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ILLINOIS PENSIONS IN A FISCAL CONTEXT:
A (BASKET) CASE STUDY

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ABSTRACT

Illinois' public pensions are among the worst funded in the nation. We present evidence that the main reason for Illinois' underfunding is a history of making inadequate contributions, dating back to the origins of the state's pensions. We discuss the recent history and legal status of pension reform efforts in the state. Using a fiscal model of the state's finances, we project how Illinois' fiscal situation may evolve in the future. A key finding is that with or without pension reform, Illinois will continue to face significant structural deficits that will require revenue increases and/or additional spending cuts to address.

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1 Introduction

The State of Illinois is recognized for many positive attributes, as diverse as being the "Land of Lincoln" and the first state to ratify the 13th Amendment abolishing slavery to being home of Chicago's "Magnificent Mile." However, the state is also known for its troubled fiscal status, currently having the worst bond rating of any state (IOC 2015a) as well as several of the most poorly funded public pensions in the nation (Sielman 2013). Indeed, the poor funding status of the major state pension plans is often blamed for being the root of the state's fiscal problems. Some commentators have suggested that "lavish" pension benefits created the current fiscal situation (Ridell 2014).

This paper presents a case study of Illinois pensions with an objective of understanding pension funding in a broader fiscal context. In particular, we seek to shed light on the extent to which the current fiscal stress is the result of relatively generous public pensions versus the state's history of making insufficient contributions. Naturally, these two issues are closely connected, as benefit levels drive required contributions, thus making it impossible to precisely disentangle the two factors. Nonetheless, we provide suggestive evidence by comparing Illinois benefits for public employees to those in other states and by examining the history of pension funding in the state. In general, our findings mirror those of Munnell (2012: 105) who characterizes Illinois as a state "with moderately expensive plans that [has] assiduously avoided funding."

More specifically, we find that public pensions in Illinois are not significant outliers in terms of expense or generosity. A comparison of initial retirement benefits of a public worker in Illinois to similar workers in other states places Illinois somewhere in the middle of the pack. On a lifetime basis Illinois benefits are more generous, and thus more expensive, due to the fixed nominal "automatic annual increase" (AAI) of three percent (commonly, though inaccurately, referred to as a COLA). However, the relative generosity of the AAI must be weighed against the reality that the most Illinois public workers are not part of the U.S. Social Security system. Thus Illinois pensions need to be more generous than those in the majority of states where workers have a public pension on top of Social Security in order for total retirement contributions and benefits to be similar.

If the generosity of pensions is not the root cause of the state's funding situation, then what is? We discuss that the state has a very long history of making insufficient contributions, effectively engaging in borrowing by underfunding the pensions. This has created a large unfunded pension obligation, the servicing of which now places significant strain on Illinois' public finances.

To understand the strain that public pension funding places on the state budget prospectively, we project state spending and revenues 30 years into the future, using a projection model from the University of Illinois' "Fiscal Futures Project." We find that even if recent pension reforms had been held constitutional, the state's long-term fiscal outlook features large gaps between projected revenues and projected expenditures. In short, many decades of borrowing against future generations has placed Illinois in a difficult fiscal situation that will be hard to resolve without significant increases in taxes or cuts in a wide range of spending programs.

This paper proceeds as follows: In section 2, we present an overview of the public pensions in Illinois and discuss the relative importance of benefit generosity and contribution levels in leading to current low funding ratios. In section 3 we discuss the broader fiscal context, including using tools from the University of Illinois' "Fiscal Futures Project" to various analytical problems associated with publicly available state budget documents. We also provide projections of the state's long-term fiscal situation. In section 4, we provide a history of the policy responses to pension funding shortfalls, with a special emphasis on reforms that have occurred in the past few years. We discuss the major 2013 reform and why it was subsequently over-turned by the Illinois Supreme Court. In section 5 we discuss the few remaining policy options on the table for restoring fiscal balance in the State. We conclude in section 6.

2 Public pensions for state workers in Illinois

2.1 Overview of statewide pensions

There are six major statewide public pension plans in Illinois: The State Employees' Retirement System (SERS), the Teachers' Retirement System (TRS), the State Universities Retirement system (SURS), the Judges' Retirement System (JRS), the General Assembly Retirement system (GARS) and the Illinois Municipal Retirement Fund (IMRF). The first five of these plans all represent financial obligations of the State of Illinois and must be funded out of the state's revenue. Table 1 represents the official funding status as of June 30, 2014. These funding ratios, which are calculated using the actuarial value of liabilities and the market value of assets, show that the overall funding level of the combined Illinois pensions is only 43 percent. Of course, the actual funding situation is much worse than this because the actuarial value of the liability is computed using expected asset returns rather than a risk-free rate, a point made forcefully in numerous papers (e.g., Novy-Marx and Rauh 2011; Brown and Wilcox 2008; Brown and Pennacchi, this volume).

<<Table 1 here>>

Unlike the five state financed plans, the IMRF is funded by contributions from local governments for their own employees (including non-teaching employees of school districts) and the State of Illinois is an agent-administrator, not a contributor. Because the IMRF annually bills each local government for the actuarially required amount and the state uses its powers to enforce those contributions, IMRF is the only one of the six systems that is reasonably well funded. According to IMRF (2014), it was 96.7 percent funded as of December 31, 2013.

2.2 Sources of the funding shortfall

2.2.1 How generous are Illinois public pensions?

There is no single metric for comparing the generosity of benefits across all public pension plans. In comparing any two states, one state might offer a higher benefit to teachers but a lower benefit to general state workers. Or one state might be more generous for a full-career worker, but be less generous to part-career workers. Numerous other parameters, such as retirement age or the definition of compensation, also vary from plan to plan and thus can lead to states being ranked differently for different employee characteristics. Nonetheless, it is instructive to examine a few examples in to assess whether Illinois benefits are an outlier.

In Figure 1, we report benefit comparisons from Biggs (2014), who calculates the benefits received by an average full-career state government employee who retired from each state's system in 2011 or 2012. He uses data from the Comprehensive Annual Financial Reports (CAFRs) published by public plans, and calculates benefits for general state employees. Note that when measured on the basis of initial annual benefits, Illinois SERS ranks 25 out of 50 states. In other words, Illinois not an outlier, but rather hovers right around the median.

<<Figure 1 here>>

Within Illinois, the workers under SERS differ from teachers and university employees in an important way: most SERS workers are covered by Social Security, whereas most other public employees are not. Thus, it is also instructive to compare benefits across states for a set of workers that are not covered by Social Security in Illinois. We focus on teachers, using a public pension benefit calculator created by the Manhattan Institute (Public Sector Inc. 2015). To provide an illustration, we use a teacher, born in 1955, who started working at age 30 and who intends to retire on July 1, 2015 at age 60 after 30 years of service. We assume a final average salary of $75,000. For this stylized individual, the calculator was able to estimate benefits for 46 states.[1] The annual pension benefit available to our stylized retiree ranges from a low of $17,297 in Maryland to a high of $56,250 in five states. The estimated Illinois benefit of $44,850 placed in 27th out of 46 states. Note this is very similar to the ranking found by Biggs as reported in Figure 1 above. Again, this measure suggests that the Illinois TRS system is not an outlier in terms of generosity, especially considering the differences in Social Security coverage.

The story changes when one accounts for the 3 percent automatic annual adjustment (AAI). Using the Manhattan Institute calculator, when ranked on the value of the equivalent price of a lifetime annuity that would replicate the pension benefit, Illinois climbs to 7th out of 46 in generosity. It is no wonder, then, that most recent pension reform proposals have targeted this AAI for reduction (see below for more discussion).

Overall, a key take-away from this analysis is that the initial level of benefits offered from Illinois public plans are not an outlier relative to other public plans. However, Illinois' post-retirement benefit increase of 3 percent compounded annually is significantly more generous (and thus more expensive to the state) than those in most other states, at least given recent rates of inflation. When one considers the combined generosity and expense of public pensions and

[1] The calculator did not provide values for Nebraska, Ohio or Pennsylvania. We also dropped Wisconsin because the benefit levels were such an outlier on the low side that we were concerned that our parameter combination was not reflective of a Wisconsin worker.

Social Security, there is little evidence that Illinois is more generous than other states with higher funding ratios.

2.2.2 A history of inadequate contributions

Although Illinois' public pension problems have received much attention in the media in recent years, the issue is long-standing. Eric Madiar, until recently the chief legal counsel for the Office of the Illinois Senate President, recently released a paper documenting the history of Illinois' fiscal problems dating back as far as the U.S. Civil War (Madiar 2014). As part of this history, he unearthed a report of the Illinois Pension Laws Commission of 1916 (pub. 1917) that reported on the financial status of several of the public pensions that existed in Illinois at the time and concluded (quoted in Madiar 2014: 2): "financial provisions [were] entirely inadequate for paying the stipulated pensions when due." Thus, it appears that public pensions in Illinois have suffered funding problems virtually from the start.

Over four decades later, in 1959, the Public Employees' Pension Laws Commission issued a report to then-Governor William Stratton, which (as reported in Finke 2013) stated: "Of principle concern to the Commission is the accumulation of large unfunded accrued liabilities resulting for the most part from the inadequacy of government contributions in prior years to meet increases in costs."

This "inadequacy of government contributions" has continued for more than a half century after this report was issued. As shown in Figure 2, asset levels of the five statewide public pension plans has never exceeded 75 percent of liabilities during the 1968-2014 period. In short, low funding levels are the norm, not the exception.

<<Figure 2 here>>

The Illinois Commission on Government Forecasting and Accountability (CoGFA 2015) reports that the unfunded liability of the state's pensions grew by over $87 billion from 1984 to 2012. They also note that the single largest cause – comprising just under 50 percent of the total growth in underfunding – was that the state's contributions fell below the actuarially required level. No other single factor – investment returns, changes in actuarial assumptions, benefit increases, etc. – comprised more than 20 percent of the deterioration of funding status.

Underfunded pensions are just one aspect of Illinois' fiscal situation. The state's other fiscal issues are interrelated with pension funding and constrain policy options to address one or the other. Thus, we turn next to this broader context.

3 The broader fiscal context in Illinois

3.1 Structural deficits and budgeting practices in Illinois

Illinois has had fiscal sustainability problems for decades. The underlying problem has been identified as a "structural deficit," a lower projected growth rate for sustainable revenue than for spending (Giertz, McGuire and Nowlan, 1996; Giertz 2007; CTBA 2008). Fiscal crises reoccur as actions taken to restore balance in one year are eventually eroded by slow revenue growth.

Illinois' structural deficit has been compounded by policy actions and budget practices. The State Budget Crisis Task Force chaired by Paul Volker and Richard Ravitch, attributes the decline of Illinois' fiscal condition, first to underfunding pension liabilities and (2012: 16),

> *Second, during the good economic times of the late 1990s to mid-2000s, Illinois expanded government services, but did not raise taxes and did not put away cash reserves. The state paid for its excess spending by making even smaller payments to the pension systems, borrowing heavily, sweeping special funds, and putting off paying Medicaid and employee healthcare bills until the following budget year. This chronic shortsightedness and avoidance of tough choices has accumulated to a significant structural deficit for Illinois. When the revenue recession hit in 2009, Illinois had no*

cushion. Time-shifting budgeting tricks used persistently in the good years were of much less value for temporary use in a downturn.

Continuing this pattern, Illinois relied on two additional unsustainable revenue sources – federal stimulus funds in 2009-2011 and an explicitly temporary income tax rate increase from 2011-2014 – without addressing the underlying mismatch between spending and sustainable revenue (Dye et al. 2015).

Illinois also engages in a number of budgeting practices that make it difficult to reliably and consistent measure the state's fiscal status over time. In addition to counting debt proceeds and asset sales as revenue, the spending side is equally complex. According to the Illinois Office of the Comptroller (IOC 2015b), there are 602 active state funds in Illinois, while only four of them constitute the "General Funds" of the state. However, most reporting and public discourse on fiscal matters concentrates on just the general funds. It is not uncommon for there to be within-year transfers between funds or cross-year reassignments of spending responsibility across funds. As a result, the general funds budget reported by the state is not consistently defined over time, making it difficult to obtain an accurate time series of state revenues and expenditures. To conduct meaningful analysis in light of these measurement difficulties, it becomes necessary to essentially reconstruct the entire set of Illinois revenue and expenditure categories in a consistent manner over time.

3.2 Measuring and projecting Illinois' fiscal imbalances: The Fiscal Futures Project

To overcome the difficulties created by Illinois' inconsistent budget reporting and to make projections about future fiscal balances in Illinois, we make use of the model created by a team at the University of Illinois' Institute of Government and Public Affairs (IGPA). Known as the Fiscal Futures Project (FFP), this model started being built in 2008 to help build analytical capacity to inform long-term fiscal policy discussions, a capability that was largely missing in Illinois.

The FFP team has been analyzing and reporting on Illinois' fiscal problems for a number of years (Dye and McMillen 2009; Dye et al., 2010, 2011, 2012, 2013, 2014, and 2015). The interaction between problems funding pensions and problems funding the overall budget is a recurring focus of their analysis and serves as the basis for ours.

There are three essential elements in the FFP's analytical framework (Dye and Hudspeth 2015): a broad-based consistently-defined budget measure (the all-funds budget); a budget projection model; and attention to sustainable revenue sources.

All-funds budget: FFP has created and annually updates a broad-based measure of the Illinois state budget that groups budget items into a meaningful set of revenue and spending categories that are consistently measured over time. This conceptually simple accounting exercise is a necessary first step for meaningful economic analysis.

Budget projection: FFP has developed a long-term budget projection model for Illinois. For each spending and revenue category, the model estimates the past relation to selected economic and demographic "driver" variables. These relations are then applied to projected values of the driver variables to make projections for budget components.[2] The components can then be aggregated to project total revenue and total spending. The model develops baseline projections from current spending levels and existing revenue sources, which can then be compared to alternative tax or spending policies.

[2] Projections of the driver variables come from the Illinois Regional Economic Input-Output Model (IREIM) of the Regional Economics Applications Laboratory (REAL) at the University of Illinois. The IREIM is described in Israilevich et al. (1997).

Sustainable Revenue: The Illinois Constitution states that "Appropriations for a fiscal year shall not exceed funds estimated by the General Assembly to be available during that year." However, Illinois law allows "funds … available" to include a range of options, including the issuance of debt, the use of one-time revenue sources, and asset sales. For example, if the state sells off its toll booth operations to a private party, it can claim the sale as a source of revenue in that year. In order to better distinguish revenue flows from asset sales, the FFP model focuses on "sustainable revenue" by excluding new borrowing and other one-time revenue sources.

3.3 Recent projections of the Fiscal Futures Model

3.3.1 Cash gap projections

Each year, as data from a new fiscal year becomes available, the all-funds database is updated and the budget projections are re-estimated. Figure 3 presents projections from January 2015[3] (Dye, Hudspeth and Crosby, 2015). The top two lines in Figure 3 show total spending and total sustainable revenue for Illinois' all-funds budget for the historical and projection years. The budget gap shown at the bottom of the figure indicates that the model projects a $6 billion gap in FY 2015 growing to $14 billion in FY 2026. This budget outlook for Illinois represents the current-policy baseline projections to which alternative policy scenarios can be compared.

<<Figure 3 here>>

3.3.2 Alternative budget gap

The summary measure of fiscal balance used by the Fiscal Futures Model is the budget gap, which is defined as the difference between total sustainable revenue and total expenditures. These items are measured on a cash basis, with appropriate adjustments to exclude from revenue the proceeds of new debt issuance or other balance sheet changes. However, projecting the cash

[3] Note that the January 2015 version of the database and model does not include spending cuts made in the second half of FY 2015, nor any cuts in the enacted FY 2016 budget.

gap alone does not capture changes in the state's pension funding status. To remedy this, the model produces an "adjusted budget gap," which is just the cash gap from above minus the change in unfunded pension liabilities, i.e.:

$$\text{Adjusted Budget Gap} = \text{Cash Gap} - \Delta \text{ Unfunded Pension Liabilities}$$

This is a cash-accrual hybrid, not a full accrual measure for the state. Although it captures changes in the unfunded liability of the pension plans, it does not include changes in non-pension assets or changes in non-pension liabilities. More specifically, the cash gap is adjusted by subtracting the change in the "Unfunded Actuarially Accrued Liabilities." The ΔUAAL is a residual that captures the effect of (inadequate) contributions, changes in the value of pension assets, and changes in actuarial assumptions used to calculate liabilities such as the discount rate. Because it is based upon actuarial methods and assumptions, it is an admittedly weak proxy for the economic value of annual underfunding. Nonetheless, it is what we have available from public sources, and thus we forge ahead.

Figure 4 presents cash gap and adjusted gap projections from the Fiscal Futures Model for FY 2015 to FY 2045. The cash gap projections (shown by the solid line) are the same baseline projections as in Figure 3, except that the projection period is longer. When model projections are run 30 years out, the cash deficit reaches $35 billion in 2045. Recall that under pre-December 2013 law, Illinois pension contributions are targeted to achieve only 90 percent funding by 2045 and scheduled annual contributions are back-loaded or ramped-up as the target year gets closer.

<<Figure 4 here>>

The dashed line in Figure 4 shows the adjusted budget gap projections. Because of both the 90 percent target and back-loading, Illinois is scheduled to pay less than actuarially required contributions, and UAAL will increase through FY 2029. Thus the adjusted budget gap is larger (more negative) than the cash gap for the next 15 years; and increasingly less negative from FY 2030 to 2045. Whether the cash gap or alternative gap is used, the large projected shortfalls of sustainable revenue relative to spending represent a constraint on policy options to improve pension funding levels.

4 Policy responses to pension funding concerns in Illinois

4.1 Pre-2010: decades of inaction

Despite the long-standing funding concerns, and numerous calls over the years to address them, there have been very few policies enacted to improve pension funding. Ironically, the single most consequential response to these funding shortfalls was not to find a mechanism for improving funding, but rather to make the commitment to pay the promised benefits even more binding on the state. In 1970, delegates to the Sixth Illinois Constitutional Convention added a clause to the state constitution that provides substantial legal protections to pension benefits. Specifically, Article XIII, Section 5 of the *State of Illinois Constitution* now states:

> *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.*

Although we discuss legal interpretations in more detail below, it is notable that this constitutional clause increases the legal security of benefits for participants but does not require the state to prefund the benefits. Indeed, the Illinois Supreme Court ruled in 1998 that a failure to fund the pensions did not constitute an impairment of benefits. In *Sklodowski v. Illinois* (1998), beneficiaries of several state public pension systems filed a lawsuit seeking the state to appropriate the funds necessary to meet funding obligations contained in the Illinois pension code. The Court noted that:

> *The pension protection clause contained in the 1970 Constitution served to eliminate any uncertainty as to whether state and local governments were obligated to pay pension benefits to their employees.*

The Court went on to say that:

> *These allegations of underfunding are insufficient as a matter of law to constitute an impairment of benefits. Plaintiffs … have alleged only an opinion that present funding levels are insufficient, from a prudential standpoint, to meet the accrued future obligations of the funds. The claims contain no factual allegations that would support a finding that the funds at issue are "on the verge of default or imminent bankruptcy" such that benefits are in immediate danger of being diminished.*

In short, the Illinois Supreme Court ruled that the constitution requires benefits be paid, but not that they be funded. Thus, the constitution increases the security of pension benefits, but at the cost of substantially reducing the state's flexibility to address fiscal shortfalls through changes to public pension benefits.

Just a few years after the adoption of the 1970 constitution, the Illinois General Assembly adopted a funding rule linking state pension contributions to pension payouts. Madiar (2014) explains that the legislature, beginning in fiscal year 1973, enacted a policy of making state contributions equal to 100 percent of what the systems were expected to pay out in benefits that year. It was recognized even at the time that this approach would lead to a deterioration of funding status. Madiar (2014: 6) quotes the 1975-1977 Pension Commission as noting that this funding scheme was "unacceptable since it result[ed] in a deferment of the burden of financing currently incurred benefit obligations to future generations of taxpayers." Nonetheless, this approach to funding was followed through 1981. The commitment to funding declined further in 1981 when then-Governor Thompson announced that the state would contribute only 60 percent of the estimated payouts, and portrayed this as a way to reduce pressure on the state budget. From 1982 to 1995, Madiar (2014: 7) notes that "pegging state pension contributions to at or below 60 percent of payout became the state's *de facto* funding policy."

In 1994, the Illinois legislature passed and then-Governor Edgar signed Public Act 88-593, which created a new funding path for public pensions. There are at least three notable features of this plan. First, the funding goal was set at only 90 percent of liabilities (calculated using standard actuarial calculations including the use of expected returns as a discount rate, which has the effect of making the liabilities appear smaller). Second, the path to this funding level was stretched over 50 years, reaching the 90 percent funding level in 2045. Third, the funding plan was back-loaded, with a 15-year "funding ramp" that kept contributions well below standard actuarial levels in the early years. By 2010, the state's required contributions under this law were to be set at a level where they would remain a constant fraction of payroll sufficient to reach 90 percent funding by 2045.

Since 1995, the state has not consistently met even these funding requirements. Even when the state did make substantial contributions, it was often done in a manner that partly reduced the impact of the funding. For example, then-Governor Blagojevich issued $10 billion of Pension Obligation Bonds (POBs) in 2003. Although this helped boost the funding status of the plans, the authorizing legislation also provided that state contributions be reduced by the amount of principal and interest paid on the bonds (CoGFA 2014). Effectively, the state was borrowing money, investing it in the pension funds, and betting that the returns on the pension portfolio would exceed interest paid on the bonds. Then in Fiscal Years 2006 and 2007, the state enacted "pension holidays" to reduce its contributions for those years below that specified in the already back-loaded 1994 law.

POBs were issued again in FY 2010 and FY 2011, in each case with the proceeds being treated as part of that year's pension contributions. It is important to note that this approach to using POBs does virtually nothing to boost the pension plan's funding status over the long-term.

Conceptually, a state could convert implicit pension debt – in the form of benefit obligations – to explicit debt, thereby providing a mechanism for reducing unfunded liabilities. But rather than using POBs to reduce unfunded pension obligations in this way, Illinois has instead used them as a source of funds for making statutorily scheduled annual pension contributions. This, in turn, allows the legislature to avoid higher taxes or spending cuts in other programs in the short-run. Effectively, the POBs end up having little to do with pensions, and instead serve as a form of general borrowing by the state.

Calculation of pension funding ratios, as shown in Figure 2, include plan assets in the numerator and plan liabilities in the denominator. This calculation does not include liabilities in the form of POBs. Figure 5 reproduces the plan-only pension funding ratios (from Figure 2) for the last 20 years, compared to an alternative measure which has both plan liabilities and POB liabilities in the denominator. When all pension related liabilities are included, Illinois' funding ratio is even lower – ranging from 6 percent lower in 2004 to 3 percent lower in 2014.

<<Figure 5 here>>

All in all, the State of Illinois' record at dealing with pension funding over the past century can best be described as one of consistently contributing at a rate below that required to bring the systems to full funding. With the pension funding "ramp-up" of contributions as a share of payroll from the 1994 law being fully phased-in by FY 2010, the statutorily required annual pension contributions accounted for $4.0 billion, or 17.7 percent of total state-source General Fund revenues (CoGFA 2010). These facts, among other factors, finally put Illinois pension reform on the political and legislative agenda.

4.2 The creation of a two tier system in 2010

In 2010, the Illinois legislature passed Public Act 96-0889, which created a "two tier" pension system. Tier I included all public employees hired on or before December 31, 2010. Tier II created a new and substantially less generous system for state workers hired on or after January 1, 2011. The key differences between the tiers are summarized in Table 2, and include changes to vesting, normal retirement age, the definition of final rate of earnings, a reduction in the post-retirement benefit increases, and a cap on pensionable earnings.

<<Table 2 here>>

The much smaller benefits being provided to Tier II workers could make it more difficult for Illinois to meet minimum pension generosity requirements that are in place for states that opted out of the Social Security program for state workers. According to the executive director of TRS, "because the Tier II law limits the growth of Tier II benefits to a rate that is slower than the growth of Social Security benefits, in the future a Tier II benefit will be smaller than the minimum Social Security 'safe harbor' benefit" (Ingram 2015). If benefits do fall below the safe harbor, then either the state will need to increase benefit generosity or it will need to require that TRS and SURS participants now exempt from Social Security – and the school districts or universities that employ them – start paying Social Security payroll taxes.

Because this new Tier II benefit structure applied only to individuals who were not yet employees of the state as of the time the law took effect, this reform did not diminish or impair benefits of any existing employees, and thus did not cause constitutional concerns. The other side of the coin, however, is that this reform had very little effect on the pre-existing unfunded obligations of the system, or any meaningful effect on the near-term cash outflows. Thus, political pressure to enact more far-reaching reform continued to build.

4.3 The 2013 Illinois pension reform

Efforts to reform Illinois pensions reached a fever pitch in 2013. During the spring legislative session, two major reform bills were being pushed, one by the powerful House Speaker Madigan, and the other by Senate President Cullerton. Both sought to reduce the Automatic Annual Increase (AAI), which provides a 3 percent annually compounded benefit increase to retirees. Although commonly referred to as a COLA, it is important to note that the AAI is set at 3 percent annually regardless of the rate of inflation. As noted earlier, this makes the AAI a rather expensive provision – both in absolute dollar terms and relative to other states – at least given current inflation expectations. The two bills differed substantially in their approach. The Madigan-sponsored bill imposed a reduction in the AAI, capping it the lesser of 3 percent or ½ of the CPI. The Cullerton bill, which garnered some support from labor unions, offered a lower AAI in return for state funding guarantees and access to retiree health care, among other provisions. Importantly, the access to retiree health care would be implemented by removing already existing retiree health care from employees that chose not to accept the AAI reduction, rather than adding it as a benefit to those that did.

Neither bill was able to pass both houses of the Illinois General Assembly, and thus negotiations continued in the summer (including a report of a ten-member, bipartisan, bicameral committee) and into the fall. Finally, the legislature passed Senate Bill 1 (SB1) on December 3, 2013 and was signed by the Governor as Public Act 98-599 two days later. The law applied to four of the five public plans outlined above: the judges' plan was omitted, presumably to avoid conflicts of interest in the inevitable court challenges that were to follow. The reform included numerous provisions and was set to take effect on July 1, 2014.

Under this new law, the AAI would be reduced from 3 percent of the total pension amount, compounded annually, to 3 percent of the lesser of the total annuity or $1,000 times the number of years of service (with the $1,000 multiplier increased each year by CPI inflation). This represents a substantial cut in the present value of future benefits for higher earners. The legislation also required that individuals "skip" the automatic annual increase for a number of years based on their age at the time of reform, with older workers losing one year of AAI and younger workers losing up to five years of AAI.

A second provision would reduce earnings included in the pension formula from the current IRS maximum ($255,000 in 2013) to $110,631 in fiscal year 2015. Individuals already in the system earning over this cap would be grandfathered and capped at their June 2014 salary, but would not see any growth in their pensionable salary unless and until the plan cap grows with inflation to surpass their grandfathered amount. As noted by Brown (2014), for individuals subject to the cap, an additional year of work will increase the nominal value of their future pension by only 2.2 percent of the cap, meaning that if inflation were to be above 2.2 percent, additional years of work would result in negative real pension accruals.

A third provision would increase the normal retirement age up to five years. This would be phased in at approximately 4 months per year, starting with those age 45 in 2014.

A fourth provision would reduce a key interest rate used to calculate benefits under the "money purchase" option. This feature, which was suggested in a proposal by Brown et al. (2013), would reduce the assumed Effective Rate of Interest from its 2013 level of 7.75 percent to 75 basis points over the 30-year Treasury bond rate. The lower formula rate would reduce the likelihood that the money purchase method of calculating benefits would exceed that of the standard benefit formula.

A fifth provision would *reduce* employee contributions from 8 percent of pay to 7 percent of pay. All else equal, a reduction in contributions obviously harms the funding status of the system. This was, however, an attempt by the legislature to convince the courts that participants were being given something of value in return for the changes to benefits, and thus the law should be held constitutional (more on this below).

A sixth provision of the law would create an optional defined contribution (DC) plan that individuals can elect in exchange for stopping future benefit accruals under the DB system. As designed, however, the optional DC plan does not appear to be financially attractive (Brown 2014).

Brown (2014) illustrates the net effect of these provisions on benefits of hypothetical employees and finds the reductions to be quite substantial, especially for higher income employees. Under his stylized calculations, a worker earning $40,000 per year would see no immediate impact on her initial pension, although the reduction in the automatic annual increase would lead to a 5 percent reduction in the present value of all future benefits. In contrast, an individual earning $120,000 would experience a cut of 50 percent at retirement, and a 56 percent cut in the present value of future benefits. Brown (2014) notes that one can construct examples of high income individuals for whom the present value of benefit reductions would be over 70 percent.

4.4 Fiscal impact of 2013 pension law

Even though, as discussed later, the 2013 pension reform law (SB1) was eventually found to be unconstitutional, we apply the Fiscal Futures Model to estimate its would-be fiscal impact. Figure 6 shows projections of the cash gap for existing pension law (the ramp-up of contributions to 90 percent funding by 2045) compared to SB1. The dark line in Figure 6 is identical to cash-gap projections for existing pension law shown in Figures 3 and 4. The light colored line in Figure 6 show cash-gap projections assuming that the court had rules SB1 constitutional and that implementation began in FY 2016.[4]

<<Figure 6 here>>

Compared to existing law, SB1 reduces the cash-gap by about $2 billion per year for 10 years. The reduction in the cash gap grows thereafter, reaching $14 billion each year after the 100 percent funded ratio is reached in FY 2040, at which time state contributions would fall to normal cost only. A key qualitative feature that jumps out from Figure 6 is that even if SB1 had been upheld as constitutional, it addresses only a small fraction of the overall budget gap over the next few decades. So even if SB1 had been upheld, Illinois would still have needed substantial increases in revenue or substantial reductions in spending to restore any semblance of fiscal balance.

4.5 The 2013 reform ruled unconstitutional

Given the magnitude of the benefit cuts and the protective language of the Illinois constitution, it is not surprising that the December 2013 law was quickly challenged in the courts. In March 2014, five lawsuits filed by various parties in separate courts were ordered consolidated and assigned to the circuit court of Sangamon County. In May 2014, the circuit court enjoined implementation of the law (on its would-be June 1, 2014 effective date).

The plaintiffs' case received a significant boost in July 2014 when the Illinois Supreme Court – considering the separate issue of reductions in retiree health care benefits in the *Kanerva*

[4] Not shown here are adjusted-gap projections for SB1. Not surprisingly, SB1 has a beneficial (less negative) impact on the adjusted gap compared to existing law. The magnitude of the annual savings from SB1 is around $2 billion in the first several years of implementation, increases to around $8.5 billion in in the mid-2030s, and narrows to $3 billion by 2045. The most notable single year impact of SB1 is in the year of implementation – an immediate reduction of the present value of future benefit liabilities in excess of $20 billion.

v. Weems (2014) case – ruled that "the state's provision of health insurance premium subsidies for retirees is a benefit of membership in a pension or retirement system within the meaning of article XIII, section 5, of the Illinois Constitution" and, as a result, these subsidies are constitutionally protected. Not only were the justices reinforcing the strength of the non-impairment clause, but in a development that was a surprise to many analysts, they extended the non-impairment clause to cover retiree health benefits on the grounds that these were a benefit of membership in state retirement systems.

In November 2014, the Sangamon County circuit court struck down the pension reform law, ruling that the non-impairment clause is "plain" and "unambiguous," and that the pension reform law "without question diminishes and impairs the benefits of membership in state retirement systems" (Belz 2014). The state immediately appealed the decision to the Illinois Supreme Court.

At oral arguments in March 2015, the state made the case that: (a) notwithstanding non-impairment clause issues, (b) the state's "police powers" include abrogation of contracts in an emergency, and (c) the state's current fiscal situation constitutes such an emergency. Solicitor General Shapiro argued: [5]

> *Like all contracts, they can be altered. They are not absolute. Everyone in our case apparently agrees that ... contractual relationships are subject to the limitations on the basis of a state's police power.*

The plaintiff's attorney responded with:

> *This is a case about a constitutional provision, one that is explicit, clear and unambiguous and that is subject to no stated exception. The state has not cited a single case where the reserve sovereign powers and police powers have been held to override a constitutional provision, and that's because there is no such case.*

[5] The following quotes are excerpted from the "Chicago Tonight," WTTW-TV website (2015).

In May 2015 in *Heaton v. Quinn,* the Illinois Supreme Court affirmed the lower court ruling and declared Public Act 98-599 unconstitutional and unenforceable. Justice Karmeier wrote the opinion for a unanimous court. As universally anticipated after its *Kanerva v. Weems* (2014) decision, the court first decided that the reform law did "diminish or impair" pension benefits and thus violated the pension protection clause of the Illinois Constitution.

The court then dealt with the state's assertion of "police powers," framing the argument as follows (*Heaton v. Quinn*: ¶52):

> *[F]unding for the pension systems and State finances in general have become so dire that the General Assembly is authorized, even compelled, to invoke the State's "reserved sovereign powers," i.e., its police powers, to override the rights and protections afforded by article XIII, section 5, of the Illinois Constitution in the interests of the greater public good.*

The court began by stating that in past cases where the state or a local Illinois government claimed fiscal exigency to avoid making constitutionally protected expenditures, "we have clearly and consistently found them to be improper (¶53)."

The court then presented the standards applicable to this issue, drawing mostly from U.S. Constitution "contract clause" cases. The basic standard is whether the impairment is "reasonable and necessary to serve an important public purpose (¶62)." The court addressed a number of issues under that standard.

- Were problems "unforeseen and unintended" (¶65)? No. "The General Assembly had available to it all the information it needed to estimate the long-term costs of those provisions [of the pension law it seeks to change]. … [I]t is a crisis for which the General Assembly itself is largely responsible (¶66)."

- Did the state choose the "least drastic means of addressing its financial difficulties" (¶68)? No. Other alternatives were discussed in hearings on the bill and the General Assembly chose not adopt a permanent tax increase (¶¶67-68).
- Did the law "distribute the burdens evenly" (¶69)? No. Tier I pension recipients would bear the whole cost, not taxpayers generally.

Having determined that the law did violate the constitutional protection of pension benefits and the state's claim of police powers did not meet other standards of "necessary and reasonable," the court did not have to evaluate the severity of the state's fiscal crisis in making its decision. The court did say (¶87):

> *The financial challenges facing state and local governments in Illinois are well known and significant. In ruling as we have today, we do not mean to minimize the gravity of the State's problems or the magnitude of the difficulties facing our elected representatives. [But] ... Crisis is not an excuse to abandon the rule of law. It is a summons to defend it.*

5 Post-ruling pension reform options

5.1 Governor Rauner's 2015 proposal

Republican Bruce Rauner took office as the new Illinois Governor in January 2015. A month later, on February 18, 2015, he issued his first budget address (Rauner 2015a). In it, he called for a new round of reforms for Illinois pensions, noting that action would be needed regardless of what the Supreme Court decided regarding the 2013 law. After the Illinois Supreme Court invalidated the 2013 reform bill, Governor Rauner reasserted the importance of his plan.

The core of his proposal is to freeze benefits of Tier I employees as of July 1, 2015 and permit no further accruals. For work after this date, additional pension accruals would operate according to the Tier II benefit structure explained above. Alternatively, workers would be permitted to opt for a defined contribution (DC) plan on a going forward basis. However, the proposal also appears to require that those taking this "buyout" would accept a reduction in the value of their automatic annual increase on benefits earned prior to July 1, 2015, and in return receive a lump-sum contribution to their new DC plan. The new DC plan would include an employer match, although the details of that match have not yet been specified.

There are at least three major obstacles to the Governor's proposal. First, it appears to be dead on arrival in the Democratic controlled House and Senate. Second, the constitutionality of this proposal remains unclear. The Governor clearly argues in his budget documents (Rauner 2015b: 2-16) that this would be constitutional because the changes "do not reduce earned benefits." There is nothing in the Illinois Supreme Court's ruling (*Heaton v. Quinn* 2015) that suggests the constitutional protections as only applying to accrued benefits and not prospective benefits. Third, the savings from the Rauner plan come from calculating prospective benefits for Tier I members using the Tier II formula. As already noted, the low COLA for Tier II will eventually lead to benefits below the Social Security "safe harbor" level and trigger costly payroll tax contributions.

5.2 Limited options for cost-saving pension reforms remain

The 2010 two-tier reform reduced far-distant pension costs but did nothing to reduce the already accumulated legacy costs of unfunded pension liabilities. Beyond the possibility that benefits on the prospective earnings of Tier I workers can legally be cut, which few outside the Rauner administration believe, there is not much that can be done to reduce pension legacy costs.

Pension legacy costs must still be dealt with, however, by cutting other spending or by raising new revenues. The path of least political resistance may be to extend the amortization period for the unfunded liability over a longer time period and/or once again back-load payments. This would continue the long-standing tradition in Illinois of continuing to shift the cost to future taxpayers.

6 Conclusion

Illinois is an unfortunate but useful case study of the fiscal strain placed on states that run large negative fiscal imbalances for many decades. Illinois' public pensions have essentially been used as a source of borrowing, allowing the state to keep taxes lower and other spending higher than would be permitted if the state followed a more balanced budget process.

Public pensions are part of the fiscal challenges in Illinois, but not for the reasons often asserted in public discussions. Policy makers, reporters, and other commentators often point to "excessive" public pensions as the root of all of Illinois' budget woes. Although it is quite easy to find examples of abuses in the Illinois pension system, as well as examples of individuals receiving extremely generous annual pension benefits that substantially exceed those available to the average private sector pension participant, our illustrative calculations suggest that those situations are not the norm. Indeed, the data suggests that Illinois public pensions are not outliers compared to the generosity of other state pensions around the country. Some commentators will argue that public pensions in *all* states are too generous, an issue that we make no attempt to address in this paper. Rather, our point is that relative to public pensions in other states, Illinois pensions are not outliers in terms of generosity but they are outliers in terms of their funding status. This implies rather strongly that inadequate contributions to the pension funds are the primary cause of the low funding ratios of the state's pension plans.

Our examination of fiscal practices in Illinois reveals that accumulation of unfunded pension liabilities is just one – though overwhelmingly the largest – of many time-shifting budget practices and part of an overall pattern of delaying payment and avoiding policy changes that would restore fiscal sustainability. The state has repeatedly shifted Medicaid payments to future years and allowed bills to other vendors to remain unpaid for months. Illinois has also routinely relied on one-time revenue sources, assets sales, balance transfers across funds and borrowing to pay for ongoing operations.

Looking forward, projections of future revenues and expenditures indicate that the budget gap will continue to widen, which will require additional revenue and/or spending reductions to rectify. Further, the accumulation of liabilities from past years represent a large claim on future budgets. An increasing share of those sustainable revenues that are available in future years will be devoted to payoff of these legacy costs, crowding out what is left to pay for other state services. Interestingly, this would be true even if the 2013 Illinois pension reform law had been upheld.

References

Belz, John W, Hon. 2014. "Order In Re: Pension Litigation." In the Circuit Court for the Seventh Judicial Circuit, Sangamon County, Illinois. Filed November 21, 2014. At: http://www.sangamoncountycircuitclerk.org/PDFDOC/Pension.pdf

Biggs, Andrew G. 2014. "Not So Modest: Pension Benefits for Full-Career State Government Employees." AEI Economic Perspectives. Available at: http://www.aei.org/wp-content/uploads/2014/03/-aei-economic-perspective-march-2014_160053300510.pdf.

Brown, Jeffrey R. 2014. "Reforming Public Pensions Subject to Political and Legal Constraints: The Illinois Experience." *National Tax Journal*. Vol. 67(4), 941-964.

Brown, Jeffrey R., Steven Cunningham, Avijit Ghosh, David Merriman, and Scott Weisbenner. 2013. "Six Simple Steps: Reforming the Illinois State Universities Retirement System." *University of Illinois Institute of Government and Public Affairs*. Retrieved March 30, 2015, from http://igpa.uillinois.edu/system/files/Six-Simple-Steps-for-Reforming-SURS.pdf.

Brown, Jeffrey R. and David Wilcox. 2009 "Discounting State and Local Pension Liabilities," *American Economic Review* 99, 538-542.

Brown, Jeffrey R. and George G. Pennacchi. 2015. "Discounting Pension Liabilities: Funding versus Value." This volume.

Center for Tax and Budget Accountability (CTBA). 2008. Issue Brief: The Illinois Structural Deficit. Available at: http://www.ctbaonline.org/reports/issue-brief-illinois-structural-deficit-2008.

"Chicago Tonight." WTTW-TV. 2015 (March 11). At: http://chicagotonight.wttw.com/2015/03/11/illinois-supreme-court-hears-arguments-pension-overhaul-case

Commission on Government Forecasting and Accountability (CoGFA). 2015. *Illinois State Retirement Systems Financial Condition as of June 30, 2014*. Available at: http://cgfa.ilga.gov/Upload/FinConditionILStateRetirementSysFeb2015.pdf.

Commission on Government Forecasting and Accountability (CoGFA). 2014. *Illinois State Retirement Systems Financial Condition as of June 30, 2013*. Available at: http://cgfa.ilga.gov/Upload/FinCondILStateRetirementSysFY13Mar2014.pdf.

Commission on Government Forecasting and Accountability (CoGFA). 2010. *State of Illinois Budget Summary Fiscal Year 2011*. Available at: http://cgfa.ilga.gov/Upload/FY2011budgetsummary.pdf

Dye, Richard F., Nancy W. Hudspeth and David F. Merriman. 2014. "Peering Over Illinois' Fiscal Cliff: New Projections from IGPA's Fiscal Futures Model." *University of Illinois Institute of Government and Public Affairs*. Available at: http://igpa.uillinois.edu/system/files/IR2014D_PeeringOverIllinoisFiscalCliff.pdf;

Dye, Richard F., David F. Merriman, Nancy W. Hudspeth and Andrew Crosby, A. 2013. "And Miles to Go Before It's Balanced: Illinois Still Faces Tough Budget Choices." *University of Illinois Institute of Government and Public Affairs*. Available at: http://igpa.uillinois.edu/IR13/pdfs/IR13_CH2c_Fiscal.pdf.

Dye, Richard F., Nancy W. Hudspeth and David F. Merriman. 2012. "Through a Dark Glass: Illinois' Budget Picture is Dire and Distorted." *University of Illinois Institute of Government and Public Affairs*. Retrieved January 8, 2015, from http://igpa.uillinois.edu/IR12/pdfs/ILReport2012Ch4budgetW.pdf.

Dye, Richard F., Nancy W. Hudspeth and David F. Merriman. 2011. "Titanic and Sinking: The Illinois Budget Disaster." *University of Illinois Institute of Government and Public Affairs*. Available at: http://igpa.uillinois.edu/sites/default/files/ILBudget_IR-2011b.pdf.

Dye, Richard F., Nancy W. Hudspeth and Daniel P. McMillen. 2010. "Fiscal Condition Critical: the Budget Crisis in Illinois." *University of Illinois Institute of Government and Public Affairs*. Retrieved January 8, 2015, from http://igpa.uillinois.edu/IR_2010/PDF/pg14-27z_FiscalCondition.pdf.

Dye, Richard F., and Daniel P. McMillen. 2009. "Illinois' Fiscal Future and the State's Economy." *University of Illinois Institute of Government and Public Affairs*. Retrieved January 8, 2015, from http://igpa.uillinois.edu/sites/igpa.uillinois.edu/files/IR09/text/ch2-fiscal.pdf.

Dye, Richard F., Nancy W. Hudspeth and Andrew Crosby. 2015. "Apocalypse Now? The Consequences of Pay-Later Budgeting in Illinois: Updated Projections for IGPA's Fiscal Futures Model. University of Illinois Institute of Government and Public Affairs. Available at: http://igpa.uillinois.edu/system/files/FF_Apocalypse_Now_Jan_2015.pdf

Dye, Richard, and Nancy Hudspeth. 2015. "Fiscal Futures Documentation: January 2015." University of Illinois Institute of Government and Public Affairs. Available at: http://igpa.uillinois.edu/system/files/FF_Documentation_Jan_2015.pdf

Finke, Doug. 2013 (February 10). "State of Illinois' record of shorting pensions goes back decades," *The State Journal Register* (Springfield, IL). Accessed March 30, 2015 at: http://www.sj-r.com/article/20130210/News/302109932/?Start=1.

Giertz, J. Fred. 2007. "The Illinois State Budget." *Illinois Report 2007*. Institute of Government and Public Affairs, University of Illinois.

Giertz, J. Fred, Therese J. McGuire, and James D. Nowlan. 1996. The Illinois Structural Budget Dilemma: The Gap Between Expectations and Revenue Realities. *State Tax Notes* (10) 727 (March 4, 1996).

Heaton et al. v. Quinn. 2015 IL 118585. Illinois Supreme Court. Filed May 8, 2015. At: http://www.illinoiscourts.gov/opinions/supremecourt/2015/118585.pdf.

Illinois Municipal Retirement Fund (IMRF). 2014. "IMRF 2013 Annual Financial Report." Available at https://www.imrf.org/en/publications-and-archive/annual-financial-reports.

Illinois Office of the Comptroller (IOC). 2015a. "Bond Ratings." Accessed on March 2, 2015 at: http://www.ioc.state.il.us/index.cfm/fiscal-condition/bond-ratings/.

Illinois Office of the Comptroller (IOC). 2015b. "General Funds Revenues and Expenditures." At: http://www.ioc.state.il.us/index.cfm/fiscal-condition/general-funds-revenues-and-expenditures/

Illinois Pension Laws Commission. Published 1917. *Report of the Illinois Pension Laws Commission of 1916*. Springfield, IL. Available at: https://ia601406.us.archive.org/29/items/reportillinoisp00hookgoog/reportillinoisp00hookgoog.pdf.

Ingram, Dick. 2015. "Executive Director's Message," *Topics & Report* (Winter), Teachers' Retirement System of the State of Illinois. At: http://trs.illinois.gov/pubs/topics/winter15.pdf.

Israilevich, Philip R., Geoffrey J. D. Hewings, Michael Sonis and Graham R. Schindler. 1997. "Forecasting Structural Change With a Regional Econometric Input-Output Model," *Journal of Regional Science* 37(4): 565-590.

Kanerva v. Weems. 2014 IL 115811. Illinois Supreme Court. Filed July 3, 2014. At: https://www.state.il.us/court/Opinions/SupremeCourt/2014/115811.pdf.

Madiar, Eric M. 2014. "Illinois Public Pension Reform: What's Past in Prologue." *Illinois Public Employee Relations Report* 32:3 (Summer). IIT Chicago-Kent College of Law and The University of Illinois School of Labor and Employment.

Munnell, Alicia H. 2012. *State and Local Pensions: What Now?* Washington, DC: Brookings Institution Press.

Novy-Marx, Robert and Joshua Rauh. 2011. "Public Pension Promises: How Big Are They and What Are They Worth?," *Journal of Finance* 66, 1211-1249.

Public Sector Inc. 2015. "Pension Calculator." Manhattan Institute's Center for State and Local Leadership. Accessed March 5, 2015 at: http://www.publicsectorinc.org/calculator/.

Rauner, Bruce, Illinois Office of the Governor. 2015a (February 18), "Budget Speech Transcript." At: http://www.illinois.gov/Documents/BudgetSpeech_02_18_15.pdf.

Rauner, Bruce, Illinois Office of the Governor. 2015b. *Illinois Budget for Fiscal Year 2016*. At: http://www2.illinois.gov/gov/budget/Documents/Budget%20Book/Budget%20Book%20FY16/FY2016IllinoisOperatingBudgetBook.pdf.

Ridell, Kelly. 2014. "Generous teacher pensions continue as Illinois' financial crisis worsens." *Washington Times*. Accessed March 5, 2015 at: http://www.washingtontimes.com/news/2014/sep/1/generous-teacher-pensions-continue-as-illinois-fin/?page=all

Sielman, Rebecca A. 2013. Milliman 2013 Public Pension Funding Study. Accessed March 5, 2015 at: http://www.milliman.com/uploadedFiles/Solutions/Products/public-pension-funding-study-2013.pdf.

Sklodowski v. State of Illinois. 1998 IL 82459. Illinois Supreme Court. filed March 19, 1998. At: http://www.state.il.us/court/opinions/supremecourt/1998/march/opinions/html/82459.txt.

State Universities Retirement System of Illinois (SURS). 2015. "In Brief: Retirement Plans." Accessed April 1, 2015 at: http://www.surs.org/pdfs/joint/SURS_Brief.pdf

Table 1: Funding of Illinois Public Pensions, FY 2014
($ millions)

	Accrued Liability	Market Value of Assets	Unfunded Liability	Funded Ratio
TRS	**$103,740**	**$45,824**	**$57,916**	**44.2%**
SERS	**39,527**	**14,582**	**24,945**	**36.9%**
SURS	**37,430**	**17,391**	**20,038**	**46.5%**
JRS	**2,229**	**776**	**1,453**	**34.8%**
GARS	**323**	**57**	**267**	**17.6%**
TOTAL	**$183,249**	**$78,630**	**$104,619**	**42.9%**

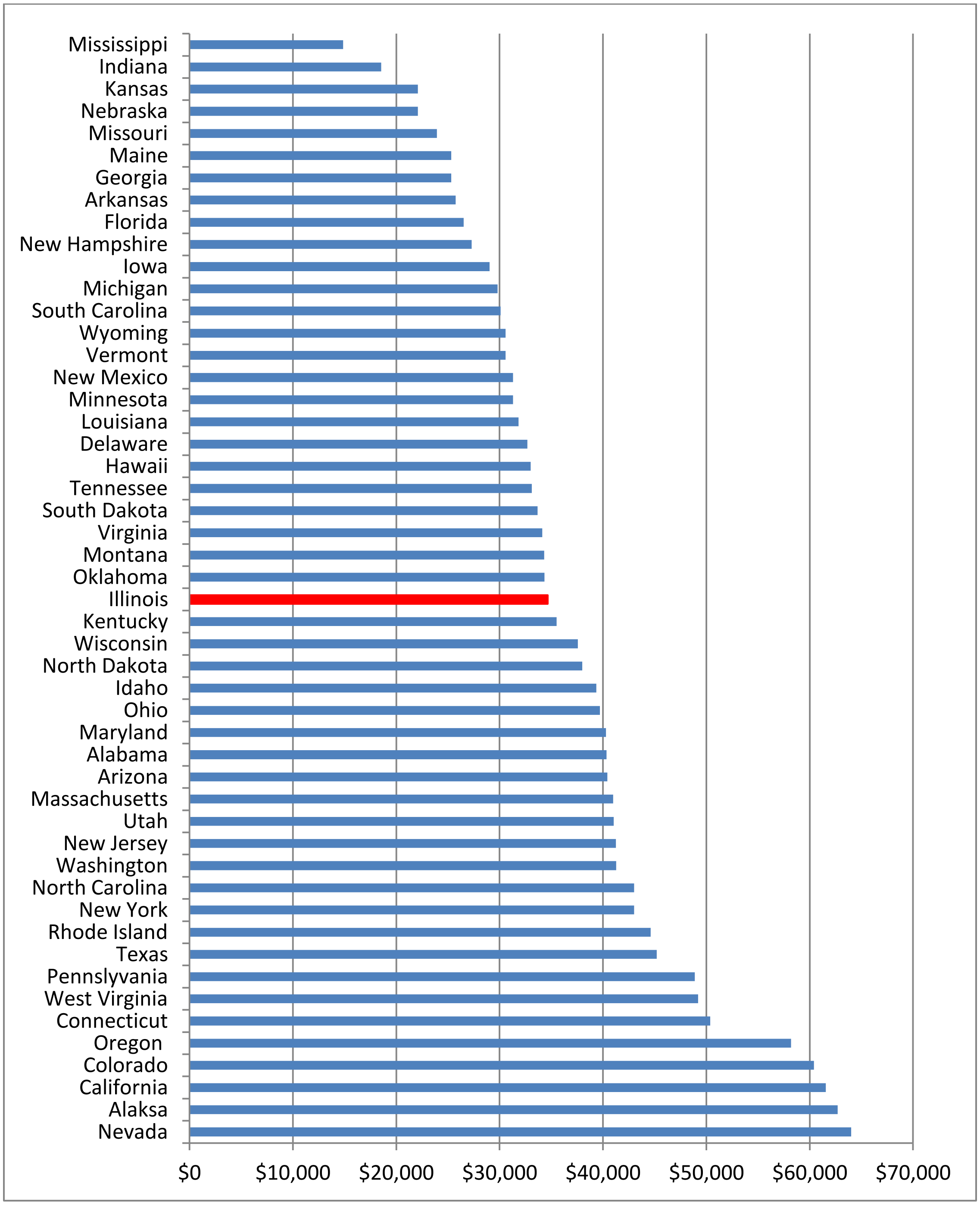
Source: CoGFA 2015, p. 27.

Table 2
Comparison of Tier I and Tier II Benefits Prior to 2013 Reform

	Tier 1	Tier 2
Minimum vesting	5 years of service	10 years of service
Normal retirement age	Age 62 + 5 years of service Age 60 + 8 years of service Any age + 30 years of service	Age 67 + 10 years of service
Final rate of earnings	4 highest years	8 highest years of last 10
Automatic annual increases	3% Compounded annually	Min(3%, 0.5 x CPI) Not compounded
Cap on pensionable earnings	IRS limit of $260,000 in 2014	$110,631 for FY 2015

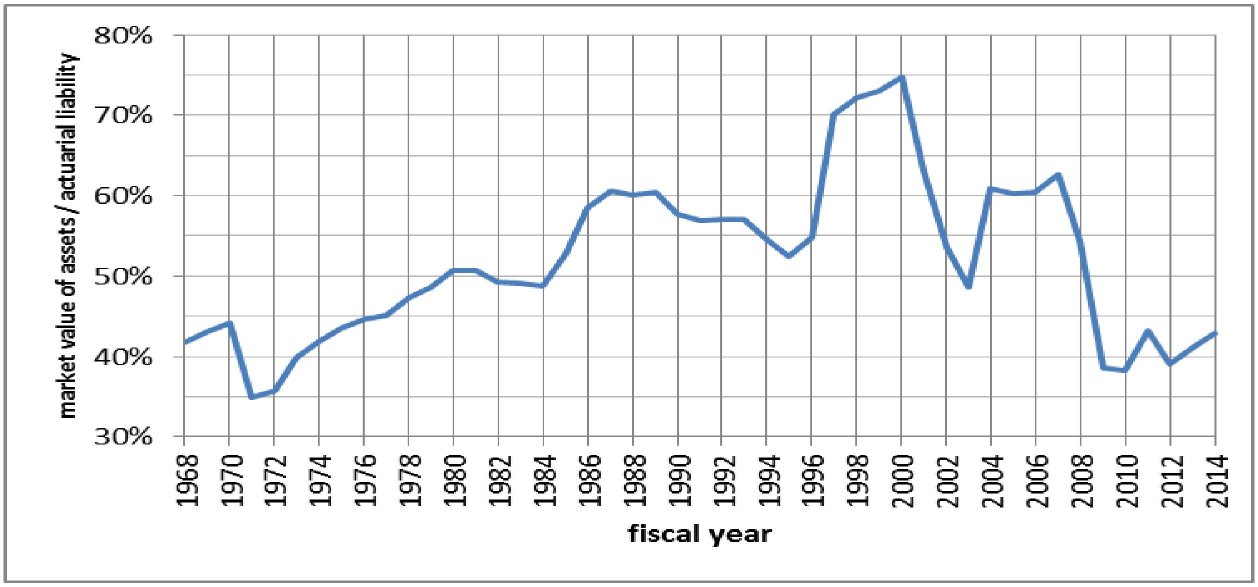
Source: SURS (2015)

Figure 1: Annual Benefit Level of Full-Career General State Worker



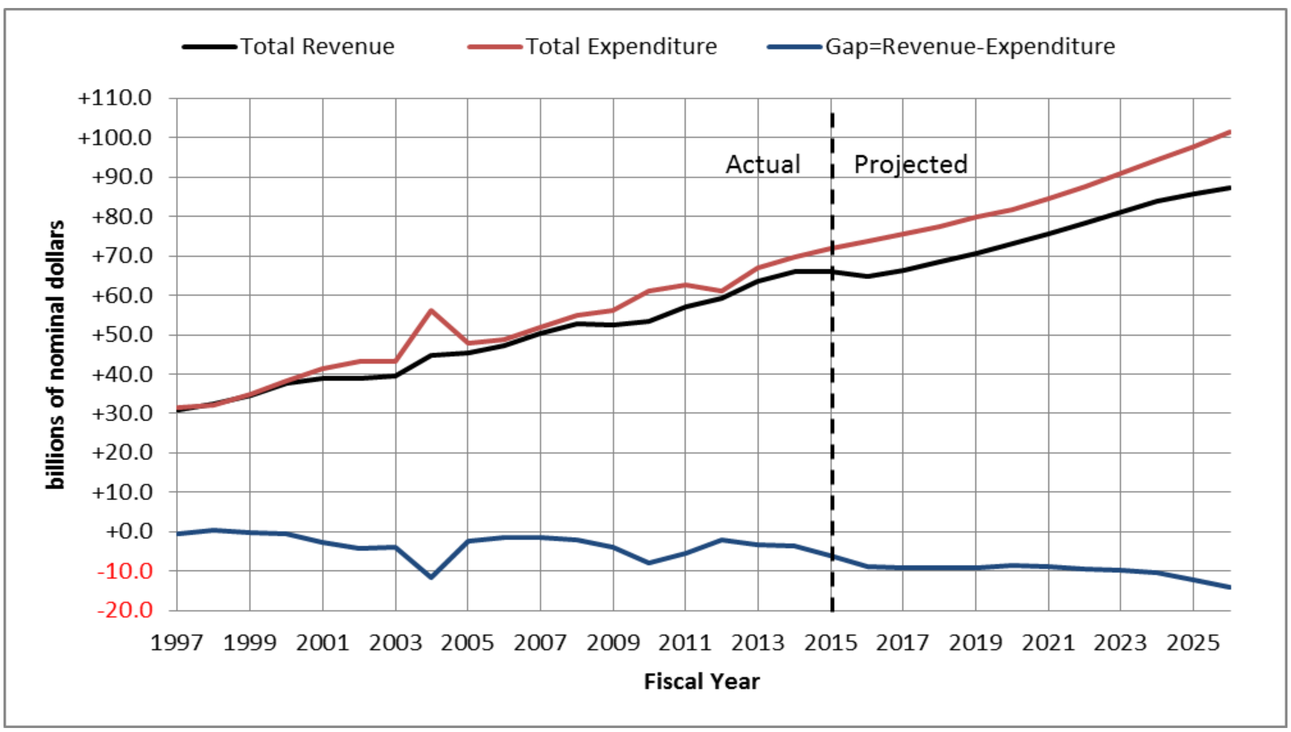
Source: Biggs (2014)

Figure 2: Funded Ratio of Illinois Public Pensions, Five System Total, FY 1968-2014*



Sources: Madiar (2014); COGFA (2015).
*FY 1969 is interpolated.

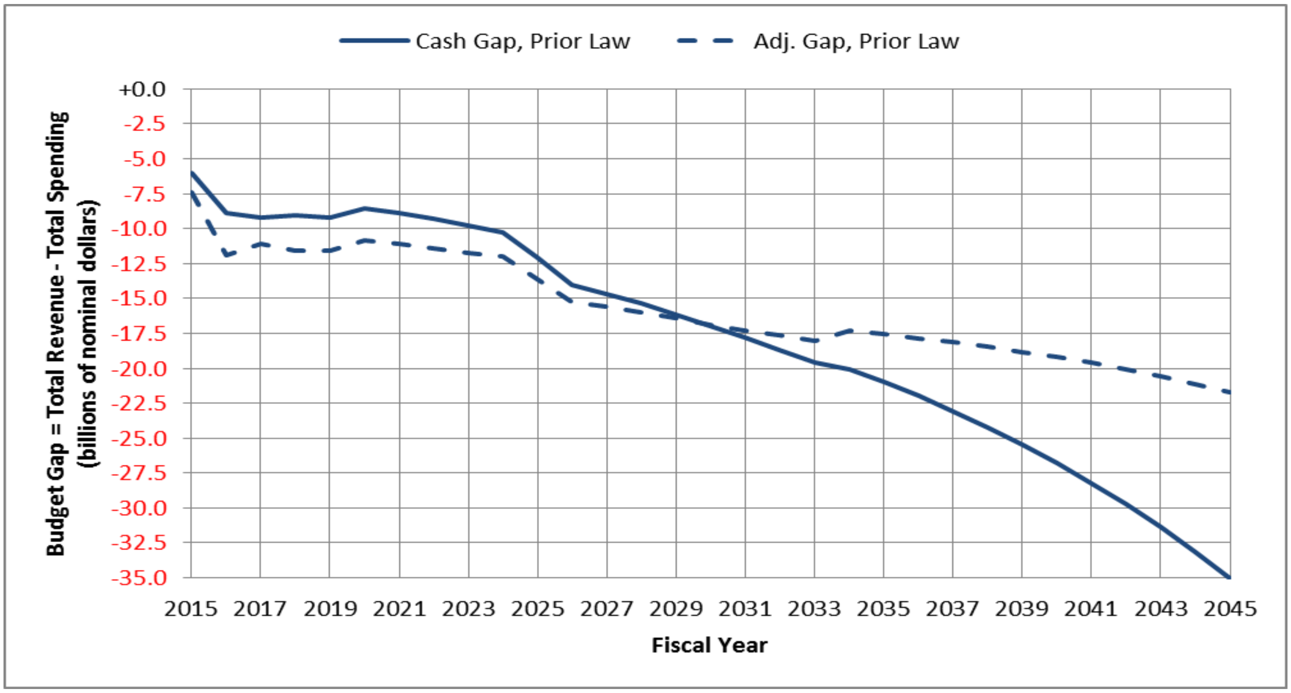
Figure 3: Historical and Projected Totals for Illinois All-Funds Budget



Source: Dye, Hudspeth and Crosby (2015)

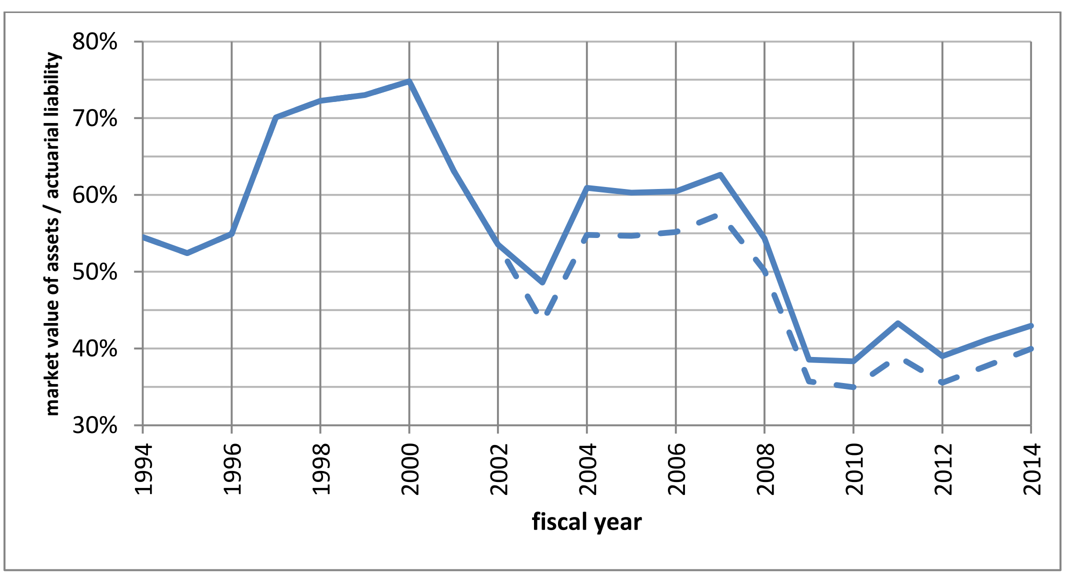
Notes: 1. Historcal values for FY 1997 to 2014; estimates for FY 2015; projections for FY 2016 to 2026.
2. Total Revenue includes sustainable sources and excludes borrowing or other one-time sources.
3. Budget Gap is defined as: Total Sustainable Revenue minus Total Expenditure.

Figure 4: Illinois All-Funds Budget Gap Projections for FY 2015-2024
For Cash Gap and Gap Adjusted for Change in Unfunded Pension Liabilities
(both assume pre-December 2013 pension law)



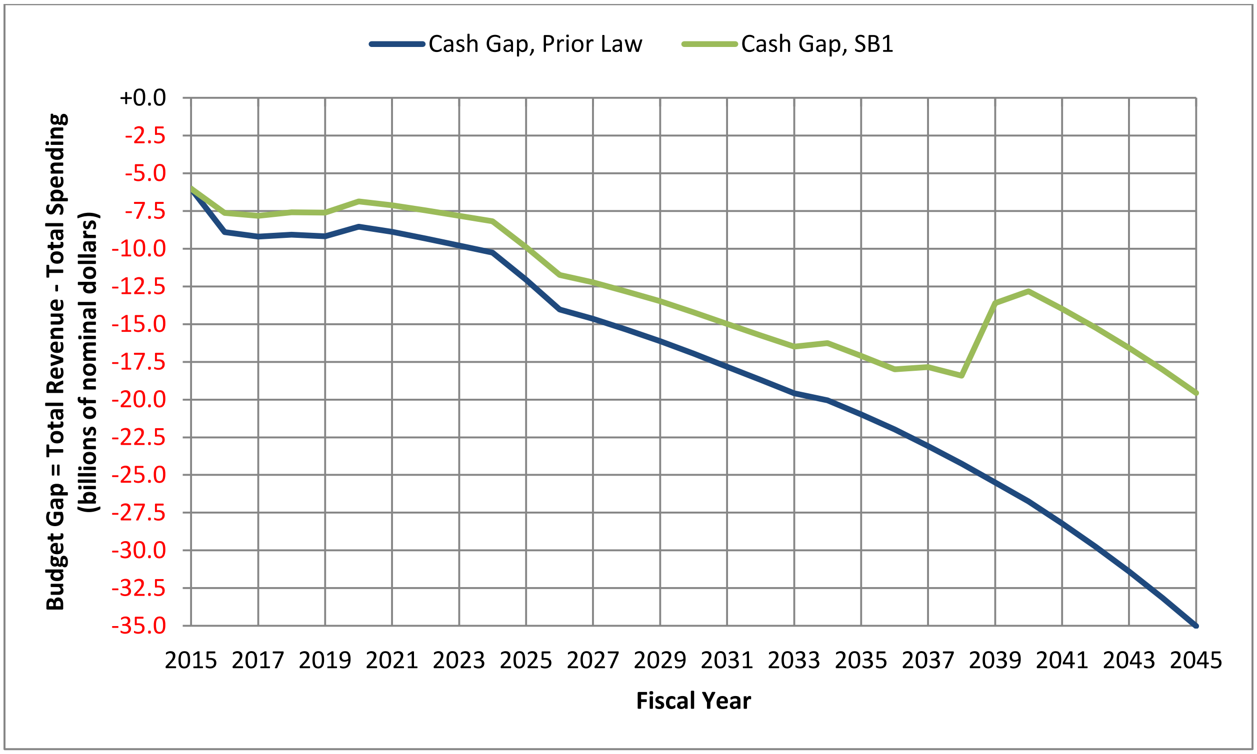
Source: IGPA Fiscal Futures Model, January 2015

Figure 5: Funded Ratio of Illinois Public Pensions, Five System Total, FY 1994-2014
Without (solid line) and With (dashed line) Pension Obligation Bond Liabilities*



Sources: Madiar (2014); COGFA (2015).
*Principal remaining at FY end from payment schedules for 2003, 2010 and 2011 POB issues.

Figure 6: Illinois All-Funds Cash Budget Gap Projections for FY 2015-2024
For Prior Pension Law and SB1 (ruled unconstitutional)



Source: IGPA Fiscal Futures Model, January 2015