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MONTHLY BRIEFING

For the Month Ended: November 2024

PAGE 1: State Retirement Systems Overview

CGFA

COMMISSION ON GOVERNMENT FORECASTING & ACCOUNTABILITY

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SPECIAL PENSION BRIEFING

STATE RETIRMENT SYSTEMS OVERVIEW

Julie Bae, Pension Analyst

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The Commission has reviewed the State-funded retirement systems' FY 2024 preliminary actuarial reports, which were issued prior to November 1st, pursuant to P.A. 97-0694, the State Actuary Law. Under the State Actuary Law, the systems must annually submit a proposed certification for the following fiscal year prior to November 1st of the current calendar year. The State Actuary then must issue a preliminary report concerning the systems' proposed certification by January 1st. The State Actuary's report must identify any recommended changes in actuarial assumptions based upon the review of the retirement systems' actuarial assumptions.

Please see Appendix I on page 18 for a special commentary by CGFA's actuary, Segal Consulting. The commentary addresses the issue of "tail volatility," i.e., the challenges of adhering to the 1995 funding law given the shortening timeframe between now and FY 2045. The commentary also addresses the ongoing impact of Tier 2 on State contributions.

Using the actuarial (smoothed) value of assets, the total unfunded liabilities of the State systems totaled $144.3 billion on June 30, 2024, led by the Teachers' Retirement System (TRS), whose unfunded liabilities amounted to $83.6 billion. As the largest of the State systems, TRS accounts for approximately 58.0% of the total unfunded liabilities of the five State systems combined.

The State Employees' Retirement System (SERS) had unfunded liabilities of $30.2 billion, approximately 20.9% of the total unfunded liabilities of the five systems, followed by the State Universities Retirement System (SURS) with unfunded liabilities of $28.5 billion, which represents 19.8% of the total unfunded liabilities. Table 1 provides a summary of the financial condition of each of the five State retirement systems, showing their respective liabilities and assets as well as their accumulated unfunded liabilities and funded ratios.

TABLE 1

Summary of Financial Condition FY 2024
State Retirement Systems Combined
Assets at Actuarial Value / With Asset Smoothing (P.A. 96-0043)
($ in Millions)

System	Accrued Liability	Actuarial Assets	Unfunded Liability	Funded Ratio
TRS	$154,325.2	$70,687.6	$83,637.6	45.8%
SERS	$55,696.9	$25,528.8	$30,168.1	45.8%
SURS	$52,825.4	$24,297.9	$28,527.5	46.0%
JRS	$3,101.5	$1,404.9	$1,696.5	45.3%
GARS	$366.3	$90.7	$275.6	24.8%
TOTAL	**$266,315.2**	**$122,009.8**	**$144,305.4**	**45.8%**

A more realistic valuation of the true financial position of the State retirement systems would be based upon the market value of the assets, as shown in Table 2 below. Utilizing the market value of assets, the combined unfunded liabilities of the State systems totaled $143.7 billion on June 30, 2024. TRS, whose unfunded liabilities amounted to $82.9 billion, represents approximately 57.7% of the combined total unfunded balance. Table 2 provides a summary of the financial condition of each of the five State retirement systems, showing their respective liabilities and assets as well as their accumulated unfunded liabilities and funded ratios.

TABLE 2

Summary of Financial Condition FY 2024 State Retirement Systems Combined Assets at Market Value / Without Asset Smoothing (P.A. 96-0043) ($ in Millions)				
System	Accrued Liability	Market Assets	Unfunded Liability	Funded Ratio
TRS	$154,325.2	$71,424.8	$82,900.4	46.3%
SERS	$55,696.9	$25,396.8	$30,300.1	45.6%
SURS	$52,825.4	$24,266.5	$28,558.9	45.9%
JRS	$3,101.5	$1,403.7	$1,697.8	45.3%
GARS	$366.3	$90.3	$276.0	24.6%
TOTAL	**$266,315.2**	**$122,582.1**	**$143,733.1**	**46.0%**

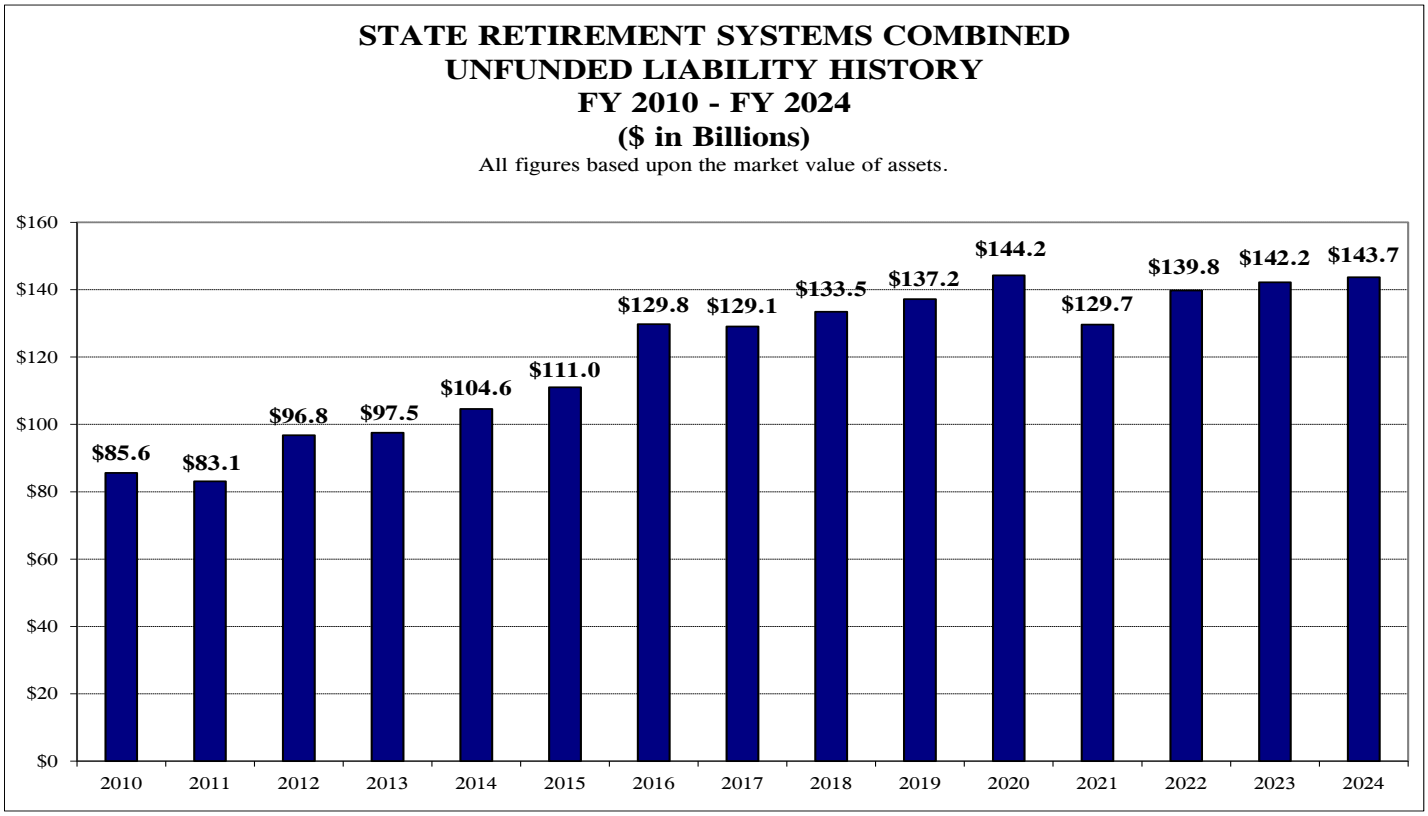
The funded ratios of the respective systems may be compared to the aggregate funded ratio. The combined funded ratios based on the actuarial and market value of assets for FY 2024 were 45.8% and 46.0%, respectively, as shown in Tables 1 and 2 (the 15-year history of the systems' cumulative funded ratio is shown in Chart 6). While the General Assembly Retirement System (GARS) had the poorest funded ratio, the funded ratios of the other four pension systems ranged from 45% to 46%.

Chart 1 below shows a 15-year history of the cumulative unfunded State pension liability and is based upon calculations performed by the retirement systems' actuaries using the *market value* of assets for all years, including FY 2024. Overall, the aggregate unfunded liability has grown significantly over the past 15 years from $85.6 billion in FY 2010 to $143.7 billion in FY 2024.

The primary driver behind the growth in the combined unfunded liability has been actuarially insufficient State contributions determined by the current pension funding policy under P.A. 88-0593. As the actuaries for the State retirement systems have noted in their respective annual actuarial valuation reports, the funding plan under P.A. 88-0593 produces employer (State) contributions that are actuarially insufficient, meaning if all other actuarial assumptions are met, unfunded liabilities will still increase due to the State contributing an amount that is not sufficient to stop the growth in the unfunded liability. Hence, there is a distinction between contributions that are statutorily sufficient and contributions that are considered actuarially sufficient. The annual reports of the State Actuary have noted this distinction as well.

Further details on the main factors affecting the unfunded liability can be found in Charts 4 and 5.

CHART 1



Over the recent five-year period, the unfunded liability has slightly decreased from $144.2 billion in FY 2020 to $143.7 billion in FY 2024. After reaching its peak in FY 2020, the unfunded liability saw a significant improvement in FY 2021, due in large part to exceptional investment returns across all systems. However, it has gradually increased again since then. Poor investment performances of below 0% on a market value basis from all systems in FY 2022 added upward pressure on the unfunded liability, and higher-than-projected salary increases across all five systems in FY 2023 also contributed to an increase as well.

In FY 2024, the unfunded liability rose slightly to $143.7 billion, nearing its previous peak again. While all systems achieved investment returns above their assumed rates of return on a market value basis, which helped contain the growth of the unfunded liability, it was not enough to prevent it from increasing. Changes in actuarial assumptions by TRS and SURS were one of the main factors contributing to the increase, as well as to higher-than-assumed salary increases from all five systems. Details on the factors affecting the change in the actuarial unfunded liability in FY 2024 can be found in Chart 4.

CHART 2

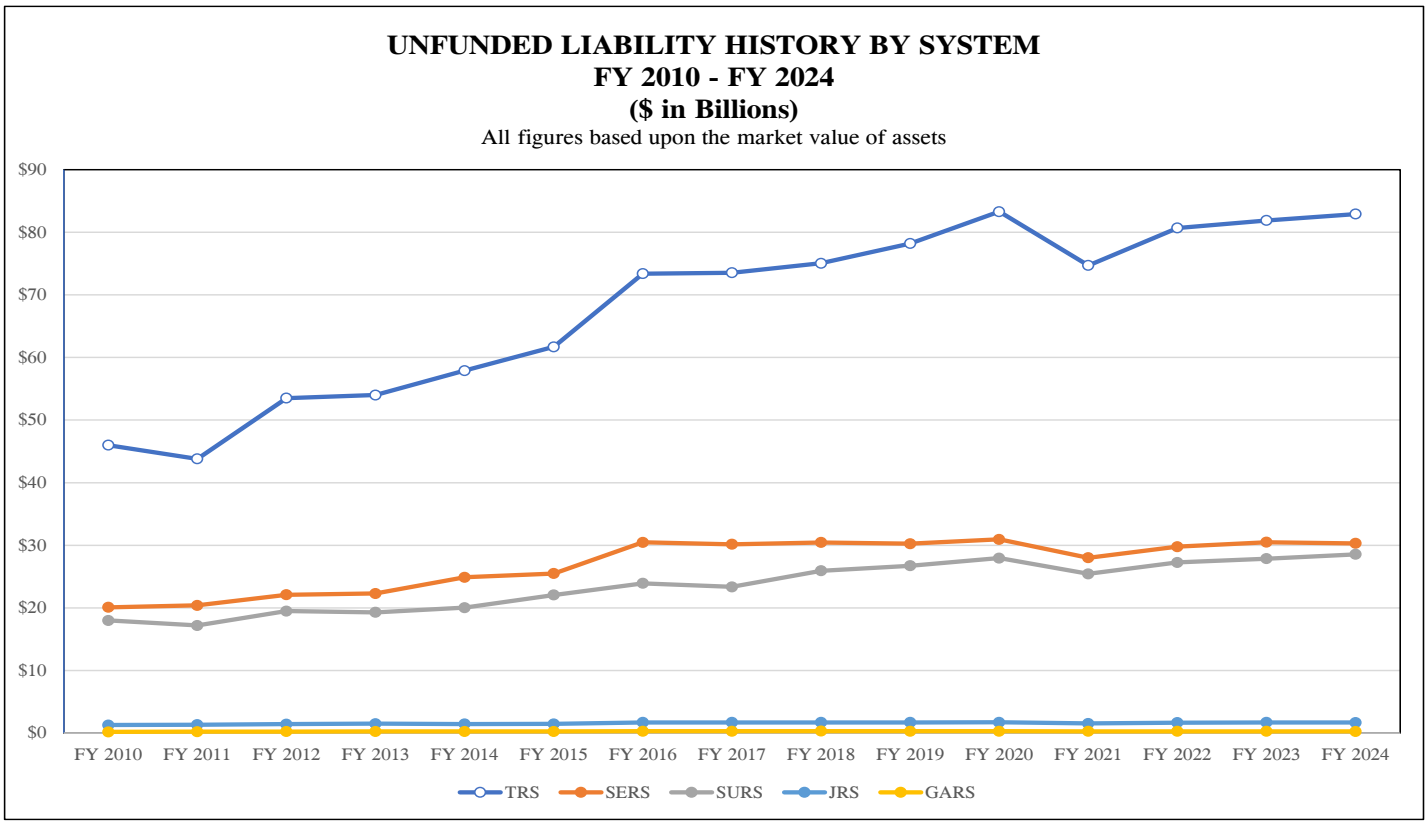


Chart 2 above presents the unfunded liability history of the five systems over the last 15 years. As shown, the three biggest systems, TRS, SERS, and SURS, make up the majority of the aggregate unfunded liability. Due in part to TRS having the largest portfolio of the "Big 3" systems, TRS' changes in unfunded liability tend to be greater in nominal terms than those of the other Big 3 systems. One of the steepest rises in the TRS trend line can be seen in FY 2012 and FY 2016 as TRS reduced its assumed investment rate by 0.5% in each respective year. On the other hand, the steepest decline in the TRS line occurred in FY 2021 thanks to an exceptionally strong investment return of 25.5% on a market value basis. TRS' market value unfunded liability rose slightly to $82.9 billion in FY 2024 from $81.9 billion in FY 2023.

Table 3 below shows the historical changes in the investment return assumptions for each of the five State systems. All five systems left their respective investment return rate assumptions unchanged in FY 2024. However, the Big 3 systems updated economic and demographic assumptions such as inflation rates, salary increase rates, retirement rates, or buyout programs participation rates, among other changes.

TABLE 3

10-Year Historical Change in Investment Rate Assumptions										
System	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
TRS	7.50%	7.00%								
SERS	7.25%	7.00%			6.75%					
SURS	7.25%			6.75%			6.50%			
JARS	7.00%	6.75%			6.50%					
GARS	7.00%	6.75%			6.50%					

NOTE: The years associated with investment rate assumption changes above reflect the actuarial valuation year, not the fiscal year in which the State contribution was calculated using the new rate.

CHART 3

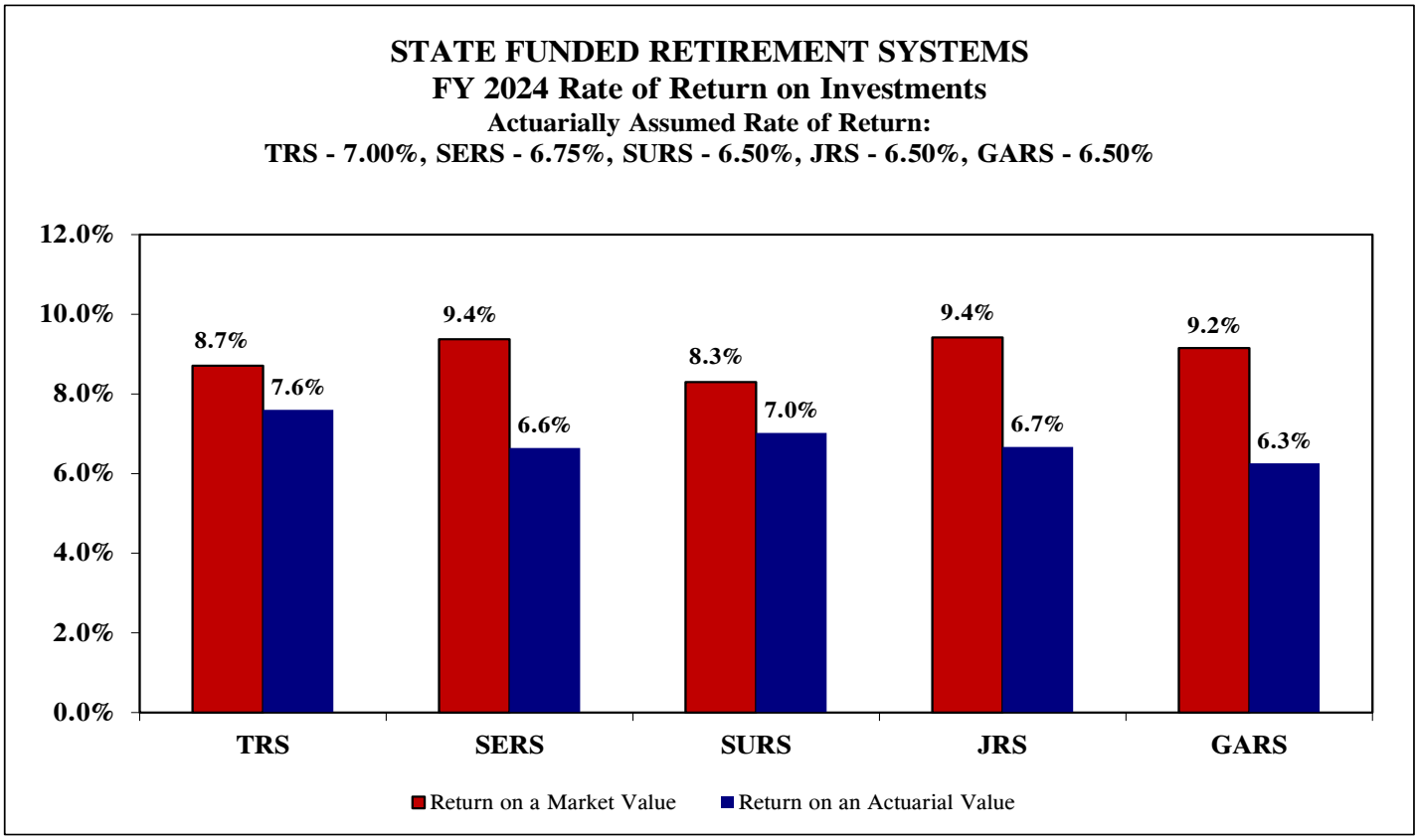
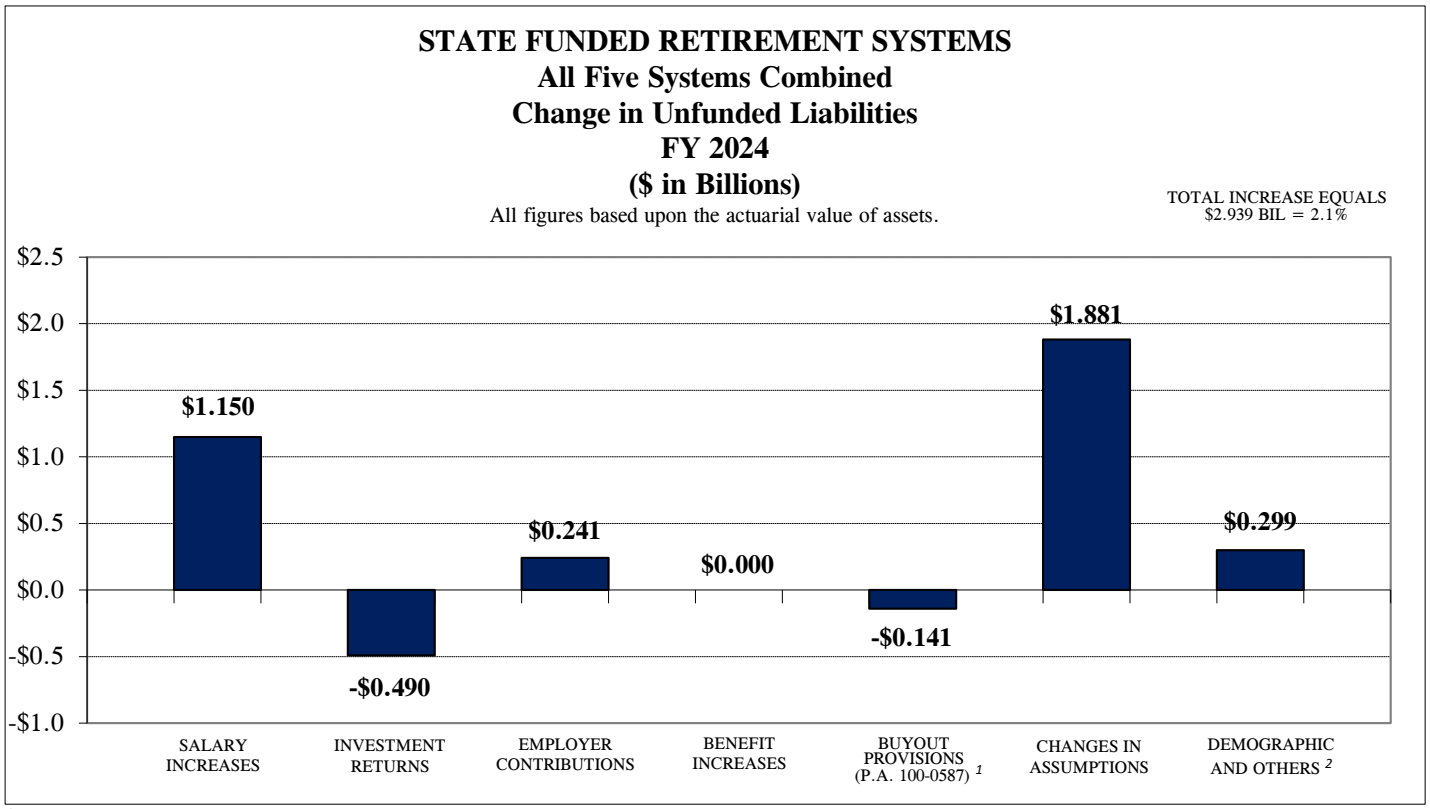


Chart 3 above presents investment returns experienced by each of the systems in FY 2024 based upon both the actuarial (smoothed) value, shown in blue, and market value, depicted in red. As shown in the red bars, all systems achieved returns of at least 8% on a market value basis in FY 2024, exceeding their assumed rates and resulting in actuarial gains. These gains will be gradually recognized over five years using an asset smoothing method, which averages annual investment fluctuations over a period of five years. Asset smoothing was implemented beginning with the FY 2009 actuarial valuation reports of the State systems with the adoption of P.A. 96-0043, which took effect on July 15, 2009.

On an actuarial value basis (blue bars), TRS, SURS, and JRS experienced investment returns exceeding their assumed rates of return on an actuarial value of assets, whereas SERS and GARS had returns slightly below their projected returns.

Chart 4 below outlines the factors that have caused the FY 2024 unfunded liability to change.

CHART 4



[1] P.A. 100-0587, effective June 4, 2018, created the two voluntary Accelerated Pension Benefit Payment Programs (the pension buyout programs) for TRS, SURS, and SERS. P.A. 101-0010, effective June 5, 2019, extended the buyout programs by 3 more years to June 30, 2024. P.A. 102-0718, effective May 5, 2022, extended the programs further, until June 30, 2026. While SERS did not report data from the buyout programs, TRS reported an actuarial gain of $133.5 million, and SURS reported an actuarial gain of $7.2 million in FY 2024.

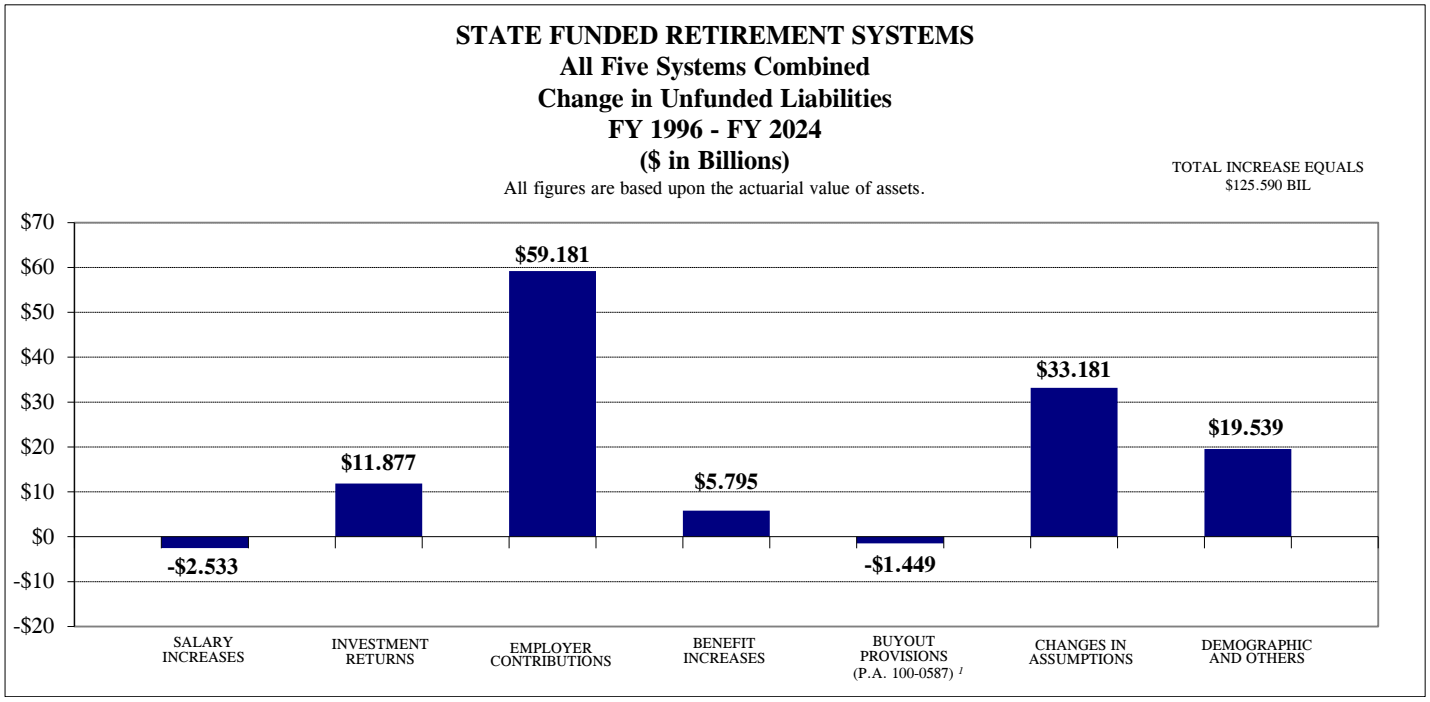
[2] This includes the impact of P.A. 103-0548, effective August 11, 2023, which now values SURS part-time active employees as full-time active employees. This change is estimated to increase the unfunded liability by $3.4 million.

As shown in Chart 4, the combined unfunded actuarial liability increased in FY 2024 by $2.9 billion. The primary contributor to this increase was changes in assumptions, increasing the combined unfunded liability by $1.881 billion (64% of the total increase). While all of the Big 3 systems made assumption changes in FY 2024, the actuarial losses came from TRS and SURS, with TRS adding $1.368 billion and SURS adding $533.8 million. SERS, on the other hand, reduced the unfunded liability by $20.6 million as the SERS buyout program participation rates were assumed to increase. Examples of assumption changes made by TRS or SURS include updates to assumed salary increase rates, retirement rates and termination rates.

Higher-than-assumed salary increases was the next biggest factor, accounting for 39% of the total increase, which was observed across all the systems, with SERS adding $674.3 million, SURS adding $291.2 million and TRS adding $164.8 million.

Chart 5 below shows the change in the unfunded liability since the enactment of P.A. 88-0593 in FY 1996, commonly known as the 1995 funding law which created the 50-year funding policy that governs annual State pension contributions.

CHART 5



[1] P.A. 100-0587, effective June 4, 2018, created the two voluntary Accelerated Pension Benefit Payment Programs (the pension buyout programs) for TRS, SERS, and SURS. P.A. 101-0010, effective June 5, 2019, extended the buyout programs by 3 more years to June 30, 2024. P.A. 102-0718, effective May 5, 2022, extended the programs further, until June 30, 2026. As of FY 2024 valuation, TRS reported a total gain of $810.6 million, SERS reported a total gain of $580.6 million, and SURS reported a total gain of $58 million.

From FY 1996 through FY 2024, the unfunded liability increased by $125.6 billion to $144.3 billion. Actuarially insufficient State contributions have contributed the most to the increase in unfunded liability, accounting for approximately 47.1% of the total increase. Actuarial assumption changes caused a $33.2 billion increase, accounting for 26.4% of the total increase. Demographic changes and insufficient investment returns have augmented the increase in unfunded liability over time.

CHART 6

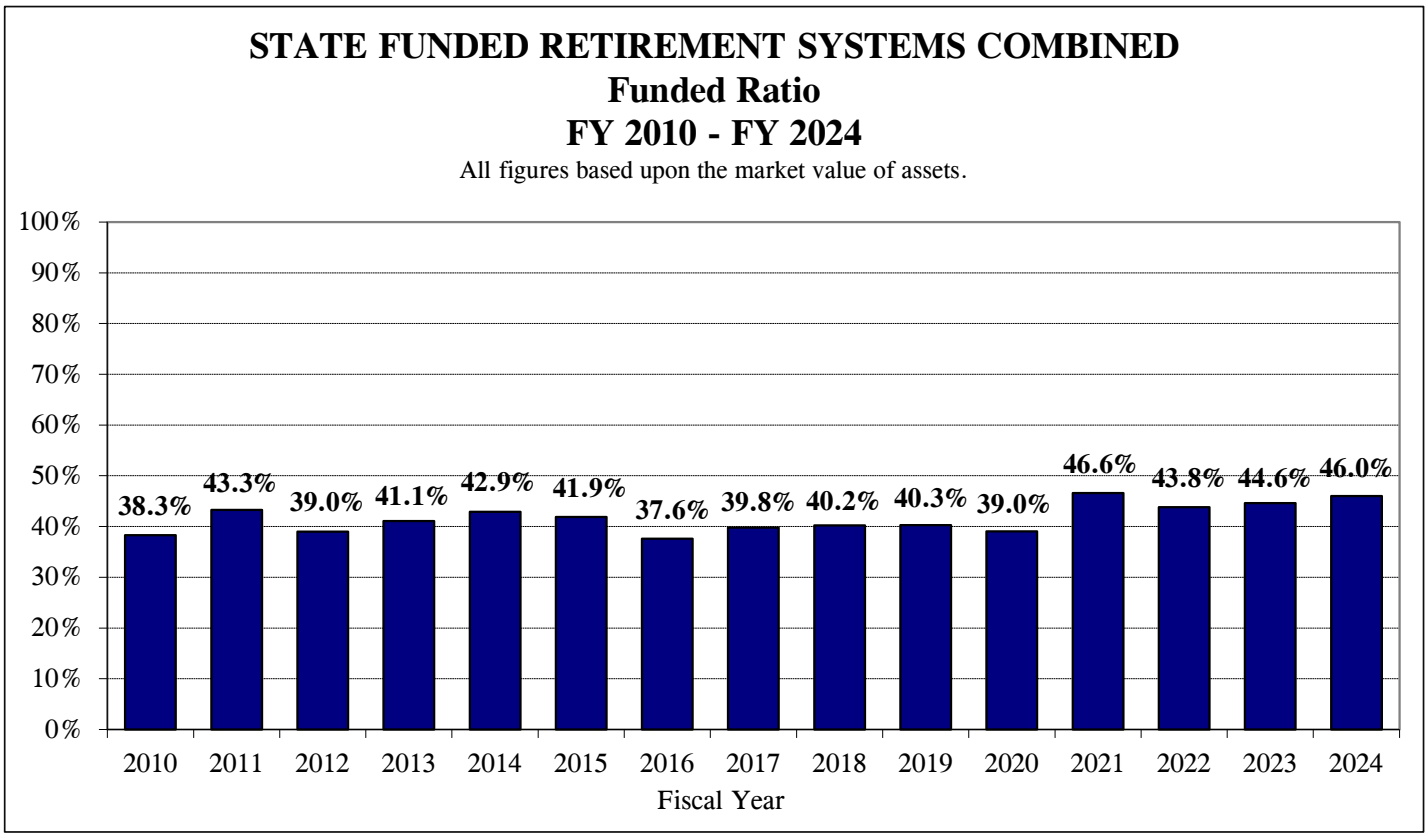


Chart 6 above shows the systems' funded ratio based on the market value of assets. The funded ratio at any single point in time is less important than the trend over time. While both the unfunded liability (Chart 1) and funded ratio (Chart 6) illustrate the financial condition of the pension systems, the two are negatively correlated by nature—when one rises, the other falls.

TABLE 4

Projected FY 2026 Employer Normal Cost ($ in Millions)					
TRS	**SERS**	**SURS**	**JRS**	**GARS**	**Total**
$1,369.3	$589.5	$493.9	$26.6	$1.7	$2,481.0

Table 4 above shows the FY 2026 employer normal cost for the five State systems. The normal cost is, in essence, the present value cost of the benefits accrued in a given fiscal year. Put differently, if the respective systems were 100% funded, the State of Illinois would be obligated to pay the employer normal cost only. The total projected FY 2026 employer normal cost is estimated at $2.5 billion, representing approximately 21% of the preliminarily-certified FY 2026 State contributions of $11.7 billion for all five systems. (Please refer to either Table 5 or 6 for the FY 2026 State contribution based on the five systems' preliminary certification letters.)

Table 5 compares FY 2026 Actuarially Determined Contributions (ADC) and FY 2025 State contributions under P.A. 88-0593. While the statutory contributions are determined by the current funding policy under the 1995 funding law , ADCs are calculated by each respective systems' actuary pursuant to the Governmental Accounting Standards Board Statements (GASB) 67 and 68. GASB 67 and 68 allow each system to determine their own respective amortization periods.

TABLE 5

Comparision of FY 2026 Actuarially Determined Contribution (ADC) and FY 2026 State Contributions under P.A. 88-0593 ($ in Millions)						
System	**TRS**	**SERS**	**SURS**	**JRS**	**GARS**	**Total**
ADC*	$10,734.4	$3,293.4	$2,569.0	$183.7	$37.1	$16,817.5
State Contributions	$6,495.7	$2,725.1	$2,320.6	$151.9	$26.5	$11,719.8
Difference	$4,238.6	$568.3	$248.4	$31.8	$10.6	$5,097.7

**ADCs under the respective systems' funding policy that meet the requirements of GASB Statements 67 and 68 may be calculated differently by each system, i.e., the amortization periods in which the unfunded liability is amortized may differ. For example, TRS uses a closed 20-year period, SERS uses a 25-year closed period, and SURS uses a 30-year closed period.*

Table 6 below shows the FY 2025 State contributions pursuant to P.A. 103-0589 and the FY 2026 estimated State contributions based on the systems' preliminary certification letters for FY 2026. FY 2026 estimated State contributions were certified by the Boards of trustees of the five systems. FY 2025 State contributions to the five systems were $11.3 billion. The FY 2026 State contributions are estimated to be $11.7 billion, an increase of $455.7 million or 4% over FY 2025.

TABLE 6

FY 2025 Pension Appropriation by Fund via P.A. 103-0589
($ in Millions)

System	General Funds	Other State Funds	Total
TRS	$ 6,203.9	$ -	$ 6,203.9
SURS	$ 1,997.8	$ 215.0	$ 2,212.8
SERS [1]	$ 1,843.9	$ 828.4	$ 2,672.4
GARS	$ 26.2	$ -	$ 26.2
JRS	$ 148.9	$ -	$ 148.9
Total	**$ 10,220.8**	**$ 1,043.4**	**$ 11,264.2**

FY 2026 Estimated Pension Appropriation by Fund [2]
($ in Millions)

System	General Funds	Other State Funds [3]	Total
TRS	$ 6,495.7	$ -	$ 6,495.7
SURS	$ 2,105.6	$ 215.0	$ 2,320.6
SERS	$ 1,880.3	$ 844.8	$ 2,725.1
GARS	$ 26.5	$ -	$ 26.5
JRS	$ 151.9	$ -	$ 151.9
Total	**$ 10,660.1**	**$ 1,059.8**	**$ 11,719.8**

[1] SERS' FY 2025 appropriation includes a total of $124.4 million in 2003 POB debt service. Of this amount, according to SERS, $85.8 million comes from the General Revenue Fund (GRF) and $38.6 million comes from the other state funds. The SERS appropriation breakdown is based upon SERS' assumption that 69% of the SERS appropriation would come from GRF, while 31% would come from other state funds.

[2] This chart is meant to be an estimate only insofar as the FY 2026 appropriation by fund is concerned. The amounts in this chart reflect the State systems' preliminary FY 2026 certifications. Also, pursuant to P.A. 97-0694, the State Actuary Law, the State Actuary is required to conduct a review of the systems' actuarial assumptions/methods that are used to perform actuarial valuations and to determine the State contributions. The State Actuary is required to recommend changes in the assumptions/methods before the State systems finalize certifications of the annual State contributions.

[3] The SURS "Other State Funds" amount assumes that SURS will receive a FY 2026 appropriation from the State Pension Fund in the same amount that SURS is expected to receive from the State Pension Fund in FY 2025. SURS' historical appropriation from the State Pension Fund varies from year to year.

Total FY 2025 Pension Appropriation: $11.3 Billion
Total FY 2026 Pension Appropriation: $ 11.7 Billion
Total Increase, FY 2026 over FY 2025: $ 455.7 Million
Total GF Increase, FY 2026 from FY 2025: $ 439.3 Million

The following pages include pension funding projections for the five State retirement systems based on the respective retirement systems' FY 2024 preliminary actuarial valuations. These projections were generated by the retirement systems' respective actuaries.

FUNDING PROJECTIONS FOR THE STATE RETIREMENT SYSTEMS
All Five Systems Combined
Projections Based on the Retirement Systems' FY 2024 Preliminary Actuarial Valuations
($ in Millions)

Fiscal Year	Annual Payroll	Total State Contribution	State Contribution as a % of Payroll	Total Employee Contribution	Accrued Liabilities	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2025	$24,543.8	$11,264.2	45.9%	$1,832.5	$272,445.3	$129,025.9	$143,419.4	47.4%
2026	**$25,252.4**	**$11,719.8**	**46.4%**	**$1,882.6**	**$278,406.5**	**$133,443.0**	**$144,963.4**	**47.9%**
2027	$25,883.7	$11,664.2	45.1%	$1,924.6	$284,361.8	$139,630.7	$144,731.1	49.1%
2028	$26,518.1	$12,063.9	45.5%	$1,966.6	$290,111.0	$146,031.5	$144,079.5	50.3%
2029	$27,160.0	$12,320.9	45.4%	$2,009.3	$295,705.0	$152,256.5	$143,448.5	51.5%
2030	$27,806.0	$12,556.4	45.2%	$2,052.4	$301,055.2	$158,577.0	$142,478.2	52.7%
2031	$28,455.7	$12,817.2	45.0%	$2,095.4	$306,138.7	$165,022.5	$141,116.3	53.9%
2032	$29,108.3	$13,185.8	45.3%	$2,138.7	$310,932.8	$171,634.0	$139,298.8	55.2%
2033	$29,762.4	$13,507.3	45.4%	$2,181.5	$315,418.2	$178,459.9	$136,958.2	56.6%
2034	$30,417.9	$14,645.5	48.1%	$2,223.8	$319,571.8	$186,361.1	$133,210.7	58.3%
2035	$31,081.2	$14,959.0	48.1%	$2,266.3	$323,391.3	$194,585.5	$128,805.8	60.2%
2036	$31,746.1	$15,272.1	48.1%	$2,308.3	$326,838.3	$203,150.5	$123,687.8	62.2%
2037	$32,418.0	$15,589.1	48.1%	$2,350.5	$329,906.6	$212,103.2	$117,803.4	64.3%
2038	$33,105.9	$15,913.6	48.1%	$2,393.5	$332,574.1	$221,491.6	$111,082.6	66.6%
2039	$33,806.4	$16,243.4	48.0%	$2,437.2	$334,842.7	$231,385.1	$103,457.6	69.1%
2040	$34,528.4	$16,584.3	48.0%	$2,482.0	$336,820.3	$241,966.5	$94,853.7	71.8%
2041	$35,281.8	$16,938.7	48.0%	$2,529.3	$338,443.8	$253,251.1	$85,192.7	74.8%
2042	$36,072.1	$17,312.3	48.0%	$2,579.3	$339,748.1	$265,358.0	$74,390.1	78.1%
2043	$36,905.9	$17,707.5	48.0%	$2,632.6	$340,785.7	$278,428.4	$62,357.4	81.7%
2044	$37,785.6	$18,127.0	48.0%	$2,689.4	$341,629.6	$292,624.3	$49,005.3	85.7%
2045	$38,718.1	$18,572.2	48.0%	$2,750.4	$342,366.3	$308,128.7	$34,237.6	90.0%

FUNDING PROJECTIONS FOR THE TEACHERS' RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2024 preliminary Actuarial Valuation
Actuarially Assumed Rate of Return: 7.00%
($ in Millions)

Fiscal Year	Annual Payroll	Total State Contribution	State Contribution as a % of Payroll	Total Employee Contribution	Accrued Liabilities	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2025	$12,798.5	$6,203.9 *	48.5%	$1,151.9	$158,427.3	$75,370.1	$83,057.2	47.6%
2026	**$13,247.9**	**$6,495.7 ***	**49.0%**	**$1,192.3**	**$162,496.1**	**$78,408.4**	**$84,087.6**	**48.3%**
2027	$13,606.1	$6,651.1	48.9%	$1,224.5	$166,707.5	$82,601.2	$84,106.3	49.5%
2028	$13,960.2	$6,883.2	49.3%	$1,256.4	$170,870.5	$86,974.5	$83,896.1	50.9%
2029	$14,312.0	$7,041.7	49.2%	$1,288.1	$175,037.2	$91,312.7	$83,724.5	52.2%
2030	$14,661.2	$7,185.9	49.0%	$1,319.5	$179,120.1	$95,758.1	$83,362.0	53.5%
2031	$15,006.0	$7,337.2	48.9%	$1,350.5	$183,098.5	$100,316.7	$82,781.8	54.8%
2032	$15,345.6	$7,503.5	48.9%	$1,381.1	$186,947.8	$105,001.2	$81,946.6	56.2%
2033	$15,677.5	$7,682.7	49.0%	$1,411.0	$190,638.8	$109,821.8	$80,817.0	57.6%
2034	$15,999.7	$8,450.0	52.8%	$1,440.0	$194,145.2	$115,388.1	$78,757.1	59.4%
2035	$16,320.8	$8,619.6	52.8%	$1,468.9	$197,444.0	$121,131.7	$76,312.3	61.3%
2036	$16,638.2	$8,787.3	52.8%	$1,497.4	$200,511.7	$127,061.0	$73,450.7	63.4%
2037	$16,955.0	$8,954.6	52.8%	$1,526.0	$203,328.6	$133,192.4	$70,136.2	65.5%
2038	$17,276.5	$9,124.4	52.8%	$1,554.9	$205,870.0	$139,544.8	$66,325.1	67.8%
2039	$17,599.0	$9,294.7	52.8%	$1,583.9	$208,120.0	$146,146.0	$61,974.0	70.2%
2040	$17,930.2	$9,469.6	52.8%	$1,613.7	$210,066.1	$153,032.8	$57,033.2	72.8%
2041	$18,278.3	$9,653.5	52.8%	$1,645.0	$211,712.8	$160,261.7	$51,451.1	75.7%
2042	$18,649.9	$9,849.7	52.8%	$1,678.5	$213,074.4	$167,900.8	$45,173.6	78.8%
2043	$19,052.3	$10,062.3	52.8%	$1,714.7	$214,180.4	$176,038.3	$38,142.1	82.2%
2044	$19,489.4	$10,293.1	52.8%	$1,754.0	$215,084.8	$184,785.2	$30,299.5	85.9%
2045	$19,970.2	$10,547.0	52.8%	$1,797.3	$215,857.1	$194,271.4	$21,585.7	90.0%
2046	$20,505.4	$1,438.6	7.0%	$1,845.5	$216,579.1	$194,921.2	$21,657.9	90.0%

* Total State contributions for FY 2025 and FY 2026 include the minimum benefit reimbursement of $300,000 and $200,000, respectively.

FUNDING PROJECTIONS FOR THE STATE EMPLOYEES' RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2024 Preliminary Actuarial Valuation
Actuarially Assumed Rate of Return: 6.75%
($ in Millions)

Fiscal Year	Annual Payroll	Total State Contribution*	State Contribution as a % of Payroll	Total Employee Contribution	Accrued Liabilities	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2025	$5,765.6	$2,672.4	46.3%	$316.9	56,894.0	$27,138.0	$29,756.0	47.7%
2026	**$5,862.2**	**2,725.1**	**46.5%**	**$319.9**	**58,013.0**	**$27,779.0**	**$30,234.0**	**47.9%**
2027	$5,962.7	2,609.0	43.8%	$323.1	59,054.0	$28,994.0	$30,060.0	49.1%
2028	$6,064.6	2,673.0	44.1%	$326.4	60,012.0	$30,230.0	$29,782.0	50.4%
2029	$6,172.9	2,706.0	43.8%	$330.1	60,888.0	$31,319.0	$29,569.0	51.4%
2030	$6,285.8	2,736.0	43.5%	$334.3	61,685.0	$32,383.0	$29,302.0	52.5%
2031	$6,403.8	2,780.0	43.4%	$338.9	62,401.0	$33,441.0	$28,960.0	53.6%
2032	$6,525.4	2,832.0	43.4%	$343.5	63,035.0	$34,503.0	$28,532.0	54.7%
2033	$6,649.9	2,891.0	43.5%	$348.1	63,592.0	$35,587.0	$28,005.0	56.0%
2034	$6,780.9	3,168.0	46.7%	$353.0	64,074.0	$36,926.0	$27,148.0	57.6%
2035	$6,917.3	3,232.0	46.7%	$358.1	64,494.0	$38,333.0	$26,161.0	59.4%
2036	$7,055.7	3,296.0	46.7%	$363.0	64,838.0	$39,807.0	$25,031.0	61.4%
2037	$7,198.8	3,363.0	46.7%	$368.2	65,115.0	$41,363.0	$23,752.0	63.5%
2038	$7,348.2	3,433.0	46.7%	$373.7	65,328.0	$43,018.0	$22,310.0	65.8%
2039	$7,502.8	3,505.0	46.7%	$379.3	65,486.0	$44,792.0	$20,694.0	68.4%
2040	$7,664.0	3,581.0	46.7%	$385.3	65,597.0	$46,705.0	$18,892.0	71.2%
2041	$7,832.7	3,659.0	46.7%	$391.7	65,672.0	$48,781.0	$16,891.0	74.3%
2042	$8,008.1	3,741.0	46.7%	$398.4	65,720.0	$51,045.0	$14,675.0	77.7%
2043	$8,190.4	3,826.0	46.7%	$405.4	65,751.0	$53,522.0	$12,229.0	81.4%
2044	$8,378.9	3,915.0	46.7%	$412.5	65,772.0	$56,235.0	$9,537.0	85.5%
2045	$8,572.3	4,005.0	46.7%	$419.8	65,790.0	$59,210.0	$6,580.0	90.0%

* The State contribution amounts for FY 2025 and 2026 are based on the SERS' State contribution certification letters for each respective year. Pursuant to P.A. 93-0589, the FY 2025 and 2026 State contributions include the debt service payments, while subsequent year total State contributions do not include the 2003 debt service.

FUNDING PROJECTIONS FOR THE STATE UNIVERSITIES RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2024 Preliminary Actuarial Valuation
Actuarially Assumed Rate of Return: 6.50%
($ in Millions)

Fiscal Year	Annual Payroll*	Total State Contribution**	State Contribution as a % of Payroll	Total Employee Contribution	Accrued Liabilities	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2025	$5,812.5	$2,212.8	38.1%	$347.9	$53,638.3	$24,970.3	$28,668.0	46.6%
2026	**$5,971.1**	**$2,320.6**	**38.9%**	**$353.9**	**$54,400.9**	**$25,699.3**	**$28,701.6**	**47.2%**
2027	$6,143.2	$2,227.7	36.3%	$360.6	$55,102.4	$26,440.8	$28,661.6	48.0%
2028	$6,320.9	$2,330.5	36.9%	$367.7	$55,737.4	$27,197.9	$28,539.6	48.8%
2029	$6,501.6	$2,396.2	36.9%	$374.9	$56,304.6	$27,974.9	$28,329.7	49.7%
2030	$6,684.5	$2,457.6	36.8%	$382.2	$56,798.7	$28,769.9	$28,028.8	50.7%
2031	$6,869.9	$2,523.2	36.7%	$389.6	$57,219.2	$29,587.0	$27,632.2	51.7%
2032	$7,059.6	$2,672.5	37.9%	$397.2	$57,568.7	$30,442.6	$27,126.1	52.9%
2033	$7,255.6	$2,754.0	38.0%	$405.0	$57,851.0	$31,355.2	$26,495.8	54.2%
2034	$7,455.7	$2,841.6	38.1%	$412.9	$58,066.9	$32,337.5	$25,729.4	55.7%
2035	$7,659.2	$2,919.4	38.1%	$420.8	$58,223.2	$33,395.9	$24,827.4	57.4%
2036	$7,865.5	$2,998.3	38.1%	$428.8	$58,318.1	$34,538.5	$23,779.6	59.2%
2037	$8,074.7	$3,078.2	38.1%	$436.8	$58,355.6	$35,780.0	$22,575.5	61.3%
2038	$8,288.6	$3,160.0	38.1%	$444.9	$58,334.6	$37,131.2	$21,203.4	63.7%
2039	$8,508.6	$3,244.1	38.1%	$453.2	$58,262.8	$38,611.8	$19,651.0	66.3%
2040	$8,734.6	$3,330.4	38.1%	$461.8	$58,251.9	$40,346.1	$17,905.8	69.3%
2041	$8,967.6	$3,419.5	38.1%	$470.8	$58,221.8	$42,267.2	$15,954.7	72.6%
2042	$9,206.8	$3,510.9	38.1%	$480.1	$58,183.8	$44,399.3	$13,784.5	76.3%
2043	$9,451.9	$3,604.5	38.1%	$489.7	$58,149.9	$46,768.7	$11,381.2	80.4%
2044	$9,701.9	$3,700.0	38.1%	$499.5	$58,131.3	$49,401.6	$8,729.6	85.0%
2045	$9,955.7	$3,796.9	38.1%	$509.3	$58,137.6	$52,323.8	$5,813.8	90.0%

* Payroll projections include the Retirement Savings Plan (RSP) payroll. 45% of academic and 25% of non-academic new SURS members are assumed to enter RSP.

** Total State contributions for FY 2025 and FY 2026 include RSP contributions, whereas the remaining projected amounts exclude RSP contributions. Additionally, the FY 2025 and FY 2026 State contributions include Excess Benefit Arrangement (EBA) contributions, which are not included in the remaining projected amounts.

FUNDING PROJECTIONS FOR THE JUDGES' RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2024 Preliminary Actuarial Valuation
Actuarially Assumed Rate of Return: 6.50%
($ in Millions)

Fiscal Year	Annual Payroll	Total State Contribution	State Contribution as a % of Payroll	Total Employee Contribution	Accrued Liabilities	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2025	$155.3	$148.9	95.9%	$14.5	$3,123.0	$1,452.9	$1,670.1	46.5%
2026	**$158.4**	**$151.9**	**95.9%**	**$15.1**	**$3,137.7**	**$1,459.1**	**$1,678.6**	**46.5%**
2027	$159.2	$150.8	94.7%	$15.0	$3,143.7	$1,494.0	$1,649.8	47.5%
2028	$160.0	$152.0	95.0%	$14.8	$3,142.0	$1,525.1	$1,616.9	48.5%
2029	$161.4	$152.7	94.6%	$14.8	$3,132.0	$1,544.0	$1,588.0	49.3%
2030	$162.7	$152.9	94.0%	$15.1	$3,114.6	$1,558.5	$1,556.1	50.0%
2031	$164.2	$153.5	93.4%	$15.0	$3,089.9	$1,569.2	$1,520.7	50.8%
2032	$166.0	$154.8	93.3%	$15.5	$3,058.2	$1,577.4	$1,480.7	51.6%
2033	$167.8	$156.8	93.5%	$16.1	$3,020.7	$1,585.1	$1,435.6	52.5%
2034	$170.0	$162.1	95.4%	$16.6	$2,977.6	$1,596.2	$1,381.4	53.6%
2035	$172.4	$164.4	95.4%	$17.2	$2,930.0	$1,609.1	$1,320.9	54.9%
2036	$175.1	$167.0	95.4%	$17.7	$2,878.4	$1,624.8	$1,253.6	56.4%
2037	$178.0	$169.7	95.4%	$18.2	$2,823.5	$1,644.6	$1,178.8	58.2%
2038	$181.0	$172.7	95.4%	$18.8	$2,765.8	$1,669.7	$1,096.1	60.4%
2039	$184.3	$175.7	95.4%	$19.3	$2,706.3	$1,701.5	$1,004.8	62.9%
2040	$187.7	$179.0	95.4%	$19.9	$2,645.7	$1,741.5	$904.2	65.8%
2041	$191.4	$182.5	95.4%	$20.4	$2,585.4	$1,791.7	$793.7	69.3%
2042	$195.2	$186.2	95.4%	$20.9	$2,525.7	$1,853.2	$672.4	73.4%
2043	$199.1	$189.9	95.4%	$21.4	$2,467.5	$1,927.8	$539.7	78.1%
2044	$203.3	$193.9	95.4%	$22.0	$2,411.5	$2,017.0	$394.4	83.6%
2045	$207.5	$197.9	95.4%	$22.5	$2,358.1	$2,122.3	$235.8	90.0%

FUNDING PROJECTIONS FOR THE GENERAL ASSEMBLY RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2024 Preliminary Actuarial Valuation
Actuarially Assumed Rate of Return: 6.50%
($ in Millions)

Fiscal Year	Annual Payroll	Total State Contribution	State Contribution as a % of Payroll	Total Employee Contribution	Accrued Liabilities	Actuarial Value of Assets	Unfunded Liabilities	Funded Ratio
2025	$11.9	$26.2	220.4%	$1.4	$362.6	$94.6	$268.1	26.1%
2026	**$12.7**	**$26.5**	**208.4%**	**$1.5**	**$358.8**	**$97.2**	**$261.6**	**27.1%**
2027	$12.5	$25.6	205.5%	$1.4	$354.2	$100.9	$253.4	28.5%
2028	$12.3	$25.1	203.8%	$1.4	$349.0	$104.1	$245.0	29.8%
2029	$12.1	$24.3	201.9%	$1.4	$343.2	$106.0	$237.2	30.9%
2030	$12.0	$24.0	199.9%	$1.4	$336.8	$107.5	$229.3	31.9%
2031	$11.8	$23.3	197.6%	$1.4	$330.1	$108.7	$221.5	32.9%
2032	$11.7	$23.0	196.5%	$1.4	$323.1	$109.7	$213.4	34.0%
2033	$11.6	$22.8	196.4%	$1.3	$315.7	$110.9	$204.9	35.1%
2034	$11.7	$23.8	204.3%	$1.3	$308.0	$113.3	$194.8	36.8%
2035	$11.5	$23.6	204.3%	$1.3	$300.1	$115.9	$184.2	38.6%
2036	$11.6	$23.6	204.3%	$1.3	$292.1	$119.2	$172.9	40.8%
2037	$11.6	$23.6	204.3%	$1.3	$284.0	$123.1	$160.8	43.4%
2038	$11.6	$23.6	204.3%	$1.3	$275.8	$127.8	$147.9	46.4%
2039	$11.7	$23.9	204.3%	$1.4	$267.7	$133.8	$133.8	50.0%
2040	$11.9	$24.2	204.3%	$1.4	$259.6	$141.1	$118.5	54.4%
2041	$11.9	$24.2	204.3%	$1.4	$251.8	$149.6	$102.2	59.4%
2042	$12.0	$24.5	204.3%	$1.4	$244.2	$159.7	$84.5	65.4%
2043	$12.2	$24.8	204.3%	$1.4	$237.0	$171.6	$65.4	72.4%
2044	$12.3	$25.1	204.3%	$1.4	$230.1	$185.4	$44.7	80.6%
2045	$12.5	$25.4	204.3%	$1.4	$223.5	$201.1	$22.4	90.0%

Segal

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December 6, 2024

Via E-mail

Clayton Klenke
Executive Director
Commission on Government Forecasting and Accountability
703 Stratton Office Bldg.
Springfield, IL 62706

Re: Tail Volatility Under the Current Statutory Pension Funding Approach

Dear Clayton:

As requested, we are providing narrative and commentary regarding elements of the current statutory funding approach that contribute to increasing volatility of contribution amounts as the number of years until the 90% target funding date decreases (90% being the ratio of plan assets to plan liabilities).

Summary Comments

Current statutory rules for statewide pension funding include a built-in volatility-generating mechanism. The implementation of pension reform in 2010 that created a lower-cost benefit structure for post-2010 new hires had the side-effect of softening State contribution volatility over time.

Background

In 1994, former Illinois Governor Jim Edgar's 50-year plan to stabilize the statewide retirement systems was put in place ("1995 Funding Law"). The plan relied on artificially low fixed payment amounts for the first 15 years of the 50-year horizon. Beginning in year 16, the Systems' actuaries would calculate State-required contribution amounts to target a 90% funded level by 2045. By design, the contribution amounts would gradually increase over this 30-year period. Then for fiscal years 2046 and thereafter, the State-required contribution amounts sharply decrease to the amount necessary to maintain the 90% funded level through the next fiscal year.

A decade-and-a-half later, former Governor Pat Quinn signed Senate Bill 1946 (SB 1946) into law. SB 1946 reformed the statewide pension systems by introducing a new less-costly benefit structure ("Tier 2") for eligible covered employees hired subsequent to December 31, 2010.

The 1995 Funding Law and Quinn's Tier 2 both introduced interesting dynamics to the State's required funding that exacerbated and mitigated contribution volatility.

Implications of the 1995 Funding Law on Contribution Volatility

Since State contributions are determined based on a fixed amortization date of June 30, 2045, the period of time over which to fund the unfunded actuarial liability (to 90%, per statute) decreases by one year with each valuation date. For the actuarial valuations completed by the Systems' actuaries as of June 30, 2024, which determine the contribution requirement as of July 1, 2025 for fiscal year 2026, the period to amortize unfunded actuarial liability was 20 years. All emerging experience through June 30, 2024 that was different than expected must be funded by the State though 2045 (to 90%, per statute). For the actuarial valuations that will be conducted by the actuaries next year in 2025, new sources of actuarial gains and loss will be added to the unrecognized portion from all previous actuarial valuations and this aggregate amount must be funded over the 19-year period from July 1, 2026 through June 30, 2045.

As previously mentioned, the fixed-period amortization approach continues in subsequent actuarial valuations and the remaining period continues to decline by one year. As the June 30, 2045 target funding date approaches, the volatility of State-required contribution amounts will increase – perhaps substantially – if emerging experience is different than assumed in the actuarial valuations. Continuing the example above, an experience loss that emerges during the year ending June 30, 2025 will be amortized ("mostly", subject to the 90% statutory funding target) over 19 years. However, a similar experience loss that might emerge during the year ending June 30, 2040 will have to be recognized over a four-year period. For example, a $100 million loss would create an amortization payment of approximately $8.2 million amortized over 19 years. The same loss would generate approximately $28.1 million amortized over 4 years – a payment that is more than three times larger. This type of volatility may cause notable fluctuation in contribution requirements.

The fixed target date of the 1995 Funding Law is a "feature" of the current statutory funding approach, not a "bug". The resulting "tail volatility" is a byproduct of the overarching desire of attaining 90% funded status by the specific target date. The end goal being that by fiscal year 2046 and beyond, the cost to the State of operating the pension systems is expected to decline to a manageable level (after enduring a period of high contribution volatility).

In situations where plan sponsors wish to alleviate tail volatility (at the expense of diverging from a fixed-period funding goal), the unfunded actuarial liability amortization approach can be modified so that amortization "layers" are established with each actuarial valuation. In this manner, new sources of unfunded liability (either positive or negative) are amortized over their own fixed period with their own unique starting date. In combination with an approach that amortizes existing "legacy" unfunded liability over a desired target date, amortization layers work to mitigate contribution volatility compared to a funding schedule without amortization layers.

Tier 2's Impact on Contributions and Volatility

Under the Statutorily-directed actuarial cost method ("Projected Unit Credit"), the implementation of Tier 2 caused no immediate material decrease in unfunded actuarial accrued liability because upon inception (and for several subsequent years) there were a negligible number of Tier 2 active members relative to legacy Tier 1 active and retired members. Savings to the State (in the form of lower required contributions relative to the pre-Tier 2 cost) would

materialize gradually over time as Tier 2 members replaced terminating and retiring Tier 1 members. For example, if the State's share of Normal Cost for Tier 1 members of a particular System was 18% of payroll and the Tier 2 Normal Cost was 10% of payroll, the average State Normal Cost rate (over all members) would gradually decline from 18% to 10% over a long horizon as active demographics shifted from Tier 1 members to Tier 2 over time.

In order to realize some measure of immediate savings from the implementation of the Tier 2 structure, the State relied on a technique to reflect expected future Tier 2 members in the actuarial valuations. As directed by statute, in each actuarial valuation the System actuary projects the actuarial accrued liability out to June 30, 2045, recognizing that any Tier 1 member expected to leave the System would be replaced by a Tier 2 member. Relative to the prior "all Tier 1" structure, this projected actuarial accrued liability would be significantly lower as a majority of projected active members (and a share of retired members) would have the lower Tier 2 structure as of 2045. Building a State-required contribution on this basis – by solving for the amounts that would yield projected assets equal to 90% of actuarial accrued liability as of June 30, 2045 – was a way to "level out" the savings from Tier 2 relative to Tier 1, rather than wait for it to materialize gradually over time.

However, for reasons previously stated, this front-loaded recognition of Tier 2 savings (and resulting level cost pattern) has the potential to be disrupted by the inherent volatility caused by the shortening of the amortization window of the 1995 Funding Law as 2045 draws closer.

Additional Comments

Segal is not a law firm and we cannot offer legal advice. The comments in this letter are based on our many years of consulting to employee benefit plans and our interpretations of applicable Statutes. Any user seeking a legal opinion should consult with appropriate legal counsel.

This analysis was prepared under the supervision of Matthew Strom. Matthew Strom is a member of the American Academy of Actuaries and meets the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States of the American Academy of Actuaries to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,

Matthew Strom
Senior Vice President & Consulting Actuary