PUBLIC EMPLOYEE RETIREMENT COMMISSION

ACTUARIAL NOTE TRANSMITTAL

Bill ID: House Bill Number 2497, Printer's Number 3730

System: Public School Employees' Retirement System and
State Employees' Retirement System

Subject: Modification of Actuarial Funding Requirements

SYNOPSIS

House Bill Number 2497, Printer's Number 3730, would amend both the Public School Employees' Retirement Code and the State Employees' Retirement Code (Codes) to modify the actuarial funding requirements of the Public School Employees' Retirement System (PSERS) and the State Employees' Retirement System (SERS).

The bill would amend the Public School Employees' Retirement Code to:

1) Beginning July 1, 2011, re-amortize all of the unfunded actuarial accrued liabilities of PSERS over a 30-year period using level percentage of pay amortization payments;

2) Beginning July 1, 2011, extend from five years to ten years the asset smoothing period over which the fund's investment gains and losses are recognized;

3) Fund any increases in accrued liability enacted by legislation subsequent to June 30, 2010, over a 10-year period using level percentage of pay amortization payments;

4) For the fiscal year beginning July 1, 2010, establish the total employer contribution rate as the "final contribution rate" of 5.0% of the total compensation for all active members, plus the premium assistance contribution rate;

5) Modify employer contribution requirements to PSERS by imposing limits, referred to as "collars" on the rate at which employer contributions may rise from year to year. For the fiscal years beginning July 1, 2011, July 1, 2012, and on or after July 1, 2013, establish a temporary collared contribution rate, that if the contribution rate is more than 3%, 3.5% and 4.5%, respectively, of total compensation of all active members greater than the

SYNOPSIS (CONT'D)

prior year's final contribution rate, then the collared contribution rate shall be applied and equal to 3%, 3.5% and 4.5%, respectively, of total compensation for all active members; and

6) For all other fiscal years in which the actuarially required contribution rate is less than the collared rate, establish the final contribution rate as the actuarially required contribution rate, provided that the final contribution rate is not less than the employer normal contribution rate.

The bill would amend the State Employees' Retirement Code to:

1) Beginning July 1, 2010, re-amortize all of the unfunded actuarial accrued liabilities of SERS, including previously enacted supplemental annuities, over a 30-year period using level percentage of pay amortization payments;

2) Maintain the current five-year smoothing period over which investment gains and losses are recognized;

3) Fund any increase in accrued liability enacted by legislation subsequent to December 31, 2009, over a 10-year period using level percentage of pay amortization payments;

4) For the fiscal year beginning July 1, 2010, establish the total employer contribution rate as the "final contribution rate" of 5.0% of the total compensation for all active members;

5) Modify employer contribution requirements to SERS by imposing limits, referred to as "collars," on the rate at which employer contributions may rise from year to year. For the fiscal years beginning July 1, 2011, July 1, 2012, and on or after July 1, 2013, establish a temporary collared contribution rate, that if the contribution rate is more than 3%, 3.5% and 4.5%, respectively, of total compensation of all active members greater than the prior year's final contribution rate, then the collared contribution rate shall be applied and equal to 3%, 3.5% and 4.5%, respectively, of total compensation for all active members; and

SYNOPSIS (CONT'D)

6) For all other fiscal years in which the actuarially required contribution rate is less than the collared rate, establish the final contribution rate as the actuarially required contribution rate, provided that the final contribution rate is not less than the employer normal contribution rate.

DISCUSSION

The Retirement Codes and Systems

The Public School Employees' Retirement Code and the State Employees' Retirement Code (Codes) are governmental, cost-sharing, multiple-employer pension plans. The designated purpose of the Public School Employees' Retirement System (PSERS) and the State Employees' Retirement System (SERS) is to provide retirement allowances and other benefits, including disability and death benefits to public school and state employees. As of June 30, 2009, there were approximately 754 participating employers, generally school districts, area vocational-technical schools, and intermediate units in PSERS, and approximately 107 Commonwealth and other employers participating in SERS.

Membership in PSERS and SERS is mandatory for most school and state employees. Certain other employees are not required but are given the option to participate. As of June 30, 2009, there were 279,701 active members and 177,963 annuitant members of PSERS, and as of December 31, 2009, there were 110,107 active members and 109,639 annuitant members of SERS. The annual retirement benefit for most members of both Systems is equivalent to the product of 2.5 percent of the member's high three-year average salary multiplied by the member's years of service.

Under the Public School Employees' Retirement Code, superannuation or normal retirement age is age 62 with at least one full year of service, age 60 with 30 or more years of service, or any age with 35 years of service. Under the State Employees' Retirement Code, superannuation or normal retirement age for most members is age 60 with three years of service or any age with 35 years of service, while age 50 is the normal retirement age for members of the General Assembly and certain public safety employees.

DISCUSSION (CONT'D)

Unfunded Liabilities and Amortization Periods

Generally, the overall funding objective of a public employee pension plan is to provide reserves sufficient to fund the benefits of plan members when those benefits become due and to fund, over time, any unfunded liability through installment payments. As the funded ratio (ratio of assets to liabilities) of a pension plan declines below 100%, the plan's assets represent an increasingly smaller portion of the system's accrued liabilities. A pension trust fund in which the value of the actuarial accrued liabilities exceeds the actuarial value of assets is said to have an unfunded actuarial accrued liability. This funding shortfall may occur for many reasons, including benefit liberalizations, unfavorable investment or other actuarial experience, changes in major economic or demographic assumptions, or underfunding of the system by the employer. Based upon the June 30, 2009, actuarial valuations for PSERS, the retirement system reported unfunded actuarial accrued liabilities totaling $15.7 billion, representing a funded ratio of 79.2%. Based upon the December 31, 2009, "Valuation Highlights" provided to the Commission by SERS (the formal actuarial valuation has not yet been released), SERS reported unfunded actuarial accrued liabilities totaling $5.6 billion, representing a funded ratio of 84.4%.

The unfunded actuarial accrued liability existing in a pension trust fund must be amortized over time through installment payments. Under the Codes of both Systems, the permissible amortization periods are either 10 years or 30 years, depending upon the source of the liability. Subsequent to the passage of Act 40 of 2003, the amortization period for: 1) the increased liabilities of Act 9 of 2001; 2) the outstanding balances of the net actuarial losses incurred by PSERS in fiscal years 2000-01 and 2001-02 and by SERS in calendar year 2002; and 3) the gains and losses experienced in all future years is 30 years rather than 10 years, with the amortization contributions calculated as level-dollar payments. Amortization of the remaining balance of the pre-Act 9 of 2001 unfunded actuarial accrued liability, the future unfunded actuarial accrued liabilities attributable to benefit changes, including supplemental annuities, and in the case of PSERS, the gains and losses attributable to the change in the asset valuation methodology under Act 38 of 2002 continue to be amortized over 10 years on a level-dollar basis.

DISCUSSION (CONT'D)

Based on current projections, the Commonwealth will experience large increases in employer contributions beginning in fiscal year 2012-2013, when the unfunded liability portion of the employer contribution rate begins to sharply increase. This employer contribution "rate spike" is the result of large unfunded liabilities generated by four major factors: 1) the two major market down turns during the past decade, from roughly 2001-2003 and again in 2008; 2) the benefit enhancement provided to active members of both PSERS and SERS by the passage of Act 9 of 2001; 3) the additional unfunded liability resulting from the two-tier cost-of-living adjustment provided to retired PSERS and SERS members by Act 38 of 2002; and 4) changes to funding methods resulting from the enactment of Act 38 of 2002 and Act 40 of 2003. Combined, Acts 38 and 40 had the effect of deferring the funding of liability. Of the two, Act 40 had the greatest impact by requiring PSERS and SERS to amortize certain gains and losses over different periods of time. Under Act 40, the recognition of pre-Act 9 gains was accelerated by amortizing these gains over a 10-year period, while the recognition of post-Act 9 losses was delayed by amortizing these losses over 30 years. The result was, in effect, a mismatch of the amortization of gains and losses, generating a 10-year credit that has suppressed the employer contribution rate and masked the true costs of the Systems. This 10-year credit will be fully amortized by fiscal year 2012-2013, which, not coincidentally, corresponds with the first year of the projected contribution rate spike.

The bill would restructure the amortization periods of both PSERS and SERS for the fiscal years beginning July 1, 2011, and July 1, 2010, respectively. The bill would require the Systems to re-amortize all of the unfunded actuarial accrued liabilities of their pension trust funds over a 30-year period. This "fresh start" of the amortization bases would have the effect of extending the amortization of the Systems' current pension liabilities, resulting in a reduction in the Systems' annual amortization contribution requirements.

The bill would also require the use of a level-percentage of pay amortization method, rather than the level-dollar method currently used by both PSERS and SERS. Compared to the level-dollar amortization method, which results in level installment payments throughout the course of the amortization period, the level-percentage of pay method will produce amortization payments that are generally lower than would be the case under the level-dollar method in the early years of the amortization period, but steadily rise by a level percentage of pay using each System's assumed annual payroll increase assumption (4.0% for PSERS and 3.3% for SERS). Although the level-percentage of pay amortization method has the advantage of helping reduce annual employer contribution requirements in the early years, this method will result in steadily escalating contribution requirements and ultimately greater total costs.

DISCUSSION (CONT'D)

Additionally, increases in accrued liability caused by legislation enacted subsequent to June 30, 2010, for PSERS, and subsequent to December 31, 2009, for SERS, would continue to be amortized over a 10-year period, but would use level percentage of pay amortization payments instead of level-dollar payments as currently required by the Codes of both Systems.

Asset Smoothing

In public pension systems, asset "smoothing" involves the gradual recognition of investment gains and losses over time and is part of the method used to determine the actuarial value of assets in a pension trust fund. One purpose of the various smoothing methods is to avoid large year-to-year fluctuations in employer contribution requirements that may otherwise result from volatility in the investment markets.

Both PSERS and SERS currently apply a 5-year smoothing period to recognize investment gains and losses. The bill would preserve the 5-year smoothing period for SERS, but for PSERS, the bill would extend from 5 years to 10 years the smoothing period applicable to investment gains and losses. The Actuarial Standards Board (ASB) is an entity within the American Academy of Actuaries (AAA) that establishes standards of practice for the actuarial profession in the United States. Actuarial Standards of Practice No. 44, *Selection and Use of Asset Valuation Methods for Pension Valuations*, requires that asset smoothing methods must recognize "*the differences from the market value of assets in a sufficiently short period*." It is the professional opinion of the Commission's consulting actuary that ten years is too long a time period over which to recognize investment gains and losses because such an extended smoothing period has the potential to produce actuarial values of assets that deviate greatly from market values of assets. While the extended smoothing period would have the effect of delaying the recognition of unfavorable investment experience, it would also have the consequence of delaying recognition of favorable investment experience in future years. In the short-term, the extended smoothing period would serve to mitigate the negative effects of the unprecedented investment losses suffered by PSERS in 2008 by extending the period over which those investment losses are recognized.

Modification of Employer Contribution Requirements

PSERS and SERS are funded through: 1) employer contributions, 2) employee contributions, and 3) returns on investments. The employer normal contribution rate represents the employer portion of the value or cost (normal cost) of the benefits earned during a given year, based upon the Systems' actuarial funding methods.

DISCUSSION (CONT'D)

Like most large defined benefit public employee retirement systems throughout the United States, PSERS and SERS both utilize variations of the entry age normal actuarial cost method. The entry age normal cost method allocates the annual cost of all future benefits to be paid by the plan by spreading those costs over the entire period of a member's service from the date of entry to the member's anticipated date of retirement. These costs are expressed both as a dollar amount and as a percentage of actual or projected payroll. This method results in the calculation of two costs: 1) the annual contributions required to establish sufficient reserves to support future retirement benefits when made from entry age to normal retirement age is the normal cost; and 2) the aggregate normal cost of all members of the plan for prior years of service is the actuarial accrued liability. If assets of the plan are less than the accrued liability, then a deficit exists. This deficit is known as an unfunded actuarial accrued liability. Because this liability has not been accounted for or funded, it must be amortized through annual payments over a specified number of years, and the required annual payments are reflected in the total determination of employer annual cost.

The employer contribution requirements for both PSERS and SERS are determined using the employer portion of the employer normal cost, plus any amortization contribution requirements necessary to amortize the unfunded liabilities of the System over the statutorily specified amortization time periods as modified by the experience adjustment factor. The experience adjustment factor is a reference to the experience of the pension funds, most importantly, the investment experience of those funds. If gains from positive plan experience are greater than expected, employer contributions may be reduced. Conversely, losses from negative plan experience require additional employer contributions to compensate for those losses.

The bill would modify the methods currently used to determine the employer contribution requirements for both PSERS and SERS by imposing limits, referred to as "collars" on the rate at which employer contributions may rise from year-to-year. For the fiscal year beginning July 1, 2010, the total employer contribution rate for each System, referred to in the bill as the "final contribution rate," would be equivalent to 5.0% of the total compensation of all active members, plus in the case of PSERS, the premium assistance contribution rate, and in the case of SERS, the benefit completion plan contribution rate. For the fiscal years beginning July 1, 2011, July 1, 2012, and on or after July 1, 2013, the bill would establish temporary collared contribution rates, equal to 3%, 3.5% and 4.5%, for each year respectively. The collars would apply only if the calculation of the employer contribution rate results in an actuarially required contribution rate that is greater than the collared rate. The effect would be to limit the year-to-year increase in the employer contribution rate by the percentage amounts

DISCUSSION (CONT'D)

specified for each year. Beginning with the July 1, 2013, fiscal year, and for each year thereafter, the bill would limit the annual increase in employer contributions to no more than 4.5%, until such time as the actuarially required contribution rate calculated by the Systems' actuaries results in an increase in the employer rate that is less than the collared rate of 4.5%. At this point, the collared contribution limits would expire and a new employer contribution floor rate equal to each System's employer normal cost rate would be established.

As described previously, the fiscal challenges facing employers and the Commonwealth resulting from the much publicized pension "rate spike" are significant. However, it should be noted that the employer contribution collars proposed in the bill represent a departure from the norms of actuarial funding practice. The effect of the bill would be to suppress the employer contributions to both PSERS and SERS resulting in significant underfunding of both retirement systems. In turn, this underfunding will permit the continued growth of the Systems' unfunded liabilities resulting in a steady decline in the funded ratios of both PSERS and SERS.

Establishment of Employer Normal Cost Rate as Minimum Employer Contribution Floor

Act 38 of 2002 first established a 1% minimum employer contribution rate for both PSERS and SERS. In 2003, the mandated rate was increased through the enactment of Act 40 of 2003 for both Systems. For PSERS, the minimum employer contribution rate was increased effective July 1, 2004, from 1% to 4% plus the premium assistance contribution rate. For SERS, the rate was increased from 1% to: 1) 2% beginning July 1, 2004; 2) 3% beginning July 1, 2005; and 3) 4% beginning July 1, 2006. Act 8 of 2007 extended and made permanent the 4% employer floor rate for SERS.

The bill would establish the employer normal cost rate as the new employer contribution floor rate for all future years following expiration of the temporary collared contribution rates. By mandating payment of the employer normal contribution rate as the minimum or floor rate for all future years following expiration of the collared contribution rate, the bill would ensure that employer contributions in future years will be adequate to fund the costs of benefits earned in that year. The bill would not impact the cost of benefits already earned (accrued liability), nor would it directly affect the unfunded liabilities of the Systems.

SUMMARY OF ACTUARIAL COST IMPACT

The Commission's consulting actuary has reviewed the bill and the actuarial cost estimates provided to the Commission by the consulting actuaries for both PSERS and SERS and found these estimates to be reasonable. The result of these analyses is summarized in the following three tables. Table I shows the employer contribution rate and the employer contribution amount for PSERS for Fiscal Year 2011 to Fiscal Year 2042 under current law and under the bill. Table II shows the same information for SERS. Table III shows a comparison of the expected funded ratio using the actuarial value of assets for 2009 to 2040 for both PSERS and SERS under current law and under the bill. As shown in Tables I and II, the anticipated spike in the employer contribution rate in 2013 under current law would be delayed if the bill is enacted. For both Systems, the actuarially required contribution rate would be reached in 2016 and the collared contribution rates would then expire. The estimates show that the employer contribution rate for PSERS increases to 23% by 2016 and then gradually increases to approximately 29% beginning in 2029 through 2041 before decreasing to 18.9% in 2042. The employer contribution rate for SERS increases to about 25% beginning in 2016 through 2040 before decreasing to 19.6% in the year 2041. It should also be noted that the gradual increase in the employer contribution rate for PSERS is due to the appropriation payroll increasing at less than the assumed payroll growth of 4.0% per year. The projected appropriation payroll for SERS increases at the assumed payroll growth of 3.3% per year.

SUMMARY OF ACTUARIAL COST IMPACT (CONT'D)

Table I

Public School Employees' Retirement System
Projected Employer Contribution Rates
Fiscal Year 2011 to 2042

($ amounts in millions)

Fiscal Year Ending June 30	Appropriation Payroll	Current Law Employer Contribution Rate	Current Law Employer Contribution Amount	House Bill 2497 Employer Contribution Rate	House Bill 2497 Employer Contribution Amount	Increase / (Decrease) Employer Contribution Rate	Increase / (Decrease) Employer Contribution Amount
2011	$13,510.0	8.22%	$1,110.5	5.64%	$762.0	-2.58%	$(348.5)
2012	13,920.9	10.59%	1,474.2	8.72%	1,213.9	-1.87%	(260.3)
2013	14,345.3	29.22%	4,191.7	12.22%	1,753.0	-17.00%	(2,438.7)
2014	14,797.7	32.09%	4,748.6	16.71%	2,472.7	-15.38%	(2,275.9)
2015	15,280.1	33.60%	5,134.1	21.20%	3,239.4	-12.40%	(1,894.7)
2016	15,794.5	33.27%	5,254.8	23.31%	3,681.7	-9.96%	(1,573.1)
2017	16,341.3	32.74%	5,350.1	24.32%	3,974.2	-8.42%	(1,375.9)
2018	16,926.7	32.06%	5,426.7	25.29%	4,280.8	-6.77%	(1,145.9)
2019	17,557.7	31.27%	5,490.3	26.36%	4,628.2	-4.91%	(862.1)
2020	18,232.1	30.42%	5,546.2	27.25%	4,968.2	-3.17%	(578.0)
2021	18,948.0	29.56%	5,601.0	27.53%	5,216.4	-2.03%	(384.6)
2022	19,703.2	28.75%	5,664.7	27.77%	5,471.6	-0.98%	(193.1)
2023	20,493.7	27.95%	5,728.0	27.96%	5,730.0	0.01%	2.0
2024	21,321.5	27.18%	5,795.2	28.12%	5,995.6	0.94%	200.4
2025	22,185.0	26.44%	5,865.7	28.24%	6,265.0	1.80%	399.3
2026	23,081.8	25.74%	5,941.3	28.34%	6,541.4	2.60%	600.1
2027	24,006.8	25.05%	6,013.7	28.40%	6,817.9	3.35%	804.2
2028	24,958.6	24.40%	6,089.9	28.46%	7,103.2	4.06%	1,013.3
2029	25,937.5	23.78%	6,167.9	28.51%	7,394.8	4.73%	1,226.9
2030	26,944.0	23.19%	6,248.3	28.55%	7,692.5	5.36%	1,444.2
2031	27,978.1	22.63%	6,331.4	28.60%	8,001.7	5.97%	1,670.3
2032	29,041.5	22.10%	6,418.2	28.65%	8,320.4	6.55%	1,902.2
2033	30,136.5	19.46%	5,864.6	28.70%	8,649.2	9.24%	2,784.6
2034	31,268.4	18.16%	5,678.3	28.75%	8,989.7	10.59%	3,311.4
2035	32,446.3	16.82%	5,457.5	28.79%	9,341.3	11.97%	3,883.8
2036	33,675.8	15.65%	5,270.3	28.81%	9,702.0	13.16%	4,431.7
2037	34,956.6	14.33%	5,009.3	28.85%	10,085.0	14.52%	5,075.7
2038	36,292.1	13.88%	5,037.3	28.88%	10,481.2	15.00%	5,443.9
2039	37,690.6	14.64%	5,517.9	28.89%	10,888.8	14.25%	5,370.9
2040	39,153.0	14.47%	5,665.4	28.91%	11,319.1	14.44%	5,653.7
2041	40,680.0	13.15%	5,349.4	28.91%	11,760.6	15.76%	6,411.2
2042	42,266.6	12.18%	5,148.1	18.87%	7,975.7	6.69%	2,827.6
Total:			$169,590.6		$210,717.2		$41,126.6

SUMMARY OF ACTUARIAL COST IMPACT (CONT'D)

Table II

State Employees' Retirement System
Projected Employer Contribution Rates
Fiscal Year 2011 to 2042
($ amounts in millions)

Fiscal		Current Law		House Bill 2497		Increase / (Decrease)	
Year	Appropriation	Employer Contribution		Employer Contribution		Employer Contribution	
June 30	Payroll	Rate	Amount	Rate	Amount	Rate	Amount
2011	$5,936.0	5.64%	$335.0	5.00%	$296.8	-0.64%	$(38.2)
2012	6,131.9	7.98%	489.0	8.00%	490.6	0.02%	1.6
2013	6,334.2	26.66%	1,688.4	11.50%	728.4	-15.16%	(960.0)
2014	6,543.3	29.22%	1,911.7	16.00%	1,046.9	-13.22%	(864.8)
2015	6,759.2	27.72%	1,873.5	20.50%	1,385.6	-7.22%	(487.9)
2016	6,982.2	27.46%	1,917.0	24.53%	1,712.9	-2.93%	(204.1)
2017	7,212.7	27.09%	1,953.9	24.79%	1,788.1	-2.30%	(165.8)
2018	7,450.7	26.64%	1,985.2	24.87%	1,853.3	-1.77%	(131.9)
2019	7,696.5	26.16%	2,013.4	24.92%	1,917.9	-1.24%	(95.5)
2020	7,950.5	25.69%	2,042.1	24.96%	1,984.4	-0.73%	(57.7)
2021	8,212.9	25.22%	2,071.2	24.99%	2,052.8	-0.23%	(18.4)
2022	8,483.9	24.76%	2,100.9	25.03%	2,123.3	0.27%	22.4
2023	8,763.9	24.32%	2,131.5	25.06%	2,196.2	0.74%	64.7
2024	9,053.1	23.89%	2,163.0	25.09%	2,271.5	1.20%	108.5
2025	9,351.8	23.48%	2,195.5	25.12%	2,349.4	1.64%	153.9
2026	9,660.5	23.07%	2,229.1	25.15%	2,430.0	2.08%	200.9
2027	9,979.3	22.69%	2,263.9	25.18%	2,513.3	2.49%	249.4
2028	10,308.6	22.31%	2,299.7	25.22%	2,599.4	2.91%	299.7
2029	10,648.8	21.94%	2,336.7	25.25%	2,688.5	3.31%	351.8
2030	11,000.2	21.59%	2,375.0	25.28%	2,780.6	3.69%	405.6
2031	11,363.2	21.25%	2,414.5	25.31%	2,875.9	4.06%	461.4
2032	11,738.2	20.92%	2,455.3	25.34%	2,974.5	4.42%	519.2
2033	12,125.5	18.83%	2,283.7	25.37%	3,076.4	6.54%	792.7
2034	12,525.7	17.83%	2,233.3	25.40%	3,181.8	7.57%	948.5
2035	12,939.0	17.37%	2,247.8	25.43%	3,290.8	8.06%	1,043.0
2036	13,366.0	15.87%	2,121.2	25.46%	3,403.6	9.59%	1,282.4
2037	13,807.1	15.39%	2,125.1	25.50%	3,520.2	10.11%	1,395.1
2038	14,262.7	15.46%	2,205.1	25.53%	3,640.8	10.07%	1,435.7
2039	14,733.4	16.43%	2,420.5	25.56%	3,765.5	9.13%	1,345.0
2040	15,219.6	14.92%	2,270.8	25.59%	3,894.5	10.67%	1,623.7
2041	15,721.8	14.14%	2,223.0	19.61%	3,083.1	5.47%	860.1
2042	16,240.6	13.21%	2,144.7	17.73%	2,879.0	4.52%	734.3
Total:			$65,520.7		$76,796.0		$11,275.3

SUMMARY OF ACTUARIAL COST IMPACT (CONT'D)

Table III

Projected Impact on PSERS and SERS Funded Ratios

Valuation Year	PSERS' Funded Ratio Current Law	PSERS' Funded Ratio House Bill 2497	PSERS' Funded Ratio Increase/ (Decrease)	SERS' Funded Ratio Current Law	SERS' Funded Ratio House Bill 2497	SERS' Funded Ratio Increase/ (Decrease)
2009	79.2%	79.2%	0.0%	84.4%	84.4%	0.0%
2010	73.4%	73.9%	0.5%	79.0%	79.7%	0.7%
2011	66.8%	69.9%	3.1%	72.3%	73.4%	1.1%
2012	58.3%	66.2%	7.9%	66.4%	66.1%	-0.3%
2013	54.2%	62.8%	8.6%	68.0%	65.8%	-2.2%
2014	55.1%	60.0%	4.9%	68.8%	65.3%	-3.5%
2015	56.7%	57.8%	1.1%	69.8%	65.4%	-4.4%
2016	58.5%	55.7%	-2.8%	70.9%	65.8%	-5.1%
2017	60.5%	53.5%	-7.0%	72.0%	66.3%	-5.7%
2018	62.6%	51.8%	-10.8%	73.2%	66.9%	-6.3%
2019	64.7%	51.9%	-12.8%	74.3%	67.5%	-6.8%
2020	66.8%	52.2%	-14.6%	75.5%	68.1%	-7.4%
2021	68.9%	52.8%	-16.1%	76.6%	68.8%	-7.8%
2022	71.0%	53.6%	-17.4%	77.8%	69.5%	-8.3%
2023	73.0%	54.6%	-18.4%	79.0%	70.4%	-8.6%
2024	75.0%	55.8%	-19.2%	80.2%	71.2%	-9.0%
2025	77.0%	57.1%	-19.9%	81.4%	72.2%	-9.2%
2026	79.0%	58.6%	-20.4%	82.7%	73.3%	-9.4%
2027	80.9%	60.2%	-20.7%	84.0%	74.4%	-9.6%
2028	82.8%	61.9%	-20.9%	85.3%	75.6%	-9.7%
2029	84.6%	63.7%	-20.9%	86.6%	76.9%	-9.7%
2030	86.5%	65.6%	-20.9%	88.0%	78.2%	-9.8%
2031	88.2%	67.5%	-20.7%	89.5%	79.7%	-9.8%
2032	90.0%	69.6%	-20.4%	90.6%	81.3%	-9.3%
2033	91.4%	71.7%	-19.7%	91.6%	82.9%	-8.7%
2034	92.7%	73.9%	-18.8%	92.6%	84.7%	-7.9%
2035	93.8%	76.2%	-17.6%	93.4%	86.5%	-6.9%
2036	94.7%	78.6%	-16.1%	94.1%	88.5%	-5.6%
2037	95.5%	81.0%	-14.5%	94.9%	90.5%	-4.4%
2038	96.2%	83.6%	-12.6%	95.9%	92.7%	-3.2%
2039	97.1%	86.3%	-10.8%	96.7%	94.9%	-1.8%
2040	97.9%	89.0%	-8.9%	97.4%	96.3%	-1.1%

POLICY CONSIDERATIONS

In reviewing the bill, the Commission identified the following policy considerations.

Appropriateness of Departure from Actuarial Funding Standards. **( )** The bill would reduce the actuarially required contribution rate to both PSERS and SERS for several years, effectively delaying the anticipated spike in employer contribution rates projected to begin in 2013. The Commission is well aware of the fiscal challenges facing the Commonwealth resulting from the anticipated pension contribution spike. However, it must be noted that the temporary collared contribution rates proposed in the bill do not follow generally accepted actuarial standards of practice. The short-term effect of the bill would be to defer the payment of actuarially required contributions to both PSERS and SERS, resulting in the underfunding of both retirement systems. This underfunding will permit the continued growth of the Systems' unfunded liabilities resulting in a steady decline in the funded ratios of both PSERS and SERS. The bill appears to be intended to delay the anticipated contribution increases, spread those increases over many future years, but to determine contribution rates in an actuarially sound manner in the long term. The Commonwealth's policymakers must determine whether the temporary departure from actuarial funding proposed by the bill is consistent with the Commonwealth's pension plan funding and fiscal management goals.

Re-amortization of Pension Liabilities. **( )** The bill would require PSERS and SERS to re-amortize all of the unfunded actuarial accrued liabilities of their pension trust funds over a 30-year period. The re-amortization of pension plan liabilities is a legitimate actuarial technique. Under the level percentage of pay amortization method proposed in the bill, the unfunded accrued liability of both PSERS and SERS is expected to increase for the first 18 to 20 years, because the amortization payments will be insufficient to pay the interest accruing on the outstanding balance of the unfunded liabilities of the Systems. Contributions in the later years of the amortization period will therefore be much higher to compensate for the years that payments made were less than the interest on the outstanding balance. Therefore, the fresh start re-amortization of liabilities combined with the use of level percent of pay amortization payments will have the advantage of reducing annual employer contribution requirements in the short term, but long term will result in much higher contributions in later years and ultimately in greater total costs to the Commonwealth and other employers.

POLICY CONSIDERATIONS (CONT'D)

Extended Smoothing Period. **( )** For PSERS, the bill would extend from five years to ten years the smoothing period applicable to the investment gains and losses of the System. The Actuarial Standards Board (ASB) is an entity within the American Academy of Actuaries (AAA) that establishes standards of practice for the actuarial profession in the United States. Actuarial Standards of Practice No. 44, *Selection and Use of Asset Valuation Methods for Pension Valuations*, requires that asset smoothing methods must recognize "*the differences from the market value of assets in a sufficiently short period*." It is the professional opinion of the Commission's consulting actuary that ten years is too long a time period over which to recognize investment gains and losses because such an extended smoothing period has the potential to produce actuarial values of assets that deviate greatly from market values of assets. While the extended smoothing period would have the advantage of delaying the recognition of unfavorable investment experience, it would also have the consequence of delaying recognition of favorable investment experience in future years. In the short-term, the extended smoothing period would serve to mitigate the negative effects of the unprecedented investment losses suffered by PSERS in 2008 by extending the period over which those investment losses are recognized.

New Employer Contribution Floor. **(+)** The bill would establish the employer normal cost rate as the new employer contribution floor rate for all future years following expiration of the temporary collared contribution rates. Normal cost equates to the value or "cost" of benefits accrued by active members in a given year. By mandating payment of the employer portion of the normal cost rate as the minimum contribution rate for all future years following expiration of the collared contribution rate, the bill would ensure that employer contributions in future years will be adequate to fund the costs of benefits earned in that year. The bill would not impact the cost of benefits already earned (accrued liability), nor would it affect the unfunded liabilities of the Systems.

Technical Drafting Consideration. **( )** The bill would amend section 5508(f)(1) of the SERS Code, pertaining to the "experience adjustment factor," to state that one of the permissible causes for an increase or decrease in the unfunded accrued liability of the System may be *"changes in contributions caused by the final contribution rate being different from the actuarially required contribution rate."* The bill does not make a corresponding amendment relating to the experience adjustment factor in the PSERS Code. The bill sponsor may wish to consider an amendment to section 8328(e)(1) of the PSERS Code to provide specificity similar to that for the SERS Code.

Commission Recommendation

The Commission voted to attach the actuarial note to the bill, recommending that the General Assembly and the Governor consider the policy issues identified above.

Attachments

Actuarial Note provided by Katherine A. Warren and Timothy J. Nugent of Milliman, Inc.

Actuarial cost estimate provided by Buck Consultants, consulting actuary for the Public School Employees Retirement System.

Actuarial cost estimate provided by the Hay Group, consulting actuary for the State Employees Retirement System.

House Bill Number 2497, Printer's Number 3730.