Commission on Government Forecasting and Accountability

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INSIDE THIS ISSUE

LATEST PUBLICATIONS

Illinois Public Retirement Systems: A Report on the Financial Condition of the Illinois Municipal, Chicago and cook County Pension Funds of Illinois – October 2014

SPECIAL PENSION BRIEFING

STATE RETIREMENT SYSTEMS OVERVIEW

Richard Rockwood, Pension Analyst

NOTE: On May 14, 2014 a Sangamon County Circuit Court judge granted the plaintiffs' motion for a stay of implementation of P.A. 98-0599 (SB 1), until all constitutional arguments have been adjudicated. As a result, all of the State systems' actuaries prepared their FY 2014 actuarial reports without recognizing the changes set forth in P.A. 98-0599, and hence, the FY 2016 certified State contribution amounts shown in this briefing also do not recognize the impact of SB 1.

CGFA staff has reviewed the State-funded retirement systems' FY 2014 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 recommend changes in actuarial assumptions based upon the review of the retirement systems' actuarial assumptions.

Using the actuarial (smoothed) value of assets, the total unfunded liabilities of the State systems totaled $111.2 billion on June 30, 2014, led by the Teachers' Retirement System (TRS), whose unfunded liabilities amounted to $61.6 billion. As the largest of the State systems, TRS accounts for approximately 55% of the total assets and liabilities of the five State systems combined. Table 1, on the following page, 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 2014
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	$103,740.4	$42,150.8	$61,589.6	40.6%
SERS	$39,526.8	$13,315.6	$26,211.2	33.7%
SURS	$37,429.5	$15,844.7	$21,584.8	42.3%
JRS	$2,229.3	$705.3	$1,524.0	31.6%
GARS	$323.4	$51.6	$271.8	16.0%
TOTAL	**$183,249.4**	**$72,067.9**	**$111,181.4**	**39.3%**

A much 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. Based upon the market value of assets, the total unfunded liabilities of the State systems totaled $104.6 billion on June 30, 2014. The Teachers' Retirement System (TRS), whose unfunded liabilities amounted to $57.9 billion, again represents approximately 55% 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

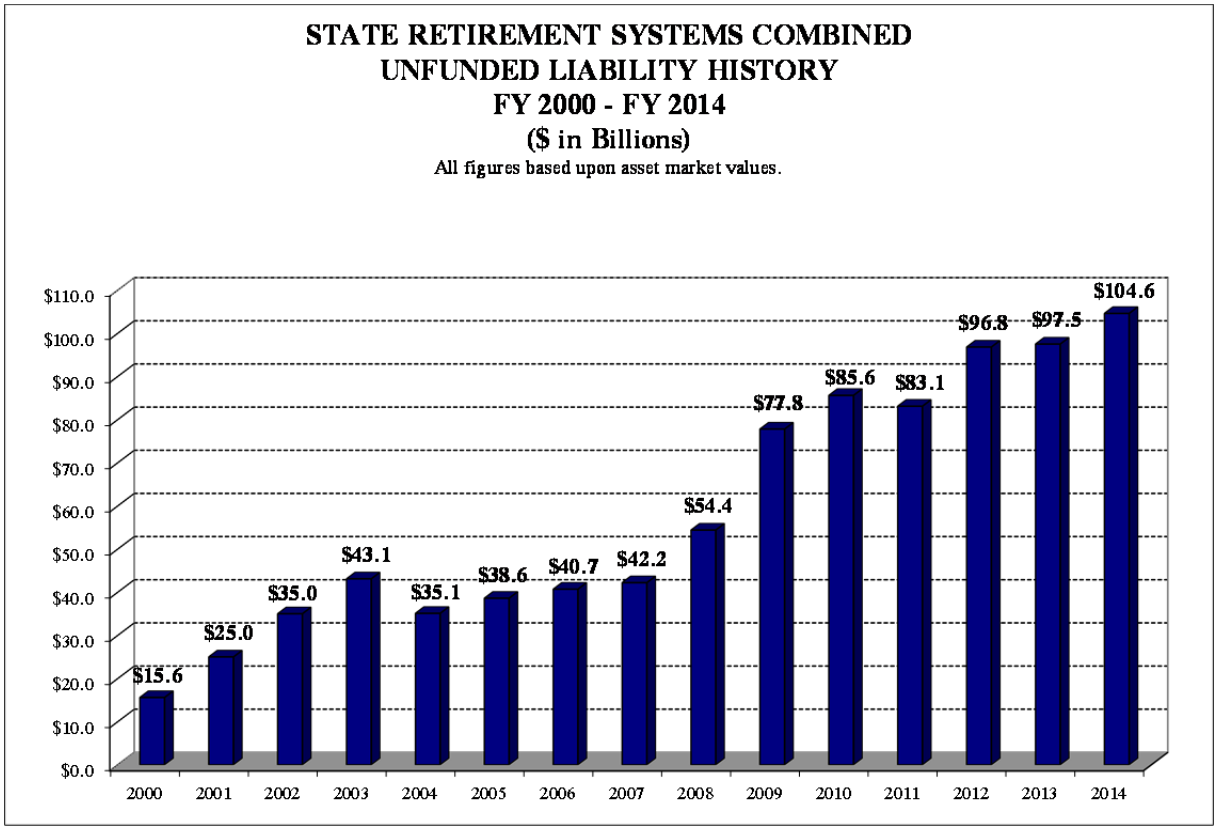
Summary of Financial Condition FY 2014
State Retirement Systems Combined
Assets at Market Value / Without Asset Smoothing
($ in Millions)

System	Accrued Liability	Market Assets	Unfunded Liability	Funded Ratio
TRS	$103,740.4	$45,824.4	$57,916.0	44.2%
SERS	$39,526.8	$14,581.6	$24,945.3	36.9%
SURS	$37,429.5	$17,391.3	$20,038.2	46.5%
JRS	$2,229.3	$776.0	$1,453.3	34.8%
GARS	$323.4	$56.8	$266.6	17.6%
TOTAL	**$183,249.4**	**$78,630.1**	**$104,619.3**	**42.9%**

The funded ratios for each of the five State retirement systems may be compared to the aggregate funded ratio of 42.9% for the five systems combined. Although the Judges' Retirement System and the General Assembly Retirement System have the poorest funded ratios, these two systems are much smaller and their unfunded liabilities are thus more manageable than the three larger systems. Chart 1 below shows a 15-year history of the cumulative unfunded State pension liability and is based upon calculations performed by the retirement system actuaries using the market value of assets for all years, including FY 2014. The historic investment losses sustained by the systems in FY 2009 were the main reason for the significant jump in unfunded liabilities over FY 2008.

Asset smoothing, which was implemented with the adoption of P.A. 96-0043, is a technique that averages the annual fluctuation in investment performance over a period of 5 years. FY 2013 was the last fiscal year that investment losses from the 2008 financial crisis were "smoothed" in the retirement systems' annual actuarial valuations. With negative returns in the double-digits no longer being recognized, the investment gains of the last five years are now subject to smoothing. This has resulted in a cumulative market value of assets that is now higher than the actuarial value of assets, and therefore the funded ratio using the market value of assets is considerably higher than the funded ratio using the actuarial (smoothed) value of assets. This was not the case just two years earlier. Due to the funding policy being based on the actuarial value of assets pursuant to P.A. 96-0043, the FY 2016 contribution to the systems will be higher than would otherwise have been required if the market value of assets were used to determine annual State pension contributions.

CHART 1



SURS, SERS, and JRS scaled back their respective investment return assumptions in FY 2010, and this change, along with actuarially insufficient contributions by the State, served to drive up

the combined FY 2010 unfunded liability to $85.6 billion. The systems experienced exceptionally strong investment returns in FY 2011, which caused the unfunded liability to drop slightly to $83.1 billion. Three factors accounted for the significant spike in unfunded liabilities in FY 2012 – investment returns that fell far short of actuarial assumptions, TRS' assumed interest rate reduction from 8.5% to 8.0%, and actuarially insufficient contributions by the State. Strong investment returns in FY 2013 accounted for the relatively small growth in unfunded liability from FY 2012 to FY 2013 despite State contributions which continued to be actuarially insufficient.

In anticipation of the June 30, 2014 actuarial valuations, the State Universities Retirement System (SURS), the State Employees' Retirement System (SERS), and the Teachers' Retirement System (TRS) all voted to reduce their assumed rates of investment return as per a recommendation by the State Actuary. On April 8, 2014, SERS voted to reduce their assumed rate of investment return (ROI) from 7.75% to 7.25% as recommended, with SURS following suit on June 13, 2014. TRS did not receive a specific rate recommendation from the State Actuary but voted to change its ROI assumption from 8.0% to 7.5% on June 24, 2014. Although investment performance far exceeded actuarial expectations in FY 2014, the rate of return assumption changes helped contribute heavily to an increase in total accrued liability, and hence, the significant increase in unfunded liability of $7.1 billion, in FY 2014. Table 3 below shows a brief history of changes in the investment rate assumption for each of the State-funded systems.

TABLE 3

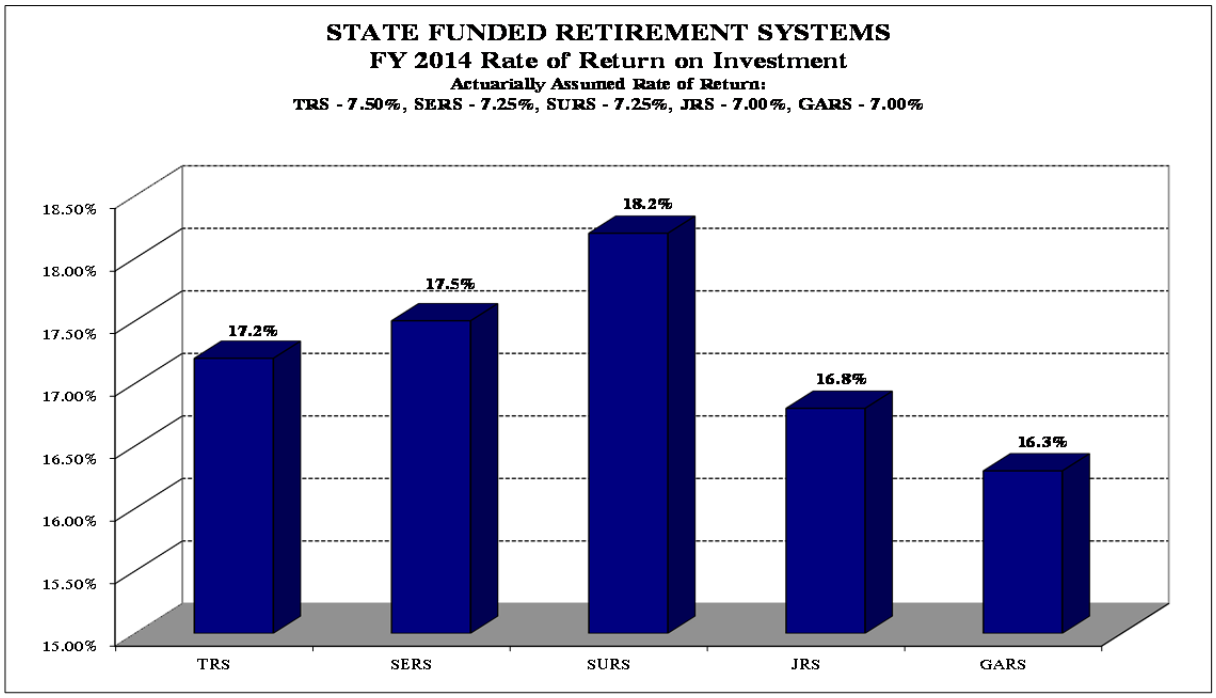
Historical Change in Investment Rate Assumptions

System	Prior to FY 10	FY 10	FY 12	FY 14
TRS	8.50%	8.50%	***8.00%***	***7.50%***
SERS	8.50%	***7.75%***	7.75%	***7.25%***
SURS	8.50%	***7.75%***	7.75%	***7.25%***
GARS	8.00%	***7.00%***	7.00%	7.00%
JRS	8.00%	***7.00%***	7.00%	7.00%

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

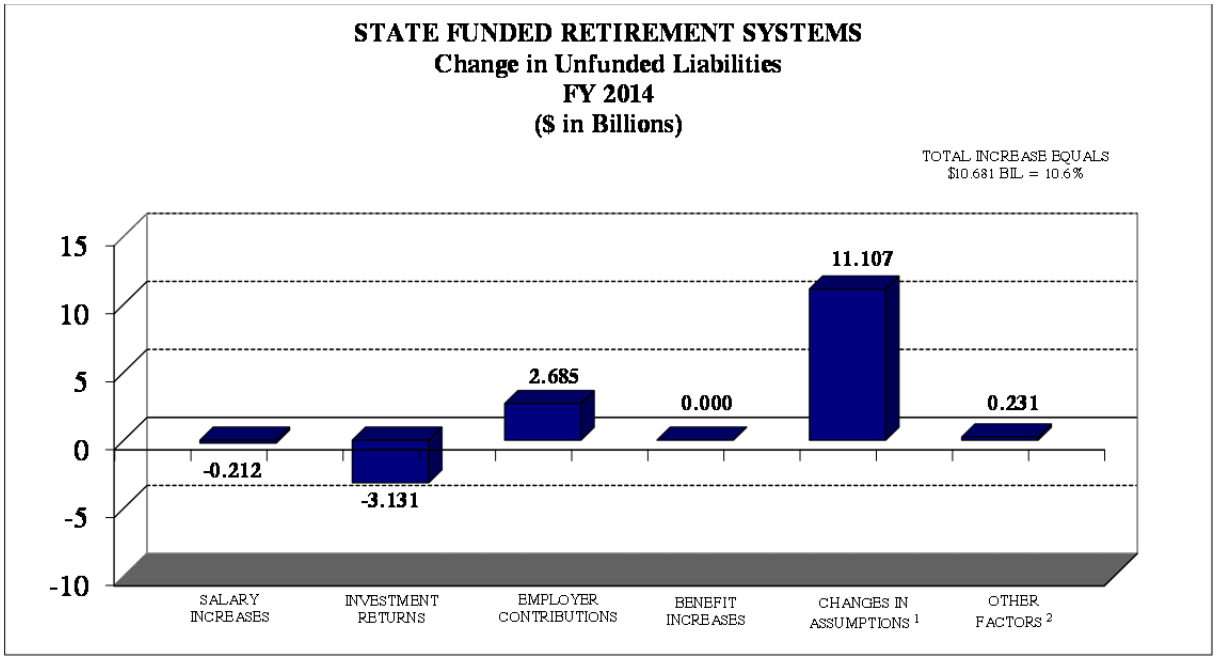
Chart 2 on the following page shows investment returns experienced by each of the systems in FY 2014. These higher than expected investment returns helped increase the funded ratio using the market value of assets.

CHART 2



Charts 3 and 4 show the factors that have caused the unfunded liability to change over a given period of time. Chart 3 outlines the growth in the unfunded liability for FY 2014 only, whereas Chart 4 shows the growth in unfunded liability since the enactment of P.A. 88-0593 in FY 1996, which created the 50-year funding policy that governs annual State contributions to the five State systems. It should be noted that the overwhelming majority of the increase in unfunded liabilities for FY 2014 can be attributed to the change in investment return assumptions.

CHART 3



[1] Reflects rate of investment return assumption changes enacted by SERS, SURS, and TRS.

[2] Other Factors include losses from retirements, terminations, and rates of mortality.

CHART 4

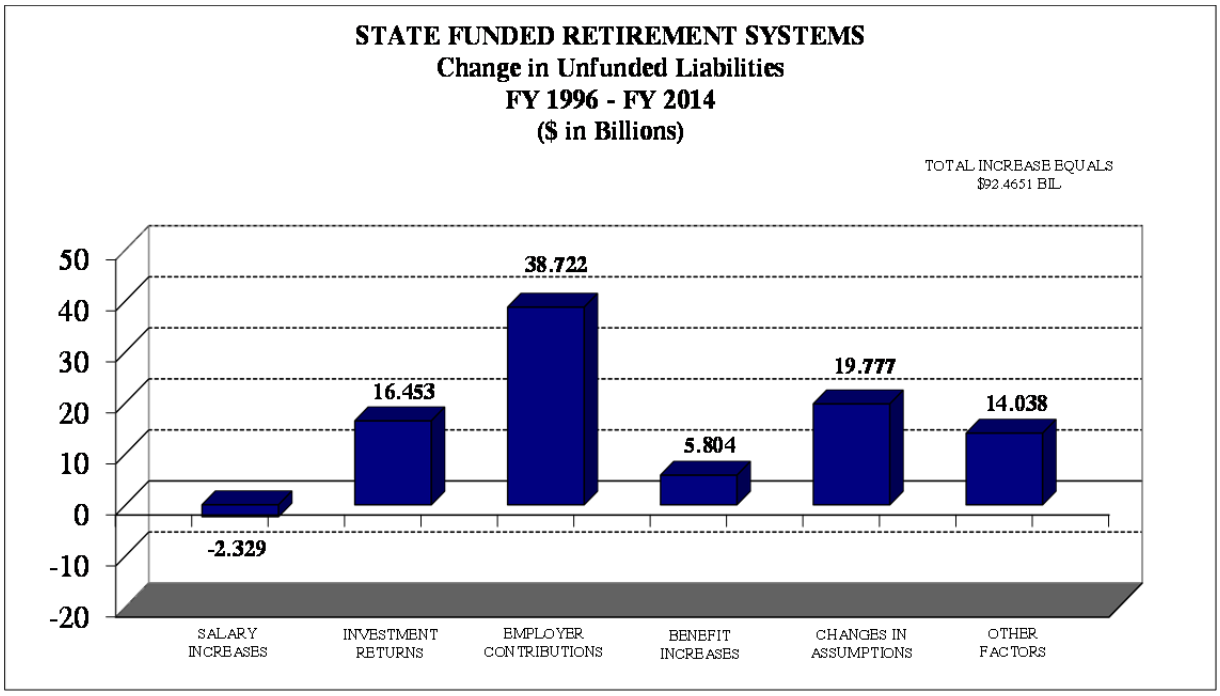
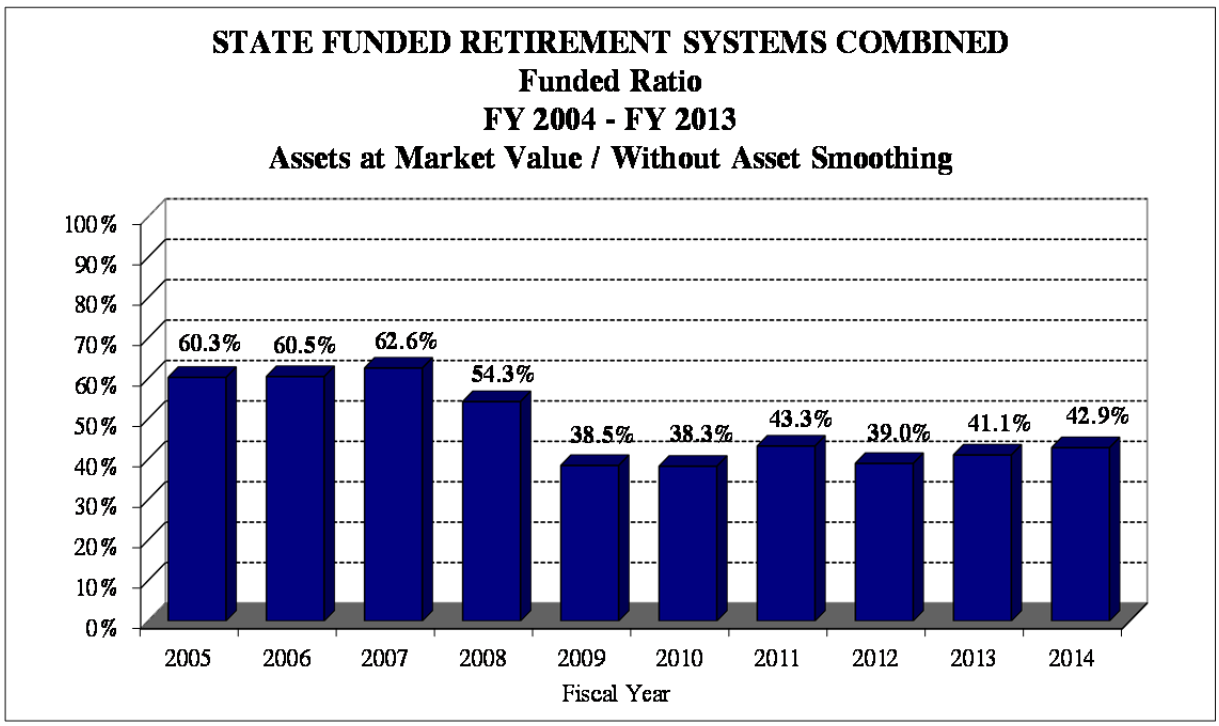


CHART 5



The funded ratio at any single point in time is less important than the trend over time. In FY 2004, the State sold $10 billion in pension obligation bonds and used part of the proceeds to pay all of the contributions for FY 2004. The bond sale generated $7.3 billion to reduce unfunded liabilities of the state-funded retirement systems. In the wake of the bond sale, the funded ratio remained relatively stable from FY 2004 through FY 2007. In FY 2008 and FY 2009, the funded ratio fell significantly due to much lower-than-expected investment

revenues and actuarially insufficient employer contributions. The funded ratio remained relatively stable in FY 2010 due in large part to higher-than-expected investment returns. FY 2011 also saw exceptionally strong investment returns, which caused the funding ratio to increase. However, these gains were largely erased by poor investment returns in FY 2012. As was previously mentioned, actuarially insufficient State contributions and TRS' change in investment return assumption from 8.5% to 8.0% played a significant role in lowering the FY 2012 cumulative funded ratio of the five State systems to 39%. Higher-than-expected investment returns were the largest driver of the slight uptick in the funding ratio from FY 2012 to FY 2013. Despite the change in investment return assumptions, favorable investment returns by the systems and lower salary increases than assumed led an increase in the funded ratio from 41.1% to 42.9% in FY 2014.

TABLE 4

FY 2015 Pension Appropriation by Fund
P.A. 98-0680 (HB 6096)
($ in Millions)

System	GRF	Other State Funds	Total*
TRS	3,412.9	$0.0	$3,412.9
SURS	1,347.2	$197.0	$1,544.2
SERS	1,136.5	$692.6	$1,829.1
GARS	15.8	$0.0	$15.8
JRS	134.0	$0.0	$134.0
Total	**$6,046.4**	**$889.6**	**$6,936.0**

FY 2016 Estimated Pension Appropriation by Fund
($ in Millions)

System	GRF	Other State Funds	Total*
TRS	3,742.7	$0.0	$3,742.7
SURS	1,404.5	$197.0	$1,601.5
SERS	1,329.2	$795.7	$2,124.9
GARS	16.1	$0.0	$16.1
JRS	132.1	$0.0	$132.1
Total	**$6,624.6**	**$992.7**	**$7,617.3**

*** The amounts shown above in the "Total" column reflect the State systems' preliminary FY 2016 certification pursuant to P.A. 97-0694, the State Actuary Law. This chart is meant to be an estimate only insofar as the FY 2016 appropriation by fund is concerned. Pursuant to the State Actuary Law, the final FY 2016 certification will be issued by the State systems on or before January 15, 2015. The SERS "Other State Funds" amount is based upon an assumption that 65% of SERS' total FY 2016 appropriation will come from GRF, while 35% will come from Other State Funds. The SURS "Other State Funds" amount assumes that SURS will receive an FY 2016 appropriation from the State Pension Fund in the same amount that was appropriated in FY 2015 pursuant to P.A. 98-0680, the FY 2015 State Pension Appropriation Act. SURS' historical appropriation from the State Pension Fund varies from year to year.**

Total FY 2016 Pension Appropriation: $7,617.3 Million
Total FY 2015 Pension Appropriation: $6,936.0 Million
Total Increase, FY 16 over FY 15: $681.3 Million

NOTE: The total FY 2016 Pension Appropriation reflects the preliminary certified amounts submitted by the State systems pursuant to P.A. 97-0694, the State Actuary Law. The estimated GRF and OSF amounts were also provided by SERS.

The following pages include pension funding projections for the five State retirement systems based on the respective retirement system's FY 2014 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 System's FY 2014 Actuarial Valuation
($ 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
2015	19,311.0	6,853.9	35.5%	1,591.4	190,214.7	78,920.8	111,293.9	41.5%
2016	**19,937.2**	**7,617.2**	**38.2%**	**1,612.3**	**197,264.8**	**84,754.3**	**112,510.5**	**43.0%**
2017	20,591.1	7,605.7	36.9%	1,667.2	204,341.4	91,515.2	112,826.2	44.8%
2018	21,267.3	7,779.8	36.6%	1,723.4	211,428.0	97,707.0	113,721.1	46.2%
2019	21,969.1	7,907.8	36.0%	1,780.9	218,503.9	102,587.1	115,916.8	46.9%
2020	22,693.1	8,065.2	35.5%	1,841.2	225,561.7	107,465.6	118,096.1	47.6%
2021	23,447.0	8,318.4	35.5%	1,905.5	232,588.8	112,437.1	120,151.7	48.3%
2022	24,227.8	8,583.7	35.4%	1,972.2	239,579.3	117,524.9	122,054.4	49.1%
2023	25,034.6	8,860.2	35.4%	2,042.9	246,516.3	122,742.0	123,774.3	49.8%
2024	25,867.6	9,129.9	35.3%	2,115.0	253,398.5	128,094.7	125,303.8	50.6%
2025	26,724.5	9,410.7	35.2%	2,189.4	260,205.8	133,598.4	126,607.4	51.3%
2026	27,606.4	9,724.1	35.2%	2,266.7	266,918.1	139,287.0	127,631.1	52.2%
2027	28,511.7	10,048.9	35.2%	2,342.4	273,511.6	145,172.6	128,339.1	53.1%
2028	29,435.8	10,363.3	35.2%	2,417.7	279,960.1	151,236.0	128,724.1	54.0%
2029	30,383.7	10,690.9	35.2%	2,498.7	286,247.6	157,511.4	128,736.2	55.0%
2030	31,343.0	11,006.5	35.1%	2,579.9	292,415.1	164,064.0	128,351.0	56.1%
2031	32,300.2	11,324.6	35.1%	2,662.6	298,388.0	170,859.8	127,528.3	57.3%
2032	33,240.2	11,661.7	35.1%	2,744.1	304,140.5	177,929.9	126,210.6	58.5%
2033	34,155.9	12,012.5	35.2%	2,817.1	309,642.3	185,288.2	124,354.0	59.8%
2034	35,050.5	12,965.1	37.0%	2,891.0	314,876.0	193,591.8	121,284.2	61.5%
2035	35,925.9	13,291.9	37.0%	2,959.5	319,809.5	202,239.9	117,569.5	63.2%
2036	36,780.2	13,611.8	37.0%	3,025.9	324,420.3	211,253.0	113,167.3	65.1%
2037	37,614.3	13,924.6	37.0%	3,092.7	328,692.8	220,669.8	108,023.0	67.1%
2038	38,431.8	14,231.7	37.0%	3,152.9	332,604.7	230,505.0	102,099.7	69.3%
2039	39,228.1	14,532.9	37.0%	3,208.7	336,145.6	240,790.2	95,355.4	71.6%
2040	40,006.0	14,827.0	37.1%	3,260.5	339,288.1	251,542.4	87,745.7	74.1%
2041	40,777.7	15,119.1	37.1%	3,308.8	342,047.6	262,817.7	79,229.9	76.8%
2042	41,549.3	15,411.6	37.1%	3,354.2	344,463.7	274,704.5	69,759.2	79.7%
2043	42,331.2	15,709.1	37.1%	3,400.2	346,592.5	287,315.8	59,276.7	82.9%
2044	43,126.4	16,010.8	37.1%	3,443.1	348,528.0	300,796.4	47,731.6	86.3%
2045	43,939.0	16,318.5	37.1%	3,497.3	350,323.3	315,292.6	35,030.6	90.0%

FUNDING PROJECTIONS FOR THE TEACHERS RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2014 Actuarial Valuation
Actuarially Assumed Rate of Return: 7.50%
($ 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
2015	10,416.2	3,411.9	32.8%	1,046.0	107,792.5	46,061.5	61,731.1	42.7%
2016	**10,599.8**	**3,742.7**	**35.3%**	**1,041.8**	**111,925.1**	**49,280.2**	**62,644.9**	**44.0%**
2017	11,011.2	3,798.4	34.5%	1,083.4	116,136.6	53,116.4	63,020.2	45.7%
2018	11,438.7	3,911.9	34.2%	1,125.5	120,422.2	56,699.4	63,722.8	47.1%
2019	11,881.2	3,999.0	33.7%	1,168.8	124,775.9	59,609.3	65,166.6	47.8%
2020	12,342.3	4,099.4	33.2%	1,214.8	129,206.2	62,597.4	66,608.8	48.4%
2021	12,824.2	4,252.2	33.2%	1,263.3	133,712.4	65,720.9	67,991.5	49.2%
2022	13,326.7	4,413.9	33.1%	1,315.1	138,297.7	69,004.7	69,293.0	49.9%
2023	13,848.8	4,584.2	33.1%	1,369.6	142,960.0	72,466.7	70,493.3	50.7%
2024	14,387.8	4,747.6	33.0%	1,425.0	147,711.6	76,121.0	71,590.5	51.5%
2025	14,941.4	4,918.8	32.9%	1,483.6	152,533.6	79,971.8	72,561.9	52.4%
2026	15,510.1	5,112.3	33.0%	1,542.7	157,412.9	84,044.4	73,368.6	53.4%
2027	16,091.8	5,311.9	33.0%	1,601.1	162,329.9	88,339.8	73,990.1	54.4%
2028	16,682.4	5,501.8	33.0%	1,658.1	167,256.0	92,833.2	74,422.8	55.5%
2029	17,281.1	5,696.8	33.0%	1,719.2	172,168.9	97,537.8	74,631.1	56.7%
2030	17,882.9	5,880.7	32.9%	1,780.1	177,049.9	102,449.2	74,600.7	57.9%
2031	18,473.1	6,063.4	32.8%	1,841.6	181,872.7	107,569.5	74,303.2	59.1%
2032	19,038.6	6,254.4	32.9%	1,901.4	186,610.9	112,904.0	73,706.9	60.5%
2033	19,571.7	6,450.4	33.0%	1,953.2	191,224.3	118,435.9	72,788.4	61.9%
2034	20,074.2	7,041.0	35.1%	2,003.7	195,682.6	124,583.3	71,099.3	63.7%
2035	20,549.9	7,207.9	35.1%	2,049.6	199,948.6	130,916.3	69,032.3	65.5%
2036	21,001.4	7,366.2	35.1%	2,092.2	203,997.5	137,433.4	66,564.1	67.4%
2037	21,430.3	7,516.7	35.1%	2,136.1	207,807.2	144,144.7	63,662.5	69.4%
2038	21,833.3	7,658.0	35.1%	2,172.2	211,340.6	151,027.4	60,313.2	71.5%
2039	22,206.9	7,789.1	35.1%	2,204.5	214,568.8	158,071.9	56,496.8	73.7%
2040	22,554.4	7,910.9	35.1%	2,231.6	217,443.9	165,250.0	52,193.9	76.0%
2041	22,882.9	8,026.2	35.1%	2,253.6	219,957.0	172,566.0	47,391.0	78.5%
2042	23,201.7	8,138.0	35.1%	2,273.3	222,116.5	180,050.3	42,066.2	81.1%
2043	23,522.2	8,250.4	35.1%	2,292.2	223,954.0	187,759.5	36,194.5	83.8%
2044	23,849.0	8,365.0	35.1%	2,308.9	225,539.9	195,784.8	29,755.1	86.8%
2045	24,188.5	8,484.1	35.1%	2,335.8	226,911.9	204,220.7	22,691.2	90.0%

* Pursuant to TRS' preliminary FY 2016 certification letter dated October 31, 2014, the FY 2016 required State Contribution includes $.9 million payable from the Guaranteed Minimum Annuity Reserve.

FUNDING PROJECTIONS FOR THE STATE EMPLOYEES RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2014 Actuarial Valuation
Actuarially Assumed Rate of Return: 7.25%
($ 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
2015	4,320.0	1,748.0	40.5%	238.0	41,227.0	14,755.0	26,472.0	35.8%
2016	**4,660.0**	**2,124.9**	**45.6%**	**256.0**	**42,919.0**	**16,203.0**	**26,716.0**	**37.8%**
2017	4,786.0	2,068.0	43.2%	262.0	44,599.0	17,798.0	26,801.0	39.9%
2018	4,911.0	2,105.0	42.9%	268.0	46,259.0	19,247.0	27,012.0	41.6%
2019	5,042.0	2,136.0	42.4%	274.0	47,893.0	20,429.0	27,464.0	42.7%
2020	5,174.0	2,171.0	42.0%	280.0	49,493.0	21,582.0	27,911.0	43.6%
2021	5,312.0	2,225.0	41.9%	287.0	51,049.0	22,719.0	28,330.0	44.5%
2022	5,453.0	2,281.0	41.8%	293.0	52,551.0	23,836.0	28,715.0	45.4%
2023	5,596.0	2,338.0	41.8%	300.0	53,990.0	24,930.0	29,060.0	46.2%
2024	5,745.0	2,394.0	41.7%	307.0	55,357.0	25,994.0	29,363.0	47.0%
2025	5,900.0	2,452.0	41.6%	313.0	56,646.0	27,031.0	29,615.0	47.7%
2026	6,061.0	2,519.0	41.6%	321.0	57,849.0	28,044.0	29,805.0	48.5%
2027	6,229.0	2,590.0	41.6%	328.0	58,960.0	29,038.0	29,922.0	49.3%
2028	6,403.0	2,659.0	41.5%	336.0	59,981.0	30,014.0	29,967.0	50.0%
2029	6,590.0	2,735.0	41.5%	345.0	60,919.0	30,988.0	29,931.0	50.9%
2030	6,782.0	2,809.0	41.4%	354.0	61,775.0	31,965.0	29,810.0	51.7%
2031	6,980.0	2,886.0	41.3%	364.0	62,553.0	32,955.0	29,598.0	52.7%
2032	7,181.0	2,971.0	41.4%	374.0	63,250.0	33,972.0	29,278.0	53.7%
2033	7,384.0	3,062.0	41.5%	383.0	63,871.0	35,033.0	28,838.0	54.8%
2034	7,591.0	3,358.0	44.2%	394.0	64,424.0	36,364.0	28,060.0	56.4%
2035	7,802.0	3,451.0	44.2%	404.0	64,910.0	37,782.0	27,128.0	58.2%
2036	8,012.0	3,544.0	44.2%	415.0	65,328.0	39,296.0	26,032.0	60.2%
2037	8,220.0	3,636.0	44.2%	425.0	65,681.0	40,921.0	24,760.0	62.3%
2038	8,431.0	3,729.0	44.2%	436.0	65,979.0	42,678.0	23,301.0	64.7%
2039	8,644.0	3,824.0	44.2%	446.0	66,233.0	44,589.0	21,644.0	67.3%
2040	8,859.0	3,919.0	44.2%	457.0	66,455.0	46,679.0	19,776.0	70.2%
2041	9,077.0	4,015.0	44.2%	469.0	66,656.0	48,973.0	17,683.0	73.5%
2042	9,297.0	4,112.0	44.2%	480.0	66,850.0	51,499.0	15,351.0	77.0%
2043	9,519.0	4,211.0	44.2%	492.0	67,048.0	54,286.0	12,762.0	81.0%
2044	9,743.0	4,310.0	44.2%	503.0	67,262.0	57,361.0	9,901.0	85.3%
2045	9,968.0	4,409.0	44.2%	515.0	67,498.0	60,750.0	6,748.0	90.0%

*Pursuant to P.A. 93-0589, FY 2016 State Contribution includes $80.1 million of 2003 POB debt service. State contribution amounts shown for FY 2017 - 2045 do not include projected debt service as future debt service amounts are not finalized until the annual SERS certification letters are issued pursuant to P.A. 97-0694 (State Actuary Law).

FUNDING PROJECTIONS FOR THE STATE UNIVERSITIES RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2014 Actuarial Valuation
Actuarially Assumed Rate of Return: 7.25%
($ 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
2015	4,394.3	1,544.2	35.1%	289.7	38,556.6	17,245.7	21,310.9	44.7%
2016	**4,499.7**	**1,601.5**	**35.6%**	**296.9**	**39,699.7**	**18,330.9**	**21,368.8**	**46.2%**
2017	4,614.4	1,592.2	34.5%	304.6	40,807.1	19,575.1	21,232.0	48.0%
2018	4,736.6	1,615.8	34.1%	312.6	41,875.9	20,662.1	21,213.8	49.3%
2019	4,863.3	1,626.3	33.4%	320.8	42,897.2	21,396.7	21,500.6	49.9%
2020	4,992.6	1,647.9	33.0%	329.0	43,864.2	22,085.7	21,778.6	50.4%
2021	5,125.2	1,693.0	33.0%	337.6	44,776.0	22,752.5	22,023.5	50.8%
2022	5,261.1	1,739.2	33.1%	346.5	45,633.1	23,400.1	22,233.0	51.3%
2023	5,401.0	1,786.8	33.1%	355.6	46,429.9	24,026.2	22,403.7	51.7%
2024	5,544.1	1,835.4	33.1%	365.0	47,162.2	24,629.8	22,532.5	52.2%
2025	5,690.2	1,885.0	33.1%	374.5	47,834.9	25,219.2	22,615.7	52.7%
2026	5,840.3	1,936.0	33.1%	384.4	48,449.1	25,799.5	22,649.6	53.3%
2027	5,993.4	1,987.9	33.2%	394.5	49,006.7	26,376.8	22,629.9	53.8%
2028	6,150.2	2,041.1	33.2%	404.8	49,507.6	26,955.6	22,552.1	54.4%
2029	6,309.3	2,095.0	33.2%	415.4	49,951.0	27,539.6	22,411.4	55.1%
2030	6,471.4	2,149.9	33.2%	426.2	50,394.8	28,192.7	22,202.2	55.9%
2031	6,636.7	2,206.0	33.2%	437.1	50,786.4	28,868.3	21,918.1	56.8%
2032	6,806.1	2,263.6	33.3%	448.1	51,128.8	29,576.6	21,552.2	57.8%
2033	6,981.4	2,323.3	33.3%	459.4	51,426.3	30,329.1	21,097.1	59.0%
2034	7,161.8	2,384.8	33.3%	471.0	51,683.1	31,137.7	20,545.4	60.2%
2035	7,345.4	2,447.5	33.3%	482.7	51,902.2	32,013.0	19,889.2	61.7%
2036	7,532.6	2,511.4	33.3%	494.5	52,086.2	32,966.6	19,119.6	63.3%
2037	7,724.0	2,576.9	33.4%	506.6	52,238.0	34,010.8	18,227.2	65.1%
2038	7,921.2	2,644.5	33.4%	518.8	52,361.5	35,160.0	17,201.5	67.1%
2039	8,124.5	2,714.2	33.4%	531.3	52,463.2	36,431.6	16,031.6	69.4%
2040	8,333.0	2,785.8	33.4%	544.1	52,550.8	37,844.2	14,706.6	72.0%
2041	8,551.1	2,860.7	33.5%	557.4	52,637.0	39,422.6	13,214.4	74.9%
2042	8,776.3	2,938.1	33.5%	571.2	52,738.0	41,194.8	11,543.3	78.1%
2043	9,008.0	3,017.7	33.5%	585.2	52,866.9	43,186.3	9,680.7	81.7%
2044	9,244.2	3,099.0	33.5%	599.4	53,034.3	45,421.5	7,612.8	85.6%
2045	9,483.8	3,181.7	33.5%	613.7	53,249.2	47,924.3	5,324.9	90.0%

* State Contribution Only - Excludes Estimated $46 Million In Federal Funds in All Years Shown

** Payroll projections include SMP payroll - 15% of new SURS members are assumed to enter SMP

FUNDING PROJECTIONS FOR THE JUDGES RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2014 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
2015	167.6	134.0	80.0%	16.3	2,311.4	806.3	1,505.1	34.9%
2016	**164.9**	**132.1**	**80.1%**	**16.1**	**2,390.3**	**888.8**	**1,501.5**	**37.2%**
2017	166.4	130.6	78.5%	15.8	2,464.9	974.5	1,490.4	39.5%
2018	167.5	130.2	77.7%	15.8	2,534.5	1,048.6	1,485.9	41.4%
2019	168.5	129.1	76.6%	15.7	2,599.2	1,104.5	1,494.7	42.5%
2020	169.5	128.8	76.0%	15.7	2,658.0	1,155.5	1,502.4	43.5%
2021	170.5	129.5	76.0%	15.8	2,709.9	1,202.2	1,507.7	44.4%
2022	171.3	130.1	75.9%	15.8	2,755.4	1,244.3	1,511.1	45.2%
2023	172.6	131.1	75.9%	15.9	2,794.3	1,282.0	1,512.3	45.9%
2024	173.9	132.1	76.0%	16.1	2,826.1	1,315.4	1,510.8	46.5%
2025	175.4	133.2	75.9%	16.3	2,850.7	1,344.3	1,506.4	47.2%
2026	177.1	134.5	75.9%	16.6	2,868.2	1,369.2	1,499.0	47.7%
2027	178.9	135.9	76.0%	16.7	2,878.3	1,389.9	1,488.4	48.3%
2028	181.0	137.5	76.0%	16.5	2,881.2	1,406.6	1,474.6	48.8%
2029	183.3	139.2	75.9%	16.8	2,877.6	1,420.3	1,457.3	49.4%
2030	186.0	141.2	75.9%	17.2	2,867.5	1,431.6	1,435.9	49.9%
2031	188.9	142.6	75.5%	17.4	2,851.7	1,440.6	1,411.1	50.5%
2032	192.2	145.0	75.4%	18.1	2,830.3	1,449.0	1,381.3	51.2%
2033	195.8	148.2	75.7%	18.8	2,804.1	1,458.6	1,345.5	52.0%
2034	199.7	151.7	76.0%	19.6	2,773.7	1,470.6	1,303.1	53.0%
2035	203.9	154.9	75.9%	20.4	2,740.1	1,485.9	1,254.2	54.2%
2036	208.5	158.4	75.9%	21.2	2,704.0	1,506.0	1,198.0	55.7%
2037	213.4	162.1	75.9%	22.0	2,665.9	1,532.0	1,133.9	57.5%
2038	218.6	166.1	76.0%	22.8	2,626.6	1,565.5	1,061.1	59.6%
2039	224.2	170.2	75.9%	23.6	2,587.1	1,608.1	979.0	62.2%
2040	230.0	174.7	76.0%	24.4	2,547.8	1,661.2	886.7	65.2%
2041	236.1	179.3	75.9%	25.3	2,509.8	1,726.6	783.2	68.8%
2042	242.6	184.2	76.0%	26.1	2,473.5	1,805.8	667.7	73.0%
2043	249.2	189.3	75.9%	27.0	2,439.8	1,900.7	539.1	77.9%
2044	256.2	194.6	76.0%	27.8	2,409.3	2,012.9	396.4	83.5%
2045	263.5	200.1	75.9%	28.7	2,382.4	2,144.1	238.4	90.0%

FUNDING PROJECTIONS FOR THE GENERAL ASSEMBLY RETIREMENT SYSTEM
Projections Based on the Retirement System's FY 2014 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
2015	12.9	15.8	122.2%	1.5	327.1	52.3	274.8	16.0%
2016	**12.7**	**16.1**	**126.6%**	**1.5**	**330.7**	**51.4**	**279.2**	**15.6%**
2017	13.1	16.5	125.6%	1.5	333.8	51.1	282.7	15.3%
2018	13.6	17.0	125.1%	1.6	336.4	49.9	286.5	14.8%
2019	14.1	17.5	124.4%	1.6	338.6	47.6	291.1	14.0%
2020	14.6	18.1	124.1%	1.7	340.3	45.0	295.3	13.2%
2021	15.1	18.7	124.0%	1.7	341.5	42.5	299.0	12.4%
2022	15.7	19.4	124.0%	1.8	342.0	39.8	302.2	11.6%
2023	16.2	20.1	124.0%	1.9	342.1	37.2	304.9	10.9%
2024	16.8	20.8	124.0%	1.9	341.6	34.6	307.0	10.1%
2025	17.4	21.6	124.0%	2.0	340.5	32.2	308.3	9.4%
2026	18.0	22.3	124.0%	2.1	338.9	29.9	308.9	8.8%
2027	18.7	23.2	124.0%	2.2	336.7	28.0	308.7	8.3%
2028	19.3	24.0	124.0%	2.2	334.2	26.6	307.6	8.0%
2029	20.0	24.8	124.0%	2.3	331.1	25.7	305.4	7.8%
2030	20.7	25.7	124.0%	2.4	327.8	25.6	302.2	7.8%
2031	21.5	26.6	124.0%	2.5	324.2	26.4	297.9	8.1%
2032	22.3	27.6	124.0%	2.6	320.5	28.4	292.2	8.8%
2033	23.1	28.6	124.0%	2.7	316.6	31.6	285.0	10.0%
2034	23.9	29.6	124.0%	2.8	312.6	36.3	276.3	11.6%
2035	24.8	30.7	124.0%	2.9	308.6	42.7	265.9	13.8%
2036	25.7	31.8	124.0%	3.0	304.6	51.0	253.6	16.7%
2037	26.6	33.0	124.0%	3.1	300.7	61.4	239.3	20.4%
2038	27.6	34.2	124.0%	3.2	297.0	74.1	222.8	25.0%
2039	28.5	35.4	124.0%	3.3	293.6	89.6	204.0	30.5%
2040	29.6	36.6	124.0%	3.4	290.5	108.0	182.6	37.2%
2041	30.6	38.0	124.0%	3.5	287.8	129.6	158.3	45.0%
2042	31.7	39.3	124.0%	3.7	285.6	154.6	131.0	54.1%
2043	32.8	40.7	124.0%	3.8	283.8	183.4	100.4	64.6%
2044	34.0	42.2	124.0%	3.9	282.5	216.3	66.2	76.6%
2045	35.2	43.6	124.0%	4.1	281.7	253.5	28.2	90.0%