A method selected by the actuary for smoothing the effects of short-term volatility in the market value of assets - ***"the asset smoothing technique."*** |
| *Funding Policy* | The plan sponsor's policy for determining the periodic contribution or cost for a plan - including the level of cost sharing between the employee and employer. |

**Policy Analysis**

***Current Funding Policy and Methods***

The funding policy of the Legislature is contained in Chapter 41.45 RCW - Actuarial Funding of State Retirement Systems. RCW 41.45.010 outlines the intent to achieve four funding goals. Three of the goals listed in that section specifically pertain to the issue of rate stability and are listed below:

- to continue to fully fund the plans 2/3;
- to fully amortize the total costs of the plans 1 not later than June 30, 2024; and
- to establish predictable long-term employer contribution rates which will remain a relatively constant proportion of future state budgets.

Certain actuarial methods were selected in order to attain these funding goals. These methods are listed below:

| Current Method | Description |
|---|---|
| *Actuarial Cost Method* | Aggregate cost method for plans 2/3.<br><br>Modified Entry Age Normal method for plans 1. |
| *Normal Cost* | Aggregate normal cost for plans 2/3. The normal cost is shared equally between the plan 2 employee and plan 2 employer.<br><br>The plan 2/3 employer normal cost is used for the plan 1 employer normal cost. The plan 1 employee normal cost is fixed at 6%. |
| *Amortization of UAAL* | No UAAL under aggregate cost method.<br><br>Plan 1 UAAL must be amortized by June 30, 2024 as a level percentage of projected system payroll. |
| *Asset Valuation Method* | Up to an 8-year smoothing period depending on the magnitude of the deviation between the actual and assumed investment return for the period.<br><br>Smoothed value of assets may not exceed 130% nor drop below 70% of the market value of assets at the valuation date - "the smoothing corridor." |

The aggregate cost method was selected to satisfy the goal of fully funding the plans 2/3. By definition, the aggregate cost method does not allow for an unfunded actuarial accrued liability (UAAL) to develop. The aggregate normal cost is determined as the level percentage of projected payroll that will fund the difference between the present value of projected benefits and the actuarial value of assets at the valuation date. As a result, any difference between the assets and the projected liability, due to short-term gains or losses, assumption changes or benefit enhancements, is automatically reflected in the

annual cost of the plan and not amortized as a separate component of plan cost. In absence of an effective asset smoothing method, the aggregate cost method can produce volatile contribution rates under certain investment market cycles.

Plan 1, on the other hand, has a separate employer amortization of existing UAAL and the unfunded prior service cost is spread over the projected payroll of the retirement system - including payroll for projected new entrants. This method was selected in deference to the magnitude of the financial obligation to completely amortize the plan 1 UAAL by June 30, 2024. Because the plan 2/3 employer normal cost is used for plan 1 employers, all employers within a retirement system are charged the same contribution rate, regardless of the plan in which their employees hold membership (except for LEOFF). The total employer contribution rate is equal to the plan 2/3 normal cost plus the plan 1 UAAL rate.

The current asset valuation method is intended to address the volatility of contribution rates under the aggregate cost method when used in combination with the existing asset allocation policy. The longer smoothing period employed under the current method for larger annual asset gains or losses will reduce the volatility of future contributions rates once they return to their expected long-term levels.

The current “asset smoothing corridor” provides a direct relationship between the actuarial or smoothed value of assets and the underlying market value of assets. The smoothing corridor ensures that the asset valuation method will produce a reasonable actuarial value of assets, and when used in combination with the actuarial cost method, will produce contributions rates that are dependable and adequate.

*Rate Stability - Experience*

The current funding policies and methods are all independently reasonable. The end result, however, has produced contribution rates that have not been predictable and have not remained a relatively stable proportion of state budgets. This recent experience is partially explained by significant short-term volatility in the market and actuarial value of assets. Recent changes to the asset valuation method will improve rate stability in the future, but due to the timing of the asset method change, will not prevent significant increases in projected contribution rates. Had the current smoothing method been in place prior to the investment market run-up in the mid to late 1990's, the actuarial

value of assets would have been lower, and the actuarially required contribution rates at the time would have been higher. This would have resulted in the build-up of a temporary "asset reserve" that would have been available to offset the significant asset losses that followed. Given the magnitude of the short-term fluctuations in asset values, however, the new smoothing method would not have prevented the actuarially determined contribution rates from experiencing some degree of volatility.

The primary source of rate instability rests with the systematic use of annual actuarial valuation results under the current funding policy in absence of long-term expectations. The change from discretionary pension funding to systematic actuarial funding in 1989 increased the soundness of the actuarial funding of Washington's pension systems, but it may have produced a system which overemphasizes short-term results. Under this funding policy, the selection or legislative prescription of certain actuarial assumptions and methods, namely the increase in the interest rate assumption in 2001 from 7.5% to 8% and the former asset valuation method, may have contributed to a shorter-term focus on actuarial results.

**Comparative Systems**

The following table summarizes the contribution policies for Washington's comparative systems as reported in the 2001 Survey of State and Local Government Employee Retirement Systems, Public Pension Coordination Council:

| Retirement System | Statutory Employer Rate? | Result of Actuarial Valuation? |
|---|---|---|
| 1. Washington PERS | No | Yes |
| 2. City of Seattle | No* | Yes |
| 3. Oregon | No | Yes |
| 4. Idaho (PERSI) | No | Yes |
| 5. CalPERS | No | Yes |
| 6. CalSTRS | Yes | No |
| 7. Colorado PERA | Yes | No |
| 8. Florida Retirement System (FRS) | No | Yes |
| 9. Iowa (IPERS) | Yes | No |
| 10. Minnesota (General Employees) | Yes | No |

| | | |
|---|---|---|
| 11. Missouri (MOSERS) | No | Yes |
| 12. Ohio (OPERS) | No | Yes |

** Employer matches the statutorily fixed member contribution plus an "excess contribution" if the actuarially required contribution rate for the plan exceeds the member and matching employer contribution.*

The specific question in the Public Pension Coordination Council survey under contributions was: "How are employer contribution rates established?" Two response options were provided:

- statutorily at a specified rate; or
- result of actuarial valuation.

Most systems responded that employer contributions were established as a result of an actuarial valuation. Four systems, CalSTRS, Colorado PERA, IOWA PERS and the Minnesota Retirement System for general employees, responded that they have statutorily specified employer contribution rates.

**Corridor Funding**

Several public retirement systems, including the City of Dallas and the Maryland State Retirement system, have modified their funding policies to incorporate what is referred to as "corridor funding." There are two types of corridor funding:

- normal cost corridor; and
- funded ratio corridor.

Under a normal cost corridor approach, contribution rates are contained within a symmetric corridor, say 90%-110%, of the plan's normal cost. The normal cost that is expected to provide 100% funding is established as the median point within the corridor.

Under a funded ratio corridor approach, contribution rates are fixed from one period to the next as long as the plan's funded ratio remains within a specific corridor. For example, in Maryland the current employer contribution rate remains fixed provided the ratio of the plan's assets to actuarial accrued liability remains between 90% and 110%.

**Federal Law**

Section 412 of the Internal Revenue Code (IRC) specifies minimum funding rules for qualified private sector plans. An enrolled actuary must certify, on an annual basis, that a private-sector plan sponsor has contributed at least the minimum contribution to their pension plan in order for the plan to receive favorable tax treatment under the IRC. In summary, the minimum contribution is comprised of annual charges and credits under the actuarial cost method for the plan plus an additional funding charge for plans with funded ratios below 80% - based on market or "current liability" interest rates.

Because these rules are based, in part, on market interest rates, which tend to fluctuate from one period to the next, the federal laws governing minimum funding do not provide a good model for contribution rate stability. Government plans are exempt from these minimum funding rules.

**Options**

Several options were discussed at the SCPP's May 2004 orientation, including:

- minimum contribution rates;
- maximum rates of change from one period to the next; and
- statutorily fixed contribution rates.

Corridor funding is presented as an option exercised by other public retirement systems.

**Analysis of Options**

The appropriate option will depend on the plan sponsor's desire to balance several objectives:

- contribution rate stability;
- contribution rate adequacy; and
- the level of cost sharing between the employee and employer.

Minimum contribution rates that are adjusted upward for the cost of future benefit enhancements, funded equally by both employers and plan 2 employees, will provide adequate rates, maintain the current cost-sharing relationship in the plans 2, but would not be as stable and predictable as rates fixed in statute.

Statutorily fixed rates, on the other hand, may not provide adequate long-term funding of the promised benefits. The current level of employee and employer cost sharing in the plans 2 would be lost and the burden of funding future benefit enhancements or future unfunded liability would fall on the state.

The corridor funding approach would provide for greater rate stability, but likely at the expense of rate adequacy. A normal cost funding corridor would not fund the full actuarially required normal cost each year. A funded ratio corridor approach would also not fund the full actuarially required normal cost each year unless the plan falls outside the funded ratio corridor.

**Recommendation of State Actuary**

- Establish a minimum plan 2/3 normal cost rate equal to 90% of the normal cost calculated under the entry age normal cost method effective once the aggregate plan 2/3 normal cost rate exceeds the entry age normal cost rate.
    - The entry age normal cost rate would increase to reflect the cost of future benefit enhancements once effective.
    - The employer normal cost would equal the plan 2/3 employee normal cost.
- Do not allow the plan 1 UAAL rate, charged to employers only, to decrease until the actuarial value of assets is at least 125% of the actuarial accrued liability.
    - Would not apply beyond the current amortization date of June 30, 2024.
    - Would not apply to LEOFF plan 1 unless the plan develops an unfunded actuarial accrued liability in the future.

The entry age normal cost represents the expected long-term annual cost of the plan from a member's entry date - if all assumptions are realized - and does not recognize the impact of any unfunded past liability. The aggregate normal cost is equivalent to the entry age normal cost with short-term gains or losses, at the valuation date, amortized over the expected working lifetime of the current active population. As a result, the aggregate normal cost can drift away from the entry age normal cost depending on the magnitude of short-term actuarial gains and losses. Successive and significant annual actuarial gains will push the aggregate normal cost rate below the entry age normal cost rate; whereas successive and significant annual actuarial losses with push the aggregate normal cost rate above entry age. The substantial investment gains of the mid to late 1990's caused the aggregate normal cost rates to drop well below the entry age rates. A minimum entry age normal cost rate will provide for greater rate stability in the future and, combined with the aggregate normal cost and the new asset smoothing method, will support the objective of contribution rate adequacy and continuing to fully fund the plans 2/3.

The following table compares current and projected employer normal cost (NC) rates under the aggregate method with current average entry age normal cost rates. With the exception of WSP, normal cost rates under the aggregate method are projected to exceed 90% of the average entry age normal cost rate by 2009-11 for all systems listed in the table. This cross-over point is projected to occur at the start of the 2011-13 biennium for WSP.

**Employer Normal Cost Rates**

| System | Current Aggregate NC* | Average Entry Age NC** | Projected 09-11 Aggregate NC |
|---|---|---|---|
| PERS 2/3 | 2.63% | 4.45% | 4.90% |
| TRS 2/3 | 1.71% | 5.44% | 5.01% |
| SERS 2/3 | 2.49% | 4.72% | 5.39% |
| LEOFF 2 | 6.41% | 8.37% | 8.53% |
| WSP | 0.00% | 10.51% | 8.93% |

** From the results of an actuarial valuation performed at 9/30/2002. Contribution rates currently charged to employers are based on the results of an actuarial valuation performed at 9/30/2001 and restated for Chapter 11, Laws of 2003, E1.*

*** From the results of an actuarial valuation performed at 9/30/2002. Based on current mix of active participants and current plan provisions.*

The balance between contribution rate stability and adequacy is a bit more complicated under the plans 1 with unfunded past liabilities. For these closed plans, it may be advisable to err on the side of rate adequacy as opposed to rate stability since these plans are rapidly approaching 100% annuitant or inactive status and are currently in a deficit funding position. The 125% funded ratio trigger should increase the likelihood that once amortized, the plan 1 unfunded actuarial accrued liability will not re-emerge. As an example, contributions to the LEOFF plan 1 UAAL stopped in 2000 when the funded ratio, the value of plan assets divided by actuarial accrued liability, reached 136%. In other words, at that time, LEOFF plan 1 had $1.36 in actuarial assets for each dollar of accrued liability. As of September 30, 2002, the LEOFF 1 funded ratio had dropped to 119% and is projected to decline for the next several biennia.

The following two tables display projected UAAL rates and projected funded ratios for PERS 1 and TRS 1. The projections are based on actual investment performance through August 31, 2003 and 8% assumed annual investment return thereafter (current long-term actuarial assumption). Short-term investment experience will vary from the long-term actuarial assumption of 8%.

For both PERS and TRS Plans 1, the unfunded actuarial accrued liability (UAAL) is projected to re-emerge following the investment losses of 2000 through 2002. These investment losses largely offset the investment gains of the previous period. As a result, funded ratios for both PERS and TRS plans 1 are projected to decline in the short term, returning to their former levels, and then increase to 100% by the amortization date of June 30, 2024.

**PERS - Projected UAAL Rates**

| Period | Plan 1 UAAL Rate | Funded Ratio |
|---|---|---|
| Current* | 0.00% | 92% |
| 05-07 | 1.66% | 85%-90% |
| 07-09 | 2.26% | 75%-80% |
| 09-11 | 2.81% | 65%-70% |
| 11-13 | 3.19% | 60%-65% |
| 21-23 | 3.19% | 100% |

** Chapter 11, Laws of 2003, E1, suspended payments towards the plan 1 unfunded liability.*

| TRS - Projected UAAL Rates | | |
|---|---|---|
| **Period** | **Plan 1 UAAL Rate** | **Funded Ratio** |
| Current* | 0.00% | 98% |
| 05-07 | 1.97% | 90%-95% |
| 07-09 | 3.77% | 80%-85% |
| 09-11 | 5.37% | 65%-70% |
| 11-13 | 6.42% | 60%-65% |
| 21-23 | 6.42% | 100% |

** Chapter 11, Laws of 2003, E1, suspended payments towards the plan 1 unfunded liability.*

A rate ceiling or statutorily fixed rates are not recommended for either the normal cost or the plan 1 UAAL rates since it could impact the adequacy of future contribution rates. For example, it may become necessary to increase contribution rates beyond a ceiling for the cost of future benefit enhancements or if the plan experiences unforseen actuarial losses in the future.

**Summary**

Current funding policy outlines the intent to achieve a goal of stable and predictable contribution rates and to continue to fully fund the plans 2/3. Certain actuarial assumptions and methods were selected to achieve these goals. The current funding policies and methods are all independently reasonable. The end result, however, has produced contribution rates that have not been predictable and have not remained a relatively stable proportion of state budgets. This experience is partially explained by recent volatility in the investment markets. The primary source of rate instability rests with the systematic use of annual actuarial valuation results under the current funding policy in absence of long-term expectations.

Several options and recommendations are presented to address the issue of contribution rate stability. The appropriate option will depend on the plan sponsor's desire to balance several objectives:

- contribution rate stability;
- contribution rate adequacy; and
- the level of cost sharing between the employee and employer.

In the case of PERS and TRS plans 1, closed systems with unfunded prior service liability, the objective of contribution rate adequacy may trump the desire for complete rate stability.