

Public Sector Compensation in Illinois

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- Rising budgetary costs for public employee pensions and health programs have caused public employee compensation to be a matter of policy debate and public concern.
- Public employee compensation should be set at the level necessary to attract and retain required employees. Appropriate compensation levels can be approximated by analyzing how similar workers are paid in the private sector.
- This study compares the salaries and benefits of Illinois state employees in non-public safety positions to those of private sector workers with similar education, experience and other earnings-related characteristics. The main data sources are the U.S. Census's American Community Survey, the Bureau of Labor Statistics National Compensation Survey, and actuarial valuations of state pension and health programs.
- Illinois state government employees receive salaries that are 7.2 percent below those of similarly-qualified private sector workers.
- However, Illinois state government employees receive a benefits package that is on average three times more generous than is received by private sector workers. In particular, Illinois state employees receive health coverage, retiree health plans, and pension benefits that are substantially more generous than are paid in the private sector.
- The average Illinois state government employee in our data sample receives an annual salary of \$56,919. In addition, Illinois employees receive annual benefits, either received in that year or accrued toward retirement, worth \$55,791. A comparable Illinois private sector employee receives a slightly higher salary of \$61,017 but annual benefits of only \$19,725. Total annual compensation for Illinois state government employees equals \$112,710 versus \$80,742 for comparable private sector workers, a difference of \$31,968 or 39.6 percent.
- Given the high budgetary cost of public employee pension and health benefits, along with the fact that it is these benefits are what provide a total compensation advantage for Illinois state government employees over Illinois private sector employees, it seems appropriate that reforms focus on these areas.

Executive Summary

Compensation for government employees is an active policy issue in Illinois and across the country, both because of the rising budgetary costs of employee pay and benefits and because of the public's perception that public sector workers often receive a more generous pay package than private sector workers. This study uses U.S. Census data to analyze salaries and benefits for Illinois state government employees in non-public safety occupations, comparing them to the pay and benefits of similar workers employed in the private sector. The study controls for differences between public and private employees in education, experience and other factors that influence pay. After controlling for these factors, salaries are very comparable between the public and private sectors: Illinois state employees receive average salaries that are 7.2 percent below private sector levels. However, benefits are far more generous in the public sector. We measure the values of both benefits paid to employees in a given year, such as health coverage and paid time off, as well as the value of future pension and retiree health benefits accruing to employees in that year. Illinois private sector employees receive annual benefits equal to about 32.3 percent of their annual salaries. Illinois state government employees, by contrast, receive benefits equal to 98.0 percent of salaries. This difference is mostly due to pensions and retiree health coverage, which are far more generous in state government than in the private sector. Overall compensation for Illinois state government employees is 39.6 percent higher than is paid to private sector employees with comparable earnings-related characteristics such as education and experience, a difference that is entirely due to more generous fringe benefits. Reform of public employee pensions and retiree health care programs, whose rising costs are placing pressure on the state budget, could make total compensation more equitable between the public and private sectors.

Introduction

Public employee compensation is a matter of policy debate and political discourse in states and cities around the country, and nowhere more so than the State of Illinois. Public sector pay enters the policy discussion from two directions: From the top down, Illinois is struggling to bear the financial burdens of rising employee benefit costs, including pensions and health coverage. From the bottom up, many citizens perceive that they do not receive benefits as generous as are paid to public employees and thus may consider the sacrifices they face to fund these benefits, such as higher taxes and lower public services, to be unfair. Together, these forces make public employee compensation an often-heated topic of debate.

I note upfront that, as a practical matter, it is easier to imagine public employees being over-paid than underpaid. If the government systematically offers employees fewer salaries and benefits than are available in alternate employment, the government will be unable to attract or retain employees. In other words, government – like any other employer – cannot offer substantially lower compensation than the other employers it competes against. And in general, it appears that government does not do so: anecdotal demand for government jobs appears healthy and government employees have longer average job tenure than private sector employees. These are the types of outcomes that would be expected of government offered employment that, as a package of salaries, benefits and work conditions, that was considered attractive relative to other available positions.

But anecdotes are not data and so it is important to bring data and analysis to the question. The following sections consider the salaries and benefits paid to Illinois state government workers compared to private sector workers with similar measurable qualifications who work for larger private sector employers.¹ The workers considered do not include local government employees or public school teachers. While similar methods can be applied for these employees, the data used to analyze their compensation will differ from that of state government employees.

Salaries

Comparing public and private sector pay can be a challenge. Some studies perform a “job to job” analysis: that is, they compare compensation for a specific job in the public sector to the same job in the private sector. Such analyses can be useful and compelling due to their understandability. However, they may omit certain important issues. First, not every public sector job has a private sector counterpart, which means that only a subset of jobs can be analyzed. If this subset is not representative – say, if lower-level government jobs are more likely to have private sector counterparts than higher-level jobs – this may lead to misleading conclusions regarding average pay in the public sector as a whole. Second, economists generally hold that the most important determinant of pay is not the job but the skills of the individual who holds the job. If public sector employees have different skills levels – say, different levels of education and experience – than private sector workers holding similar jobs – then job-to-job comparisons may not capture all aspects of the compensation question. There is evidence at the federal government level that public sector employees have lower levels of education and experience than private sector workers holding similar jobs, but it is not known whether similar patterns hold at other levels of government.²

For these reasons, most economic studies of comparative pay rely on a so-called “human capital” model, in which regression analysis is applied to a wide variety of factors that are correlated with workers’ pay, including their education, experience, location, race, gender, ethnicity and other factors – including whether they work for government or in the private sector. This type of analysis attempts to determine the public sector premium or penalty after controlling for other factors that influence pay.

However, it is important to include as much relevant data as possible. Robert Bruno and Frank Manzo of the Labor Education Program at the University of Illinois, Champaign use American Community Survey data to build a human capital model of the earnings of Illinois state and local government employees versus private sector workers.³ Their model controls for differences in age, education, race and gender. They conclude that state and local workers in Illinois are subject to a salary penalty of about 13.5 percent versus similar private sector workers.

However, using a broader set of control variables leads to different results. Data are from the American Community Survey, formerly the Long Form of the Census, and are from the years 2009-2013 to ensure adequate sample sizes.⁴ The sample is limited to individuals who work for the state government or for the private sector; federal employees or employees of non-profits are excluded. The sample also is limited to individuals who work 35 or more hours per week and 50 or more weeks per year.

The model used here controls for: Years of education; Undergraduate degree field (for those with a college education and above); Potential work experience (equal to age minus years of education minus 6) and experience-squared; Broad occupation (eight categories); place of residence (based upon the Census Bureau’s Public Use Microdata Areas, or PUMAs); Usual hours of work per week; Gender; Race; Hispanicity; Marital status; Immigrant status; Year; and State government employee. Our model has several key differences that can influence the results. First, we control for the number of hours worked per week. Since Illinois state government employees work about 1.5 fewer hours per week than private sector workers, excluding weekly hours worked makes state government employees appear relatively less well paid. Second, we include a variable for the employee’s undergraduate college major, acknowledging that certain majors lead to higher pay in the workforce than others.⁵ This variable also tends to narrow the pay gap between state employees and private sector workers. Third, we include data on the location within the state in which the employee lives. As Texas A&M Prof. Lori Taylor has shown, geographic controls are important in public-private pay comparisons to help account for differences in wages and costs of living between geographic areas, such as cities, suburbs and rural locations.⁶ This geographic data

also tends to reduce the relative pay gap between Illinois state government employees.

Relative to Bruno and Manzo's study, the inclusion of more relevant data produces a better "fit" for the model, meaning it is better able to predict the earnings of any given employee.⁷ And the inclusion of more data produces significantly different results: rather than the state and local government employee salary penalty of about 13.5 percent found in Bruno and Manzo, the augmented model shows a state government salary penalty of about 2.0 percent.⁸

One factor that neither Bruno and Manzo nor my data analysis directly controls is for firm size: in general, larger private sector firms pay higher salaries than smaller firms, even for employees with similar characteristics. The ACS does not include a firm size variable, so such calculations are not possible using this data set. Inclusion of a firm size control for public-private pay comparisons is controversial because it is not clear precisely why larger private firms pay more. Obviously, a state government is a very large employer, so applying a firm size control would make public employees' pay appear relative less generous. Some studies, such as Keefe (2010), Munnell et al (2011) and Biggs and Richwine (2014), include firm size controls.⁹ Other recent studies, including Gittleman and Pierce (2012) and Even and Macpherson (2012), do not control for firm size.¹⁰ Biggs and Richwine (2014) contains a more detailed discussion of the firm size issue.

For Illinois, data from the Current Population Survey indicate a firm size premium of about 5.2 percent. Thus, were a firm size control available for the ACS pay regression for Illinois state employees, it is likely it would find a total salary penalty of about 7.2 percent. For our baseline comparison we will use the raw salary penalty of 7.2 percent calculation without the use of a firm size control. Readers who believe a firm size adjustment is inappropriate can assume a state employee salary penalty of about 2.0 percent. The effects of the choice regarding firm size adjustments on overall compensation is illustrated in the appendix.

Benefits

The total compensation received by employees consists of salaries and benefits, which can include health insurance coverage, retirement plans, paid vacation, taxes paid on employees' behalf and other fringe benefits. For public sector employees in particular, benefits are an important component of their compensation package. Moreover, in many states the main disputes over public employee pay are related to benefits such as health and pension coverage, not salaries. Thus, it is important to include benefits in any public-private pay comparison.

Benefit data arise from a variety of sources. For private sector employees, most data is derived from unpublished tabulations of the Bureau of Labor Statistics Employer Contributions for Employee Compensation series which were provided to the authors of Biggs and Richwine (2014). These data are tabulated for private sector workers employed in establishments of 100 or more employees located in East North Central Census Region, which is comprised of Illinois, Wisconsin, Michigan, Indiana and Ohio. An establishment is the actual location at which an employee works; thus, establishments of 100 or greater imply overall average firm sizes that are significantly larger than 100 employees. For private sector employees these data provide information on all benefits except for retiree health coverage, which is calculated separately by the author.

For Illinois state government employees, BLS ECEC data is used for a small number of benefit categories. However, the major benefits - health coverage, retiree health care and pensions - and drawn from data sources specific to Illinois state employees. In most cases, benefits are expressed as a percentage of salaries and that percentage is applied to the salary figures derived from the ACS sample.

Health coverage

Health coverage are an important component of employee compensation. Here we count only the contribution to health premiums paid by employers themselves; any employee contributions are not considered part of their compensation. A recent Pew Foundation analysis of state employee health costs found that the average employee-only health plan in Illinois had a total monthly premium of \$692, of which the employee paid 9 percent. The average family policy had a monthly premium of \$1,545, of which employees paid 13 percent.¹¹ The average total premium for all Illinois employees was \$1,181 per month, of which the state government appears to have paid about 88 percent, or \$1,048. On an annual basis, per employee health costs borne by the government were thus \$12,572.

For private sector employees we turn to the BLS ECEC dataset. These data indicate that for private sector workers, employer health contributions were on average equal to 14.22% of salaries. Annual salaries for our sample of full-time employees the ACS equaled \$61,213, implying annual employer health expenditures of approximately \$8,704.

Thus, the employer contribution to Illinois state government employee health plans was approximately 42 percent higher than for private sector employees. These differences imply that, relative to private sector workers, Illinois state government employees receive a more generous health coverage package and/or they pay a lower share of overall health costs.

Retiree health benefits

In addition to health coverage while working, many employees earn the right to health coverage during retirement. Most employees of state governments have access to retiree health coverage, which generally provides primary health insurance from retirement through Medicare eligibility at age 65, and supplementary health coverage thereafter. These benefits are referred to as OPEBs, meaning Other Post-Employment Benefits. Most pay studies to date have ignored the value of retiree health coverage, but the accruing costs of OPEBS to state governments – and the value of such benefits to employees – can be substantial. A number of states have reduced retiree health coverage in recent years, but these benefits remain generous compared to the private sector.

For retiree health coverage, the important number is not the dollar value of benefits being paid out to today's retirees. Rather, it is the value of the future health benefits being earned by today's employees. This value is reflected in what is known as the "normal cost" of the plan. The normal cost is calculated and disclosed as part of accounting standard set by the Governmental Accounting Standards Board (GASB). In 2013, the normal cost of retiree benefits for employees enrolled in the State Employee Retirement system was \$678.5 million.¹² Divided by the 61,590 active employees in SERS, the per-employee normal cost of accruing retiree health benefits in 2013 was \$11,017, equal to 19.4% of the salaries of Illinois state employees in our ACS sample.

Calculating the value of retiree health benefits for private sector workers is far more problematic, and not simply because there are many more private sector than government employers. The value of retiree health coverage is not included in the ECEC data set. The reason is that, since most retiree health coverage is unfunded and financed on a pay-as-you-go basis, there is no employer contribution for current workers.¹³ Nevertheless, where employees are being promised future benefits those benefits should be counted.

Retiree health coverage is far less common in the private sector, even among larger employers, and measuring the cost of plans that do exist in the private sector is a challenge. Data are sparse, and the landscape is changing rapidly. In addition to changes already under way, the introduction of health exchanges under the Affordable Care Act may prompt more private employers to drop

retiree health coverage. All these factors make calculating the current value of future retiree health entitlements uncertain.

According to data from the Medical Expenditure Panel Survey (MEPS), 12.6 percent of Illinois firms offer health coverage to retirees below the age of 65 and 11.0 percent offer coverage to retirees ages 65 and over. However, as Paul Fronstin and Nevin Adams of the Employee Benefit Research Institute (EBRI) note, such statistics “should not be interpreted as meaning that [similar percentages] of workers should expect supplemental health coverage.”¹⁴ As of 2003, roughly one quarter of private firms paying benefits to current retirees did not offer them to new retirees.¹⁵ This fraction surely has risen in the past decade. An Aon Hewitt survey found that in 2011-2012, 11-12 percent of large employers tightened eligibility requirements for current employees.¹⁶ Similarly, a 2012 Mercer survey found that 17 percent of large employers who currently offer retiree health coverage will soon eliminate it for future retirees.¹⁷ Thus, one cannot simply extrapolate from the share of current retirees receiving benefits to the share of current workers accruing benefits. Moreover, even at firms that continue to offer health benefits for future retirees, not every employee will qualify to receive such benefits. As Fronstin and Adams point out, part-time employees often are not eligible for retiree health coverage, nor are employees who retire without a required minimum job tenure. The normal cost figures cited above for Illinois state employees are not merely for those who actually qualify for benefits. Those figures also factor in the possibility that an employee will not qualify for benefits at retirement.

Finally, many private-sector firms offer retiree health coverage on an “access only” basis, which means that retirees may buy into the health plan offered to employees but must do so using their own funds. As of 2010, half of firms offering retiree health coverage provided access with no premium support; 24 percent paid premiums up to a defined dollar limit; and 25 percent had no specified dollar limit.¹⁸ In the public sector, a far greater share of the premium is covered by employers.¹⁹

Based on these factors, Biggs and Richwine (2014) adjusted Congressional Budget Office figures for what we considered to be reasonable assumptions regarding the number of firms offering retiree health coverage; the percentage of employees assumed to be eligible at retirement; and the percentage of total premiums paid for by employers.²⁰ These figures were then adjusted on a state-by-state basis based on the current percentage of employers offering retiree health coverage. Nationally, Biggs and Richwine estimated an average normal cost of retiree health coverage for private sector workers of 0.5 percent of wages. Illinois came in slightly below that average at 0.48 percent. To be clear, while this figure is substantially more uncertain than others used in this study, almost nothing rides upon these assumptions in terms of the conclusions to be drawn from this study. There are no plausible assumptions whereby private sector retiree health coverage comes anywhere close to the public sector in terms of either prevalence or generosity.

Retirement Plans and “Pension Compensation”

Pensions are one of the most costly, and controversial, aspects of public employee compensation, both in Illinois and in other states across the country. Unfortunately, however, the fact that most private sector employees participate in defined contribution (DC), 401(k)-type pensions while most public employees participate in traditional defined benefit (DB) pensions makes it more difficult to compare the value of the two types of benefits. As Belman and Heywood (1993) put, “Since one type of plan fixes the costs, but provides an uncertain benefit, and the other type of plan fixes the benefit but gives employers an uncertain cost, it is very difficult to compare the relative costs and benefits of the plans. This complicates public/private comparisons because the private sector is more likely to provide defined contribution plans and the public sector defined benefit.”²¹

The methods used in this analysis are slightly technical, but they attempt to answer a relatively

straightforward question: How much would a private sector worker need to save in his 401(k) plan to provide a retirement benefit with the same generosity and the same risk as a public employee with a DB pension plan? For purposes of this analysis we abstract from smaller differences between the two types of plans – say, administrative costs – to focus on the two main differences: generosity and risk.

As with retiree health benefits, the value of pension benefits accruing to employees in a given year – what we may call their “pension compensation” – is represented by the “normal cost” of the pension plan. Unlike retiree health benefits, however, this normal cost must first be adjusted to account for differences between the risk of the investments used to fund pensions and the risk of the benefits themselves. The reason is that most public employee pension plans are funded with risky assets that have high expected returns. These high returns lower the current contribution needed to fund the normal cost of the pension, but come with a danger – called a “contingent liability” – that expected returns won’t be realized. If this happens, it is the government – not the employee – who must make up the difference. This differs significantly from a 401(k) plan, where it is the employee’s responsibility to adjust his saving rate or his retirement age in response to an investment downturn.

Having the government bear the market risk in a DB pension plan is a benefit to employees participating in that plan, but a cost to the taxpayer. The way that analysts account for this is to re-calculate the normal cost of the pension using an interest rate whose risk matches the benefits that are promised. Since public employee pensions are intended to be guaranteed, are advertised to employees as guaranteed, and – in states such as Illinois – are guaranteed by the state’s constitution, this points toward using a lower interest rate in calculating public employees’ pension compensation. The Congressional Budget Office adopted such an approach in calculating pension compensation for federal government employees and in valuing the liabilities of state and local pension plans²²; the federal Bureau of Economic Analysis uses a similar approach in the National Income and Product Accounts to calculate pension compensation for federal, state and local government employees²³; and Biggs and Richwine (2014) used this approach in comparing compensation for state government employees around the country. Once the normal cost of the pension is adjusted to an appropriate interest rate, the employee contribution is then subtracted to produce net pension compensation. This figure can then be compared to contributions private sector employers make to the 401(k) plans that most of their employees would have access to.

State and local government pensions typically calculate their annual contributions using an interest rate of around 8 percent. For public employees as a group, this is mathematically identical to the employer guaranteeing an 8 percent return on both on the employer and employee contributions. This does not imply that every individual employee receives an implicit return equal to the discount rate. In general, short-term employees receive lower implicit returns from DB pensions while full-career employees receive higher returns.²⁴ But what the employer is doing for employees as a group is providing a guaranteed return on both employees and their employers’ pension contributions equal to the assumed return on pension investments. This makes these DB plans far more generous than DC plan that had the same employer contribution but no such guarantee. As Munnell et al (2012) note:

Contributions to private sector 401(k) plans and public sector defined benefit plans are not comparable. The public sector contribution guarantees a return of about 8 percent, whereas no such guarantee exists for 401(k)s. Thus, the public sector contribution under-states public sector compensation.²⁵

Put simply, a dollar of employer contributions to a DB pension plus an effective guaranteed return of 8 percent is much more valuable than a dollar of DC pension contributions that does not include such a guarantee. As the Bureau of Economic Analysis notes, “Contributions aren’t always a good approximation for the value of benefits accrued through service.”²⁶

Illinois SERS assumes an investment return of 7.25 percent, based upon an investment portfolio that is far more risky than the benefits the plan offers. To calculate the value of pension compensation to employees, I recalculate the normal cost of SERS under the assumption of a 5.0 percent discount rate. The Congressional Budget Office (2011) used a 5.0 percent interest rate in valuing pension liabilities in its 2012 analysis and I follow their approach here. I adopt the CBO's assumption because doing so protects against claims that this analysis may be rigged or biased against public employees. That is to say, the choice of discount rate is not mine but that of the CBO's economists. However, there is good reason to argue for the use of an even lower discount rate, which I explore in a short appendix on sensitivity analyses.

As of the latest actuarial valuation, published in December 2014, Illinois SERS has a total normal cost, calculated at a 7.25 percent discount rate, of 20.9 percent of employee payroll.²⁷ When the discount rate is lowered to 5.0 percent, the total normal cost increases to 41.8 percent of payroll. Total employee contributions in 2015 are expected to equal 5.4 percent of wages, leaving a net employer normal cost of 36.4 percent of payroll.

Put in simple terms, if a private sector worker with a 401(k) saved 36 percent of his wages in his account and invested them in riskless bonds with a yield of 5.0 percent, he would receive at retirement a benefit of approximately same generosity and safety as is paid under Illinois SERS. The private sector employee could achieve the same expected benefit by investing a smaller 401(k) contributions in stocks, but his benefit in retirement would come with a great deal more risk. Thus, what is unusual about public employee pensions, in Illinois and elsewhere across the country, is the combination of a benefit that is both generous and safe. Public employees are spared the usual trade-off between risk and return that most investors experience, but this results in higher costs to the government.

The relative generosity of Illinois public employee pensions is demonstrated via the BLS ECEC data on employer contributions to private sector pensions. These data indicate that, on average, private sector employers contribute an amount equal to 2.6 percent of employee wages to DC pension plans and 1.4 percent to DB pensions, for a combined total employer contribution of 4.0 percent of wages. Thus, it is understandable why budget hawks would focus on pensions: not only are pension costs a large and growing part of the budget, they also are the place in which public and private sector compensation are most at odds.

Other forms of compensation

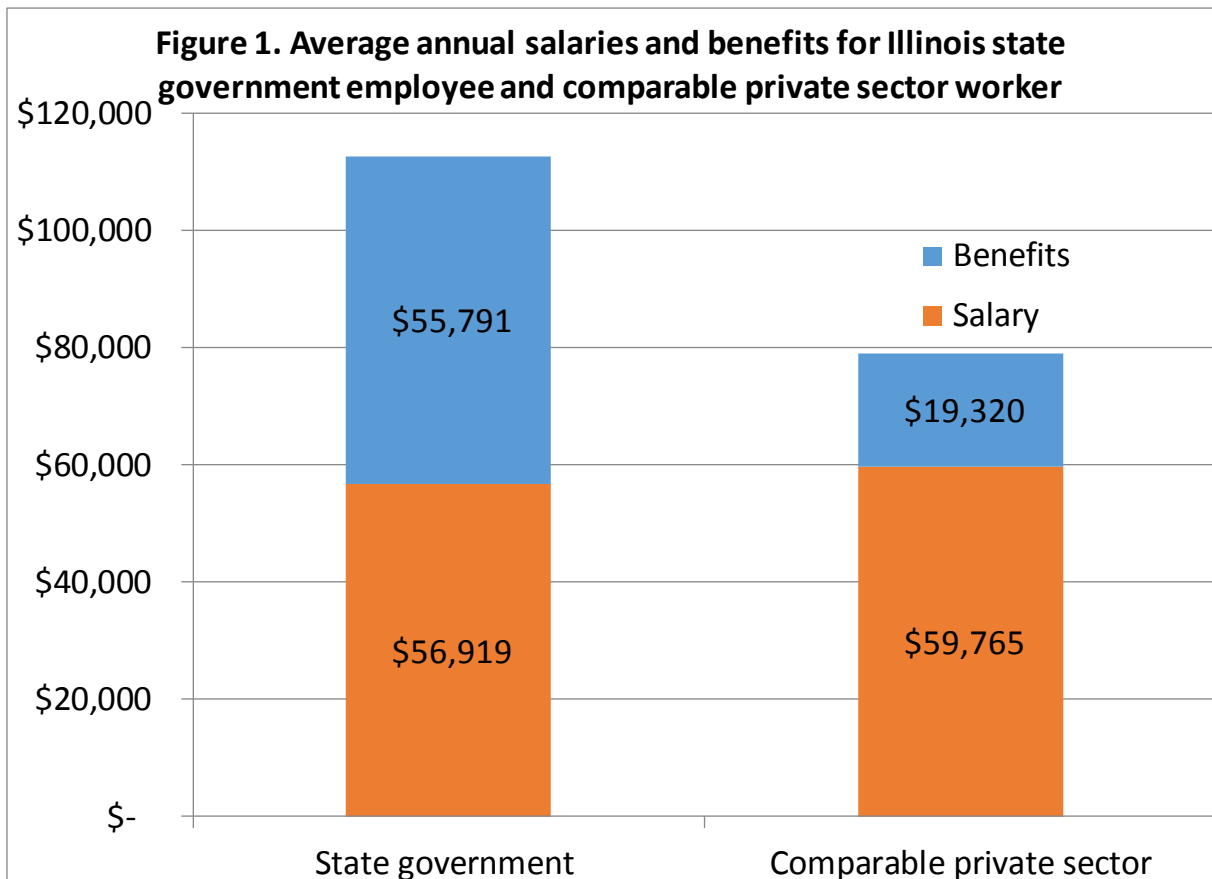
Pensions, health coverage and retiree health benefits the main ways in which compensation differs between Illinois public and private sector employees. However, these are not the only fringe benefits paid by employers and it is important to include as much detail is available. These other fringe benefits include paid leave, such as vacation, holiday and personal time; employer premiums paid toward life and disability insurance; and "legally-required benefits," which can include employer taxes toward Social Security²⁸, Medicare, unemployment insurance, and worker's compensation. For these benefits we rely upon data from the BLS's ECEC dataset.²⁹ Because these ECEC-derived benefits are calculated at the regional level, they should be regarded as approximations of the amounts paid by Illinois public and private sector employers.

Figures for these additional fringe benefits are shown in Table 1 in the following section. However, differences between Illinois state employees and private sector workers in these forms of compensation are far more modest than with regard to health coverage, retiree health or pension benefits. For instance, private sector employers pay more than the public sector toward life and disability insurance, but in absolute terms the difference comes to about 4 percent of wages. It is a similar picture with unemployment insurance and workers compensation premiums: private sector employers pay roughly twice as much as public employers, but because these benefits are modest in cost the differences do not have a large impact on overall pay comparisons.

Totaling up

Illinois state government employees in the ACS sample have an average annual salary of \$56,919, compared to an annual salary of \$61,214 for full-time, year-round Illinois private sector workers in the ACS. However, raw salaries differences do not account for differences in the earnings-related characteristics of the two work forces. Regression analysis shows that, after controlling for differences in education, experience, weekly work hours, geography, firm size and other factors, the average Illinois employee receives a salary that is about 7.2 percent below that of comparable private sector employees. This implies that a comparable private sector workers earns an annual salary of about \$61,017, a difference of \$4,098.

However, while state employees have a slight salary disadvantage they receive benefits – in particular, health benefits, pensions and retiree health coverage – that are multiples higher than private sector workers receive. Total benefits for Illinois state employees, including the future pension and retiree health benefits they earn, are equal to 98.0 percent of their annual salaries, or \$55,791 in dollar terms. Benefits for a comparable private sector employee are far more modest at around 32.3 percent of annual salaries, or \$19,725 per year. Total compensation for the average Illinois public employee, inclusive of accruing pension and retiree health benefits, comes to \$112,710. For a comparable private sector worker total annual compensation equals \$80,742, a difference of \$31,968. This result indicates that Illinois state employees receive total compensation approximately 39.6 percent higher on average than private sector workers with similar education, experience and other attributes who work for larger employers. These differences are illustrated in Figure 1 and broken down in greater detail in Table 1.



Unless there is something very important about the productivity or earnings potential of public employees that is not captured by observable measures such as educational attainment, college major, or years of work experience, it is difficult to avoid the conclusion that the Illinois state government pays a substantial premium to public employees. This compensation premium implies that the Illinois state government could attract and retain the employees it requires at substantially lower total cost than it current expends on employee compensation. This compensation does not imply that every Illinois state government employee is “overpaid”: the measured premium is an average and does not preclude the possibility that any given state government employee receives a fair market compensation package or potentially even receives less than he or she might in the private sector. But the substantial size of the compensation premium found for state government employees indicates compensation policies – in particular, the retirement package of pensions and retiree health benefits – that are far out of sync with common practice in the private sector.

Conclusions

The 39.6 percent compensation advantage the average Illinois state government employee over similar private sector workers stems entirely from more generous benefits. It is also these benefit programs – health coverage, retiree health plans and pensions – that are placing the greatest strain on the State’s budget. Thus, these benefit programs appear to be the most appropriate objects of reform. While this study is not aimed at proposing reforms for public benefit programs, several points may be relevant.

First, a large component of the cost of public sector pension plans arises from the fact that the government – meaning, in effect, the taxpayer – shoulders the market risk associated with the plan’s investments. When a plan is as large as Illinois SERS and takes such considerable risk with its investments, the volatility of contributions required to insulate employees and retirees from such risk can be considerable.³⁰ When required contributions increase, governments face a choice between raising taxes, reducing outlays on other spending priorities, or letting unfunded pension liabilities grow. Governments need to find ways to manage these risks. Defined contribution plans are one option: the employer makes a fixed contribution to employees’ accounts and employees manage the accounts’ investments. A well-structured DC plan, such as the federal government’s Thrift Savings Plan, can be extremely cost-effective. Alternately, governments could retain a defined benefit structure but enact policies to limit risk. For instance, Utah offers a defined benefit plan but the employer contribution is capped at 10 percent of wages. If costs rise above that level, employees must increase their contributions to make up the difference. Likewise, Nevada has a provision that, at least in theory, splits all pension costs evenly between employers and employees. If the plan accumulates unfunded liabilities, both parties must pay more. Both these policies would give employees and their representatives incentives to monitor the risk of investments, the timeliness of contributions and the generosity of benefit levels.

Second, increasing the retirement age for public pension plans would have a direct effect in terms of lowering pension costs, but also would reduce costs for retiree health plans. Much of the costs of retiree health coverage are for employees who retire before the age of 65, when Medicare benefits become eligible. If employees delayed retirement, this could generate both health- and pension-related savings for the state government.

Third, employees might be asked to increase contributions for health coverage during their working years. Illinois state employees pay only about 12 percent of the total cost of their health premiums, which is roughly half the share paid by private sector employees.³¹ Consumer-directed health plans could reduce the cost and increase the efficiency of health spending, thereby cushioning the blow to employees of being required to pay a greater share of their health premiums.

There is no compelling reason why public sector employees should receive a compensation

premium over similarly-qualified private sector workers, particularly a premium as large as appears to be paid in Illinois. Bringing public employee compensation back to market-comparable levels is a matter of fairness for taxpayers and a central part of restoring the State of Illinois' budget to long-term sustainability.

Appendix: Sensitivity Analysis

In prior sections there were two places where judgment calls had to be made: first, whether to calculate public-private wage differences after adjusting for differences in firm sizes; and second, the appropriate interest rate at which to discount and value the compensation that Illinois state government employees receive through defined benefit pension plans.

With regard to wages, I chose to include an adjustment for firm size. Since the state government is a very large employer, this adjustment reduces measured relative wages for state government employees by about 5.2 percent. Thus, including a firm size adjustment finds a total state government salary penalty of 7.2 percent and an overall state government compensation premium of 42.5 percent. If a firm sized adjustment were not used, the salary penalty would fall to 2.0 percent and the overall compensation premium would rise to 46.7 percent.

In valuing defined benefit pension compensation, I used a discount rate of 5.0 percent. This figure was adopted from the Congressional Budget Office's 2011 analysis of state and local government pension liabilities, in which the CBO concluded that the use of a risk-adjusted discount rate, rather than the expected return on a risky portfolio of investments, better captured the full value of such liabilities. However, there is good reason to believe that a discount rate lower than 5.0 percent is appropriate. Private sector defined benefit pensions value their liabilities using a corporate bond yield. This approach implicitly assumes that the chance of default on corporate pensions is about as likely as the chance of default on corporate bonds. Given the constitutional protections afforded to government pension benefits, which recently were supported by the State Supreme Court, even the use of a corporate bond yield may be considered a conservative assumption. I draw a corporate bond yield of 3.6 percent from the Mercer Pension Discount Yield Curve published for corporate DB pension plans; Mercer designates such a rate as appropriate for a "mature" plan that has a relatively high ratio of retirees to employees.³² Illinois SERS is clearly in this category. The discount rate itself is drawn from AAA corporate bond yields. Using a 3.6 percent discount rate, the total normal cost of Illinois SERS rises to 64.3 percent of payroll and employee pension compensation, net of employee contributions of 5.4 percent of pay, is 58.9 percent of wages. Using this assumption, along with the assumption of a 7.2 percent state government salary penalty, leads to a finding of a 55.5 percent compensation premium for Illinois state government employees. If we combined a 3.6 percent pension discount rate with a 2.0 percent non-firm size adjusted salary penalty, the state employee compensation premium rises to 63.4 percent.

Table 1. Summary of Results: Illinois state government employees and comparable private sector employees					
Compensation component		State and local government	Comparable private sector	State and local government	Comparable private sector
Raw salary		-7.2%	--	\$ 56,919	\$ 61,017
Benefits		As percent of salaries		Dollars	
<i>Paid leave total</i>		10.6%	10.0%	6,056	6,108
	Vacation	4.6%	5.4%	2,635	3,283
	Holiday	3.1%	3.1%	1,764	1,879
	Sick	2.5%	1.1%	1,400	653
	Personal	0.5%	0.5%	256	293
<i>Insurance total</i>		22.5%	7.0%	12,811	4,244
	Life	0.3%	3.9%	148	2,358
	Health	22.1%	14.2%	12,572	8,677
	Short-term disability	0.0%	0.4%	11	220
	Long-term disability	0.1%	0.3%	80	159
<i>Retirement and savings total</i>		55.8%	4.5%	31,748	2,728
	Defined benefit	36.4%	1.4%	20,731	838
	Defined contribution	0.0%	2.6%	-	1,599
	Retiree health coverage	19.4%	0.5%	11,017	291
<i>Legally required benefits total</i>		9.1%	10.9%	5,176	6,645
	Social Security	6.2%	6.2%	3,529	3,783
	Medicare	1.6%	1.8%	916	1,068
	Federal unemployment insurance	0.0%	0.2%	2	110
	State unemployment insurance	0.2%	0.7%	114	409
	Workers' compensation	1.1%	2.1%	615	1,275
Total benefits		98.0%	32.3%	55,791	19,725
Total compensation		+39.6%	--	112,710	80,742
Source: Author's calculations based upon ACS, CPS, BLS and actuarial valuation data.					

Endnotes

1. The methodology used here draws heavily upon Biggs, Andrew G., and Jason Richwine. "Overpaid or underpaid? A state-by-state ranking of public-employee compensation." American Enterprise Institute Working Paper No. 415891. April 2014.

2. For instance, see M. Famulari, "What's in a Name? Title Inflation in the US Federal Government," (working paper, 2002), Revision requested by Industrial and Labor Relations Review.

3. Bruno, Robert and Frank Manzo IV. (12 Mar. 2013). "Working in Illinois' Public Interest: A Comparison Study on Earnings, Benefits, and Impacts." University of Illinois.

4. The total sample size is 111,805 individuals, of whom 5,580 are state government employees.

5. See, for instance, Altonji, Joseph G., Lisa B. Kahn, and Jamin D. Speer. "Trends in Earnings Differentials across College Majors and the Changing Task Composition of Jobs." *The American Economic Review* 104.5 (2014): 387-393.

6. L.L. Taylor, "Comparing Teacher Salaries: Insights from the U.S. Census," *Economics of Education Review*, 27(1), (2008): 48-57.

7. The so-called R-squared in Bruno and Manzo is approximately 0.29 versus 0.56 in the augmented model used here.

8. The fact that I here look only at state government employees while Bruno and Manzo look at state and local government employees appears not to be a major factor. If I attempt to recreate their regressions for state employees only using their smaller set of variables, I find results similar to theirs.

9. See Jeffrey Keefe, "Are New Jersey public employees overpaid?" Economic Policy Institute (July 30, 2010) and other studies by the same author; Alicia H. Munnell, Jean-Pierre Aubry, Josh Hurwitz, and Laura Quinby. "Comparing Compensation: State-Local Versus Private Sector Workers," Center for Retirement Research at Boston College, State and Local Pension Plans No. 20 (Chestnut Hill, MA: September 2011).

10. William Even and David Macpherson, "Methodology for Estimating Compensation Differentials for State and Local versus Private Sector Workers," (WI: MacIver Institute, November 2012).

11. "State Employee Health Plan Spending." A report from The Pew Charitable Trusts and the John D. and Catherine T. MacArthur Foundation. Aug 2014.

12. Gabriel, Roeder, Smith & Company. "Illinois State Employees Group Insurance Program. GASB No. 45 Actuarial Valuation Report, as of June 30, 2013." Released December 20, 2013.

13. Recall that ECEC stands for "employer contributions for employee compensation." Thus, employer contributions for current retirees' health coverage is not included.

14. Paul Fronstin and Nevin Adams, "Employment-Based Retiree Health Benefits: Trends in Access and Coverage, 1997-2010," Employee Benefit Research Institute. Issue Brief No. 377 (October 2012).

15. Alice Zawacki, "Using The MEPS-IC To Study Retiree Health Insurance," U.S. Bureau of the Census. CES 06-13 (April, 2006).

16. Aon Hewitt, Hot Topics in Retirement (2012), www.aon.com/attachments/human-capital-consulting/2012_Hot_Topics_in_Retirement_highlights.pdf

17. Mercer, "New options for retiree medical coverage," (April 18, 2012) <http://mthink.mercer.com/new-options-for-retiree-medical-coverage/>

18. Fronstin and Adams (2012).

19. For instance, see Robert Clark and Melinda S. Morrill, “The Funding Status of Retiree Health Plans in the Public Sector,” NBER Working Paper No. 16450, (October 2010): Table 2.
20. Biggs, Andrew G., and Jason Richwine. “Overpaid or underpaid? A state-by-state ranking of public-employee compensation.” American Enterprise Institute Working Paper No. 415891. April 2014.
21. Dale Belman and John Heywood. “The Truth About Public Employees: Overpaid or Underpaid?” Economic Policy Institute. June 1, 1993.
22. See Justin Falk, “Comparing Benefits and Total Compensation in the Federal Government and the Private Sector,” Congressional Budget Office Working Paper 2012-4 (January 2012); and Congressional Budget Office, “The Underfunding of State and Local Pension Plans,” (May 2011).
23. Marshall B. Reinsdorf and David G. Lenze, “Defined Benefit Pensions and Household Income and Wealth,” Bureau of Economic Analysis, Research Spotlight (August 2009): 51, https://www.bea.gov/scb/pdf/2009/08%20August/0806_benefits.pdf
24. See Alicia H. Munnell, Jean-Pierre Aubry, Joshua Hurwitz and Laura Quinby, “Public Plans and Short-Term Employees,” NBER Working Paper No. w18448 (working paper, October 2012).
25. Alicia H. Munnell, Jean-Pierre Aubry, Josh Hurwitz, and Laura Quinby, “Comparing Compensation: State-Local Versus Private Sector Workers,” Center for Retirement Research at Boston College, State and Local Pension Plans No. 20 (Chestnut Hill, MA: September 2011).
26. Marshall Reinsdorf, “Actuarial Measures of Defined Benefit Pension Plans for the National Accounts.” Presentation to BEA Advisory Committee Meeting (May 11, 2012).
27. Gabriel Roeder Smith & Co. “State Employees’ Retirement System of Illinois. Annual Actuarial Valuation as of June 30, 2014.” Published December 15, 2014.
28. While most Illinois state government employees are covered by Social Security, many other Illinois state and local government employees are not. Thus, they would not receive a Social Security contribution made by their employer and both their employee contribution to their own pension plan and the benefits paid by that plan may be different than for covered employees.
29. The figures used here are drawn from Biggs and Richwine (2014).
30. See Biggs, Andrew G. “The Public Pension Quadrilemma: The Intersection of Investment Risk and Contribution Risk.” *The Journal of Retirement* 2.1 (2014): 115-127.
31. Bureau of Labor Statistics. Employee Benefits Survey. Table 10. Medical care benefits: Share of premiums paid by employer and employee, private industry workers, National Compensation Survey, March 2014.
32. Mercer Pension Discount Yield Curve and Index Rates In U.S. As if March 18, 2015. Available at <http://www.mercer.com/content/mercerglobal/all/en/insights/point/2014/mercerglobal-pension-discount-yield-curve-an-index-rates-in-us.html>

