Illinois Public Pension Compendium

A Five Part Series
Part One: Illinois Pension Basics

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“The General Assembly recognizes that without significant pension reform, the unfunded liability and the state's pension contribution will continue to grow and further burden the fiscal stability of both the state and its retirement system”. (pg. 2 of the 98th Illinois General Assembly Conference Committee Report on Senate Bill 1, 12/2013)

Despite the General Assembly’s admission, the State of Illinois and its retirement systems have been in decay for nearly three decades. Objectively speaking, nearly every opportunity for meaningful reform has been squandered. As a result, the retirement systems unfunded liabilities have increased markedly. To illustrate, for fiscal year end 1985, the unfunded actuarial accrued liability (UAAL) for the State’s five main pension plans, essentially the portion of the liabilities of a pension plan not covered by the plan’s existing assets, totaled roughly $6.5 billion. On its face, that figure isn’t unfathomable, particularly considering inflation over the last 29 years. Adjusting the $6.5 billion UAAL for inflation, that figure grows to $14 billion in 2013 dollars. We now can compare the State’s fiscal year end 2013 UAAL of roughly $100 billion. That equates to an increase of $86 billion, averaging an increase of approximately $2.98 billion annually. This is neither a surprise, nor the whole story.

The goal of this series is to identify the driving forces underlying the change in the State’s unfunded liabilities. A report from the Commission on Government Forecasting and Accountability attributes the changes in the UAAL to six components: salary changes, investment returns, employer contributions, benefit increases, changes in actuarial assumptions, and other factors such as changes in retirement, disability, in-service mortality, retiree mortality, and terminations. Our focus will cover investment returns, employer contributions, changes in actuarial assumptions, and other factors. In order to provide the necessary framework for such an analysis, we will review the State’s five retirement systems, the history of funding shortfalls, discuss the system’s current condition, and highlight several proposed reforms.

Part one will examine, in general terms, Illinois’ pension framework, governance, and actuarial valuation practices.

State of Illinois pension plans are funded through a combination of contributions by the state, employers of certain public workers, and employees whom qualify for state sponsored pensions. The majority of Illinois' pensions utilize a defined benefit (DB) plan. Under DB plans, employees contribute a fixed percentage of their salary towards a specific benefit at retirement. That specific benefit is derived from a formula which takes into consideration such variables as the employee's earnings, tenure, and age. The employee's pension contribution is collectively bargained for during periodic labor negotiations. Their respective employers and the State then contribute the remainder necessary, when combined with projected investment returns on the plan's assets, to fund benefits and expenses of the plan. The pension plans respective investment boards direct investing strategies.

The State of Illinois funds five retirement systems for public employees and retirees: the State Employees Retirement System (SERS), the Judges' Retirement System (JRS), the General Assembly Retirement System (GRS), the State Universities Retirement System (SURS), and the Teachers' Retirement System (TRS). The Teachers' Retirement System includes all public school teachers in the state except those employed by the Chicago Board of Education.

Each year the State of Illinois conducts an actuarially valuation on each of its pension plans in order to determine how much it must contribute to satisfy all current and prospective benefit liabilities.

Actuarially accrued liabilities (AAL) are expressed as the present value of future benefits allocated to past service. The present value of future benefits allocated to current service is referred to as the Normal Cost.

Unfunded liabilities are those liabilities, both past and current, not covered by existing plan assets. The unfunded liability is calculated by subtracting the actuarial value of assets (AVA) from the accrued actuarial liability (AAL) of a fund. Where AAL exceeds AVA the remaining liability is generally referred to as the Unfunded Actuarially Accrued Liability or UAAL. The funded ratio, expressed as AVA divided by AAL, measures the degree to which plan assets are sufficient to cover future benefits. The funded ratio and the UAAL are indicators of a pension system's financial health.

The employer's required contribution necessary to fund benefits over time is called the Actuarially Required Contribution or ARC. Recently the term Actuarially Determined Contribution or ADC has been used interchangeably with ARC. The ARC is equal to the sum of the employer's Normal Cost and the amount needed to amortize the UAAL over a period of no more than 30 years as promulgated by the Government Accounting Standards Board (GASB) statement 25.

There are several notable differences between the State of Illinois' method of funding its pensions and the recommended approaches established by GASB.

First the State of Illinois' method of amortizing the UAAL does not conform to the provisions of GASB 25 and while the ARC might suggest that it is the mandatory amount to contribute; there are no funding requirement directives from the federal level.

For example, under the State of Illinois Pension Code, the State is required to make the Required Annual Statutory Contribution in each fiscal year. This differs from the ARC. The Required Annual Statutory Contribution is computed in accordance with the Pension Code and, more specifically, the Statutory Funding Plan. It is the Statutory Funding Plan that does not conform to the GASB pension standard, and as a result the Required Annual Statutory Contribution certified to the State by the actuary differs from the ARC.

The Statutory Funding Plan was enacted during 1995 and called for the amortizing the UAAL over a 50-year closed period beginning in Fiscal Year 1996, with the aim of reaching a funded ratio of 90% by Fiscal Year 2045. GASB 25 stipulates that amortization of the entire UAAL can only be over a 30-year open or closed amortization period. Further, the Statutory Funding Plan allowed the State to contribute less than the level percent of payroll necessary to reach the desired funding level for the first 15 years of the plan (the "ramp-up" period discussed in subsequent series). In contrast, GASB 25 does not permit a ramp-up to full contributions.

The consequence of not fully contributing the ARC is that interest accrues on the unpaid portion at the plan's expected longer term rate of return.

Another major factor distorting pension funding levels is the actuarial technique known as asset smoothing. Asset smoothing is defined as spreading gains or losses on assets over a certain period of time in order to avoid significant fluctuations in valuation. Asset smoothing typically limits its variation from the market value of assets (MVA) by no more that 20% in either direction. The figure generated through this process, AVA is then used by the State Actuary in calculating the UAAL and the ARC for employers.

The State of Illinois recognizes in the current year 20% of the investment gain or loss incurred in each of the previous 5 years. This strategy was implemented in 2009 as a means to counter balance the value of assets in the wake of the 2008 financial crisis. The strategy succeeded in downplaying a 24.9% decline of assets in terms of market value by claiming only a 1.1% drop in AVA.

The most recent reports of the Illinois' Pension Financial Condition (2013) indicate that both the MVA and AVA are currently within 4% of each other. In the past, however, the difference between the two has been greater than 22%. When cases such as this arise, the AVA used to calculate the unfunded liabilities results in a number substantially different than the actual.

As we've presented, actuarial valuation methods and pension

policies can have a considerable influence over plan funding. The next part in our series will detail the State's pension polices and funding practices dating back to Fiscal Year 1985.

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References

State of Illinois General Obligation Bonds, Series 2014, May 2014 Official Statement

Commission on Government Forecasting and Accountability, Analysis of Change in State Pension Unfunded Liability 1985-2012

Commission on Government Forecasting and Accountability Report on the Financial Condition of the Illinois Retirement Systems, March 2014, Financial Condition as of June 30, 2013

Civic Federation, Pension Fund Actuarially Required Contributions (ARC), A Civic Federation Issue Brief, February 14, 2007

Government Finance Officers Association Best Practice, The Role of the Actuarial Valuation Report in Plan Funding, February 2013

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Illinois Public Pension Compendium

A Five Part Series

Part Two: Diminished or Impaired

A Historical Perspective of Illinois Pension Legislation and Funding

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“Membership in any pension or retirement system of the State, any unit of local government or school district, or any agency or instrumentality thereof, shall be an enforceable contractual relationship, the benefits of which shall not be diminished or impaired”. (Section Five: Pension & Retirement Rights – Constitution of the State of Illinois adopted at special election on December 15, 1970)

The above phrase is commonly referred to as the “Pension Protection Clause”. It was part of the 1970 Illinois Constitution, ratified on this day 44-years ago, December 15th, 1970. It became effective July 1st the following year.

Prior to the 1970 Constitution enactment, participation in an Illinois public employee pension plan was either mandatory or optional.

If participation was mandatory, any amendment could retroactively affect pension rights, assuming the participant had not yet retired, or passed away. *See Keegan v. Board of Trustees (1952), Jenner & Block Pension Law Handbook.*

If participation in a pension plan was optional, then the pension was an enforceable contract. *See Bardens v. Board of Trustees of the Judges Retirement System* (JRS) *(1961), See Keegan v. Board of Trustees (1952), Jenner & Block Pension Law Handbook.*

In the Bardens case, the Illinois Supreme Court found that since participation in the JRS pension plan was optional, participants in the plan had a contractual right to a pension calculated under the statue that existed under the original employment agreement.

The Illinois Supreme Court’s decision to define pension benefits within the constructs of enforceable contracts strengthens the relationship to the application of contract law, which generally stipulates that upon vesting, benefits are essentially unalterable.

This is an important distinction, particularly for those public employees participating in mandatory pension plans. A distinction magnified by the poor funding conditions of the pension plans leading up to the 1970 Constitutional Convention.

As a reference point, in a report from the Illinois Public Employees’ Pension Laws Commission of 1969, the total unfunded accrued liabilities for public employee pension plans in Illinois was roughly $2.5 billion with a ratio of net

assets to total accrued liabilities of 45%. A funded ratio not too unfamiliar to public employees participating in Illinois' pension plans today. (See Chart in Appendix A)

Given the funding circumstances in 1968, it's evident why public employees participating in mandatory pension plans were wary of losing their pension benefits. The pension system was inadequately funded and their entitlements could be changed under existing legislation.

Public employees lobbied lawmakers to eliminate the distinction between mandatory and optional participation. The legislature obliged reinforcing the Pension Protection Clause by adding the requirement that the benefit of the employment relationship not be "diminished or impaired".

Since the Pension Protection Clause was adopted, several court rulings have upheld that reductions in pension benefits are unconstitutional. Most recently, and in response to a December 2013 law aimed at "fixing" Illinois' pension system, Sangamon County Circuit Court Judge John Belz ruled the law "unconstitutional and void in its entirety".

"The state of Illinois made a constitutionally protected promise to its employees concerning their pension benefits," Belz wrote in his decision. "Under established and uncontroverted Illinois law, the state of Illinois cannot break this promise." *See Pension Litigation Order filed 11/21/2014 Sangamon County Circuit Clerk.*

The Illinois Attorney General has appealed the decision and the case is pending in front of the Illinois Supreme Court.

The Pension Protection Clause is highlighted because efforts to reform the pension system will be constrained by its interpretation. The reality is, the Illinois pension system has faced persistent challenges for nearly a century.

To illustrate, an examination of historical records uncovered a statement from then Governor Frank O. Lowden. In his message to the 51st General Assembly on January 8th, 1919, regarding the findings and recommendations of the Illinois Pension Laws Commission (IPLC):

> "This commission has made a very exhaustive study of the subject. I will submit its full report to you later. ***Among other things however, that commission had found that nearly all, if not all, of the several pension funds created by the different municipalities of the State as well as by the State itself, are hopelessly insolvent.*** These funds were established with wholly inadequate provisions for their future. The contributions made by the employees and by the municipalities or State were altogether insufficient to meet the obligations which the municipalities and state have incurred, morally at least."

In the report that follows Governor Lowden's statement, there is an analysis regarding the State's pension laws. The analysis reasoned that pension benefits were simply gratuities. Additionally, the analysis revealed pension funds were not held in trusts and therefore could conceivably be redirected for other purposes. Concerns over the State and municipalities potentially misappropriating pension funds led lawmakers to include an amendment to the 1922 Constitutional Convention that would limit such actions. Ultimately, the amendment was not adopted, but the legal analysis suggests exploration of the underlying themes of underfunding and enforceable contracts.

On the subject of pension underfunding, the IPLC report from 1916, found that the pension provisions for the City of Chicago's police, firefighters, and teachers fund's current employees and their beneficiaries were deficient by an estimated $48 million (About $1.0 billion in today's dollars). The State's Municipal Employees Pension Fund was deficient by roughly $7 million and the State's Teachers Pension Fund was deficient by an estimated 7% to 12% of annual salary payments of $11 million.

Three decades later we find the State's pension situation in familiar form.

In 1945 the General Assembly created a successor to the IPLC, the Illinois Public Employees' Pension Laws Commission (IPEPLC). It had a similar directive as the IPLC and issued biennial reports on the status of the State's pension systems from 1947 to 1969. In the IPEPLC's first report, it described the concerns surrounding the viability of the State's pension system as follows:

"This commission is deeply concerned in respect to the character of many existing pension laws in this date and the status of the funds operating thereunder. That concern related principally to the following conditions:

> *(1)Tremendous, ever increasing and disproportionate liabilities being imposed upon present and future generations of taxpayers by reason of the absence of a consistent or guiding pension policy, (2) The steady weakening of existing public employee pension funds occasioned by frequent liberalizing amendments unsupported by necessary revenues, (3)The tendency of some pension fund representative's spokesmen for employee organizations and employees to view the pension problem in terms of short sighted self-interest and their disinclination to adopt a reasonable and realistic approach to the overall pension problem, (4)The failure of public authorities to give to the pension problem a measure of official interest commensurate with its importance in terms of governmental fiscal liabilities, (5)The lack of awareness of the serious implications of the pension problem on the part of civic groups interested in public administration, (6)The continued existence of a large number of small membership funds which are difficult of administration and control and (7)The absence of pension coverage for a great many public employees"*

Statements that if otherwise unattributed could have been articulated by politicians today.

The initial IPEPLC report found that the State's combined public employee pension systems had a total accrued liability of $513 million against net present assets of $153 million, leaving $359 million in liabilities unfunded. The pension systems had a funded ratio of just 29.9%. Not to be overlooked, the prevailing economic conditions from the prior decade (The Great Depression (1929-1940), World War II (1939-1945)) could have had a material impact on this figure.

The IPEPLC reports from 1947 to 1969 are valuable because they suggest tangible, albeit incremental, efforts to improve the pension systems funding.

For example, in the chart in Appendix A, eight of the 12 periods showed net present asset growth, out pacing liability growth. The funded ratio improved from 29.9% to 45.3% from 1946 to 1968. All things considered a positive move toward pension fund stability.

This brings us back to where we began our piece, the 1970 Illinois Constitution.

After the Pension Protection Clause's adoption, the IPEPLC continued to address the status of the pension systems until it was ended in 1984 and its functions transferred to the Illinois Economic and Fiscal Commission (IEFC).

During the 1970s and the 1980s, the IEFC continued to encourage aligning pension obligations with actuarial principles. The IEFC recommended paying the "normal cost plus interest" on unfunded liabilities. This pension contribution funding approach covers the current cost of benefits accrued by employees each year as well as the cost associated with the interest due on unfunded liabilities. This approach may not provide a permanent funding solution as it does not address the principal unfunded liability. However, it does ensure that the principal balance of the unfunded liability remain a fixed amount which could, over time, decrease as a percentage relative to payroll or total liabilities.

In 1979, the Governor's office commissioned a report that concluded Illinois' pension obligations had "reached crisis proportions" because funding benefit payouts had "increased dramatically in recent years." *See Illinois*

Public Employee Relations Report, Volume 31 Issue 3 According to reports from the Bureau of Budget and the State Comptroller referenced in the Illinois Issues magazine, spending on the State's five pension systems rose from $246 million in FY1975 to $366 million in FY1979. Unfunded liabilities grew from approximately $3.0 billion to $4.2 billion over the same time period. The Governor's Office report also noted that "Moody's and Standard & Poor's have expressed concern regarding the continuing increase of unfunded pension liabilities in Illinois," and that Illinois would jeopardize its "AAA bond rating" if "the unfunded liability is not stabilized".

From FY1973 to FY1981, the State's pension contribution policy was to appropriate the amount paid out to retirees annually. This was referred to as the "payout" policy or the "100% payout policy" because the goal was to equate the State's contribution to the amount needed to fund pensions annually. This policy also allowed the State to reinvest employee contributions in order to generate additional investment income and offset increases in the UAAL. Higher than expected investment returns helped increase the funding ratio of these systems from roughly 41% at the time of 1970 Constitutional Convention to 48% in 1979 according to historical Bureau of Budget and State Comptroller reports from Illinois Issues magazine.

Subsequently and in order to provide the State with improved budgetary flexibility, the Governor proposed adjusting the "100% payout" policy in 1981. In its place, the State would contribute 70% in 1982 and 60% in 1983. By 1988, the contribution had been reduced to 44% of the estimated payout to retirees.

Moreover, while modifying the "payout" policy in 1982, the legislature approved a bill expanding the investable universe of securities for pension funds. As a result, the legislation shifted a majority of the pension funding burden to investment returns. According to Bureau of Budget reports, investment returns as a component of income for the State's five main pension systems increased from $392 million in 1981 to $1.5 billion in 1986. The State contribution component declined 33% in 1982, and 1% again in 1983 before gradually increasing to $431 million in FY1986. The aggregate funded ratio improved from 50.2% to 57.3% over that time.
Despite the modest improvement, the IEFC continued to recommend at minimum the "normal cost plus interest" funding approach because ultimately the "payout" policy failed to address the principal and interest components of the unfunded liability.

In between fiscal years 1989 and 1995, the State's contribution to the JURS, SERS, and GARS pensions where short by $1.0 billion. In testimony before Congress in 1991, Comptroller Dawn Clark Netsch stated that Illinois' pension problem was "underfunding" and that "underappropriated pension contributions are like unpaid credit card bills" that eventually, must be paid. To highlight this point, Netsch noted how the legislature diverted $21 million from moneys otherwise automatically transferred into the State's pension system to the State's General Revenue Fund for expenditure on other State programs.

In June 1994, the General Assembly and the Governor reached an agreement on a new pension funding plan modeled after the Governor's 1994 proposal. The 1995 funding plan was later signed into law as Public Act 88-0593. The legislation created a 50-year plan to achieve 90% funding of the State's five pension systems by fiscal year 2045. The legislation included a 15-year ramp-up period of increasing pension contributions so the State could acclimate to the increased financial commitment. The State's contribution would incrementally increase between FY1995 and FY2010. At the end of that period in FY2010, the State's contributions would remain at a level percentage of payrolls for thirty-five years until reaching 90% funding in fiscal year 2045.

Conceptually, the purpose of the law was to gradually increase contributions over time, while creating a timeframe to address the "normal cost plus interest". When the plan began in 1995, the State's pension systems were underfunded with almost $20 billion in unfunded liabilities and a funding ratio of 53%.

The pension system improved considerably between FY1997 and FY2000, due in large to excess investment returns stemming from the dot com era.

The improvement however would be short-lived. Between FY1995 and FY2003 the State increased pension benefits by approximately $5.8 billion. Nearly half of which was the result of an early retirement incentive (ERI) offered to public employees in 2003.

In 2002 the State Comptroller estimated 7,300 employees would opt-in to the 2003 ERI generating a savings of $115 million in payroll related costs in that current fiscal year. The Comptroller's Office estimated the ERI would generate $2.85 billion in payroll related savings over the next nine years. A portion of the payroll savings would then go to defray over a ten year period the $622 million in additional unfunded liabilities created by the ERI.

Instead, approximately 11,000 employees ended up taking advantage of the ERI. This resulted in an increase in the unfunded liability of $2.37 billion according to the Commission on Government Forecasting and Accountability report on the Costs and Savings of the State Employee's ERI Program.

Further pressuring matters, the investment returns that had previously provided excess revenues withered as the equity market collapsed from the dot com bust. The State's aggregate funded ratio declined to 48.8% in FY2003.

Unable to balance the budget and amortize the considerable increase in unfunded liabilities from the ERI, the State folded the ERI liability into the 50-year ramp-up plan.

In June 2003, the State authorized the issuance of $10 billion of general obligation pension bonds for the purpose of reimbursing the State's General Revenue Fund for $300 million of the Required Annual Statutory Contribution made for FY2003, funding $1.86 billion for the FY2004 Statutory Contribution, and contributing $7.3 billion to fund a portion of the UAAL in FY2004. The aggregate funded ratio for the State's pension plans improves to 60.9% at the end of FY2004.

We will discuss the relationship between the interest rate on the State's pension bonds and the assumed and actual returns of the pension plan's investments impacts the UAAL in part three of our series.

The State passed several pension reform bills in 2006. Most notably, the legislature enacted a two-year pension payment "holiday". Under the provisions of the 50-year ramp-up plan, the State would have been required to contribute $2.12 billion in FY2006 and $2.51 billion in FY2007. The pension "holiday" reduced these contributions to $938 million and $1.37 billion, respectively, which represented reductions of 55.7% and 45.3%, respectively. This resulted in an increase in the UAAL as well as delaying payment on the already deferred portion of the State's contributions.

The State made the full Required Annual Statutory Contributions for FY2008 and FY2009, but the economic downturn had a sizeable impact on investment return and asset balances. The State's funded ratio declined to 38.3% by the end of FY2010.

On January 7, 2010, the State issued $3.47 billion of general obligation pension funding bonds to fund a portion of the FY2010 Required Annual Statutory Contribution. The following year, the State issued $3.7 billion in general obligation pension funding bonds to fund a portion of the Required Annual Statutory Contribution for FY2011.

The State made its Statutorily Required Contribution in FY2012 and FY2013. As of the end of FY2013, the State of Illinois Pension Systems had an aggregate UAAL of approximately $100.5 billion on an actuarial basis resulting in a funded ratio of 39.3%.

Since FY1996, the unfunded portion of the State's pension obligation has grown by $79.6 billion. The State's failure to make the full actuarially required contribution in many prior years accounts for a substantial portion of that increase. However, other factors play an

integral role in changes to the UAAL. We will explore those factors in part three of our series.

Appendix A

State of Illinois Pension System Funding IPEPLC Reports 1946 to 1969

Year	Net Present Assets	Total Accrued Liabilities	Unfunded Accrued Liabilities	Ratio Assets to Liabilities
1946	$153,520,000	$513,008,300	$359,488,300	29.9%
1948	$188,536,043	$610,630,491	$422,094,448	30.9%
1950	$249,635,895	$730,950,204	$481,314,309	34.2%
1952	$323,347,366	$965,211,571	$641,864,205	33.5%
1954	$418,515,689	$1,182,462,114	$763,946,425	35.4%
1956	$544,694,236	$1,558,088,292	$1,013,394,056	35.0%
1958	$675,856,008	$1,860,862,108	$1,185,006,100	36.3%
1960	$863,642,807	$2,224,171,213	$1,360,528,406	38.8%
1962	$1,095,112,990	$2,610,000,312	$1,514,887,322	42.0%
1964	$1,354,672,141	$3,070,066,047	$1,715,393,906	44.1%
1966	$1,646,110,392	$3,594,718,075	$1,948,607,683	45.8%
1968	$2,024,157,656	$4,472,164,005	$2,448,006,349	45.3%

Source: Illinois Public Employee Pension Laws Commission Report 1969, page 34, table 5

Illinois Combined Pension Systems 1975 to 1986

	($ in millions)				Income Source ($ in millions)		
FY	Asset Balances	Liabilities	Unfunded Obligations	Assets Liabilities	Member Contributions	State Contributions	Investment Income
1975	$2,318	$5,391	-$3,073	43.0%			
1976	$2,651	$5,999	-$3,348	44.2%			
1977	$3,011	$6,675	-$3,664	45.1%			
1978	$3,430	$7,238	-$3,808	47.4%			
1979	$3,892	$8,087	-$4,195	48.1%			
1980	$4,494	$8,969	-$4,475	50.1%			
1981	$5,190	$10,330	-$5,140	50.2%	$310.2	$406.3	$392.7
1982	$5,749	$11,686	-$5,937	49.2%	$330.1	$271.8	$417.7
1983	$6,334	$12,882	-$6,548	49.2%	$345.4	$268.7	$464.9
1984	$6,956	$14,283	-$7,327	48.7%	$358.8	$343.9	$468.1
1985	$7,856	$15,143	-$7,287	51.9%	$387.5	$389.9	$720.7
1986	$9,551	$16,713	-$7,162	57.1%	$422.6	$431.8	$1,506.1
1987						$452.0	
1988						$393.0	
1989						$417.0	
1990						$478.0	
1991						$476.0	
1992						$445.0	

Souce Bureau of Budget, State Comptroller Office, Illinois Economic and Fiscal Commission, Illinois Issues Magazine

State of Illinois Retirement Systems (Combined TRS, SERS, SURS, JRS, GARS)
Retirement System Funding Table
($ Millions)

FY	Actuarial Valued Assets	Actuarial Valued Liabilities	Unfunded Liabilities	Funded Ratio	Amounts Contributed	Required Contribution	ARC Percentage	"+/-"
1985	$7,856	$14,930	-$7,074	52.6%				
1986	$9,551	$16,417	-$6,866	58.2%				
1987	$10,956	$17,914	-$6,958	61.2%				
1988	$11,940	$19,604	-$7,664	60.9%				
1989	$13,030	$21,264	-$8,234	61.3%				
1990	$14,375	$24,883	-$10,508	57.8%				
1991	$15,467	$27,208	-$11,741	56.8%				
1992	$17,217	$30,132	-$12,915	57.1%				
1993	$18,805	$32,929	-$14,124	57.1%				
1994	$20,409	$37,424	-$17,015	54.5%				
1995	$21,494	$40,991	-$19,497	52.4%				
1996	$23,584	$44,392	-$20,808	53.1%				
1997	$32,188	$45,900	-$13,712	70.1%				
1998	$37,241	$51,563	-$14,322	72.2%				
1999	$41,442	$56,787	-$15,345	73.0%				
2000	$45,949	$61,518	-$15,569	74.7%				
2001	$42,789	$67,768	-$24,979	63.1%				
2002	$40,252	$75,198	-$34,946	53.5%				
2003	$40,925	$83,905	-$42,980	48.8%	$1,685	$2,535	66.5%	-$850
2004	$54,769	$89,912	-$35,143	60.9%	$9,176	$2,656	345.5%	**$6,520**
2005	$58,577	$97,179	-$38,602	60.3%	$1,735	$3,084	56.3%	-$1,349
2006	$62,341	$103,073	-$40,732	60.5%	$1,022	$3,085	33.1%	-$2,063
2007	$70,731	$112,908	-$42,177	62.6%	$1,479	$3,665	40.4%	-$2,186
2008	$64,700	$119,084	-$54,384	54.3%	$2,145	$3,729	57.5%	-$1,584
2009	$48,542	$126,435	-$77,893	38.4%	$2,891	$4,076	70.9%	-$1,185
2010	$53,225	$138,794	-$85,569	38.3%	$4,130	$4,786	86.3%	-$656
2011	$63,382	$146,460	-$83,078	43.3%	$4,298	$5,906	72.8%	-$1,608
2012	$61,813	$158,611	-$96,798	39.0%	$5,012	$6,609	75.8%	-$1,597
2013	$64,957	$165,458	-$100,501	39.3%	5893	7015	84.0%	-$1,122
2014***	$71,011	$172,236	-$101,225	41.2%				
2015***	$76,606	$179,154	-$102,548	42.8%				
2016***	$80,641	$186,150	-$105,509	43.3%				

Source: Commisson on Government Forecasting and Accountability, State of Illinois CAFRs 1990 to 2013, State of Illinois Official Statements

***Projected

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References

State of Illinois General Obligation Bonds, Series 2014, May 2014 Official Statement

Illinois State Retirement Systems Financial Condition as of June 30, 2013

State of Illinois Pension Data Comprehensive Annual Financial Reports (CAFRs) – FY1985 to FY2013

State of Illinois, Commission on Government Forecasting and Accountability, Analysis of Change in State Pension Unfunded Liability 1985-2012

State of Illinois, Commission on Government Forecasting and Accountability Report on the Financial Condition of the Illinois Retirement Systems, March 2014, Financial Condition as of June 30, 2013

State of Illinois, Commission on Government Forecasting and Accountability, The Handbook of Illinois Pension Case Law. January 2008.) [Available at http://www.ilga.gov/commission/cgfa2006/upload/2008%20january%20handbook%20of%20illinois%20pension%20case%20law.pdf

REPORT OF THE ILLINOIS PENSION LAWS COMMISSION OF 1916, at 272 (1917) available at: https://archive.org/download/illinoispension00illirich /illinoispension00illirich_bw.pdf.

REPORT OF THE ILLINOIS PENSION LAWS COMMISSION, 1918-1919, at 5-15 (1919) available at: https://archive.org/download/reportofillinois00illino/reportofillinois00illino_bw.pdf

ROSE KEEGAN, Appellee, v. THE BOARD OF TRUSTEES OF THE ILLINOIS MUNICIPAL RETIREMENT FUND, Appellant. Supreme Court of Illinois. 22 May 1952. 412 Ill. 430 (1952) 107 N.E.2d 702. Justia US Law. N.p., n.d. Web.

WILLIAM M. BARDENS, Appellant, v. BOARD OF TRUSTEES OF THE JUDGES RETIREMENT SYSTEM OF ILLINOIS, Appellee. Supreme Court of Illinois. 29 Mar. 1961. 22 Ill. 2d 56 (1961) 174 N.E.2d 168. Justia US Law. N.p., n.d. Web.

The state of the State, Public Pension Funds: Asset or liability? Illinois Issues Magazine, January 1976, http://www.lib.niu.edu/1976/ii760124.html

Illinois pension funds: A fictional crisis? By A. James Heins and William R. Bryan, Illinois Issues Magazine, July 1979, http://www.lib.niu.edu/1979/ii790719.html

Pension action: No cuts, few increases, By John E. Williams, Illinois Issues Magazine, July 1979, http://www.lib.niu.edu/1979/ii790719.html

Illinois Pension Funds Could Be a Mortgage Source, By Gary Washburn, Chicago Tribune. May 8th, 1982, http://archives.chicagotribune.com/1982/05/08/page/61/article/illinois-pension-funds-could-be-a-mortgage-source

The state of the State, State pensions' funding: a complicated beast, By Michael Klemens, Illinois Issues Magazine, October 1987, http://www.lib.niu.edu/1987/ii871006.html

The state of the State, State pensions: Fund them now or later?, By Michael Klemens, Illinois Issues Magazine, October 1988, http://www.lib.niu.edu/1988/ii881010.html

State pensions: the truth and the consequences, By Michael Klemens, Illinois Issues Magazine, November 1991, http://www.lib.niu.edu/1991/ii911118.html

State Pension Raids: Rampant In The 1990s By State Comptroller DAWN CLARK NETSCH, Illinois Issues Magazine, July 1993, http://www.lib.niu.edu/1993/im930215.html

Pension deficit haunts future State government is the biggest employer in Illinois; but the state is years behind in funding its pension system, By Jennifer Halpern, Illinois Issues Magazine, July 1993, http://www.lib.niu.edu/1993/ii930717.html

Netsch stays off cut-the-waste bandwagon State comptroller wants to be governor, By Jennifer Halpern, Illinois Issues Magazine, November 1993, http://www.lib.niu.edu/1993/ii931116.html

The Illinois Pension Funding Problem, Why It Matters, By Chrissy A. Mancini and Ralph Martire, Center For Tax And Budget Accountability, November 2006, http://www.ctbaonline.org/reports/illinois-pension-funding-problem-why-it-matters

The State of Illinois Retirement Systems: Funding History and Reform Proposals, A Civic Federation Issue Brief. September 2008 http://www.civicfed.org/sites/default/files/civicfed_279.pdf

Jenner & Block Practice Series: Illinois Pension Law Handbook. January 2012. Craig C. Martin, William L. Scogland, Daniel J. Winters, Trevor W. Holmes, http://jenner.com/library/publications/8522

Is Welching On Public Pension Promises An Option For Illinois? *An Analysis of Article XIII, Section 5 of the Illinois Constitution.* May 2013 Eric Madiar, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1774163

Illinois Public Employee Relations Report, Volume 31 Issue 3 – Summer 2014. Eric Madiar

Landmark State pension law struck down by Springfield Judge. Chicago Tribune November 21, 2014. Ray Long, Hal Dardick. http://www.chicagotribune.com/news/local/politics/chi-key-ruling-on-illinois-pension-law-expected-friday-afternoon-20141120-story.html

MUNICIPAL BOND SPECIALISTS

Illinois Public Pension Compendium

A Five Part Series

Part Three: Components of Change in the UAAL

Pension Investment Return and Discount Rate Assumptions

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January 6th, 2015

“Cheiron recommended decreasing the interest rate assumption from 7.75% to 7.25% or lower for the upcoming 2014 valuation: SERS’ actuary reported to the SERS Board in February 2013, that the expected average geometric return on SERS’ investments over the next 30 years, as developed by eight national investment consulting firms, is 7.09%. The SERS actuary also noted that the probability of meeting or exceeding the 7.75% assumption is 38.6%. ***Cheiron concluded that selecting an assumption that has a 61.4% chance of not being met is unreasonable****.”*

(Illinois Auditor General’s Summary, State Actuary’s Report, Actuarial Assumptions & Valuation of the Five State-Funded Retirement Systems, December 2013)

In June 2012, Public Act 097-0694 was signed into law. It directed the State of Illinois' Auditor General to hire an actuary to review assumptions and valuations of the State's five retirement systems.

Cheiron was selected to provide such actuarial services. Annually, Cheiron furnishes to the Auditor General a State Actuary report. Cheiron has provided three such reports in each of the last three calendar years.

For this portion our Illinois pension series we are going to narrow our focus to Illinois' three main retirement systems. We define TRS, SERS, and SURS as the main systems because according to the State's preliminary 2014 actuarial valuation, the plans account for 98.4% of the State's total unfunded liability. TRS accounts for the majority with an unfunded liability of $61.6 billion (55.4% of total), followed by SERS at $26.2 billion (23.6%) and SURS at $21.6 billion (19.4%).

As this paper progresses we will elaborate on the relationship between assumed versus actual investment returns, touch upon the performance of the State of Illinois' pension bonds, and compare the condition of the State of Illinois' pension system relative to other states.

The Cheiron reports offer several recommendations. Most notably, in the 2012 and 2013 reports, Cheiron concluded that it was not comfortable with the investment return assumptions used by the three major retirement systems. The firm recommended reducing the return rate assumptions for the Teachers Retirement System (TRS), the State University Retirement System (SURS), and the State Employees Retirement System (SERS), which at the time of Cheiron's 2013 report were set at 8.0%, 7.75%, and 7.75% respectively. (See Chart 1)

The foundation for Cheiron's recommendation to reduce interest rate assumptions was based on an examination of historical investment returns of the retirement systems along with probabilistic estimates of future market returns.

As with SERS, Cheiron found similar statistical evidence in support of lower interest rate assumptions for SURS

and TRS. After reviewing SURS' 2013 capital market assumptions, Cheiron found that the expected geometric return on the system's portfolio was 6.95% over the 5-to 10-year time horizon, 55 basis points lower than a prior report from 2011.

Further, in SURS' 2010 experience study, the system's actuary relied on the opinion of nine independent investment consultants who provided that the probability of exceeding 7.75% investment return each year was 44.59%. The conclusion being that for this assumption the expected average return rate based on the current asset allocation will likely be lower than 7.75%.

Cheiron also found that the historic actual returns contained in TRS' 2013 performance review showed for all periods, except the one-year and 20-year averages, return rates were significantly below 8.0%. Cheiron surmised that the prospect of a repeat of the 1990's equity market rally, which was included in the 20-year average, was not anticipated by investment consultants to be replicated. According to the report, the 15-year average return for TRS was 7.7%.

While the Cheiron reports are technical in nature, the underlying theme is accuracy. Interest rate assumptions are key variables in balancing the actuarial valuation equation. The investment return assumption reflects anticipated returns on the pension plan's current and future assets. Meanwhile, the discount rate assumption is used to determine the present value of expected future liabilities. Reinforcing this relationship, generally, public pension plans match the assumed investment return and the discount rate. Thus, should actual results deviate from the expected values it ultimately impacts the calculation of the plan's assets and liabilities.

Consider the situation in which investment returns fall short of the pension plan's assumption, the government must choose to either increase the annual contribution payment or reduce future benefits to make up for the shortfall.

Additionally, the actuarial valuation equation's sensitivity to imprecision creates a risky proposition for stakeholders. A retirement system that assumes too high of an expected investment return may simultaneously assume a greater discount rate on future liabilities. This scenario reduces the present value of those pension obligations while lowering the annual pension contribution. Although it sounds like an ideal scenario, significant inaccuracy may incentivize current stakeholders to undervalue existing pension liabilities and transfer pension funding risk to future generations. Current pension plan participants receive greater benefits without having to make the requisite difficult choices in the immediacy.

According to a recently released preliminary actuarial valuation report for TRS:

> *"The Tier II total normal cost is less than the Tier II member contribution rate; that is, Tier II members pay for their own pensions and subsidize the State (Illinois) by paying down the UAAL."*

A Civic Federation analysis of the preliminary report noted:

> *"Tier 2 employees, hired on or after January 1, 2011, receive lower pension benefits upon retirement under a law passed in April 2010 than Tier 1 employees, who were hired prior to that time. Through FY2045, Tier 2 employees are projected to contribute $26.2 billion to fund their own benefits and $6.9 billion to pay for the unfunded liability. Tier 1 employees are projected to contribute $19.8 billion during the same period, all of which will be used to fund their own benefits."*

The line between simply underperforming on expectations and deliberately constructing assumptions that misrepresent pension funding status is blurred considerably in the context of a substantially underfunded pension plan. An additional layer of complexity is added when weighing modern retirement system's shift toward riskier asset allocations.

According to the Federal Reserve's Financial Accounts of the United States and the Pew Charitable Trust analysis of State Financial Reports that discusses retirement plan investment strategies:

> *"Before the early 1980s, many public retirement plans were bound by strict regulations limiting their investment options. States, for example, were previously limited in their investment options by restrictive "legal lists" that were also used to regulate insurance and savings banks, for which safety was the principal concern. But these restrictions were gradually relaxed in states in the 1980s and 1990s, allowing pension plans much more latitude to invest in a variety of financial instruments, including stocks. From the early 1980s onward, pension plans began shifting large portions of their portfolios away from fixed-income securities and toward equities. The change in allocation occurred slowly at first but picked up speed through the 1990s. Data from the Federal Reserve's Financial Accounts of the United States reveal that in 1952, nearly 96 percent of public pension assets were invested in fixed-income asset classes and cash. By 1992, the proportion of pension assets in fixed-income investments and cash had decreased to 47 percent, and by 2012, it had fallen to 27 percent. Cash and other cash equivalents, such as certificates of deposit, account for 2 to 3 percent of pension fund assets on average and are added to fixed income investments as part of what the Federal Reserve defines as safe assets."*

Assuming expected rates of return that exceed historic averages reduce the size of the government's annual contribution and often end up concealing the true pension funding level, minimizing the increased risk-taking, and delay public scrutiny.

Perhaps the relationship is best exemplified by the lower than assumed investment returns generated by the State of Illinois' five retirement systems, which have resulted in $13.6 billion being added to the State's unfunded pension liability over the last 29 years. (See Chart 2)

Moreover, in anticipation of the June 30, 2014 actuarial valuations, the SURS, SERS, and TRS all voted to reduce their assumed rates of investment return per the recommendation by Cheiron. SURS and SERS voted to reduce their assumed rate of investment return from 7.75% to 7.25%, while TRS voted to change its assumption from 8.0% to 7.5%.

Although investment performance exceeded actuarial expectations in FY14, the investment return assumption changes contributed heavily to the increase in total accrued liability, as well as the net increase in the unfunded liability of $10.6 billion, in FY14. (See Chart 2)

In total, over the last 29 years, lower than expected investment returns and changes in actuarial assumptions have increased the State of Illinois' unfunded pension liability by approximately $33.5 billion or roughly one third of the total increase in the unfunded liability during that period.

A contributing factor in this transition toward riskier asset allocations has been U.S. pension systems autonomy in determining investment strategies and liability discount rates. Opponents have contended that such autonomy encourages pension systems to link the liability discount rates to the assumed rate of return on plan assets, rather than to the riskiness of the liabilities as suggested by economic theory.

Under financial economic theory, the interest rate used to value pension plan liabilities should be based on near risk free rates of return, because pension liabilities are considered more analogous to bonds, and that using the higher expected earnings rates masks the risk of achieving that return.

There have been indications that the public sector may adopt lower investment assumptions. Cheiron highlights the nationwide movement among pension plans to lower the investment return assumption.

The National Association of State Retirement Administrators (NASRA) conducts the Public Fund Survey which is an online compilation of key characteristics covering 126 public pension plans. Chart 3 shows the change in the interest rate assumptions, since the inception of the Public Fund Survey in 2001.

As shown in chart 3, many public pension plans have reduced their return assumption in recent years. Among the 126 plans measured in the Public Fund Survey, more than one-half have reduced their investment return assumption since fiscal year 2008. The survey found that the median return assumption was 7.75%.

The debate over optimal investment return and discount rate assumptions will likely continue. It could benefit stakeholders to advocate for enhanced financial risk management policies and more comprehensive annual reviews of pension plan assumptions. Later on in this paper and in an effort to differentiate pension funding performance we'll compare the investment returns and pension funding levels from the States of Illinois, Kentucky, Connecticut, North Carolina, South Dakota, and Wisconsin.

Before we get to the comparisons, we'll briefly examine pension bonds, and specifically, the State of Illinois' pension bonds.

During periods of economic strain, some municipalities have opted to issue pension obligation bonds or POBs as a budget relief mechanism. POBs can offer immediate relief when municipalities have a statutory obligation to reduce underfunding or cover shortfalls. Further, in order to maintain service levels, administrations may see POBs as the preferred option over reductions.

Before we begin our discussion on the State of Illinois' POBs, we'll provide a bit of history on the broader subject of pension obligation bonds. The first municipality to issue POBs was the city of Oakland California in 1985. Prior to the Tax Reform Act of 1986 (TRA86), POBs could be issued on a tax-exempt basis.

This allowed municipalities to invest bond proceeds in higher yielding securities through the pension funds. The strategy was to generate a net positive return after transactional costs. This arbitrage strategy was eliminated by TRA86 because it generated excess returns on a tax-exempt basis thereby denying the federal government tax revenue. Following TRA86, it was generally perceived that POBs could not be effective financing options given their taxable characteristics.

Unexpectedly, POBs made a comeback. The performance of the equity markets in the 1990's combined with a more favorable interest rate environment created an arbitrage opportunity for the now taxable version of POBs.

Furthermore, as we discussed earlier, pension funds had shifted investment portfolios to include a greater exposure to equities during this time period. This allowed pension plans to generate higher returns and make bolder assumptions on future expected returns.

Using the NASRA median return assumption of 7.75%, pension obligation bonds could make an attractive opportunity for issuers whose taxable borrowing costs are in the 3% to 5% range.

The State of Illinois has issued three series of pension bonds. The first of which was for $10 billion in 2003 (2003 Pension Bonds), followed by issuances of $3.61 billion in 2010 and $3.7 billion in 2011.

The 2003 Pension Bonds were the only series of Illinois POBs issued with the purpose of directly reducing the unfunded actuarially accrued liability. Besides reducing the UAAL, the 2003 Pension Bonds were also intended to reduce future contributions that would have been required had the proceeds not been used as additional contributions.

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Initially, the full $10 billion was to be invested into the State's pension system, but a portion of the bond proceeds was used to pay part of the FY03 pension contributions and all of the FY04 contributions, leaving a net amount of $7.3 billion.

In 2003, actuaries estimated the investment return assumptions for the pension assets and pension bond proceeds would be between 8% and 8.5%. At that time, those figures were greater than the estimated market interest rate of 5.8%. The bonds were actually issued at an interest rate of 5.05%.

According to the State's most recent official statement for its May 2014 GO Bonds issue:

> *"At the time of the issuance of the 2003 Pension Bonds, the State assumed that the investment returns made on the 2003 Pension Bond proceeds used to reduce the UAAL would be greater than the debt service on the 2003 Pension Bonds, creating a net decrease in the UAAL in each year. Since the total interest cost percentage of the 2003 Pension Bonds at date of issuance was 5.05%, then in any year that the actual returns exceeded in each specific year the amount of the debt service payments, the UAAL was effectively reduced from what the UAAL would have been had those bonds not been issued and proceeds not provided to the State's pension systems. Conversely, in those fiscal years when the actual returns were less than total interest cost percentage on the 2003 Pension Bonds, the UAAL was effectively increased from what the UAAL would have been had those bonds not been issued and proceeds provided to the State's pension systems."*

This interplay between the interest owed on the POBs and the rate of return achieved by the retirement funds defines the risk inherent in borrowing to improve the State's pension funding and is referred to as interest rate arbitrage. Since Illinois has exceeded this amount in most years, issuing the 2003 POBs at this moment appears have benefited the State's retirement systems. At other times the POBs might look less successful if investment returns suffer due to market fluctuations.

A national survey of pension borrowing published by the Center on Retirement Research at Boston College demonstrates the shifting perspective on the success of POB sales to improve pension funding based on market conditions. The study, published in July, reviewed all 5,109 POBs issued across the country by 529 different government entities with a value of $98 billion in 2013 dollars. The researchers concluded that as of 2013 the POBs netted 1.5% in positive earnings. However, the Center's data show that in 2009 POBs nationally had lost 2.6% in net earnings for issuers when the global recession hampered investment returns for pension funds.

In our final analysis of the investment return assumption topic we thought it would be interesting to compare the top three and bottom three performing state retirement systems. We compiled pension plan information for all six states using comprehensive annual financial reports, actuarial valuations, and state treasurer or comptroller investment reports. We gathered a complete dataset dating back to FY2001 (See Retirement System Summary in the Appendix). We focused primarily on data points that we thought could be comfortably compared across the different states. We are cognizant of the issues created when attempting to draw comparisons across such a small and varied subset. Our objective was to isolate investment returns as a possible indicator of proactive pension system management. We settled on plan assets, liabilities, unfunded liabilities, funded ratio, assumed investment returns and actual investment returns.

All told we investigated 10 retirement systems: Connecticut State Employees Retirement System (CT SERS, FY14 funded ratio – 41.5%), Connecticut Teachers Retirement System (CT TRS, FY14 funded ratio 59%), IL SERS, IL TRS, IL SURS, Kentucky Employee Retirement System (KY ERS, FY14 funded ratio – 23.8%), Kentucky Teachers Retirement System (KY TRS, FY14 funded ratio – 53.58%), North Carolina Teachers & State Employee Retirement System (NC T&SERS, FY13 funded ratio – 94.2%), South Dakota Public Employees Retirement System (SD PERS, FY14 funded ratio – 100%), and Wisconsin Retirement System (WRS, FY13 funded ratio 99.9%).

The table in chart 5 summarizes the assumed and actual investment returns for the retirement systems. A few observations:

- The better performing pension systems appear to have adjusted investment return assumptions much earlier.
- North Carolina's assumed rate of return of 7.25% was the lowest of any system in our sample until Wisconsin lowered its assumption to 7.2% in 2010.
- During periods of equity market declines in 2001, 2002, and 2009, Illinois pensions were the worst performing system in each year.
- South Dakota had the largest sample standard deviation of its actual returns. It also generated the largest arithmetic mean.

Our data also showed that in the bottom three states, Illinois, Connecticut, and Kentucky there were 36 out of a possible 98 instances in which actual investment returns exceeded the assumed rate of return, yet the funded ratio decreased. On average the actual investment return exceeded the assumed return by 5.9%, but the funded ratios declined by an average of 3.93%. This seems counterintuitive. Excess returns should translate into improved pension funding levels. When we looked at the percent changes in assets and liabilities we found assets actually decreased by an average of 0.13%, while liabilities increased 7.13%.

In the top three performing states, North Carolina, South Dakota, and Wisconsin we found only six such instances out of 40. Five of the six instances came from the North Carolina T&SERS. The explanation is rather straightforward. Going back to FY2001 NC T&SERS had a funded ratio of 112.8%. Since that time the State has gradually reduced the funded ratio, which reached 94.8% in FY14. Given the demands of stakeholders, it can simply become unjustifiable to maintain an overfunded pension system. In contrast, the Kentucky TRS, which had six instances in similar years, ended FY01 with a funded ratio of 90.8%, only to see it decline to 53.58% in FY14. The other instance from a top performing system was from South Dakota, that instance can be explained because it coincided with the system reducing its return assumption to 7.75% from 8.0%. In every year WRS generated excess returns, it also increased its funding ratio.

We also found that there were 14 instances from the bottom three states in which investments generated returns above the assumed rate of return and also raised the funded ratio. On average the actual investment return exceeded the assumed return by 8.41%, and the funded ratios increased by an average of 3.66%. Those figures were skewed slightly because they included the three times Illinois issued POBs. Backing out those three instances, excess returns averaged 8.48% and funded ratios increased 1.55%. Meanwhile the top three states managed to generate returns above assumed rates and raise the funded ratio 17 times.

Overall, we found that investment returns for the top three states outperformed the bottom three in all but one year, 2008, and only by 0.05%. On average the top three states outperformed the bottom three states by 1.30% annually.

For the next part in our series we'll explore the history of pension reforms in Illinois as well as possible reforms on the horizon.

Appendix

CHART 1
State of Illinois Retirement Systems
Investment Returns and Discount Rates Assumed vs. Actual

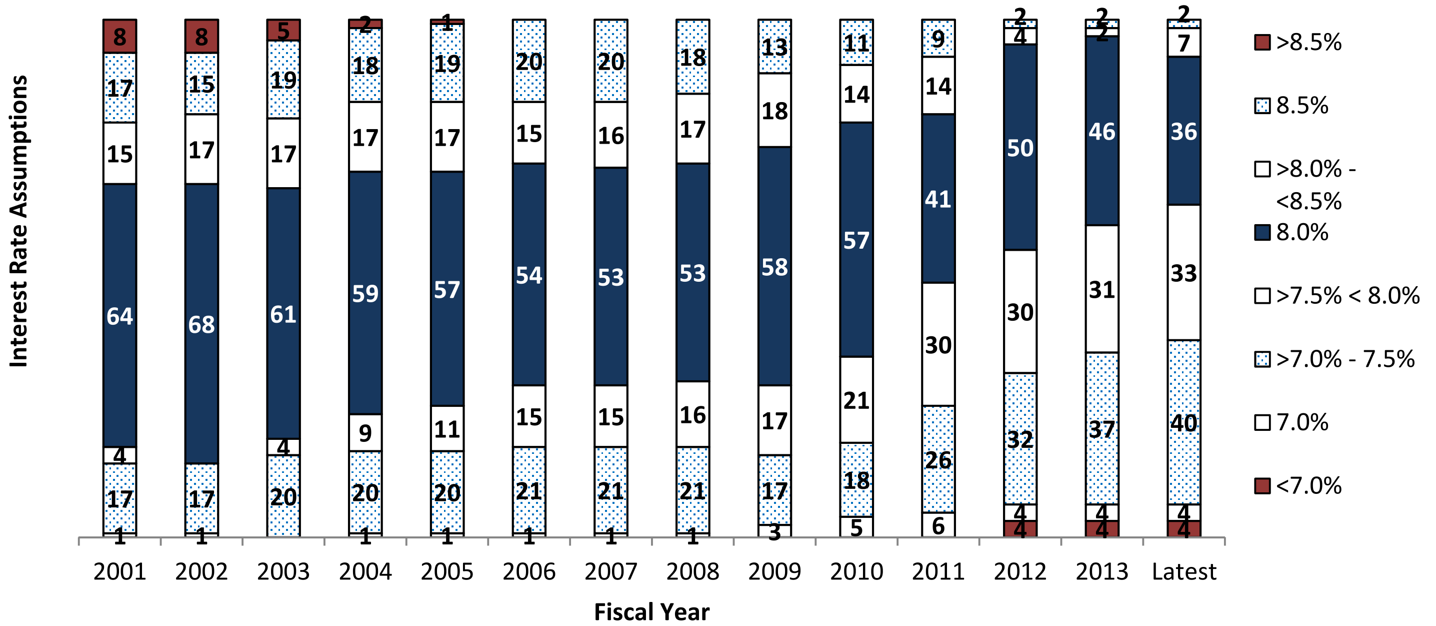
	TRS		SERS		JRS		SURS		GARS	
FY	Assumed	Actual	Assumed	Actual	Assumed	Actual	Assumed	Actual	Assumed	Actual
2003	8.50%	4.90%	8.50%	0.30%	8.00%	0.30%	8.50%	2.90%	8.00%	0.30%
2004	8.50%	16.50%	8.50%	16.40%	8.00%	16.40%	8.50%	17.00%	8.00%	16.40%
2005	8.50%	10.80%	8.50%	10.10%	8.00%	10.10%	8.50%	10.40%	8.00%	10.10%
2006	8.50%	11.80%	8.50%	11.00%	8.00%	11.00%	8.50%	11.70%	8.00%	11.00%
2007	8.50%	19.20%	8.50%	17.10%	8.00%	17.10%	8.50%	18.30%	8.00%	17.10%
2008	8.50%	-5.00%	8.50%	-6.20%	8.00%	-6.20%	8.50%	-4.50%	8.00%	-6.20%
2009	8.50%	-22.70%	8.50%	-20.10%	8.00%	-20.10%	8.50%	-19.70%	8.00%	-20.10%
2010	8.50%	12.90%	7.75%	9.10%	7.00%	9.10%	7.75%	15.00%	8.00%	9.10%
2011	8.50%	23.60%	7.75%	21.70%	7.00%	21.70%	7.75%	23.80%	7.00%	21.70%
2012	8.00%	0.80%	7.75%	0.20%	7.00%	0.20%	7.75%	0.50%	7.00%	0.20%
2013	8.00%	12.80%	7.75%	14.10%	7.00%	14.10%	7.75%	12.50%	7.00%	14.10%
2014	7.50%	17.20%	7.25%	17.50%	7.00%	16.80%	7.25%	18.20%	7.00%	16.30%

Chart 2

STATE OF ILLINOIS RETIREMENT SYSTEMS - COMBINED
CHANGES IN UNFUNDED LIABILITY
FY1985 to FY2014
In Millions

Year	Salary Increases	Investment Returns (Higher)/Lower Than Assumed	Employer Contributions N.C. + Interest (Higher)/Lower	Benefit Increases	Changes in Actuarial Assumptions	Other Factors	Total Change In Unfunded Liability from Previous Yr
6/30/85	63.0	(211)	477	66	(637)	201	(41)
6/30/86	140.0	(902)	418	0	(44)	263	(125)
6/30/87	113.5	(552)	375	129	339	(227)	178
6/30/88	(34.1)	6	520	49	118	2	661
6/30/89	111.6	(52)	566	0	(21)	11	615
6/30/90	94.5	(244)	661	1,306	186	(111)	1,892
6/30/91	(54.5)	105	812	26	214	131	1,233
6/30/92	79.9	(602)	1,031	256	(79)	488	1,174
6/30/93	188.5	(362)	1,084	95	13	192	1,210
6/30/94	180.4	(230)	1,211	193	772	763	2,890
6/30/95	66.9	238	1,506	153	0	519	2,483
6/30/96	278.0	(950)	1,648	18	(782)	317	529
6/30/97	(174.6)	(1,718)	1,572	179	(6,629)	456	(6,315)
6/30/98	(113.2)	(2,788)	984	2,250	0	276	609
6/30/99	77.1	(989)	883	34	125	894	1,025
6/30/00	154.5	(1,307)	1,047	3	0	327	225
6/30/01	44.0	6,599	1,047	652	0	1,068	9,410
6/30/02	134.4	5,575	1,741	234	1,378	903	9,966
6/30/03	125.6	2,071	2,435	2,425	0	1,101	8,158
6/30/04	135.7	(3,842)	(4,690)	0	0	385	(8,011)
6/30/05	35.1	(1,034)	2,432	0	26	2,048	3,508
6/30/06	108.3	(1,843)	3,485	0	705	(323)	2,131
6/30/07	314.9	(6,064)	3,238	0	2,735	1,221	1,445
6/30/08	72.8	9,312	2,786	0	0	36	12,207
6/30/09	(105.8)	3,832	3,231	0	0	1,098	8,055
6/30/10	(424.1)	4,818	2,746	2	5,209	950	13,302
6/30/11	(853.8)	2,667	3,666	7	581	1,099	7,166
6/30/12	(1,294.4)	2,845	4,308	0	4,625	1,191	11,675
6/30/13	(631.2)	2,399	3,353	0	(71)	727	5,777
6/30/14	(212.0)	(3,131)	2,685	0	11,107	231	10,680
Total	(1,379)	13,646	47,259	8,077	19,870	16,239	103,712

Source: Commission on Forecasting and Accountability



Source: NASRA Issue Brief Public Pension Plan Investment Return Assumptions, October 2014

Chart 4
State of Illinois Retirement Systems (Combined TRS, SERS, SURS, JRS, GARS)
Retirement System Funding Table
($ Millions)

FY	Actuarial Valued Assets	Actuarial Valued Liabilities	Unfunded Liabilities	Funded Ratio	Amounts Contributed	Required Contribution	ARC Percentage	"+/-"
1985	$7,856	$14,930	-$7,074	52.6%				
1986	$9,551	$16,417	-$6,866	58.2%				
1987	$10,956	$17,914	-$6,958	61.2%				
1988	$11,940	$19,604	-$7,664	60.9%				
1989	$13,030	$21,264	-$8,234	61.3%				
1990	$14,375	$24,883	-$10,508	57.8%				
1991	$15,467	$27,208	-$11,741	56.8%				
1992	$17,217	$30,132	-$12,915	57.1%				
1993	$18,805	$32,929	-$14,124	57.1%				
1994	$20,409	$37,424	-$17,015	54.5%				
1995	$21,494	$40,991	-$19,497	52.4%				
1996	$23,584	$44,392	-$20,808	53.1%				
1997	$32,188	$45,900	-$13,712	70.1%				
1998	$37,241	$51,563	-$14,322	72.2%				
1999	$41,442	$56,787	-$15,345	73.0%				
2000	$45,949	$61,518	-$15,569	74.7%				
2001	$42,789	$67,768	-$24,979	63.1%				
2002	$40,252	$75,198	-$34,946	53.5%				
2003	$40,925	$83,905	-$42,980	48.8%	$1,685	$2,535	66.5%	-$850
2004	$54,769	$89,912	-$35,143	60.9%	$9,176	$2,656	345.5%	**$6,520**
2005	$58,577	$97,179	-$38,602	60.3%	$1,735	$3,084	56.3%	-$1,349
2006	$62,341	$103,073	-$40,732	60.5%	$1,022	$3,085	33.1%	-$2,063
2007	$70,731	$112,908	-$42,177	62.6%	$1,479	$3,665	40.4%	-$2,186
2008	$64,700	$119,084	-$54,384	54.3%	$2,145	$3,729	57.5%	-$1,584
2009	$48,542	$126,435	-$77,893	38.4%	$2,891	$4,076	70.9%	-$1,185
2010	$53,225	$138,794	-$85,569	38.3%	$4,130	$4,786	86.3%	-$656
2011	$63,382	$146,460	-$83,078	43.3%	$4,298	$5,906	72.8%	-$1,608
2012	$61,813	$158,611	-$96,798	39.0%	$5,012	$6,609	75.8%	-$1,597
2013	$64,957	$165,458	-$100,501	39.3%	$5,893	$7,015	84.0%	-$1,122
2014***	$72,067	$183,249	-$111,182	39.3%				
2015***	$78,920	$190,214	-$111,294	41.5%	$6,936			
2016***	$84,754	$197,264	-$112,510	43.0%	$7,617			
2017***	$91,515	$204,341	-$112,826	44.8%	$7,605			
2018***	$97,707	$211,428	-$113,721	46.2%	$7,780			
2019***	$102,587	$218,503	-$115,916	46.9%	$7,907			
2020***	$107,465	$225,561	-$118,096	47.6%	$8,065			

Source: Commisson on Government Forecasting and Accountability, State of Illinois CAFRs 1990 to 2013, State of Illinois Official Statements

***Projected

Chart 5

STATE RETIREMENT SYSTEM INVESTMENT RETURN COMPARISON

	CT SERS		CT TRS		IL SERS		IL TRS		IL SURS		KY ERS		KY TRS		NC T&SE RS		SD PERS		WRS	
FY	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**	**Assumed**	**Actual**
2001	8.50%	-3.7%		-3.7%	8.50%	-7.1%	8.50%	-4.2%	8.50%	-8.8%	8.25%	-4.4%	7.50%	-0.7%	7.25%	-2.0%	8.00%	-2.9%	8.00%	-5.4%
2002	8.50%	-6.4%	8.50%	-6.4%	8.50%	-6.9%	8.50%	-3.2%	8.50%	-6.1%	8.25%	-4.3%	7.50%	-4.1%	7.25%	-4.0%	8.00%	4.9%	8.00%	-4.8%
2003	8.50%	2.5%		2.5%	8.50%	0.3%	8.50%	4.9%	8.50%	2.9%	8.25%	4.3%	7.50%	4.8%	7.25%	7.6%	8.00%	5.0%	7.80%	4.6%
2004	8.50%	15.2%	8.50%	15.2%	8.50%	16.4%	8.50%	16.5%	8.50%	17.0%	8.25%	13.6%	7.50%	9.7%	7.25%	12.1%	8.00%	16.6%	7.80%	16.6%
2005	8.50%	10.5%		10.5%	8.50%	10.1%	8.50%	10.8%	8.50%	10.4%	8.25%	9.3%	7.50%	7.5%	7.25%	9.9%	7.75%	13.3%	7.80%	11.1%
2006	8.50%	10.6%	8.50%	10.6%	8.50%	11.0%	8.50%	11.8%	8.50%	11.7%	7.75%	9.7%	7.50%	5.4%	7.25%	7.2%	7.75%	13.1%	7.80%	12.2%
2007	8.50%	17.3%		17.3%	8.50%	17.1%	8.50%	19.2%	8.50%	18.3%	7.75%	15.3%	4.50%	15.3%	7.25%	14.8%	7.75%	21.4%	7.80%	18.0%
2008	8.25%	-4.8%	8.50%	-4.8%	8.50%	-6.2%	8.50%	-5.0%	8.50%	-4.5%	4.50%	-4.2%	7.50%	-5.7%	7.25%	-2.1%	7.75%	-8.7%	7.80%	-4.5%
2009	8.25%	-18.3%		-17.1%	8.50%	-20.1%	8.50%	-22.7%	8.50%	-19.7%	7.75%	-17.2%	7.50%	-14.3%	7.25%	-14.2%	7.75%	-20.4%	7.80%	-17.7%
2010	8.25%	12.9%	8.50%	12.9%	7.75%	9.1%	8.50%	12.9%	7.75%	15.0%	7.75%	15.8%	7.50%	13.1%	7.25%	12.0%	7.75%	18.7%	7.20%	13.3%
2011	8.25%	21.2%		20.8%	7.75%	21.7%	8.50%	23.6%	7.75%	23.8%	7.75%	19.0%	7.50%	21.6%	7.25%	18.5%	7.75%	25.8%	7.20%	22.9%
2012	8.00%	-0.9%	8.50%	-1.0%	7.75%	0.1%	8.00%	0.8%	7.75%	0.5%	7.75%	0.1%	7.50%	2.4%	7.25%	2.2%	7.75%	1.9%	7.20%	1.3%
2013	8.00%	11.9%		11.8%	7.75%	14.1%	8.00%	12.8%	7.75%	12.5%	7.75%	11.0%	7.50%	14.1%	7.25%	9.5%	7.25%	19.5%	7.20%	11.1%
2014	8.00%	15.6%	8.50%	15.7%	7.25%	17.5%	7.50%	17.2%	7.25%	18.2%	7.50%	15.6%	7.50%	18.1%	7.25%	15.9%	7.25%	18.9%		
ST DEV S		11.3%		11.1%		12.3%		12.5%		12.7%		10.5%		10.1%		9.1%		13.1%		11.6%
MEDIAN		10.5%		10.5%		9.6%		11.3%		11.1%		9.5%		6.5%		7.6%		13.2%		11.1%
MEAN		6.0%		6.0%		5.5%		6.8%		6.5%		6.0%		6.2%		5.49%		9.1%		6.1%
MIN		-18.3%		-17.1%		-20.1%		-22.7%		-19.7%		-17.2%		-14.3%		-14.2%		-20.4%		-17.7%
MAX		21.2%		20.8%		21.7%		23.6%		23.8%		19.0%		21.6%		18.5%		25.8%		22.9%

STATE RETIREMENT SYSTEM SUMMARY

(In thousands)

Retirement System	Fiscal Year End	Actuarial Valuation Date	Assets	Liabilities	Funded Ratio	Unfunded Liability	Assumed Inv Ret.	Actual Inv Ret.
Connecticut SERS	6/30/01	6/30/01	$7,638,854	$12,105,366	63.10%	$4,466,513	8.50%	-3.68%
Connecticut SERS	6/30/02	6/30/02	$7,893,684	$12,806,115	61.64%	$4,912,431	8.50%	-6.39%
Connecticut SERS	6/30/03	6/30/03	$8,058,587	$14,223,786	56.66%	$6,165,200	8.50%	2.49%
Connecticut SERS	6/30/04	6/30/04	$8,238,418	$15,128,502	54.46%	$6,890,084	8.50%	15.23%
Connecticut SERS	6/30/05	6/30/05	$8,517,677	$15,987,547	53.28%	$7,469,869	8.50%	10.46%
Connecticut SERS	6/30/06	6/30/06	$8,951,393	$16,830,349	53.19%	$7,878,956	8.50%	10.55%
Connecticut SERS	6/30/07	6/30/07	$9,584,970	$17,888,065	53.58%	$8,303,095	8.50%	17.34%
Connecticut SERS	6/30/08	6/30/08	$9,990,247	$19,243,373	51.92%	$9,253,126	8.25%	-4.83%
Connecticut SERS	6/30/09	6/30/09	No Actuarial Valuation Completed				8.25%	-18.25%
Connecticut SERS	6/30/10	6/30/10	$9,349,605	$21,054,197	44.40%	$11,704,592	8.25%	12.93%
Connecticut SERS	6/30/11	6/30/11	$10,122,765	$21,126,725	47.90%	$11,003,960	8.25%	21.15%
Connecticut SERS	6/30/12	6/30/12	$9,744,986	$23,018,752	42.30%	$13,273,766	8.00%	-0.90%
Connecticut SERS	6/30/13	6/30/13	$9,784,500	$23,768,191	41.20%	$13,983,691	8.00%	11.90%
Connecticut SERS	6/30/14	6/30/14	$10,584,795	$25,505,610	41.50%	$14,920,815	8.00%	15.62%
Connecticut TRS	6/30/01	6/30/01						-3.68%
Connecticut TRS	6/30/02	6/30/02	$10,387,300	$13,679,900	75.90%	$3,292,600	8.50%	-6.39%
Connecticut TRS	6/30/03	6/30/03						2.49%
Connecticut TRS	6/30/04	6/30/04	$9,846,700	$15,070,500	65.30%	$5,223,800	8.50%	15.23%
Connecticut TRS	6/30/05	6/30/05						10.46%
Connecticut TRS	6/30/06	6/30/06	$10,190,300	$17,112,800	59.50%	$6,922,455	8.50%	10.55%
Connecticut TRS	6/30/07	6/30/07						17.34%
Connecticut TRS	6/30/08	6/30/08	$15,271,000	$21,801,000	70.00%	$6,530,000	8.50%	-4.77%
Connecticut TRS	6/30/09	6/30/09						-17.14%
Connecticut TRS	6/30/10	6/30/10	$14,430,200	$23,495,900	61.40%	$9,065,700	8.50%	12.87%
Connecticut TRS	6/30/11	6/30/11						20.77%
Connecticut TRS	6/30/12	6/30/12	$13,734,800	$24,862,200	55.20%	$11,127,400	8.50%	-0.96%
Connecticut TRS	6/30/13	6/30/13						11.83%
Connecticut TRS	6/30/14	6/30/14	$15,546,500	$26,349,200	59.00%	$10,802,700	8.50%	15.67%

STATE RETIREMENT SYSTEM SUMMARY

(In thousands)

Retirement System	Fiscal Year End	Actuarial Valuation Date	Assets	Liabilities	Funded Ratio	Unfunded Liability	Assumed Inv Ret.	Actual Inv Ret.
Illinois SERS	6/30/01	6/30/01	$8,276,661	$12,572,240	65.80%	$4,295,579	8.50%	-7.10%
Illinois SERS	6/30/02	6/30/02	$7,673,893	$14,291,044	53.70%	$6,617,152	8.50%	-6.90%
Illinois SERS	6/30/03	6/30/03	$7,502,111	$17,593,980	42.60%	$10,091,869	8.50%	0.30%
Illinois SERS	6/30/04	6/30/04	$9,990,187	$18,442,665	54.20%	$8,452,478	8.50%	16.40%
Illinois SERS	6/30/05	6/30/05	$10,494,147	$19,304,647	54.40%	$8,810,499	8.50%	10.10%
Illinois SERS	6/30/06	6/30/06	$10,899,853	$20,874,542	52.20%	$9,974,689	8.50%	11.00%
Illinois SERS	6/30/07	6/30/07	$12,078,909	$22,280,917	54.20%	$10,202,008	8.50%	17.10%
Illinois SERS	6/30/08	6/30/08	$10,995,366	$23,841,280	46.10%	$12,845,914	8.50%	-6.20%
Illinois SERS	6/30/09	6/30/09	$10,999,954	$25,298,346	43.48%	$14,298,393	8.50%	-20.10%
Illinois SERS	6/30/10	6/30/10	$10,961,540	$29,309,464	37.40%	$18,347,924	7.75%	9.10%
Illinois SERS	6/30/11	6/30/11	$11,159,837	$31,395,008	35.55%	$20,235,171	7.75%	21.70%
Illinois SERS	6/30/12	6/30/12	$11,477,264	$33,091,186	34.70%	$21,613,922	7.75%	0.10%
Illinois SERS	6/30/13	6/30/13	$11,877,419	$34,720,765	34.20%	$22,843,346	7.75%	14.10%
Illinois SERS	6/30/14*	6/30/14	$13,315,600	$39,526,800	33.70%	$26,211,200	7.25%	17.50%
Illinois TRS	6/30/01	6/30/01	$23,315,646	$39,166,697	59.50%	$15,851,051	8.50%	-4.20%
Illinois TRS	6/30/02	6/30/02	$22,366,285	$43,047,674	52.00%	$20,681,389	8.50%	-3.20%
Illinois TRS	6/30/03	6/30/03	$23,124,823	$46,933,432	49.30%	$23,808,609	8.50%	4.90%
Illinois TRS	6/30/04	6/30/04	$31,544,729	$50,947,451	61.90%	$19,402,722	8.50%	16.50%
Illinois TRS	6/30/05	6/30/05	$34,085,218	$56,075,029	60.80%	$21,989,811	8.50%	10.80%
Illinois TRS	6/30/06	6/30/06	$36,584,889	$58,996,913	62.00%	$22,412,024	8.50%	11.80%
Illinois TRS	6/30/07	6/30/07	$41,909,318	$65,648,395	63.80%	$23,739,077	8.50%	19.20%
Illinois TRS	6/30/08	6/30/08	$38,430,723	$68,632,367	56.00%	$30,201,644	8.50%	-5.00%
Illinois TRS	6/30/09	6/30/09	$38,026,044	$73,027,198	52.10%	$35,001,154	8.50%	-22.70%
Illinois TRS	6/30/10	6/30/10	$37,439,092	$77,293,198	48.40%	$39,854,106	8.50%	12.90%
Illinois TRS	6/30/11	6/30/11	$37,769,753	$81,299,745	46.50%	$43,529,992	8.50%	23.60%
Illinois TRS	6/30/12	6/30/12	$37,945,397	$90,024,945	42.10%	$52,079,548	8.00%	0.80%
Illinois TRS	6/30/13	6/30/13	$38,115,191	$93,886,988	40.60%	$55,731,797	8.00%	12.80%
Illinois TRS	6/30/14*	6/30/14	$42,150,800	$103,740,400	40.60%	$61,589,600	7.50%	17.20%
Illinois SURS	6/30/01	6/30/01	$10,753,300	$14,915,300	72.10%	$4,162,000	8.50%	-8.80%
Illinois SURS	6/30/02	6/30/02	$9,814,700	$16,654,000	58.90%	$6,839,300	8.50%	-6.10%
Illinois SURS	6/30/03	6/30/03	$9,714,500	$18,025,000	53.90%	$8,310,500	8.50%	2.90%
Illinois SURS	6/30/04	6/30/04	$12,586,300	$19,078,600	66.00%	$6,492,300	8.50%	17.00%
Illinois SURS	6/30/05	6/30/05	$13,350,300	$20,349,900	65.60%	$6,999,600	8.50%	10.40%
Illinois SURS	6/30/06	6/30/06	$14,175,100	$21,688,900	65.40%	$7,513,800	8.50%	11.70%
Illinois SURS	6/30/07	6/30/07	$15,985,700	$23,362,100	68.40%	$7,376,400	8.50%	18.30%
Illinois SURS	6/30/08	6/30/08	$14,586,300	$24,917,700	58.50%	$10,331,400	8.50%	-4.50%
Illinois SURS	6/30/09	6/30/09	$14,281,998	$26,316,231	54.27%	$12,034,233	8.50%	-19.70%
Illinois SURS	6/30/10	6/30/10	$13,966,643	$30,120,427	46.37%	$16,153,784	7.75%	15.00%
Illinois SURS	6/30/11	6/30/11	$13,945,680	$31,514,336	44.25%	$17,568,656	7.75%	23.80%
Illinois SURS	6/30/12	6/30/12	$13,949,905	$33,170,216	42.10%	$19,220,311	7.75%	0.50%
Illinois SURS	6/30/13	6/30/13	$14,262,621	$34,373,104	41.50%	$20,110,483	7.75%	12.50%
Illinois SURS	6/30/14*	6/30/14	$15,844,700	$37,429,500	42.30%	$21,584,800	7.25%	18.20%

*Preliminary

STATE RETIREMENT SYSTEM SUMMARY

(In thousands)

Retirement System	Fiscal Year End	Actuarial Valuation Date	Assets	Liabilities	Funded Ratio	Unfunded Liability	Assumed Inv Ret.	Actual Inv Ret.
Kentucky ERS	6/30/01	6/30/01	$7,206,420	$5,729,229	125.8%	-$1,477,191	8.25%	-4.42%
Kentucky ERS	6/30/02	6/30/02	$7,030,468	$6,348,164	110.7%	-$682,305	8.25%	-4.28%
Kentucky ERS	6/30/03	6/30/03	$6,737,245	$6,877,342	98.00%	$140,098	8.25%	4.28%
Kentucky ERS	6/30/04	6/30/04	$6,397,727	$7,453,191	85.80%	$1,055,465	8.25%	13.59%
Kentucky ERS	6/30/05	6/30/05	$5,983,974	$8,018,089	74.60%	$2,034,114	8.25%	9.30%
Kentucky ERS	6/30/06	6/30/06	$5,822,071	$9,503,482	61.30%	$3,681,412	7.75%	9.70%
Kentucky ERS	6/30/07	6/30/07	$5,864,070	$10,044,932	58.40%	$4,180,861	7.75%	15.30%
Kentucky ERS	6/30/08	6/30/08	$5,820,925	$10,747,701	54.20%	$4,926,776	4.50%	-4.21%
Kentucky ERS	6/30/09	6/30/09	$5,297,115	$11,332,961	46.70%	$6,035,847	7.75%	-17.21%
Kentucky ERS	6/30/10	6/30/10	$4,712,945	$11,692,945	40.30%	$6,980,000	7.75%	15.81%
Kentucky ERS	6/30/11	6/30/11	$4,237,735	$11,903,435	35.60%	$7,665,701	7.75%	18.96%
Kentucky ERS	6/30/12	6/30/12	$3,598,543	$12,113,747	29.70%	$8,515,204	7.75%	0.14%
Kentucky ERS	6/30/13	6/30/13	$3,141,779	$12,170,582	25.80%	$9,028,803	7.75%	11.03%
Kentucky ERS	6/30/14	6/30/14	$2,951,853	$12,366,960	23.80%	$9,415,107	7.50%	15.55%
Kentucky TRS	6/30/01	6/30/01	$13,299,161	$14,642,129	90.80%	$1,342,968	7.50%	-0.70%
Kentucky TRS	6/30/02	6/30/02	$13,588,847	$15,695,574	86.60%	$2,106,727	7.50%	-4.10%
Kentucky TRS	6/30/03	6/30/03	$13,863,786	$16,594,781	83.50%	$2,730,995	7.50%	4.80%
Kentucky TRS	6/30/04	6/30/04	$14,255,131	$17,617,626	80.90%	$3,362,495	7.50%	9.70%
Kentucky TRS	6/30/05	6/30/05	$14,598,843	$19,134,870	76.30%	$4,536,027	7.50%	7.50%
Kentucky TRS	6/30/06	6/30/06	$14,857,641	$20,324,781	73.10%	$5,467,140	7.50%	5.40%
Kentucky TRS	6/30/07	6/30/07	$15,284,955	$21,254,974	71.90%	$5,970,019	4.50%	15.30%
Kentucky TRS	6/30/08	6/30/08	$15,321,325	$22,460,304	68.20%	$7,138,979	7.50%	-5.70%
Kentucky TRS	6/30/09	6/30/09	$14,885,981	$23,400,426	63.60%	$8,514,445	7.50%	-14.30%
Kentucky TRS	6/30/10	6/30/10	$14,851,330	$24,344,316	61.00%	$9,492,986	7.50%	13.10%
Kentucky TRS	6/30/11	6/30/11	$14,908,138	$25,968,692	57.40%	$11,060,554	7.50%	21.60%
Kentucky TRS	6/30/12	6/30/12	$14,691,371	$26,973,854	54.46%	$12,282,483	7.50%	2.40%
Kentucky TRS	6/30/13	6/30/13	$14,962,758	$28,817,232	51.92%	$13,854,474	7.50%	14.10%
Kentucky TRS	6/30/14	6/30/14	$16,174,199	$30,184,404	53.58%	$14,010,205	7.50%	18.10%

STATE RETIREMENT SYSTEM SUMMARY

(In thousands)

Retirement System	Fiscal Year End	Actuarial Valuation Date	Assets	Liabilities	Funded Ratio	Unfunded Liability	Assumed Inv Ret.	Actual Inv Ret.
NC T&SERS	6/30/01	12/31/00	$39,773,747	$35,248,770	112.80%	-$4,524,977	7.25%	-2.04%
NC T&SERS	6/30/02	12/31/01	$42,104,086	$37,713,663	111.60%	-$4,390,423	7.25%	-4.04%
NC T&SERS	6/30/03	12/31/02	$43,226,837	$39,863,983	108.40%	-$3,362,854	7.25%	7.56%
NC T&SERS	6/30/04	12/31/03	$45,117,508	$41,733,701	108.10%	-$3,383,806	7.25%	12.10%
NC T&SERS	6/30/05	12/31/04	$47,383,509	$43,827,854	108.10%	-$3,555,655	7.25%	9.85%
NC T&SERS	6/30/06	12/31/05	$49,670,182	$46,624,668	106.50%	-$3,045,514	7.25%	7.23%
NC T&SERS	6/30/07	12/31/06	$52,420,808	$49,391,907	106.10%	-$3,028,901	7.25%	14.80%
NC T&SERS	6/30/08	12/31/07	$55,283,121	$52,815,089	104.70%	-$2,468,031	7.25%	-2.10%
NC T&SERS	6/30/09	12/31/08	$55,127,658	$55,518,745	99.30%	$391,087	7.25%	-14.20%
NC T&SERS	6/30/10	12/31/09	$55,818,099	$58,178,272	95.90%	$2,360,173	7.25%	12.00%
NC T&SERS	6/30/11	12/31/10	$57,102,198	$59,876,066	95.40%	$2,773,867	7.25%	18.48%
NC T&SERS	6/30/12	12/31/11	$58,125,011	$61,846,697	94.00%	$3,721,686	7.25%	2.21%
NC T&SERS	6/30/13	12/31/12	$59,911,833	$63,630,278	94.20%	$3,718,445	7.25%	9.52%
NC T&SERS	6/30/14	12/31/13	$62,363,807	$65,805,555	94.80%	$3,441,748	7.25%	15.88%
SD PERS	6/30/01	6/30/01	$4,521,400	$4,688,400	96.40%	$167,000	8.00%	-2.90%
SD PERS	6/30/02	6/30/02	$4,425,400	$4,576,900	96.70%	$151,500	8.00%	4.90%
SD PERS	6/30/03	6/30/03	$4,685,800	$4,818,900	97.20%	$133,100	8.00%	5.00%
SD PERS	6/30/04	6/30/04	$4,937,500	$5,051,700	97.70%	$114,200	8.00%	16.60%
SD PERS	6/30/05	6/30/05	$5,381,000	$5,571,800	96.60%	$190,800	7.75%	13.34%
SD PERS	6/30/06	6/30/06	$5,668,500	$5,859,900	96.70%	$191,400	7.75%	13.11%
SD PERS	6/30/07	6/30/07	$6,526,500	$6,718,800	97.10%	$192,300	7.75%	21.39%
SD PERS	6/30/08	6/30/08	$6,784,300	$6,976,800	97.20%	$192,500	7.75%	-8.65%
SD PERS	6/30/09	6/30/09	$6,778,521	$7,387,406	91.80%	$608,886	7.75%	-20.36%
SD PERS	6/30/10	6/30/10	$7,119,875	$7,393,251	96.30%	$273,376	7.75%	18.70%
SD PERS	6/30/11	6/30/11	$7,433,777	$7,712,557	96.40%	$278,780	7.75%	25.80%
SD PERS	6/30/12	6/30/12	$7,828,000	$8,453,000	92.60%	$625,000	7.25%	1.90%
SD PERS	6/30/13	6/30/13	$8,803,700	$8,803,700	100.00%	$0	7.25%	19.50%
SD PERS	6/30/14	6/30/14	$9,887,095	$9,887,095	100.00%	$0	7.25%	18.90%
Wisconsin RS	12/31/01	12/31/01	$58,024,300	$60,134,700	96.50%	$2,110,400	8.00%	-5.40%
Wisconsin RS	12/31/02	12/31/02	$57,861,900	$59,618,800	97.10%	$1,756,900	8.00%	-4.80%
Wisconsin RS	12/31/03	12/31/03	$62,685,300	$63,211,700	99.20%	$526,400	7.80%	4.60%
Wisconsin RS	12/31/04	12/31/04	$66,209,400	$66,622,300	99.40%	$412,900	7.80%	16.60%
Wisconsin RS	12/31/05	12/31/05	$68,615,100	$68,978,600	99.50%	$363,500	7.80%	11.10%
Wisconsin RS	12/31/06	12/31/06	$73,415,300	$73,735,800	99.60%	$320,500	7.80%	12.20%
Wisconsin RS	12/31/07	12/31/07	$79,791,900	$80,079,700	99.60%	$287,800	7.80%	18.00%
Wisconsin RS	12/31/08	12/31/08	$77,159,400	$77,412,000	99.70%	$252,600	7.80%	-4.50%
Wisconsin RS	12/31/09	12/31/09	$78,911,300	$79,104,600	99.80%	$193,300	7.80%	-17.70%
Wisconsin RS	12/31/10	12/31/10	$80,626,900	$80,758,800	99.80%	$131,900	7.20%	13.30%
Wisconsin RS	12/31/11	12/31/11	$78,940,000	$79,039,300	99.90%	$99,300	7.20%	22.90%
Wisconsin RS	12/31/12	12/31/12	$78,613,000	$78,682,700	99.90%	$69,700	7.20%	1.30%
Wisconsin RS	12/31/13	12/31/13	$85,276,100	$85,328,700	99.90%	$52,600	7.20%	11.10%

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References

State of Illinois, Office of the Auditor General, State Actuary's Report, December 2014
http://www.auditor.illinois.gov/Other-Public-Documents/State-Actuary-Reports.asp

State of Illinois, Office of the Auditor General, State Actuary's Report, December 2013
http://www.auditor.illinois.gov/Other-Public-Documents/State-Actuary-Reports.asp

State of Illinois General Obligation Bonds, Series 2014, May 2014 Official Statement
https://www2.illinois.gov/gov/budget/Pages/OfficialStatements.aspx

State of Illinois Pension Data Comprehensive Annual Financial Reports (CAFRs) – FY1985 to FY2013
http://www.ioc.state.il.us/index.cfm/resources/reports/cafr/

State of Illinois, Commission on Government Forecasting and Accountability, Analysis of Change in State Pension Unfunded Liability 1985-2012
http://cgfa.ilga.gov/Resource.aspx?id=5

State of Illinois, Commission on Government Forecasting and Accountability Report on the Financial Condition of the Illinois Retirement Systems, March 2014, Financial Condition as of June 30, 2013, http://cgfa.ilga.gov/Resource.aspx?id=5

State of Illinois, Commission on Government Forecasting and Accountability Special November, 2014
http://cgfa.ilga.gov/Resource.aspx?id=1583

State of Illinois, Commission on Government Forecasting and Accountability Special November, 2013
http://cgfa.ilga.gov/Resource.aspx?id=1583

National Association of State Retirement Administrators, Issue Brief: Public Pension Plan Investment Return Assumptions, Updated October 2014, http://www.nasra.org/issuebriefs

State of Connecticut Pension Data – Actuarial Valuations, Investment Reports, Comprehensive Annual Financial Reports (CAFRs) – FY2000 to FY2014, http://www.osc.ct.gov/reports/, http://www.osc.ct.gov/rbsd/reports/index.html, http://www.ott.ct.gov/pensionfunds_overview.html

State of Kentucky Pension Data – Actuarial Valuations, Investment Reports, Comprehensive Annual Financial Reports (CAFRs) – FY2000 to FY2014, http://finance.ky.gov/services/statewideacct/Pages/ReportsandPublications.aspx, https://kyret.ky.gov/about/Publications/Pages/default.aspx

State of North Carolina Pension Data – Actuarial Valuations, Investment Reports, Comprehensive Annual Financial Reports (CAFRs) – FY2000 to FY2013, http://www.ncosc.net/financial/, https://www.nctreasurer.com/ret/Pages/Valuation-Reports.aspx

State of South Dakota Pension Data – Actuarial Valuations, Investment Reports, Comprehensive Annual Financial Reports (CAFRs) – FY2000 to FY2014, http://bfm.sd.gov/cafr/, http://www.sdrs.sd.gov/publications/

State of Wisconsin Pension Data – Actuarial Valuations, Investment Reports, Comprehensive Annual Financial Reports (CAFRs) – FY2000 to FY2013, http://www.doa.state.wi.us/Divisions/Budget-and-Finance/Financial-Reporting/Comprehensive-Annual-Financial-Reports, http://etf.wi.gov/publications/actuarial_studies.htm

Actuarial Standards Board, Actuarial Standard of Practice #27, Selection of Economic Assumptions for Measuring Pension Obligations, Adopted by the Actuarial Standards Board, September 2007. http://www.actuarialstandardsboard.org/pdf/asops/asop027_109.pdf.

Wisconsin Legislative Council, 2012 Comparative Study of Major Public Employee Retirement Systems, December 2013, http://docs.legis.wisconsin.gov/misc/lc/comparative_retirement_study

Center for Retirement Research at Boston College, State and Local Pension Plans, Number 40, July 2014, An Update on Pension Obligation Bonds http://crr.bc.edu/briefs/an-update-on-pension-obligation-bonds/

The State of Illinois Retirement Systems: Funding History and Reform Proposals, A Civic Federation Issue Brief. September 2008 http://www.civicfed.org/sites/default/files/civicfed_279.pdf

Pension Funding Basics: Investment Rate of Return, A Civic Federation Brief, September 26, 2014, http://www.civicfed.org/civic-federation/blog/pension-funding-basics-investment-rate-return

New Report Sheds Light on Illinois Pension Problems, A Civic Federation Brief, December 17, 2014, http://www.civicfed.org/iifs/blog/new-report-sheds-light-illinois-pension-problems

Illinois Needs to Pass Public Pension Reform, Pew Charitable Trusts & Laura and John Arnold Foundation, July 2013, http://www.pewtrusts.org/~/media/legacy/uploadedfiles/pcs_assets/2013/Illinois20Needs20Pension20Reformpdf.pdf

The Fiscal Health of State Pension Plans: Funding Gap Continues to Grow, Pew Charitable Trust, March 2014, http://www.pewtrusts.org/en/research-and-analysis/analysis/2014/04/08/the-fiscal-health-of-state-pension-plans-funding-gap-continues-to-grow

State Public Pension Investments Shift Over Past 30 Years, Pew Charitable Trusts & Laura and John Arnold Foundation, June 2014, http://www.pewtrusts.org/en/research-and-analysis/reports/2014/06/03/state-public-pension-investments-shift-over-past-30-years

U.S. State Pension Funding: Strong Investment Returns Could Lift Funded Ratios, but Longer-Term Challenges Remain, Standard & Poor's Rating Services, June 24th 2014

Pension Fund Asset Allocation and Liability Discount Rates: Camouflage and Reckless http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2070054

MUNICIPAL BOND SPECIALISTS

Illinois Public Pension Compendium

A Five Part Series
Part Four: Analysis of Reforms

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“Enacted in 1994, the Illinois Pension Funding Act (referred to as P.A. 88-593, the Statutory Funding Plan, or the Pension Ramp) established a pension contribution schedule that was not sufficient to cover both (1) the cost of benefits accrued in the current year and (2) a payment to amortize the plans’ unfunded actuarial liability. This methodology structurally underfunded the State’s pension obligations and backloaded the majority of pension contributions far into the future. The resulting systematic underfunding imposed significant stress on the pension systems and on the State’s ability to meet its competing obligations.” – *SEC Administrative Proceeding File No. 3-15237, Cease-and-Desist Order State of Illinois 3/11/13.*

In March 2013, the Securities and Exchange Commission (SEC) charged the State of Illinois with misleading municipal bond investors by failing to adequately disclose the breadth of the State’s pension funding issues. The SEC cease-and-desist order was not entirely unexpected. The initial SEC inquiry was disclosed in a February 2011 prospectus and followed a nearly identical charge levied against the State of New Jersey in 2010. In the end Illinois settled with the SEC, and agreed to improve the State’s pension disclosures.

The investigation into the State’s pension disclosure practices did little to uncover what was already apparent to most municipal market participants. Rather than address the State’s pension issues, prior legislative reforms tended to allow the unfunded liability to increase while simultaneously deferring fiscally sound funding of annual pension contributions. This type of underfunding permitted the State to shift the burden associated with its pension costs to the future and, as a result, is creating additional fiscal stress for the State.

The fourth installment in our Illinois pension series will discuss a few of the notable pension reform attempts. For informational purposes we’ve included an in-depth compilation of state and local government pension reforms from the Illinois Commission on Government Forecasting and Accountability (CGFA) in the Appendix beginning on page six. The compilation is part of the Commission’s FY15 State of Illinois Budget Summary. In addition to providing ample historical legislative perspective, the summary also provides an extraordinary detailed and insightful analysis of the State’s annual budget.

Public Act 88-593 (Pension Ramp)

Public Act 88-593 became effective on August 22nd, 1994 and is commonly referred to as “the 1995 Statutory Funding Pan” or the “Pension Ramp.” P.A. 88-593 amended the State-funded retirement systems’ Pension Code to require annual appropriations to the State’s main pension systems as a level percent of payroll, beginning in FY2010, following a 15 year phase-in period which began in FY1996. The goal of P.A. 88-

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593 was to reach a 90% funding ratio by FY 2045. After FY2045, the State would contribute the annual amount needed to maintain a 90% funding ratio.

The Pension Ramp attempted to establish a payment schedule to mitigate the State's unfunded pension liabilities. The unfunded balance was created by years of inadequate funding, sub-par investment returns, and enhanced employee benefit structures. For reference, in the five years before the legislation was enacted, the State's UAAL more than doubled to $17 billion in 1994 from $8.2 billion in 1989.

Included in our Appendix on page 19 is a chart showing contribution and funded ratio projections from the original 1994 pension reform analysis. The chart begins in FY1996 and highlights the main critiques of this piece of legislation.

The statutory funding plan is not an actuarially based funding model. An actuarially based funding plan would entail an annual contribution consisting of 1.) the normal cost, 2.) interest based on the assumed investment rate and the outstanding UAAL, and 3.) an amortization of the UAAL over some defined period of time. The Pension Ramp Act adopted a funding plan whereby during the first 15 years the annual contribution would incrementally increase up to an amount that would be based on a constant percentage of payrolls starting in FY2010. The State's contributions during this ramp-up period were barely enough to cover the cost of pension benefits earned by current employees, and entirely failed to address the UAAL.

The use of that constant percentage consistently applied to reach the 90% funded goal by 2045 ostensibly amortizes the UAAL in such a way that it requires annual increases in pension contributions and thereby creates a backloaded funding model.

According to November 2014 projections from the CGFA, because the current funding model falls below the annual contribution of an actuarially based funding plan, the UAAL will continue to increase until approximately FY2030. On average pension contributions will cost the State $2.5 billion more per year through FY2045 than the original 1994 projections.

To place the additional cost into perspective, according to CGFA projections, the State's pension contribution will be an estimated $16 billion in FY2045. Comparatively, total expenditures in the State's current FY2015 General Fund budget were approximately $35 Billion.

Further, the fixed nature of the contribution schedule reveals another flaw in the Pension Ramp legislation, an inability to adjust to changing financial and economic conditions. For instance the initial ramp-up period coincided with robust equity markets, yet the State opted not to supplement pension contributions with surplus revenues. A decade later, a combination of fiscal mismanagement, the Great Recession, and rising pension costs has jeopardized the State's financial stability.

The 1995 funding law was modified by Public Act 94-0004 (See Appendix) in 2005. Public Act 94-0004 set the State pension contribution levels rather than directing the State to make the required contributions based on the Pension Ramp schedule. The State's pension contributions reduced the FY2006 and FY2007 contributions by $1.1 billion each year. This was preceded by the State's decision to issue pension obligation bonds in 2003. (See Part III of our Illinois Pension Compendium)

Public Act 96-0889

On March 24, 2010 the State of Illinois enacted P.A. 96-0889, which most notably established a "two-tier" pension system by reducing pension payments for employees hired after January 1, 2011, (Tier II employees).

P.A. 96-0889, among numerous other reforms, increased the minimum age at which an active employee may retire with unreduced pension payments to age 67 for employees hired after January 1, 2011 from age 60 or younger depending on age and years of service.

The Act also prohibited "double dipping", i.e. simultaneously collecting a pension and salary with a public employer and revised the calculation for pension payments such that annuities are based on the highest eight out of ten years of compensation instead of the highest four year average.

The effect of the reforms caused a reduction in the State's pension contribution relative to its pre-reform contributions levels in FY2011.

In the long term, the decrease in future benefits should reduce the sum of contributions required to reach a funded ratio of 90% given that the total benefits should decrease as more employees are covered by the reduced benefits. In the more immediate term the decreased contributions will likely increase the UAAL because a majority of employees are earning benefits governed by the provisions set forth for Tier I employees. Therefore, until a large portion of employees are covered by the new benefits (Tier II), the amount of the annual contribution will decrease, thereby increasing the UAAL and decreasing the funded ratio.

The hidden cost in this pension reform is that according to a recently released preliminary actuarial valuation report for TRS:

> *"The Tier II total normal cost is less than the Tier II member contribution rate; that is, Tier II members pay for their own pensions and subsidize the State (Illinois) by paying down the UAAL."*

Further, a Civic Federation analysis of the preliminary report noted:

> *"Tier 2 employees, hired on or after January 1, 2011, receive lower pension benefits upon retirement under a law passed in April 2010 than Tier 1 employees, who were hired prior to that time. Through FY2045, Tier 2 employees are projected to contribute $26.2 billion to fund their own benefits and $6.9 billion to pay for the unfunded liability. Tier 1 employees are projected to contribute $19.8 billion during the same period, all of which will be used to fund their own benefits."*

Public Act 98-0599 (Pension Reform)

Public Act 98-0559, or commonly known as the Pension Reform Act, was signed on December 5th, 2013. The bill was created to address the rising amount of pension liabilities in Illinois while also improving its diminished credit quality. Illinois is currently the lowest rated state by Standard & Poor's at A-minus.

The State's financial outlook appeared to improve after the bill initially passed, but that was short-lived after four separate lawsuits filed by a combination of unions and private parties, were merged together months after the bill's passing.

The main argument presented by these groups is that the State lacked sufficient evidence to call upon its emergency powers when revenue for the pension issue could be provided through a tax increase.

In November 2014, Sangamon County Circuit Court Judge John Belz ruled the Pension Reform bill "unconstitutional and void in its entirety".

"The state of Illinois made a constitutionally protected promise to its employees concerning their pension benefits," Belz wrote in his decision. "Under established and uncontroverted Illinois law, the state of Illinois cannot break this promise." *See Pension Litigation Order filed 11/21/2014 Sangamon County Circuit Clerk*

The Illinois Attorney General has appealed the decision and the case is pending in front of the Illinois Supreme Court.

The main issue, which was a focal point of Part Two in our Illinois Pension series, was whether or not the bill was constitutional and how the courts would interpret Article VIII Section 5 of the Illinois' Constitution, which contained the Pension Protection Clause.

A similar bill attempting to restructure the pension's healthcare benefits was struck down on July 3rd, 2014 by a vote of 6-1. Even then many experts believed that the Illinois court system would have a similar ruling on PA 98-0599.

The Pension Reform bill, which had the support of both the General Assembly and the Governor, aimed to reduce the amount owed to the pension without significantly raising taxes within the state. The main goals of the act were to:

- increase the retirement age for those under the age of 46
- set an earnings limit cap, and
- to reduce cost of living adjustments.

P.A. 98-599 then offered members the option of opting out of a defined benefit plan and switching to a defined contribution plan. The act also called for the various retirement systems to switch form a projected unit credit actuarial cost method (PUC) to an entry age normal actuarial cost method (EAN). The reason for this change was due to the fact that the PUC method resulted in normal costs that increased at a greater rate than payroll, whereas the EAN method did not. The State estimated it could potentially save a total of $160 billion over the course of 30 years and fully fund the SURS, TRS, and SERS by 2039.

In the final part of our series we will provide some comparisons as to how other States have handled similar pension challenges and conclude our examination of the topic.

Appendix

86th General Assembly (1989 – 1990)

Compound Annual Cost of Living Adjustment (P. A. 86-0273)

Public Act 86-0273, which took effect on August 23, 1989, provided for compounded 3% annual cost of living adjustments (COLA's) beginning January 1, 1990 for annuitants in all five of the State-funded retirement systems (TRS, SERS, SURS, JRS, and GARS). Prior to the enactment of P.A. 86-0273, annual COLA's had been calculated on a simple non-compounded basis.

88th General Assembly (1993 – 1994)

Funding Plan for State-Funded Retirement Systems (P. A. 88-0593)

Public Act 88-0593 implemented a funding plan for the five State retirement systems that requires the State to make contributions as a level percent of payroll in fiscal years 2011 through 2045, following a phase in which began in fiscal year 1996. The contributions are required to be sufficient, when added to employee contributions, investment income, and other income, to bring the total assets of the systems to 90% of the actuarial liabilities by fiscal year 2045. Each system is required to certify the amount necessary for the next fiscal year by November 15 of the current fiscal year, for inclusion in the Governor's budget. For example, the FY 2008 actuarial reports will be released in November 2008, and will contain the actuarially certified contributions for FY 2010.

89th General Assembly (1995 – 1996)

Funding Plan for Chicago Teachers' Pension Fund (P.A. 89-0015)

Public Act 89-0015 established a funding plan for the Chicago Teachers' Pension Fund under which the Chicago Board of Education is required to make a minimum annual contribution to the fund in an amount that will bring the funded ratio up to 90% by the end of Fiscal Year 2045. For fiscal years 1999 through 2010, the Board of Education's contribution is to be increased in equal annual increments so that by Fiscal Year 2011, the Board of Education is making contributions as a level percentage of payroll each year through FY 2045.

90th General Assembly (1997 – 1998)

SERS Formula Increase (P.A. 90-0065)

P.A. 90-0065 (HB 0110) implemented a flat rate formula for SERS Regular Formula members covered by Social Security of 1.67% for all years of service. Regular Formula members not covered by Social Security moved to a flat rate formula of 2.2% for all years of service. The Act applied to all members retiring on or after January 1, 1998.

Funding Plan for Chicago Teachers' Pension Fund (P.A. 90-0545)

Public Act 90-0548 revised the funding plan outlined in Public Act 89-0015 to stipulate that the Chicago Board of Education need not make pension contributions unless the funded ratio drops below 90%.

State Contributions to Chicago Teachers' Pension Fund (P.A. 90-0582)

Public Act 90-582 requires the state to contribute 0.544% of the Chicago Teachers' Pension Fund's total teacher payroll when the funded ratio drops below 90%.

TRS Formula Increase (P.A. 90-0582)

P.A. 90-0582 implemented a retirement formula increase for members of the Teachers' Retirement System. The Act provided that active teachers would earn creditable service on or after July 1, 1998 at a rate of 2.2% of final average salary for each year of service. The Act also allowed teachers to make contributions to TRS in order to upgrade past service earned prior to the implementation of the flat-rate formula.

Chicago Teachers Formula Increase (P.A. 90-582)

P.A. 90-582 implemented a retirement formula increase for Chicago Teachers. The Act provided that active teachers would earn creditable service on or after July 1, 1998 at a rate of 2.2% of final average salary for each year of creditable service. The Act allowed Chicago teachers to make contributions to the fund in order to upgrade past service earned prior to the implementation of the new flat-rate formula.

Creation of Self-Managed Plan in SURS (P.A. 90-0448)

P.A. 90-0448 gave members of the State Universities Retirement System the option to enroll in a Self-Managed Plan in which participants are able to choose from a variety of investment options ranging from mutual funds to annuity contracts. Members who choose the SMP become vested after earning 5 years of service credit.

91st General Assembly (1999 – 2000)

"Rule of 85" for SERS (P.A. 91-0927)

P.A. 91-0927 created a "Rule of 85" for the State Employees' Retirement System, wherein an employee is eligible to retire when the employee's age plus service credit equals 85 years.

Downstate Fire Formula Increase (P.A. 91-0466)

Prior to the enactment of P.A. 91-0466, Downstate Firefighters received an annuity of 50% of salary for the first 20 years of service, plus 2% of salary for each year of service between 21 and 30 years, plus 1% of salary for each year of service over 30 years. The Act increased the retirement formula to 2.5% of salary for the 21st through 30th year of service. The maximum annuity of 75% of salary was not changed. In effect, the Act allowed the maximum annuity of 75% of salary to be reached in 30 years, instead of 35 years.

Downstate Police Formula Increase (P.A. 91-0939)

Prior to the enactment of P.A. 94-0939, Downstate Police officers received an annuity of 50% of salary for the first 20 years of service, plus 2% of salary for each year of service between 21 and 30 years, plus 1% of salary for each year of service over 30 years. The Act increased the retirement formula to 2.5% of salary for the 21st through 30th year of service, beginning January 1, 1999. The maximum annuity of 75% of salary was not changed. In effect, the Act allowed the maximum annuity of 75% of salary to be reached in 30 years, instead of 35 years.

92nd General Assembly (2001 – 2002)

SERS Alternative Formula Increase (P.A. 92-0014)

P.A. 92-0014 (HB 0250) changed the retirement formula for alternative formula employees to 2.5% for each year of service for members coordinated with Social Security and 3.0% for each year of service for non-coordinated members. The Act increased the maximum retirement annuity for alternative formula employees to 80% of final average salary.

Addition of Highway Maintenance Workers to the SERS Alternative Formula (P.A 92-0257)

P.A 92-0257 added state highway maintenance workers to the alternative formula under SERS. Specifically, the Act included persons employed on a full-time basis by the Illinois Department of Transportation in the position of highway maintainer, highway maintenance lead worker, heavy construction equipment operator, and other job titles. The bill also added several positions within the Illinois State Toll Highway Authority such as equipment operator/laborer, welders, sign makers/hangers, and other job titles.

SERS Early Retirement Incentive (Public Act 92-0566)

Public Act 92-0566 created the 2002 Early Retirement Incentive for certain SERS and TRS members. The ERI allowed members to purchase up to five years of service credit and age enhancement. Eligible members were then required to leave employment between July 1, 2002 and December 31, 2002. Over 11,000 members took advantage of the ERI, and a majority of the participants were eligible to receive benefits immediately following termination.

93rd General Assembly (2003 – 2004)

Pension Obligation Bond (P.A. 93-0002)

Public Act 93-0002 amended the General Obligation Bond Act to increase bond authorization by $10 billion. These general obligation bonds were designated as a pension funding series. The State used a portion of the bond proceeds to pay part of the FY 2003 State contribution and all of the FY 2004 State contributions to the retirement systems. Of the $10 billion, $7.3 billion was used to reduce the unfunded liabilities of the State-funded retirement systems. Along with the $10 billion increase in bond authorization, Public Act 93-0002 included a provision requiring State contributions to the retirement systems to be reduced by the amount of the debt service (the amount of principal and interest payments) on the bonds. The legislation set the maximum annual employer contribution to each system at the amount that would have been contributed without the bond issuance, minus the total debt service payments for the fiscal year. Effectively, the reduction in retirement contributions is used to pay the debt service on the bonds.

Benefit Enhancement for Downstate Fire Pension Funds (P. A. 93-0689)

P.A. 93-0689 implemented the following benefit enhancements for Downstate Fire pension funds:

- Increased the surviving spouse annuity from 54% of the deceased firefighter's final salary to 100% of the deceased firefighter's annuity.
- Increased the minimum retirement annuity from $1,030 per month to $1,159.27 per month over a four-year period for firefighters with 20 or more years of service.

94th General Assembly (2005 – 2006)

Change in Funding Provisions for State Systems (P.A. 94-0004)

Public Act 94-0004 changed the funding plan created in 1994 by Public Act 88-0593. The Act set the State contribution levels for FY 2006 and FY 2007, rather than requiring the State to make contributions based on actuarial calculations contained in the pension funding plan under P.A. 88-0593. In addition, the separate funding of the liability created by the 2002 SERS Early Retirement Incentive was eliminated. The following table provides a comparison of the FY 2006 certified contributions and FY 2007 contributions with the State contributions that were required by Public Act 94-0004. The actual appropriations to the Systems were contained in SB 1548 (P.A. 94-0015).

SERS Alternative Formula Changes (P.A. 94-0004)

Prior to the enactment of P.A. 94-0004, all employees of the Department of Corrections were covered by the SERS alternative formula. Public Act 94-0004 provides that for employees entering service after July 1, 2005, only Department of Corrections employees who are headquartered at a correctional facility, parole officers, members of an apprehension unit, members of an intelligence unit, and DOC investigators will be covered by the alternative formula. New employees included in other groups currently covered by the alternative formula will continue to be eligible for the SERS alternative formula.

SURS Money Purchase Retirement Option Changes (P.A. 94-0004)

Public Act 94-0004 eliminated the money purchase formula for employees who became members of SURS after July 1, 2005. Beginning in FY 2006, the Act requires the Comptroller (rather than the SURS Board of Trustees) to determine the interest rate to be used when crediting interest to the accounts of current employees.

Salary Increase Payments For Teachers and State University Personnel (P.A. 94-0004)

Public Act 94-0004 provided a mechanism by which the liability associated with salary increases above a certain level may be shifted to the employer (school districts and universities) providing those salary increases. The Act provides that during the years used to determine final average salary, the employer must pay to TRS or SURS an amount equal to the present value of the increase in benefits resulting from salary increases above 6%. The employer contribution required by Public Act 94-0004 must be paid in a lump sum within 30 days of the receipt of the bill from the retirement system. The Act specifies that the retirement system must calculate the contribution amount using the same actuarial assumptions and tables used for the most recent actuarial valuation. The salary increase payment provision for TRS and

SURS contained in Public Act 94-0004 does not apply to salaries paid under contracts or collective bargaining agreements entered into, amended, or renewed before the effective date of the Act (June 1, 2005).

Teacher Sick Leave Service Credit (P.A. 94-0004)

Prior to the enactment of P.A. 94-0004, members of TRS could establish up to 2 years of service credit for unused and uncompensated sick leave without making contributions. Public Act 94-0004 provides that if days granted by an employer are in excess of the normal annual sick leave allotment, the employer is required to contribute to TRS the normal cost of the benefits associated with this excess sick leave.

Retention of "Pipeline" Early Retirement Option in TRS (P.A. 94-0004)

An Early Retirement Option for members of TRS was created in 1980 and, prior to 2005, had been extended every 5 years since its inception. (Public Act 91-0017 extended the TRS ERO option until June 30, 2005). If an employee exercised the ERO option (i.e. retires before age 60 with less than 34 years of service) employee and employer contributions were required to avoid discount. The employee contribution was 7% of salary for each year less than age 60 or 35 years of service (whichever is less) and the employer contribution was 20% of salary for each year less than age 60. Public Act 92-0582 removed the employee contribution for members with 34 years of service and Public Act 91-0017 removed the employer contribution requirement for employees who retire with 34 years of service. Public Act 94-0004 allowed TRS members to participate in the "pipeline" ERO if the member retired between June 30, 2005 and July 1, 2007.

New Early Retirement Option in TRS (P.A. 94-0004)

Public Act 94-0004 creates a new ERO effective July 1, 2005. If an employee exercises the new ERO option (retires before age 60) employee and employer contributions are required to avoid discount. The employee contribution is 11.5% of salary for each year less than age 60 or 35 years of service (whichever is less) and the employer contribution is 23.5% of salary for each year less than age 60. In addition, all active TRS members are required to contribute 0.4% of salary towards the cost of ERO. This contribution would be refunded, without interest, if the member does not utilize the ERO, if the member takes a refund from TRS, if the member dies, or if the ERO is terminated.

By June 30, 2012 (and every 5 years thereafter), TRS is required to review the System's ERO experience to determine if the required contributions adequately fund the ERO. The TRS Board of Trustees must submit the results to the Commission on Government Forecasting and Accountability, who must then recommend to the General Assembly (by February 1, 2013) if the required ERO contributions should be adjusted. If the General Assembly does not adjust the required contributions as recommended, the ERO would be terminated at the end of that fiscal year.

Extension of Early Retirement Option for Chicago Teachers (P.A. 94-0004)

Public Act 91-0017 extended the Early Retirement Option in the Chicago Teachers' Pension Fund until June 30, 2005. If an employee exercises that option by retiring before age 60 with less than 34 years of service, employee and employer contributions are required to avoid a reduction in annuity. The employee contribution is 7% of salary for each month less than age 60 or 35 years of service (whichever is less), and the employer contribution is 20% of salary for each year less than age 60. No employee or employer contributions are required for members with 34 years of service. Currently, each employer has the authority to determine whether it should provide an ERO for its employees. Public Act 94-0004 extends the ERO option to June 30, 2010. The Act also specifies that the employer may not limit the number of ERO participants to less than 200 (rather than 30% of eligible members). The Act also allows the employer and collective bargaining agent to agree to set the limit higher than 200, and to base the allocation for participation on a basis other than seniority.

Application of New Benefits (P.A. 94-0004)

Public Act 94-0004 requires every new benefit increase to identify and provide for additional funding at least sufficient to fund the resulting annual increase in cost as it accrues to the System. Unless the funding inadequacy is corrected by the General Assembly, the benefit increase would expire at the end of the fiscal year. In addition, Public Act 94-0004 provides that all benefit increases will expire 5 years after the effective date of the increase, unless an earlier date is

specified in the legislation that provides the benefit increase. This provision does not apply to the Chicago Teachers' Pension Fund.

Exemptions to 6% End-of-Career Salary Increase Cap (P.A. 94-1057)

P.A. 94-1057 amended both the Downstate Teachers' and State Universities' Articles of the Pension Code to exempt the employer (the university or the school district) from paying the increased contribution associated with certain salary increases above 6% granted during the employee's final average salary period. The Act applies to specifically enumerated salary increases granted between June 1, 2005 and July 1, 2011 as follows:

- Salary increases paid to teachers or university employees who are ten or more years away from retirement.
- Salary increases that result when a teacher is transferred from one employer to another as a result of school consolidation.
- Salary increases paid to teachers or university employees that are earned as a result of summer school or overload work. (Overload work must be for the sole purpose of academic instruction in excess of the standard number of instruction hours, and the overload pay must be necessary for the educational mission).
- Salary increases due to promotion for which a teacher is required to hold a certificate or supervisory endorsement issued by the State Teacher Certification Board. The certification must be different than what was required for the teacher's previous position, and the position must have existed and been filled by a member for no less than one complete academic year.
- Salary increase due to promotion for which a university employee moves to a higher classification under the State Universities Civil Service System, promotion to a tenure-track faculty position, or promotion to a position recommended on a promotional list created by the Illinois Community College Board.
- Payments to a teacher from the State Board of Education or the State of Illinois over which the school district does not have discretion.
- Salary increases granted to teachers or university employees under the aforementioned conditions after July 1, 2011, but before July 1, 2014, pursuant to a contract or collective bargaining agreement entered into on or after June 1, 2005, but before July 1, 2011.

P.A. 94-1057 also requires both SURS and TRS to file a report with the Governor and General Assembly by January 1, 2007 outlining the number of recalculations performed by school districts or universities, the dollar amount by which each school district or university's contribution was changed due to the recalculation, and the total amount received from each school district or university as a result of P.A. 94-0004. The Act also requires both SURS and TRS to provide an estimate of the increase in state contributions resulting from the aforementioned end-of-career salary increase exemptions.

CTA Pension Funding Requirements (P.A. 94-0839)

P.A. 94-0839 stipulates that, beginning January 1, 2009, the Chicago Transit Authority must make annual contributions to the CTA Pension Fund in order to bring the system's funded ratio to 90% by Fiscal Year 2058. The Act specifies that contributions will be made as a level percentage of payroll over the years remaining to and including FY 2058. The CTA must then make annual contributions in FY 2059 and thereafter at an amount necessary to maintain a 90% funded ratio.

Separation of CTA Pension Fund Retiree Healthcare and Pension Liabilities (P.A. 94-0839)

P.A. 94-0839 requires that pension contributions by the CTA shall not take into account liabilities relating to retiree health care benefits. The Act mandates that the CTA must separate pension funding from retiree healthcare funding by January 1, 2009.

Pension Funding Requirements for Regional Transportation Authority, Metra, and Pace Pension Funds (P.A. 94-0839)

P.A. 94-0839 stipulates that the RTA, Metra, and Pace shall have a general duty to make timely contributions to their respective defined benefit pension plans in accordance with the terms of each plan. If any of the aforementioned funds falls below a 90% funded ratio, the employer will be required to contribute at an amount sufficient to bring the funded ratio up to 90% in accordance with an amortization schedule adopted jointly by the employer and the trustee of the pension fund. The amortization schedule may extend for up to 50 years. P.A. 94-0839 further states that if any of the aforementioned employer-sponsored defined benefit plans reaches a 90% funded level, the employer and the trustee of the fund may cancel the amortization schedule and instead make annual contributions sufficient to maintain a 90% funded ratio.

RTA Oversight of CTA Pension Funding (P.A. 94-0839)

P.A. 94-0839 requires the Regional Transportation Authority to continually review the status of the CTA's pension contributions. If the RTA determines that the CTA is more than one month overdue in making a pension contribution in accordance with its funding plan, the RTA will be required to pay the amount of the overdue contribution to the CTA pension fund out of state funds otherwise payable to the CTA.

Formula Increase for IMRF SLEP Employees (P.A. 94-0712)

Prior to the enactment of P.A. 94-0712, the IMRF Sheriff's Law Enforcement Personnel retirement formula provided an annuity of 2.5% of final earnings for the first 20 years of service, plus 2% of final earnings for the next 10 years of service, plus 1% of final earnings for each year in excess of 30, up to a maximum annuity of 75% of final earnings. The Act changed the SLEP formula for members retiring after July 1, 2004, to 2.5% of final earnings for each year of service and increases the maximum annuity to 80% of final earnings.

95th General Assembly (2007 – 2008)

CTA Pension Fund Management Structure (P.A. 95-0708)

Prior to the enactment of P.A. 95-0708, the committee responsible for the governance and administration of the CTA Pension Fund was known as the Retirement Allowance Committee. The Act abolished this committee and replaced it with an 11 member Board of Trustees. Five members shall be appointed by the Chicago Transit Board; three members shall be appointed by the labor organization representing the highest number of CTA participants; one member shall be appointed by the labor organization representing the second-largest number of CTA participants, and one member shall be appointed by the employees not represented by a labor organization representing the highest or second-highest number of CTA participants. The final member shall be a professional fiduciary who is an expert in pension plan collective bargaining, and shall be selected by the Regional Transportation Authority Board of Directors.

CTA Pension Fund Investment Authority (P.A. 95-0708)

P.A. 95-0708 stipulates that the Board of Trustees may cause retirement plan funds to be invested in any type of investment permitted for the investment of moneys held by any of the State pension or retirement systems, any unit of local government or school district, or any agency or instrumentality thereof. The Act states that the board may, by a vote of at least two-thirds of the trustees, place retirement plan funds under the investment management of the Illinois State Board of Investment.

CTA Pension Fund Benefit Eligibility (P.A. 95-0708)

All individuals who were participants in the CTA Pension Fund prior to the effective date of the Act (Jan. 18, 2008) shall automatically be members of the new retirement fund, and shall continue receiving the same benefits. For all CTA employees hired on or after the effective date, the following conditions with respect to retirement shall be applicable: full retirement benefits at age 64 with 25 years of continuous service, or a reduced retirement benefit at age 55 with 10 years of continuous service.

Pension Contribution Rates for CTA Employees (P.A. 95-0708)

Beginning January 18, 2008, all participating employees shall contribute 6% of compensation, and the CTA shall contribute 12% of compensation to the Plan. For the period ending December 31, 2040, the amount of debt service on any pension obligation bonds will be treated as a credit against the CTA contribution to the Plan, up to a limit of 6% of compensation.

Contribution Increases to CTA Pension Fund (P.A. 95-0708)

P.A. 95-0708 makes the following contribution changes: if the funded ratio of the CTA pension fund is projected to fall below 60% for any year before 2040, the Board of Trustees will calculate as a level percentage of payroll the amount of increased contributions necessary to eliminate the shortfall within 10 years. These additional contributions will be required for each year prior to 2040 with one-third of the increase coming from increased employee contributions and two-thirds coming from increased employer contributions, in excess of normal contribution rates. For the period beginning 2040, the minimum contribution to the retirement Plan for each fiscal year shall be an amount sufficient to increase the funded ratio to 90% by the end of 2059. Participating employees will be responsible for one-third of the required additional contribution and the CTA will be responsible for two-thirds of the required additional contribution. Beginning in 2060, the required total contributions will be the amount necessary to keep the funded ratio at 90% each year, and the contribution shall be funded two-thirds by the CTA and one-third by the participating employees.

Creation of Health Care Trust for CTA Employees (P.A. 95-0708)

P.A. 95-0708 provides the CTA shall take all lawful actions necessary to separate the funding of retiree health benefits from the funding for the pension plan no later than July 1, 2009. A Retiree Health Care Trust shall be established 90 days after the effective date for the purpose of providing retirement health care benefits. The Act also states that the Retiree Health Care Trust shall assume sole responsibility for providing health care benefits to eligible retirees and their dependents and survivors no later than July 1, 2009.

CTA Health Care Trust Board of Trustees (P.A. 95-0708)

The Trust shall be governed and administered by a Board of Trustees consisting of 7 members. Three members shall be appointed by the Chicago Transit Board; one member shall be appointed by the labor organization representing the highest number of CTA participants; one member shall be appointed by the labor organization representing the second-largest number of CTA participants; and one member shall be appointed by the employees not represented by a labor organization representing the highest or second-highest number of CTA participants. The final member shall be a professional fiduciary who has experience in collectively bargained employee pension health plans, and shall be selected by the Regional Transportation Authority Board of Directors. The Act stipulates that the health care trust will not offer any health insurance plan which provides for more than 90% coverage for in-network services or 70% coverage for out-of-network services after any deductible has been paid.

CTA Health Care Trust - Contributions and Investment Authority (P.A. 95-0708)

Contributions into the Trust will come from employee contributions totaling no less than 3% of compensation. The Board of Trustees will also have the discretion to require contributions from retirees, dependents and survivors based upon their years of service, levels of coverage or Medicare eligibility, provided that the total of these contributions do not exceed 45% of the total benefit costs. Funds in the Trust may be invested in the manner described above for other retirement plan moneys. In order to be eligible for retiree health care benefits, the retiree must be at least 55 years of age, retire with 10 or more years of service, and satisfy any other rules that the board may establish.

Pension Bond Issuance for CTA Pension Plan (P.A. 95-0708)

The CTA is authorized to issue $1.3 billion in new bonds for the pension system. After payment of the costs of issuance and necessary deposits related to debt service, the net proceeds of approximately $1.1 billion will go only into the Retirement Plan for Chicago Transit Authority Employees. In addition, the CTA is authorized to issue $639.7 million in

new bonds for healthcare funding. After payment of the costs of issuance and necessary deposits related to debt service, the bond sale net proceeds of approximately $528.8 million will go only into the Retiree Health Care Trust.

96th General Assembly (2009 – 2010)

Issuance of Pension Obligation Notes (P.A. 96-0043)

P.A. 96-0043 mandates the issuance of new pension bonds totaling $3.466 billion. The bond sale proceeds, net of sales expenses, will be used as a portion of the FY 2010 State contributions to the various State pension systems. Specifically, the Act establishes the FY 2010 State pension contributions as follows: (1) TRS - $2,089,268,000, (2) SERS - $723,703,100, (3) SURS - $702,514,000, (4) JRS - $78,832,000, (5) GARS - $10,454,000. The FY 2010 total inflows into each of the 5 systems from all sources will be equal to the GRF portion of the certified amounts for each system. P.A. 96-0043 also establishes that as of June 30, 2008, the actuarial value of each system's assets will be equal to their market value. In determining the actuarial value of the systems' assets for fiscal years after June 30, 2008, any unexpected gains or losses from investment returns incurred in a fiscal year will be recognized in equal annual amounts over the 5 year period following that fiscal year. An unexpected gain or loss will be defined as any deviation from the forecasted 8.0% - 8.5% return on invested assets. P.A. 96-0043 contains a statement of legislative intent that all of the operating funds freed up by the bond sale should be used to fund programs and services provided by community-based human services providers to ensure the State continues assisting the most vulnerable citizens.

Calculation of Final Average Salary for Annuity Purposes - General Assembly Retirement System (P.A. 96-0207)

P.A. 96-0207 provides that for participants who become a member of GARS on or after August 10th, 2009 (the effective date of the Act), retirement annuities will be based on the 48 consecutive months of service within the last 120 months of service in which the total compensation was the highest, or by dividing the total period of service, if less than 48 months, by the number of months of service in that period.

Calculation of Final Average Salary for Annuity Purposes - Judges Retirement System (P.A. 96-0207)

P.A. 96-0207 provides that for participants who become members of JRS on or after August 10th, 2009 (the effective date of the Act), retirement annuities will be calculated by dividing the total salary of the participant during the period of the 48 consecutive months of service within the last 120 months of service in which the total compensation was the highest, or the total period of service, if less than 48 months, by the number of months of service in that period.

Illinois Governmental Ethics Act (P.A. 96-0006)

Currently, elected officials and members of certain boards and commissions are required to file verified written statements of economic interests. Public Act 096-0006 amends the Illinois Governmental Ethics Act to add that members of the board of any retirement system, pension fund or investment board established under the Illinois Pension Code will be required to file verified written statements of economic interests only if they are not already required to file such a statement.

Creation of Investment Working Group (P.A. 96-0006)

Public Act 096-0006 amends the State Treasurer Act to add a new Section titled, "working group; peer cost comparison." The Treasurer shall convene a working group consisting of representatives from the retirement systems, pension funds, and investment board created under the Illinois Pension Code, persons that provide investment services, and members of the financial industry. The working group shall review the performance of investment managers and consultants providing investment services for the retirement systems, pension funds, and investment board created under the Illinois Pension Code. The group shall develop uniform standards for comparing the costs of investment services and make recommendations to the retirement systems, pension funds, and investment board. The working group shall draft a report, and the Treasurer must submit such report, to the Governor and the General Assembly by January 1, 2011.

Expansion of Fiduciary Duties (P.A. 96-0006)

Currently, the Illinois Pension Code defines a fiduciary as someone who exercises discretionary authority or discretionary control respecting management of the pension fund or retirement system. Those who render investment

advice for a fee or other compensation are acting in a fiduciary capacity pursuant to current law. Public Act 096-0006 amends the Illinois Pension Code to stipulate that rendering advice with respect to the selection of fiduciaries in and of itself constitutes a fiduciary duty.

Requirements for Consultants (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to add a new Section concerning consultants. The new Section states that "consultant" means any person or entity retained or employed by the board of a retirement system, pension fund, or investment board to make recommendations in developing an investment strategy, assist with finding appropriate investment advisers, or monitoring the board's investments.

Reporting Requirements for Emerging Investment Managers (P.A. 96-0006)

Public Act 096-0006 requires that each retirement system, pension fund, and investment board, except for Downstate Police and Downstate Fire pension funds, shall submit a report to the Governor and the General Assembly by January 1 of each year. The report shall include all of the adopted policies, including the names and addresses of the emerging investment managers used, percentage of the assets under the investment control of emerging investment managers, the actions it has undertaken to increase the use of emerging investment managers, including encouraging other investment managers to use emerging investment managers as subcontractors when the opportunity arises, and also including specific actions undertaken to increase the use of minority broker-dealers.

Prohibited Transactions (P.A. 96-0006)

Public Act 096-0006 amends the Pension Code to require that a board member, employee, or consultant with respect to a retirement system, pension fund, or investment board shall not knowingly cause or advise the system, fund, or board to engage in an investment transaction with an investment adviser when the board member, employee, consultant, or their spouse (i) has any direct interest in the income, gains, or profits of the investment adviser through which the investment transaction is made or (ii) has a relationship with that investment adviser that would result in a pecuniary benefit to the board member, employee, consultant, or spouse of such board member, employee, or consultant as a result of the investment transaction. Public Act 096-0006 clarifies that a consultant includes an employee or agent of a consulting firm who has greater than 7.5% ownership of the consulting firm. Any violation of this provision constitutes a Class 4 felony.

Investment Advisers and Investment Services for Downstate Police and Downstate Fire Pension Funds (P.A. 96-0006)

P.A. 96-0006 modifies the requirements for the procurement of investment advisors and investment services for Downstate Police and Fire pension funds. The Act requires that investment advisers shall be a fiduciary with respect to the pension fund and shall be one of the following:

1. an investment adviser registered under the federal Investment Advisers Act of 1940 and the Illinois Securities Law of 1953;
2. a bank or trust company authorized to conduct a trust business in Illinois;
3. a life insurance company authorized to transact business in Illinois; or
4. an investment company as defined and registered under the federal Investment Company Act of 1940 and registered under the Illinois Securities Law of 1953.
5.

Selection and Appointment of Investment Advisors and Consultants (P.A. 96-0006)

Public Act 096-0006 creates a new section in the Pension Code concerning investment services for all retirement systems, pension funds, and investment boards, except Downstate Police and Fire pension funds. Pursuant to this new Section, all contracts for investment services shall be awarded by the board using a competitive process that is substantially similar to the process required for the procurement of professional and artistic services under Article 35 of the Illinois Procurement Code. The Act states that each board of trustees shall implement this policy by June 2, 2009.

Limitations on Investment Consulting Contracts (P.A. 96-0006)

Public Act 096-0006 states that notwithstanding any other provision of law, a retirement system, pension fund, or investment board shall not enter into a contract with a consultant that exceeds 5 years in duration. The Act provides that no contract to provide consulting services may be renewed or extended. At the end of the term of a contract, however, the consultant is eligible to compete for a new contract. No retirement system, pension fund, or investment board shall attempt to avoid or contravene these restrictions by any means.

Disclosure of Fees and Commissions by Consultants (P.A. 96-0006)

P.A. 96-0006 provides that by June 2, 2009, each investment adviser or consultant currently providing services or subject to an existing contract for the provision of services must disclose to the board of trustees all direct and indirect fees, commissions, penalties, and other compensation paid by or on behalf of the investment adviser or consultant in connection with the provision of those services and shall update that disclosure promptly after a modification of those payments or an additional payment.

Investment Transparency (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to create an additional section concerning investment transparency. The purpose of this new section is to provide for transparency in the investment of retirement or pension fund assets and require the reporting of full and complete information regarding investments by pension funds, retirement systems, and investment boards. A retirement system, pension fund, or investment board subject to the Pension Code and any committees established by such system, fund, or board must comply with the Open Meetings Act.

Ethics Training (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to create a new Section concerning ethics training. All board members of a retirement system, pension fund, or investment board created under this Code must attend ethics training of at least 8 hours per year. The training shall incorporate the following areas: ethics, fiduciary duty, and investment issues and any other curriculum that the board of the retirement system, pension fund, or investment board establishes as being important.

Prohibition on Gifts (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to clarify that no trustee or employee of a retirement system, pension fund, or investment board created under the Illinois Pension Code shall intentionally solicit or accept any gift from any prohibited source.

No Monetary Gain on Investments (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to create a new section stating that no member or employee of the board of trustees of any retirement system, pension fund, or investment board or any spouse of such member or employee shall knowingly have any direct interest in the income, gains, or profits of any investments made on behalf of a retirement system, pension fund, or investment board for which such person is a member or employee, nor receive any pay or emolument for services in connection with any investment.

Fraud (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to create a new Section concerning fraud. Any person who knowingly makes any false statement or falsifies or permits to be falsified any record of a retirement system or pension fund created under this Code or the Illinois State Board of Investment in an attempt to defraud the retirement system, pension fund, or the Illinois State Board of Investment is guilty of a Class 3 felony.

Contingent and Placement Fees Prohibited (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to create a new section concerning the prohibiting of contingent and placement fees. No person or entity shall retain a person or entity to attempt to influence the outcome of an

investment decision of or the procurement of investment advice or services of a retirement system, pension fund, or investment board for compensation, contingent in whole or in part upon the decision or procurement. Any person who violates this provision is guilty of a business offense and shall be fined not more than $10,000. In addition, any person convicted of a violation of this provision is prohibited for a period of 3 years from conducting such activities.

Approval of Travel or Educational Mission (P.A. 96-0006)

Public Act 096-0006 creates a new Section concerning travel and educational missions. The expenses for travel or educational missions of a board member of a retirement system, pension fund, or investment board must be approved by a majority of the board prior to the travel or educational mission.

Changes to SERS Board of Directors (P.A. 96-0006)

Public Act 96-0006 states that notwithstanding any provision of current law, the term of office of each trustee of the board appointed by the Governor who is sitting on the board is terminated on that effective date of the Act (April 3rd, 2009). Beginning on the 90th day after the effective date of this Act (July 2, 2009), the board shall consist of 13 trustees as follows:

I. the Comptroller, who shall be the Chairperson;
II. six persons appointed by the Governor with the advice and consent of the Senate who may not be members of the system or hold an elective State office and who shall serve for a term of 5 years, except that the terms of the initial appointees under this Act shall be 3 for a term of 3 years and 3 for a term of 5 years;
III. four active participants of the system having at least 8 years of creditable service, to be elected from the contributing members of the system;
IV. two annuitants of the system who have been annuitants for at least one full year, to be elected from and by the annuitants of the system.

Changes to SURS Board of Trustees (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to add that the terms of all trustees holding office on the effective date of this Act (April 3, 2009) shall terminate on that effective date. The Governor shall make nominations for appointment within 60 days after the effective date of this Act (June 2, 2009). A trustee sitting on the board on April 3, 2009 may not hold over in office for more than 90 days after that effective date. In addition to this, Public Act 096-0006 states that beginning on the 90th day after the effective date of this Act (July 2, 2009), the Board of Trustees shall be constituted as follows:

I. The Chairperson of the board of Higher Education, who shall act as chairperson of thes Board.
II. Four trustees appointed by the Governor with the advice and consent of the Senate who may not be members of the system or hold an elective State office and who shall serve for a term of 6 years, except that the terms of the initial appointees shall be 2 for a term of 3 years and 2 for a term of 6 years.
III. Four active participants of the system to be elected from the contributing membership of the system by the contributing members, no more than 2 of which may be from any of the University of Illinois campuses, who shall serve for a term of 6 years, except that the terms of the initial electees shall be 2 for a term of 3 years and 2 for a term of 6 years.
IV. Two annuitants of the system who have been annuitants for at least one full year, to be elected from and by the annuitants of the system, no more than one of which may be from any of the University of Illinois campuses, who shall serve for a term of 6 years, except that the terms of the initial electees shall be 1 for a term of 3 years and 1 for a term of 6 years.

Termination of TRS Executive Director (P.A. 96-0006)

Public Act 096-0006 amends the Illinois Pension Code to add that the secretary and chief executive officer of the Teachers' Retirement System, known as the Executive Director, holding that position on April 1, 2009 is terminated on July 1, 2009, by operation of law, and shall thereafter no longer hold that position or any other employment with the system. The board is directed to take whatever action is necessary to effectuate this termination.

Changes to the TRS Board of Trustees (P.A. 96-0006)

Public Act 096-0006 amends the Pension Code to change the composition of the TRS board of trustees. The board shall consist of 13 members, 6 of whom shall be appointed by the governor; 4 active teachers elected by the contributing members, and 2 annuitant members elected by the annuitants of the system. The Superintendent of Education is an ex-officio member who serves as president of the board.

97th General Assembly (2011 – 2012)

Anti-Fraud Provisions (P.A. 97-0651)

P.A. 97-0651 provides that any reasonable suspicion of a false statement by any appointed or elected commissioners, trustees, directors, board members, or employees of a retirement system or pension fund governed by the Pension Code or the State Board of Investment shall be immediately referred to the board of trustees of the pension fund or the State Board of Investment. The Act also states that the board shall immediately notify the State's Attorney of the jurisdiction where any alleged fraudulent activity occurred.

Pension Credit for Employees of Statewide Teacher Organizations – SURS and TRS (P.A. 97-0651)

Prior to the enactment of P.A. 97-0651, members of SURS and TRS were allowed to earn pensionable service credit while working for a statewide teacher organization or national teacher organization under certain conditions. P.A. 97-0651 specifies that such service credit can only be earned if the individual first became a full-time employee of the teacher organization and becomes a participant before the effective date of this amendatory Act (January 5th, 2012). This provision effectively prohibits members of SURS and TRS from earning this type of service credit after January 5th, 2012.

Repeal of Optional TRS Service Credit Provision of P.A. 94-1111 (P.A. 97-0651)

P.A. 94-1111, which became effective on February 27th, 2007, allowed certain employees of statewide teacher organizations to establish service credit in TRS for periods of employment prior to becoming certified as a teacher if certain conditions were met before the effective date of the Act. P.A. 97-0651 repeals this provision.

Payment for Reciprocal Service in GARS (P.A. 97-0967)

P.A. 97-0967 amends the GARS and the General Provisions Articles of the Illinois Pension Code. In cases where a GARS participant's final average salary in a retirement fund governed under the Retirement Systems Reciprocal Act is used to calculate a GARS pension, and in cases where the final average salary in a reciprocal system is higher than the final salary for annuity purposes in GARS, then the employer of the participant in the reciprocal system must pay to GARS the increased cost that is attributable to the higher level of compensation.

Creation of the State Actuary (P.A. 97-0694)

P.A. 97-0694 amends the Illinois State Auditing Act to permit the Auditor General to contract with or hire an actuary to serve as the State Actuary. The Act allows the Auditor General to select the State Actuary without engaging in a competitive procurement process. The State Actuary will have the responsibility for conducting reviews of the actuarial practices of the State retirement systems and identifying recommended changes in actuarial assumptions that the boards of the systems must consider before finalizing their certifications of the required annual State contributions.

98th General Assembly (2013 – 2014)

Temporary Extension of the TRS Early Retirement Option (ERO) (P.A. 98-0042)

Currently, TRS members who do not use the modified Early Retirement Option (ERO) under P.A. 94-0004 who retire with less than 35 years of service see a reduction of 6% per year for every year they are under the age of 60. By utilizing ERO, teachers who are between the ages of 55 and 60 who have at least 20 but less than 35 years of service may retire without a discounted annuity by paying a specified amount to TRS. School district contributions are also required for a member to retire under ERO. P.A. 94-0004, which became effective on July 1, 2005, set the member ERO contribution rate at 11.5% multiplied by the lesser of the number of years of partial years of service under 35 years, or the number of

years or partial years the teacher is shy of age 60. The school district ERO contribution rate is currently set at 23.5% multiplied by each year or partial year that the teacher's age is less than 60.

P.A. 94-0004 required COGFA to make a recommendation to the General Assembly by February 1, 2013 on any proportional adjustments to member and employer contribution rates. In accordance with TRS' experience study by Buck Consultants, COGFA's actuary, Sandor Goldstein, conducted a review of Buck's recommended revision to member and employer ERO contribution rates. Mr. Goldstein found the revised rates (14.4% for members and 29.3% for employers) to be sufficient to fund 100% of the ERO benefit. COGFA's recommendation was transmitted to the General Assembly on January 10th. SB 1366 extends the ERO at the employee and employer rates recommended by COGFA for members who retire on or after July 1, 2013 and before July 1, 2016.

Chart #1

Pension Ramp Legislation Original Projections vs. Actual and Current Projections

$ in Millions where applicable

FY	1994 Projection Contributions [1]	Annual Increase	Projected Funded Ratio	Actual Annual Contributions [2]	Annual Increase	Actual Funded Ratio	Difference Annual Contribution	Funded Ratio
1996	$607		52.3%	$609		53.1%	$2	0.8%
1997	$718	18.3%	52.6%	$712	16.9%	70.1%	-$6	17.5%
1998	$839	16.9%	52.0%	$881	23.7%	72.2%	$42	20.2%
1999	$970	15.6%	51.6%	$1,128	28.0%	73.0%	$158	21.4%
2000	$1,109	14.3%	51.4%	$1,230	9.0%	74.7%	$121	23.3%
2001	$1,256	13.3%	51.0%	$1,351	9.8%	63.1%	$95	12.1%
2002	$1,419	13.0%	51.5%	$1,473	9.0%	53.5%	$54	2.0%
2003	$1,591	12.1%	51.7%	$1,631	10.7%	48.8%	$40	-2.9%
2004	$1,776	11.6%	52.1%	$9,181	462.9%	60.9%	$7,405	8.8%
2005	$1,967	10.8%	52.5%	$1,640	-82.1%	60.3%	-$327	7.8%
2006	$2,172	10.4%	52.9%	$944	-42.4%	60.5%	-$1,228	7.6%
2007	$2,390	10.0%	53.4%	$1,389	47.1%	62.6%	-$1,001	9.2%
2008	$2,623	9.7%	54.0%	$1,986	43.0%	54.3%	-$637	0.3%
2009	$2,871	9.5%	54.7%	$2,728	37.4%	38.4%	-$143	-16.3%
2010	$3,140	9.4%	55.4%	$4,038	48.0%	38.3%	$898	-17.1%
2011	$3,271	4.2%	56.2%	$4,241	5.0%	43.3%	$970	-12.9%
2012	$3,411	4.3%	56.9%	$4,911	15.8%	39.0%	$1,500	-17.9%
2013	$3,536	3.7%	57.6%	$5,868	19.5%	39.3%	$2,332	-18.3%
2014	$3,709	4.9%	58.3%	$6,833	16.4%	39.3%	$3,124	-19.0%
2015	$3,881	4.6%	59.0%	$6,936 *	1.5%	41.5%	$3,055	-17.5%
2016	$4,062	4.7%	59.7%	$7,617 *	9.8%	43.0%	$3,555	-16.7%
2017	$4,253	4.7%	60.4%	$7,605 *	-0.2%	44.8%	$3,352	-15.6%
2018	$4,452	4.7%	61.1%	$7,779 *	2.3%	46.2%	$3,327	-14.9%
2019	$4,662	4.7%	61.9%	$7,907 *	1.6%	46.9%	$3,245	-15.0%
2020	$4,898	5.1%	62.5%	$8,065 *	2.0%	47.6%	$3,167	-14.9%
2021	$5,146	5.1%	63.0%	$8,318 *	3.1%	48.3%	$3,172	-14.7%
2022	$5,407	5.1%	63.5%	$8,583 *	3.2%	49.1%	$3,176	-14.4%
2023	$5,681	5.1%	64.0%	$8,860 *	3.2%	49.8%	$3,179	-14.2%
2024	$5,969	5.1%	64.6%	$9,129 *	3.0%	50.6%	$3,160	-14.0%
2025	$6,271	5.1%	65.2%	$9,410 *	3.1%	51.3%	$3,139	-13.9%
2026	$6,568	4.7%	65.8%	$9,724 *	3.3%	52.2%	$3,156	-13.6%
2027	$6,920	5.4%	66.5%	$10,048 *	3.3%	53.1%	$3,128	-13.4%
2028	$7,269	5.0%	67.2%	$10,363 *	3.1%	54.0%	$3,094	-13.2%
2029	$7,635	5.0%	68.0%	$10,690 *	3.2%	55.0%	$3,055	-13.0%
2030	$8,020	5.0%	68.8%	$11,006 *	3.0%	56.1%	$2,986	-12.7%
2031	$8,425	5.0%	69.7%	$11,324 *	2.9%	57.3%	$2,899	-12.4%
2032	$8,849	5.0%	70.7%	$11,661 *	3.0%	58.5%	$2,812	-12.2%
2033	$9,294	5.0%	71.5%	$12,012 *	3.0%	59.8%	$2,718	-11.7%
2034	**$9,763**	**5.0%**	**72.6%**	**$12,965** *	**7.9%**	**61.5%**	**$3,202**	**-11.1%**
2035	$10,255	5.0%	73.7%	$13,291 *	2.5%	63.2%	$3,036	-10.5%
2036	$10,772	5.0%	74.8%	$13,611 *	2.4%	65.1%	$2,839	-9.7%
2037	$11,314	5.0%	76.0%	$13,924 *	2.3%	67.1%	$2,610	-8.9%
2038	$11,884	5.0%	77.3%	$14,231 *	2.2%	69.3%	$2,347	-8.0%
2039	**$12,485**	**5.1%**	**78.6%**	**$15,532** *	**9.1%**	**71.6%**	**$3,047**	**-7.0%**
2040	$13,115	5.0%	80.0%	$14,827 *	-4.5%	74.1%	$1,712	-5.9%
2041	$13,778	5.1%	81.5%	$15,119 *	2.0%	76.8%	$1,341	-4.7%
2042	$14,475	5.1%	83.1%	$15,411 *	1.9%	79.7%	$936	-3.4%
2043	$15,208	5.1%	84.8%	$15,709 *	1.9%	82.9%	$501	-1.9%
2044	$15,978	5.1%	86.6%	$16,010 *	1.9%	86.3%	$32	-0.3%
2045	$16,786	5.1%	90.0%	$16,318 *	1.9%	90.0%	-$468	0.0%

(1) Source: Original 1994 Pension Ramp Payment Schedule
(2) Source: Actual Contributions State of Illinois CAFRs & Official Statements
(*) Source: CGFA Special Pension Briefing November 2014

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References

State of Illinois, Office of the Auditor General, State Actuary's Report, December 2014
http://www.auditor.illinois.gov/Other-Public-Documents/State-Actuary-Reports.asp

State of Illinois, Office of the Auditor General, State Actuary's Report, December 2013
http://www.auditor.illinois.gov/Other-Public-Documents/State-Actuary-Reports.asp

State of Illinois General Obligation Bonds, Series 2014, May 2014 Official Statement
https://www2.illinois.gov/gov/budget/Pages/OfficialStatements.aspx

State of Illinois Pension Data Comprehensive Annual Financial Reports (CAFRs) – FY1985 to FY2013
http://www.ioc.state.il.us/index.cfm/resources/reports/cafr/

State of Illinois, Commission on Government Forecasting and Accountability, Analysis of Change in State Pension Unfunded Liability 1985-2012
http://cgfa.ilga.gov/Resource.aspx?id=5

State of Illinois, Commission on Government Forecasting and Accountability Report on the Financial Condition of the Illinois Retirement Systems, March 2014, Financial Condition as of June 30, 2013, http://cgfa.ilga.gov/Resource.aspx?id=5

State of Illinois, Commission on Government Forecasting and Accountability FY2015 Budget Summary, September 2014,
http://cgfa.ilga.gov/Upload/FY2015BudgetSummary.pdf

State of Illinois, Commission on Government Forecasting and Accountability Special November, 2014
http://cgfa.ilga.gov/Resource.aspx?id=1583

State of Illinois, Commission on Government Forecasting and Accountability Special November, 2013
http://cgfa.ilga.gov/Resource.aspx?id=1583

The State of Illinois Retirement Systems: Funding History and Reform Proposals, A Civic Federation Issue Brief. September 2008
http://www.civicfed.org/sites/default/files/civicfed_279.pdf

New Report Sheds Light on Illinois Pension Problems, A Civic Federation Brief, December 17, 2014, http://www.civicfed.org/iifs/blog/new-report-sheds-light-illinois-pension-problems

SEC Cease-and-Desist Order against the State of Illinois, Press Release and Administrative Proceedings Order, March 2013
http://www.sec.gov/News/PressRelease/Detail/PressRelease/1365171513202#.VOEHci6GODk

MUNICIPAL BOND SPECIALISTS

Illinois Public Pension Compendium

A Five Part Series
Part Five: Conclusion

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May 20th, 2015

"Pay what is sustainable and affordable. What is needed is a mechanism that provides an independent and neutral determination of what is affordable and sustainable so the debate of unwillingness or inability can be transcended to what increased funding or adjustment to what can be afforded as pension benefits without eroding infrastructure and essential governmental service at an acceptable level." *James Spiotto, Lessons Learned from Financially Distressed Municipalities and Coming Attractions January 15th, 2015.*

Our series on the condition of the Illinois pension systems has hopefully provided considerable insight into the retirement system's history, actuarial assumptions, and proposed reforms. In our conclusion we will survey the pension reform landscape, examine major pension overhauls occurring in other states, and contemplate possible next steps for the State of Illinois.

As we have presented, pension systems are complicated structures involving a multitude of correlated variables, each one sensitive to subtle change. Added complexity is derived from each state's constitutional provisions, statutes, and case law. This individuality makes reasonable comparisons a challenge. Legal precedent in one state may have little bearing over reforms in other states. That said, for all the differences across pension systems, two underlying themes remain constant: a state's limited financial resources in the face of endless needs and ardent stakeholders on both sides of the issue. To that end, we find it necessary to study and understand other states' pension reforms.

We begin our discussion by highlighting states that have specific constitutional provisions prohibiting impairment of public employee pensions: Alaska, Arizona, Hawaii, Illinois, Louisiana, Michigan, and New York. These states may face significant legal challenges in order to pass comprehensive pension reform legislation. Other states have general constitutional provisions prohibiting the impairment of contracts or rely on the Contract Clause of the US Constitution: Georgia, Nebraska, New Jersey, Oklahoma, Rhode Island, Tennessee, and West Virginia. Legislators in these states will likely have to rely on existing case law to first determine how their state's courts view pension obligations (i.e. gratuities vs. contractual obligations). A majority of the remaining states rely on a combination of state statutes and case laws to determine whether pension impairment is prohibited.

Regardless of a state's provisions on prohibition of pension impairment, legislators have taken strides in reforming pension laws, particularly in 2013 and 2014. According to a legislative database compiled by the

National Conference of State Legislatures (NCSL), 44 states enacted 247 pension reform bills in 2013. Those figures increased slightly in 2014 when 45 states enacted 296 bills. In contrast, 36 states enacted 93 pension reform bills in 2012. The 2012 general election is in part the source of the sizable disparity. More precisely, it's probable certain legislators find the political environment during general elections unconducive to taking on politically untenable reforms that could jeopardize their campaigns.

Additionally, given the number of states and the volume of pension reform bills enacted in 2013 and 2014, it's easy to misinterpret the figures. Pension reform was certainly a hot topic the last several years, but the figures suggest each state enacted on averaged 5 to 7 pension reform bills. A majority did not involve complete overhauls. In fact, the small sample size of successfully enacted pension reform bills we reviewed during that two-year period involved minor changes. Furthermore, adjustments to pension benefits might appear more reasonable and easier to enact as the economy improves. As further evidence, funded ratios, particularly from those states that implemented investment return smoothing, will see investment losses stemming from 2008 and 2009 roll off from calculations. These phenomena are best exemplified by considering the enacted bills as well as the failed bills. During 2013, 179 pension reform bills failed to pass in 20 different states. Another 113 reform bills failed to pass in 17 states the following year. Eight States outright vetoed 12 pension reform bills in 2013, another eight vetoed 13 bills a year later.

The NCSL database does not take into account proposed reforms that failed to make it to a vote. For example, the California Pension Reform Initiative of 2014 (#13-0043), would have added language to the California Constitution that, according to the initiative's supporters, would "enable the people of California to take those actions necessary to attain fiscal sustainability and provide fiscally responsible and adequately funded pension and retiree healthcare benefits for all-government employees and retirees." The initiative, ostensibly allowed municipalities to reduce benefits and/or require additional employee contributions if the retirement systems were substantially underfunded or the municipality declared a fiscal emergency. Several administrative and judicial setbacks forced the bill's supporters to remove the referendum from the ballot.

The volume, successful pass rate, and the number of failed bills are evidence that state governments have attempted to tackle their respective pension issues.

Upon further examination of state retirement system reforms we find several notable examples. Compromises and concessions from both sides are inherent in instances where meaningful reforms have occurred.

In Utah, a state with statutes that prohibits pension benefit impairment for current employees, a reform bill passed directed at new hires. Senate Bill 63 and Senate Bill 43 of 2010 replaced the State's defined benefit pension system with a 401(k)-style plan for new hires. Further, the state increased and capped employer contributions at 10% of each worker's salary (12% for public safety workers and firefighters). The state also maintained the option for new hires to choose the defined benefit plan, but the state contribution to such plan was similarly capped at 10%.

Wisconsin Pension Reform of 2011 (Act 10) is well-known for triggering a month long protest by public employees. Notably Act 10 held wage increases to the rate of inflation and required public employees to contribute approximately 50% of the retirement system's annual pension contribution. That figure was estimated to be 5.8% of salary in 2011. Prior to Act 10, covered employees paid a very small portion toward their pensions. The bill also required state employees to pay at least 12.6% of the average cost of annual healthcare premiums. As we've noted on several occasions throughout our series, Illinois' neighbor to the north has maintained a pension funded ratio at or near 100% for the last several years.

New Jersey's pension reform of 2011 eliminated cost-of-living adjustments (COLA) for current and future retirees until at least 2040. The bill increased the retirement age for new teachers and other non-uniformed employees by five years to 65 and increased the years of service eligible for early retirement to 30 years. For new police and firefighters, pensions would be 65% of salary at 30 years of service, and 60% at 25 years. The existing law was 65% of salary at 25 years of service.

Public employees did broker some concessions including a mandate that the state make its annual pension payment or face possible legal action by the collective bargaining units. Additionally, an employee-manager board was established to set contribution rates, retirement ages and other benefit levels, but only when the funds become stable and as long as the changes don't have an adverse effect.

Rhode Island, despite its physical size, provides one of the better parallels to Illinois in terms of pension conditions. The state's total budget is small, projected to be approximately $8.6 billion for FY2016. Its retirement system has ranked alongside Illinois near the bottom of worst-funded pensions. In 2010, the funded ratios for Rhode Island's state employees and teacher retirement funds were each 48.4% with a combined unfunded liability near $6.9 billion. The system's poor condition and a spate of high-profile municipal bankruptcy filings in the state were the impetus behind the state's significant pension reform legislation in late 2011. The state was able to pass pension reform legislation that included temporary suspension of COLAs, increased retirement age for all non-vested employees and new hires, and creation of a new hybrid defined benefit/defined contribution retirement plan. Vested employees had their existing defined benefit plans frozen with future benefits accruing at a lower rate. According to the State's 2013 actuarial valuation report, upon passage of the bill, the State's combined unfunded pension liability of the employee and teacher's retirement fund declined by $2.7 billion adding more than 10% to the funded ratios of each system.

Not unexpectedly, the state's collective bargaining units and retirees filed corresponding lawsuits under the principle that Rhode Island courts provide protection from impairment for contractual pension rights. Rhode Island's constitution does not explicitly prohibit impairment of pension right; rather it relies on contract law. This fact lowers the legal hurdle for Rhode Island to pass comprehensive pension reform. According to the judicial opinion rendered by state's Supreme Court in *Nonnenmacher v. City of Warwick 722 A.2d 1199* (R.I. 1999), within the framework of Rhode Island contract law vested contractual rights might not be violated where the impairment caused by a change in benefits is determined not to be "substantial".

The bargaining units and retirees were unsuccessful in obtaining a restraining order and while the lawsuits were allowed to proceed, the reforms went into effect. After several years, multiple revisions, and court appointed mediation, the state and a majority of its bargaining units and retirees recently agreed on a settlement, which according to the governor preserved 92% of the savings the state projected in February 2014.

As discussed in part four of our series, Illinois' 2013 pension reform law was ruled unconstitutional by a circuit court judge in 2014. That ruling was subsequently appealed to the Illinois Supreme Court and ultimately upheld. In the state Supreme Court's opinion from May 2015, the presiding justices concurred with the lower court, concluding: "The circuit court was therefore correct when it concluded that Public Act 98-599 is void and unenforceable in its entirety."

The 2013 pension reform bill sought to trim the state's pension contribution by nearly $150 billion over the next 30 years while reducing the unfunded liability by 20%. It included a reduction in the state's contribution of approximately $1.2 billion for fiscal 2016. The bill took several cues from some of the successful reforms mentioned earlier including raising the retirement age for some, capping salaries eligible for pension benefits, limiting COLA increases, and lowering employee contributions.

The state's statutorily required pension contribution for FY2016 is $6.82 billion, up 12.8% from the prior year. The current administration has presented a pension reform proposal that saves $2.2 billion in FY16. Similar to the 2013 reform plan, the current reform bill seeks to reduce $100 billion from the state's pension contribution over the next three decades. Under the proposal the savings would be derived by freezing pension benefits for employees hired before 2011 and in turn offering a transition to a 401(k)-style plan with a lower COLA. The administration believes the proposal is within the constitutional framework because the proposed changes do not impair accrued benefits. This asserts the administration's position that changes are prospective on unearned future benefits. Public safety employees would be excluded from the changes. Given the recent ruling on Public Act 98-599, unions will undoubtedly consider legal challenges.

In Illinois' 2011 pension reforms, the state created a two-tiered benefit system, with those hired after the 2011 cutoff accruing pension benefits with lower COLAs, higher retirement ages, and capped salaries eligible for benefits. The current pension proposal would effectively apply the same Tier 2 benefit structure to employees hired prior to 2011.

Separate from the possible legal challenges, the proposed changes may find traction because as we have highlighted in part four of our series, the normal cost of the Tier 2 benefits is less than the Tier 2 contribution rate members pay for their own pensions. According to an analysis by the Civic Federation, through FY2045, Tier 2 employees are projected to contribute $26.2 billion to fund their own benefits and $6.9 billion to pay for the state's unfunded liability, while Tier 1 employees are projected to contribute $19.8 billion during the same period, all of which will be used to fund their own benefits. A transition to a benefit structure that is equal among all current employees could provide the necessary foundation to negotiate such changes.

It is important to point out that the current two-tiered system is not without its own shortcomings. According to a recent article in The Bond Buyer, Illinois lawmakers raised concerns "…whether the Tier 2 benefit level will eventually fail a federal requirement that the state provide a retirement plan with benefits comparable to Social Security which state employees don't pay into or receive any benefit from. Some experts have suggested the Tier 2 plan may fail the test, so increasing the number of employees receiving those benefits would only serve to drive up future costs…"

An actuarial analysis performed for TRS indicates that current Tier 2 benefits meet the federal requirements and are projected to remain in compliance through 2027. Under the current pension proposal transitioning higher salaried workers from the Tier 1 to Tier 2 benefit structure may accelerate the plan toward non-compliance.

The Illinois Supreme Court's ruling has left the state's retirement systems in a familiar and precarious position. Quite simply the solution cannot be found in adjusting a single side of the equation. Tax revenues are not infinite, at a point taxation tempers economic growth. Retirement expenses must be constrained within the parameters of providing basic public services to all citizens. The majority of every government dollar spent cannot be utilized for any one purpose.

There exists an abundance of innovative alternatives. The Civic Federation, in its analysis of the state's FY2016 budget, makes two reasonable revenue enhancement recommendations.

First, it recommends that the state "increase the individual income tax to 4.25% from 3.75% and the corporate income tax rate to 6.0% from 5.25% on January 1, 2016." The Federation estimates that an increase to those levels would generate an additional $1.7 billion in revenues before their proposed gradually reduction to 4.0% for individuals and 5.6% for corporations as the state's finances stabilize.

The proposition is attractive in that the increase itself is less than the initial increase in 2011 and it integrates a formula correlated to the state's financial results. Further, legislators could supplement the

increase by specifically earmarking a percentage of the proposed increase to go towards pensions and the state's backlog of unpaid bills.

Second, the Civic Federation recommends that the State of Illinois broaden its income tax base by eliminating the tax exemption for retirement income. The Federation's proposal excludes Social Security income and all retirement income from individuals with taxable income of less than $50,000.

According to the Federation's report: "Unlike the federal government, which taxes certain levels of Social Security and other retirement income, Illinois exempts all retirement income from the State's income tax base. Out of the 41 states that impose an income tax, Illinois is only one of three that exempts all pension income and one of 27 that excludes all federally taxable Social Security income."

The Illinois Comptroller reports that this exemption of federally taxable retirement income reduced individual income tax revenues by $2.2 billion in FY2013. The Federation estimates that by repealing this tax expenditure the state could generate an additional $1.5 billion to $2.0 billion annually.

When combined with the current administration's estimated annual pension savings of $2.7 billion through 2045, there are nearly $3 billion in revenue and expenditure concessions from each side. It is critical that these and any other additional revenues or expenditure reductions be specifically earmarked to strengthen the pension systems and improve the state's financial health. Transparency and accountability are important to develop a workable solution for the state, its taxpayers, employees, and retirees.

Admittedly such proposals are not the type of grand bargain we wish to see, but the plausible $6 billion in total annual revenue enhancements and pension cost savings could provide an ample foundation for a sustainable and affordable public pension system.

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References

Supreme Court of Illinois. Doris Heaton et al. v. Pat Quinn, Governor, State of Illinois, et al. Decided: May 8th, 2015
http://www.illinoiscourts.gov/Opinions/SupremeCourt/2015/118585.pdf

Supreme Court of Rhode Island. Harold J. NONNENMACHER v. The CITY OF WARWICK, et al. Donald E. Sjogren v. The City of Warwick, et al. Nos. 97-528-Appeal, 97-529-Appeal. Decided: January 25, 1999
http://caselaw.findlaw.com/ri-supreme-court/1385835.html#sthash.0sXjyYJN.dpuf

State of Rhode Island, Actuarial Valuation Report for FYE June 30th 2013
http://content.ersri.org/actuarial-valuations-1/ersri-actuarial-valuations-1/#gsc.tab=0

State of Illinois, Commission on Government Forecasting and Accountability FY2015 Budget Summary, September 2014,
http://cgfa.ilga.gov/Upload/FY2015BudgetSummary.pdf

State of Illinois, Commission on Government Forecasting and Accountability Special November, 2014
http://cgfa.ilga.gov/Resource.aspx?id=1583

The State of Illinois Retirement Systems: Funding History and Reform Proposals, A Civic Federation Issue Brief. September 2008
http://www.civicfed.org/sites/default/files/civicfed_279.pdf

Lessons Learned from Financially Distressed Municipalities & Coming Attractions, Presentation by James Spiotto, Chapman Strategic Adviosrs, January 15th, 2015

State Constitutional Protections for Public Sector Retirement Benefits, National Conference on Public Employee Retirement Systems (NCPERS)
http://ncpers.org/Files/News/03152007RetireBenefitProtections.pdf

National Conference of State Legislators, Pension Research Database
http://www.ncsl.org/research/fiscal-policy/pensions.aspx

What are the Rhode Island Pension Reforms? A Civic Federation Brief, April 19th, 2012,
http://www.civicfed.org/iifs/blog/what-are-rhode-island-pension-reforms

Rhode Island Pension Reform: Two Years Later, A Civic Federation Brief, February 6th, 2014,
http://www.civicfed.org/iifs/blog/rhode-island-pension-reform-two-years-later

State of Illinois FY2016 Recommended Operating and Capital Budgets: Analysis and Recommendations, A Civic Federation Brief, May 7th, 2015
http://www.civicfed.org/iifs/publications/FY16_ILRecommendedBudget

Pace of Pension Reform Ebbs After 49 States Change Laws, Pension & Investments Magazine, April 14th, 2014, By Hazel Bradford
http://www.pionline.com/article/20140414/PRINT/304149975/pace-of-pension-reform-ebbs-after-49-states-change-laws

Illinois Pension Arguments Aired, The Bond Buyer, By Yvette Shields, March 11th, 2015
http://www.bondbuyer.com/news/regionalnews/illinois-pension-arguments-aired-1071279-1.html

Legislative Roadblock Goes Up on Ill. Gov.'s Pension Reforms, The Bond Buyer, By Yvette Shields, April 15th, 2015
http://www.bondbuyer.com/news/regionalnews/illinois-pension-arguments-aired-1071279-1.html

Emanuel hopeful Chicago pension reforms will survive even though state's didn't , Chicago Sun Times, By Fran Spielman, May 8th, 2015
http://chicago.suntimes.com/chicago-politics/7/71/589677/emanuel-hopeful-chicago-pension-reforms-will-survive-even-though-states-didnt

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