



**Unequal Pay:
Public Vs. Private Sector
Compensation in Connecticut**
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September 2015

A Note From the Yankee Institute

Since 2011, Connecticut lawmakers have passed the two largest tax increases in state history. Even with this huge influx of taxpayer dollars, the state is projected to be in deficit again by 2017. Taxpayers are shaking their heads in frustration and asking: Why?

Part of the reason is because portions of the state budget are growing at a much faster pace than the economy as a whole. In particular, the growth in pay and benefits of state employees -- which already accounts for more than a third of the state budget -- is far outpacing Connecticut's economic growth. This study examines how public employees are compensated, and why the growth in state worker compensation has become unsustainable.

Public employees receive total compensation packages that are 25 to 46 percent higher than private employees with comparable skills and experience. Although the salaries of public employees are comparable to those of private sector employees, the health care and pension benefits received by public employees are far costlier than those provided to private employees.

If Connecticut public employees were compensated at similar rates to private employees, the state would save between \$1.4 billion and \$2.5 billion a year.

This lopsided compensation has consequences. Despite hefty tax increases, lawmakers have still had to cut discretionary spending -- and prospective deficits jeopardize funding for items including roads, schools and social services for the poor. In addition, because lawmakers and union leaders have agreed for years to underfund the expensive pensions offered to state employees, Connecticut now has a staggering pension debt. The state's attempts to pay down that debt have so far been fruitless.

This paper illuminates a pressing need in Connecticut: For our state to achieve economic stability, public sector compensation must be reformed so that it is sustainable for the future. Otherwise, Connecticut will confront a future characterized by both growing taxes and shrinking public services, where, in a worst-case scenario, it could even become impossible for the state to keep the promises it has made to its employees. Reasonable, moderate reforms now can eliminate the need for more drastic action down the road.

Ultimately this is an issue of fairness. Private sector employees are asked to pay more in taxes every year so government employees can earn more than they do.

We need a return to fairness. It's time to reform public sector compensation.

Executive Summary

- Public employee compensation should be set at the level necessary to attract and retain required employees. Appropriate compensation levels for government employees can be approximated by analyzing how workers with similar levels of education, experience and other earnings-related attributes are paid in the private sector.
- 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. Connecticut is ranked second in the nation for the ratio of combined public debt and unfunded pension and retiree health liabilities to state GDP. The Connecticut State Employee Retirement System (SERS) is among the most-poorly funded pension plans in the country.
- This study compares the salaries and benefits of Connecticut state government 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 used for this analysis 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.
- After controlling for education, experience and other factors, Connecticut state government employees receive salaries that are 0.2 percent lower than those of similarly -qualified private sector workers.
- But Connecticut state government employees receive a benefits package that is substantially more generous than is received by private sector workers. In particular, health coverage, retiree health plans, and pension benefits are substantially more generous for Connecticut state employees than for workers in the private sector.
- The average Connecticut state government employee in our data sample receives an annual salary of \$70,970, plus annual benefits, either received in that year or accrued toward retirement, worth between \$54,561 and \$75,641, depending upon how future pension benefits are valued. A private sector employee with similar education, experience and other characteristics would receive \$71,112 in average annual salary, but only \$29,371 in annual benefits. In total, the average Connecticut state employee receives between \$125,531 and \$146,611 in annual salaries and benefits, versus \$96,177 for a comparable private sector employees. On average, Connecticut state employees receive total pay and benefits from 25 to 46 percent higher than comparable private sector employees.
- Pensions and health coverage are the greatest budgetary burdens of public employee compensation, as well as the elements of compensation that are most generous relative to the private sector. Were the Connecticut state government to pay employees at market levels, it would save between \$1.4 billion and \$2.5 billion in annual compensation costs.
- Thus, it seems appropriate that policy reforms focus on making public employee health, pension and retiree health plans fiscally sustainable and competitive with the private sector.

Introduction

Public employee compensation is a matter of policy debate and political controversy in states and cities around the country. Yet discussions of public sector pay are rarely informed by hard data. Many public employees are under the impression that they could earn higher pay and benefits “on the outside.” And many private sector workers admire public sector pay and benefits, without recognizing that the average public employee is often more educated and experienced than the average worker outside government.

Public sector pay enters the policy discussion from two directions: from a top-down perspective, policymakers care about the total costs of employee compensation, in particular pension and health plans. Connecticut SERS is one of the most poorly-funded retirement plans in the country and its annual required contributions (ARC) have doubled since 2006 and nearly quadrupled since 2001.¹ On paper, SERS is 41 percent funded and has an unfunded liability of \$14.9 billion, according to the Public Plans Database. But even these figures overstate the plan’s health, as it discounts (or values) its liabilities using a high 8 percent investment return assumption. If valued using the more conservative standards applied to corporate pensions or public employee plans in other countries, SERS would be only around 26 percent funded and would face unfunded liabilities of nearly \$30 billion.²

But there is a second element to the controversy over public employee compensation. Many ordinary citizens believe, rightly or wrongly, that state and local government employees receive higher pay and benefits and better job security than do the taxpayers who support them. For instance, during the period 2009-2012, Connecticut state government employees had an unemployment rate of 2.9 percent, while private sector workers with similar education, experience and other factors had an unemployment rate of 9.4 percent.³ These two elements combine to make public sector pay a contentious issue.

But it is also a complex issue. One cannot simply compare the average salaries of public and private sector workers, since they are not identical in terms of the factors that help determine pay. Moreover, much of the compensation public employees receive is in the form of pensions and retiree health benefits which will be paid years or decades in the future. These future benefits must be converted to a “present value” that is comparable to the employer contributions that most private sector workers receive toward their 401(k) retirement plans.

When an issue is as contentious and politically driven as public employee pay, it is important to bring data and analysis to the question. The following sections consider the salaries and benefits paid to Connecticut state government workers compared to private sector workers with similar measurable qualifications who work for larger private sector employers.⁴ Note that the workers considered here do not include local government employees or public school teachers. While similar methods can be applied for these employees, the underlying data used to analyze their compensation will differ from that of state government employees. That is, they have different salaries, may participate in different health and pension programs, and so forth. Thus, the conclusions drawn here cannot be extended to all employees.

Salaries

Some studies of public sector pay 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. For instance, in 2012 two economists at the Bureau of Labor Statistics, Maury Gittleman and Brooks Pierce, published a study comparing the pay and benefits of state and local government employees to private sector employees who perform work duties of similar difficulty and complexity.⁵ Gittleman and Pierce concluded that state government employees receive wages slightly below, and local

government employees slightly above, private sector jobs demanding similar levels of skill.

However, most economists choose to compare employees based not on their job duties but upon their qualifications – namely, education and experience – and other factors that affect pay, such as marital status, the location in which a person lives, and so forth. Economists adopt this “human capital” approach for several reasons. 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. For instance, two employees holding similar jobs might have very different levels of productivity. If public sector employees have different skills levels – say, different levels of education and experience – than private sector workers holding similar jobs, then a job-to-job comparison will not capture all aspects of the compensation question. Melissa Famulari, an economist at the University of California at San Diego, found evidence that federal government employees have lower levels of education and experience than private sector workers holding similar jobs. However, it is not known whether similar patterns hold at other levels of government.⁶

For these reasons, most economic studies of comparative pay rely on a 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. Once pay differences associated with these factors are controlled for, remaining

differences between public and private workers are assumed to derive from the sector in which they are employed.

For salary comparisons I use data from the American Community Survey from the years 2009-2013 to ensure adequate sample sizes.⁷ The sample is limited to individuals who work for the state government or for the private sector; federal and local government employees and employees of non-profits are excluded. Teachers and public safety officers are not included in the sample, as unique characteristics of their professions may tend to skew the results. The sample is limited to individuals who work 35 or more hours per week and 50 or more weeks per year, meaning that part-time and seasonal employees are not considered.

The dependent variable is the natural log of annual wage earnings. The independent variables are: 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 whether the individual is a state government employee.

Table 1. Summary information on full-time, full-year Connecticut state government and private sector employees

	<i>State employee</i>	<i>Private sector</i>
Annual salary	\$ 70,970	\$ 77,363
Weekly work hours	41.6	44.3
Years of education	15.6	13.9
Immigrant	12.6%	19.2%
Age	46.3	42.5
Female	54.7%	41.7%
Black	13.9%	6.7%

Source: Author’s calculations from ACS data.

Table 1 illustrates why such calculations are necessary. The state government and private sector workforces differ in annual wages and salaries, but they also differ in a number of characteristics that are related to earnings in the labor market. The two labor forces have a different demographic makeup, in terms of age, gender, race, immigrant status and education, and they work different hours each week.

Two other factors, that are not easily summarized, are worth mentioning. First, the ACS data include a variable for the employee's undergraduate college major, acknowledging that certain majors lead to higher pay in the workforce than others.⁸ For instance, if the state workforce consisted of individuals who majored in engineering or other STEM fields while the private sector workforce consisted of English literature majors, one would expect to find pay differences between them. The ACS, unlike other datasets such as the Current Population Survey, allows us to control for these differences.

Second, the ACS contains 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.⁹ If public employees are clustered in areas where all workers tend to have higher wages, such as urban areas, while private sector workers are more common in suburban or rural areas, this would produce the appearance of a pay difference where none might exist.

One factor that the ACS data do not allow us to control for is 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.¹⁰ Other recent studies, including Gittleman and Pierce (2012) and Even and Macpherson (2012), do not control for firm size.¹¹ Biggs and Richwine (2014) contains a more detailed discussion of the firm size issue. For Connecticut, data from the Current Population Survey indicate a firm size premium of about 5.9 percent. I will apply this firm size adjustment to the adjusted salary differential derived from ACS data. However, readers who believe a firm size adjustment is not warranted may choose to focus on the unadjusted salary differences derived from the ACS regressions.

One factor that I and most other pay studies do not control for is union status. In general, unionized jobs will pay higher salaries and benefits than non-union jobs. Moreover, government jobs are more likely to be unionized. Thus, a control for union status will, in effect, compare public sector salaries only to those of unionized private sector firms. However, most public-private pay comparisons do not control for union status. As Pierce and Gittleman (2012) of the Bureau of Labor Statistics put it, "Controlling for union coverage seems inappropriate, because union wage premia probably do not reflect ability differences, and those in the public workforce would not likely take their public sector unionization rates with them if they were to move to the private sector." Moreover, governments are not required to allow employees to collectively bargain and different governments have different levels of unionization and union power among their employees. Whether to allow collective bargain is a policy choice that has predictable effects on public employee pay and benefits. Controlling for union status would incorrectly treat this policy choice by elected officials as an attribute of the public workforce.

Regression analysis conducted using the ACS data indicate that, after controlling for a range of factors relevant to pay, Connecticut state government employees earn annual salaries that are 5.7 percent higher than private sector employees.¹² Incorporating a 5.9 percent firm-size adjustment drawn from the CPS leaves Connecticut state employees with annual salaries 0.2 percent lower than those of similarly qualified private sector workers. These results imply that, on average, Connecticut state government employees receive average annual salaries that are almost indistinguishable from their private sector counterparts. If the average full-time, full-year Connecticut state government employee in the ACS sample receives an annual salary of \$70,970, the regression results imply that he or she would be likely to receive a private sector salary of \$71,112.

The results should not be taken to mean, however, that every state employee receives a market-level salary. In general, public employees with lower educational attainments receive relatively higher pay than more educated public employees. Moreover, any given state employee may be paid more or less than he or she might receive in the private sector. However, these results indicate that, as a group, Connecticut state employees receive salaries that are effectively equal to similar workers employed by large private sector firms in Connecticut.

Benefits

Salaries are just one component of overall compensation received by employees. The total compensation received by employees also includes benefits, which can include health insurance coverage, retirement plans, paid vacation, taxes paid on employees' behalf and other fringe benefits. In the public sector, benefits are a particularly important component of employees' compensation packages. Moreover, in many states – including Connecticut – the main disputes over public

employee pay relate to benefits such as health and pension coverage, because it is these plans that place disproportionate pressure on budgets. 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 New England Census Division, which is comprised of Connecticut, Maine, New Hampshire, Massachusetts, Rhode Island and Vermont. 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 Connecticut state government employees, BLS ECEC data is used for a small number of relatively minor benefit categories, such as paid time off and employer payroll taxes paid on workers' behalf. However, the major benefits – health coverage, retiree health care and pensions – are drawn from data sources specific to 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 to calculate total compensation. For instance, if an employee earns a \$50,000 salary and receives benefits equal to 50 percent of his wages, his total compensation would be equal to \$75,000.

Health Coverage

Health coverage is 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 Connecticut had a total monthly premium of \$608, of which the employee paid 11 percent. The average family policy had a monthly premium of \$1,534, of which employees paid 15 percent.¹³ The average total premium for all state employees was \$1,199 per month, of which the state government appears to have paid about 86 percent, or \$1,028. On an annual basis, per employee health costs borne by the government were thus \$12,335, or about 17.4 percent of the \$70,970 average state government salary in the ACS dataset.

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 12.2% of salaries. Annual salaries for our sample of full-time employees the ACS equaled \$77,363, implying annual employer health expenditures of approximately \$9,454.

In dollar terms, Connecticut state government employees receive a health coverage package that is approximately 30 percent more generous than is offered to private sector employees at large firms.

Retiree Health Benefits

In addition to health coverage while working, 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 2014, the normal cost of retiree benefits for employees enrolled in the State of Connecticut Other Post-Employment Benefits Program was \$480.6 million, equal to 13.6 percent of total employee salaries.¹⁴ In other words, the retiree health benefits accruing to Connecticut state government employees in a given year are equivalent to a 13.6 percent increase in their salaries.

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.¹⁵ 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), as of 2011, 12.2 percent of Connecticut employers offer health coverage to retirees below the age of 65 and 9.7 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.”¹⁶ As of 2003, roughly one quarter of private firms paying benefits to current retirees did not offer them to new retirees.¹⁷ An Aon Hewitt survey found that, in 2011-2012, 11-12 percent of large employers tightened eligibility requirements for current employees.¹⁸ 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.¹⁹ 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. Eligibility is important, as the normal cost figures cited above for Connecticut state government employees are for all current employees, not merely for those who will actually qualify for benefits in the future.

Finally, many private-sector firms offer retiree health coverage on an “access only” basis, which means that retirees may buy into the health plans

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.²⁰ Granting retirees access to employer-sponsored health coverage is valuable and must be counted as an implicit subsidy, since including retirees in the insurance pool increases costs for the employer and for working-age participants. However, access-only is not as valuable as an explicit subsidy paid by employers. In the public sector, a far greater share of the retiree health premium is covered by employers.²¹

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.²² 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. Connecticut came in slightly below that average at 0.46 percent. This figure is substantially more uncertain than others used in this study, given the lack of solid available data for private sector employees. However, almost nothing rides upon these assumptions in terms of the overall 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. The main plan for state government employees, Connecticut SERS, is poorly funded. The retirement plan for Connecticut’s teachers also faces significant unfunded liabilities, despite the state’s use of controversial “pension obligation bonds.”

Unfortunately, however, it is difficult for non-specialists, such as elected officials or the news media, to judge the generosity of pensions provided to public sector employees. Most private sector employees participate in defined contribution (DC), 401(k)-type pensions, in which the employer makes a contribution to the worker’s account each year but does not promise a specific benefit. Most public employees, by contrast, participate in traditional defined benefit (DB) pensions in which they are promised a specific benefit and the employer alters its contributions from year to year to ensure that the benefit is paid. These fundamental differences make 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.”²³

What we attempt to calculate in this section is what might be called “pension compensation.” That is, the value to employees in each year of the future retirement benefits they earn, net of any contributions they make to the plan out of their own salaries. For a private sector worker with a DC plan, pension compensation is nothing other than

the amount their employer contributes to their 401(k). For the typical employee this employer contribution is equal to about 3 percent of wages, with 90 percent of private sector employers contributing less than 6 percent of pay.²⁴ For a public sector worker with a DB plan, pension compensation is the present discounted value of the future benefits he accrues in a given year, net of the employee’s own contributions. Those future benefits are discounted to the present at an interest rate commensurate with the risk of those benefits. For simplicity, these calculations of pension compensation answer the 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 assumed 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. For instance, the current employer contribution to the Connecticut SERS plan includes \$1.2 billion – equal to 27 percent of total employee payroll – that is dedicated to paying off unfunded liabilities from prior years. Much of those unfunded liabilities are the result of SERS

investments failing to achieve assumed returns. 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 recalculate 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 many states are guaranteed by law²⁵, 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 plans²⁶; 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 employees²⁷; 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, which is the rate of return currently assumed by Connecticut SERS. For public employees *as a group*, this is mathematically identical to the employer guaranteeing an 8 percent return on both 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.²⁸ 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.”²⁹

Put simply, a dollar of employer contributions to a DB pension plus an effective guaranteed return of 8 percent is much more valuable, and more costly, 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.”³⁰

Connecticut SERS assumes an investment return of 8.0 percent. To calculate the value of pension compensation to employees, we must convert the normal cost of SERS as calculated using an 8 percent assumed investment return to a value based on a discount rate that more closely matches the safety of the benefits offered by SERS. I use two approaches here to illustrate a reasonable range of outcomes.

The first approach follows the method used by the Congressional Budget Office (2011), in which it calculated the value of state and local government pension liabilities using a 5 percent discount rate. This approach implicitly assumes that public

pension benefits are safer than the assets used to fund those benefits, but are not completely riskless. This approach produces similar results to the method used by the federal government's Bureau of Economic Analysis in calculating employee pension compensation for the National Income and Product Accounts.

Others, however, argue that accrued pension benefits have proved to be very safe, often safer than explicit debt issued by state and local governments. For instance, pensioners in bankrupt cities such as Detroit, Michigan or Stockton and San Bernardino, California have accepted far smaller losses than bondholders, who often emerged with just pennies on the dollar. These analysts argue that valuing pension liabilities using a Treasury bond rate better reflects their safety. For instance, the Society of Actuaries' Blue Ribbon Panel on Public Pension Funding recommended that pensions report their liabilities as calculated using a 10-year U.S. Treasury yield, which is currently about 2.5 percent.

Thus, performing two pension compensation calculations – first at a 5 percent return, as used by the CBO, and second at a U.S. Treasury yield of 2.5 percent – provides a reasonable lower and upper bound on the level of pension compensation offered through Connecticut SERS. No reasonable analysis would be outside this range, though some analysts are somewhere in between. For instance, Moody's Investor Services analyzes public pension liabilities using corporate bond yields, which are currently about 3.8 percent.

As of the latest actuarial valuation, published in November 2014, Connecticut SERS has a total normal cost, calculated at an 8.0 percent discount rate, of 10.2 percent of employee payroll.³¹ When the discount rate is lowered to 5.0 percent, the total normal cost increases to 25.7 percent of payroll. Total employee contributions are projected to equal 2.2 percent of wages, leaving a net employer normal

cost of 23.5 percent of payroll. When calculated using a 2.5 percent Treasury yield, the total normal cost rises to 55.4 percent of wages and pension compensation net of employee contributions totals 53.2 percent of pay.

Put in simple terms, to equal both the level and the safety of benefits offered to Connecticut state government employees, a private sector worker with a 401(k) would need to save between 26 and 53 percent of his salary, invested in safe assets. This comparison does not reflect a difference in efficiency between defined benefit and defined contribution pension plans. Rather, it reflects an "off the books" commitment by the Connecticut state government to increase pension contributions if investment returns fall below the 8 percent assumed by Connecticut SERS. The commitment is a costly form of compensation to public employees that most private sector workers do not receive. Any public-private pay comparison must include that guarantee, as it is of substantial benefit to public employees and a substantial cost to the taxpayer.

For private sector workers, we rely on BLS ECEC data on employer contributions to private sector pensions. These data indicate that, on average, private sector employers contribute an amount equal to 3.8 percent of employee wages to DC pension plans and 1.4 percent to DB pensions, for a combined total employer contribution of 5.2 percent of wages.³²

The calculations here show that pension compensation for the average Connecticut state government employee ranges from a reasonable lower bound of 26 percent of wages to a reasonable upper bound of 53 percent of pay. Pension compensation for Connecticut state employees is roughly five to ten times more generous than for a typical private sector worker employed by a larger firm. Thus, pensions are not only a substantial part of the state budget, but they also are an area where

public sector compensation is extremely generous relative to private sector employees.

Other forms of compensation

In addition to pensions, health coverage and retiree health benefits, employers provide a number of smaller fringe benefits. These other 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 Security³³, Medicare, unemployment insurance, and worker’s compensation. For these benefits we rely upon data from the BLS’s ECEC dataset.³⁴ Because these ECEC-derived benefits are calculated for all New England states, they should be regarded as approximations of the amounts paid by both government and private sector employers in Connecticut. However, differences between Connecticut 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. Figures for these additional fringe benefits are shown in Table 1 in the following section.

Totaling up

Full-time, full-year Connecticut state government employees in the ACS sample have an average annual salary of \$70,970, compared to an annual salary of \$77,363 for private workers in the ACS. Once we account for differences in education, experience, work hours and other factors, the difference in pay between state and private sector employees shrinks to 0.2 percent. This implies that if the average state government employee worked in the private sector, he or she would be likely to earn an annual salary of about \$71,112. Thus, average salaries are very close to equal between Connecticut’s state government and large private sector firms.

Benefits, however, are far different between the two sectors. A comparable private sector employee in our analysis receives total benefits equal to 41.3 percent of his annual salary, or \$29,371. A state government employee, by contrast, receives total benefits equal to 76.9 percent of his annual salary (\$54,561) if pension compensation is valued using a 5 percent discount rate, or 106.6 percent (\$75,641) if pensions are valued using a 2.5 percent Treasury yield. (See Tables 2 and 2a.)

Thus, overall annual compensation for an average Connecticut state government employee ranges between \$125,531 and \$146,611, versus \$100,482 for comparable private sector workers employed at larger companies. Total annual compensation for state government employees ranges from 24.9 percent (\$25,049) to 45.9 percent (\$46,128) more than for comparable private sector employees. These figures represent a reasonable upper and lower bounds for the compensation premium received by the average state government employee.³⁵

These total compensation differences for Connecticut state government employees are attributable to a substantially more generous health and retirement package than in the private sector. Legally-required employer benefits, such as payroll taxes and unemployment taxes, are practically equal between state government and the private sector. Connecticut private sector employees receive slightly more paid leave than government employees, with private sector workers receiving combined vacation, holiday, sick leave and personal time equal to 12.3 percent of their annual salaries, versus 10.1 percent for government employees. However, state government workers receive a substantially more generous insurance package, valued at 17.7 percent of annual salaries versus only 13.0 percent for private sector employees. The difference in this category is almost entirely driven by more generous health coverage for state government employees.

And Connecticut state employees receive a vastly more generous retirement package, worth from 39.0 to 68.7 percent of annual salaries, depending upon how pensions are valued, versus just 5.7 percent for private sector employees. This difference arises from state employee’s more generous DB pensions and from their receipt of a retiree health package that is roughly twice as generous as paid by other state governments, much less by private sector employers. In Biggs and Richwine (2014), the average state paid a retiree health package to state government employees worth about 6.8 percent of annual wages, versus 15.5 percent in Connecticut. Thus, Connecticut’s retiree health plans is generous even by public sector standards.

These results do not imply that every Connecticut state government employee is “overpaid.” As discussed above, the measured compensation 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, health benefits and the retirement package of pensions and retiree health benefits – that are far out of sync with common practice in the private sector. The compensation premium paid to Connecticut state government

Table 2. Summary of Results: Connecticut state government employees and comparable private sector employees. Pension compensation valued using 5 percent discount rate.

	Connecticut state government	Comparable private sector	Connecticut state government	Comparable private sector
RAW SALARIES			\$ 70,970	\$ 71,112
	<i>As a percent of salaries</i>		<i>Dollars</i>	
TOTAL BENEFITS	76.9%	41.3%	54,561	29,371
<i>Paid leave</i>	10.1%	12.3%	7,161	8,747
Vacation	3.5%	6.3%	2,491	4,480
Holiday	2.6%	3.8%	1,867	2,716
Sick	2.8%	1.6%	1,952	1,102
Personal	1.2%	0.6%	852	448
Insurance	17.7%	13.0%	12,527	9,252
Life	0.2%	0.3%	106	178
Health	17.4%	12.2%	12,335	8,690
Short-term Disability	0.0%	0.3%	28	206
Long-term disability	0.1%	0.3%	57	178
Retirement and Savings	39.0%	5.7%	27,667	4,026
Defined benefit	23.5%	1.4%	16,650	1,010
Defined contribution	0.0%	3.8%	-	2,688
Retiree health coverage	15.5%	0.5%	11,017	329
Legally required benefits	10.2%	10.3%	7,206	7,346
Social Security	6.2%	6.2%	4,400	4,409
Medicare	1.5%	1.7%	1,065	1,195
Federal unemployment insurance	0.0%	0.1%	3	71
State unemployment insurance	0.5%	1.0%	369	690
Worker’s compensation	1.9%	1.4%	1,370	981
TOTAL COMPENSATION			\$ 125,531	\$ 100,482

employees implies that the state could attract and retain the employees it requires at substantially lower total cost than it currently expends on employee compensation.

Budgetary Implications

How much could the state budget save if Connecticut state employees were paid comparably to private sector workers? To approximate, I begin with the \$3.49 billion total employee payroll under the SERS plan. I first multiply employee payroll by 76.9 percent and 106.6 percent, to calculate the range of total dollar state employee compensation values under the two options for valuing pension

compensation. These figures total between \$6.17 and \$7.21 billion in total compensation, including benefits.

For private sector workers I first multiply SERS payroll by 1.002, to capture the 0.2 percent salary difference between public and private sector workers. Thus, if Connecticut paid private sector salaries its total payroll would rise to approximately \$3.49 billion. However, the lower level of benefits paid in the private sector would imply total compensation of just \$4.73 billion. This implies that, were Connecticut state employees paid at private sector levels, the state budget could save between \$1.44 and \$2.48 billion annually.

Table 2a. Summary of Results: Connecticut state government employees and comparable private sector employees. Pension compensation valued using 5 percent discount rate.

	Connecticut state government	Comparable private sector	Connecticut state government	Comparable private sector
RAW SALARY			\$ 70,970	\$ 71,112
	<i>As a percent of salaries</i>		<i>Dollars</i>	
TOTAL BENEFITS	106.6%	41.3%	75,641	29,371
<i>Paid leave</i>	10.1%	12.3%	7,161	8,747
Vacation	3.5%	6.3%	2,491	4,480
Holiday	2.6%	3.8%	1,867	2,716
Sick	2.8%	1.6%	1,952	1,102
Personal	1.2%	0.6%	852	448
Insurance	17.7%	13.0%	12,527	9,252
Life	0.2%	0.3%	106	178
Health	17.4%	12.2%	12,335	8,690
Short-term Disability	0.0%	0.3%	28	206
Long-term disability	0.1%	0.3%	57	178
Retirement and Savings	68.7%	5.7%	48,747	4,026
Defined benefit	53.2%	1.4%	37,730	1,010
Defined contribution	0.0%	3.8%	-	2,688
Retiree health coverage	15.5%	0.5%	11,017	329
Legally required benefits	10.2%	10.3%	7,206	7,346
Social Security	6.2%	6.2%	4,400	4,409
Medicare	1.5%	1.7%	1,065	1,195
Federal unemployment insurance	0.0%	0.1%	3	71
State unemployment insurance	0.5%	1.0%	369	690
Worker's compensation	1.9%	1.4%	1,370	981
TOTAL COMPENSATION			\$ 146,611	\$ 100,482

Conclusions

Connecticut faces a substantial budgetary challenge due to high debt and large unfunded liabilities for pensions and retiree health plans. Connecticut's total debt and liabilities, relative to the state's gross domestic product, rank second in the nation.³⁶ Thus, it is noteworthy that it is precisely these pension and retiree health programs that raise total public employee compensation substantially above what is paid to similar employees working in the private sector. As a result of generous benefits, the average Connecticut state government employee receives total compensation between 25 and 46 percent higher than a similar private sector worker employed by a larger firm. Were state government employees paid at market rates, total annual compensation costs to the budget would be between \$1.4 and \$2.5 billion lower.

A large component of the cost of public sector pension plans arises from the fact that the government – meaning, the taxpayer – shoulders the market risk associated with the plan's investments. When Connecticut SERS investments rise or fall, this produces changes in the amounts that taxpayers must contribute to the program. In 2014, the taxpayer contribution to Connecticut SERS is equal to 43 percent of employee payroll, an amount that dwarfs that amounts that private sector employers contribute to employee retirement plans. Rising pension costs squeeze out other budgetary priorities, and volatile costs over time make it more difficult for budgeters to plan taxing and spending in coming years. Given the increasing size of SERS commitments relative to the overall state budget, pensions can become a “tail that wags the dog” of overall state budget policy. Connecticut has improved its funding practices in recent years. Yet SERS remains one of the poorest-funded plans in the country and no clear and realistic plans exist to make it financially sustainable.

There is no compelling reason why public sector

employees should receive a compensation premium over similarly qualified private sector workers. Government jobs offer certain unique benefits, such as strong job security, that should allow them to pay lower wages and benefits than private sector positions. Yet Connecticut pays its state employees substantially more than similar workers receive in private sector jobs, implying that scarce taxpayer resources are providing compensation well in excess of the level needed to attract and retain state government employees. Bringing public employee compensation back to market-comparable levels is not simply a matter of fiscal responsibility and budgetary sustainability, but a matter of fairness for taxpayers who support public employees.

Appendix: State employee salary differentials by region

The American Community Survey is useful in having an unusual level of geographic detail compared to other data sources. As discussed earlier, geographic detail is helpful because the cost of living – and thus salaries – can differ substantially from place to place. Controlling for geographic location effectively ensures that a public sector employee is not compared to a private sector employee living in an area with a very different cost of living. The main regressions discussed above utilize Public Use Microdata Areas (PUMAs), which are geographic areas drawn by the Census Bureau to contain at least 100,000 residents.

A larger Super-PUMA is a collection of PUMAs with a population of 400,000 or more. Connecticut contains six Super-PUMAs, which are detailed in Figure 1. The detailed composition of each Super PUMA is available online.³⁷

I re-run the regression specification used above for each Super PUMA in Connecticut, then adjust each resulting salary premium or penalty using the firm size salary adjustment drawn from the Current Population Survey. Note that, even using the Super

PUMAs, the sample sizes are not always large enough to produce results that are statistically significant. Where significant, however, these figures show a modest salary premium for Connecticut state government employees and a substantial total compensation premium, ranging from 37 to 41 percent over private sector levels, assuming a 5 percent pension discount rate, or 53 to 57 percent assuming a 2.5 percent discount rate.

While even the statistically significant figures are more uncertain than the overall statewide calculations, as the composition of public and private employees may differ from one location to the next, these figures show the difficulty of producing a reasonable conclusion other than that the State of Connecticut compensates the average public employee at an above-market level.

Table 3. Salary and total compensation premia for state government employees, by region.

Super PUMA number	Salary differential	Compensation differential (5.0% discount rate)	Compensation differential (2.5% discount rate)
9100	7.1%*	41%	57%
9200	-5.3%	24%	39%
9300	4.3%*	37%	53%
9400	-6.4%	23%	37%
9500	5.0%*	38%	54%
9600	4.0%	36%	52%

Note: * denotes statistically significant at p=0.05.

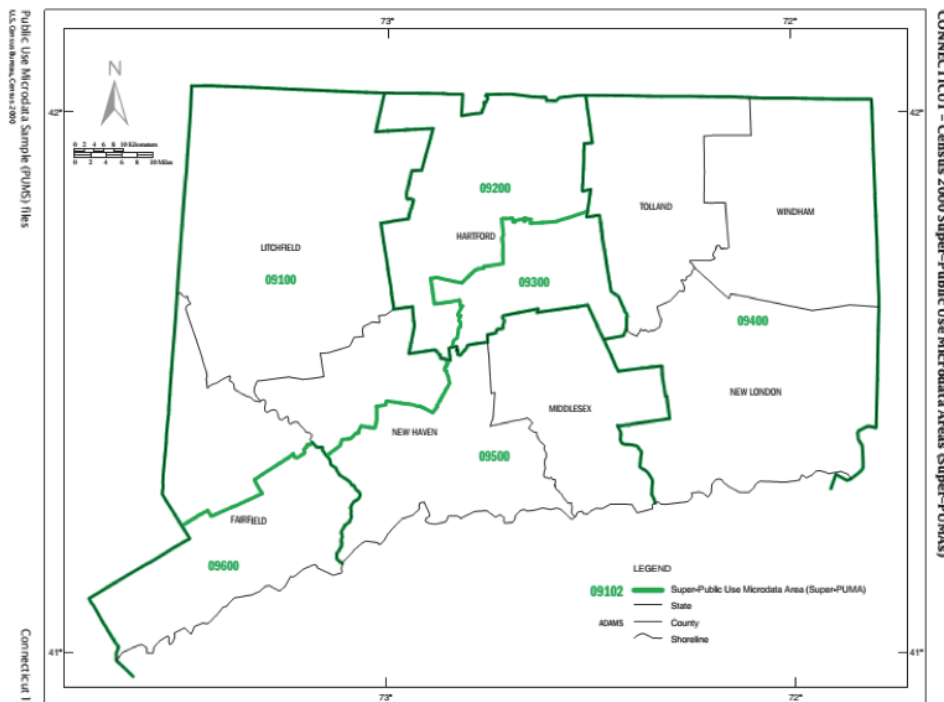


Figure 1.

End Notes

1. Author's calculations from the Public Plans Database.
2. See Biggs, Andrew. Survey of public employee pension funding. Forthcoming, American Enterprise Institute.
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4. The methodology used here draws upon Biggs and Richwine (2014).
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6. 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.
7. The total sample size is 111,805 individuals, of whom 5,580 are state government employees.
8. 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.
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10. 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).
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17. Alice Zawacki, "Using The MEPS-IC To Study Retiree Health Insurance," U.S. Bureau of the Census. CES 06-13 (April, 2006).
18. Aon Hewitt, Hot Topics in Retirement (2012), www.aon.com/attachments/human-capital-consulting/2012_Hot_Topics_in_Retirement_highlights.pdf
19. Mercer, "New options for retiree medical coverage," (April 18, 2012) <http://mthink.mercer.com/new-options-for-retiree-medical-coverage/>
20. Fronstin and Adams (2012).
21. 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.
22. Biggs and Richwine (2014).

23. Dale Belman and John Heywood. “The Truth About Public Employees: Overpaid or Underpaid?” Economic Policy Institute. June 1, 1993.
24. Bureau of Labor Statistics, National Compensation Survey. Table 28. Savings and thrift plans: Maximum potential employer contribution, private industry workers. 2010
25. In Connecticut, the 1985 case of *Pineman v. Oechslin* established that state government employees have a property right in their accrued benefits, meaning that benefits cannot be reduced by simple legislative action.
26. 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).
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30. Marshall Reinsdorf, “Actuarial Measures of Defined Benefit Pension Plans for the National Accounts.” Presentation to BEA Advisory Committee Meeting (May 11, 2012).
31. Cavanaugh McDonald Consulting LLC. Connecticut State Employees Retirement System Report of the Actuary on the Valuation Prepared as of June 30, 2014. November 19, 2014.
32. Note that it is unusual for a private sector employer to have both a DC and a DB pension. However, these figures capture averages across the private sector workforce and thus both are included.
33. Most current Connecticut state government employees are covered by Social Security and these calculations assume participation. Note, however, that most Connecticut teachers – who are not included in this analysis – are not covered by Social Security.
34. The figures used here are drawn from Biggs and Richwine (2014).
35. These figures differ somewhat from those in Biggs and Richwine (2014), which found a Connecticut state government compensation premium of 42 percent. These differences stem from using updated data for wages, health benefits, retiree health care and pensions, as well as by using a range of discount rates for pension benefits (2.5 percent to 5.0 percent) versus a single discount rate of 4.3 in Richwine and Biggs (2014).
36. Author’s calculations based on various data sources.
37. See https://usa.ipums.org/usa/volii/PUMA_composition_CT.shtml

ABOUT THE AUTHOR

Andrew G. Biggs is a resident scholar at the American Enterprise Institute (AEI), where he studies Social Security reform, state and local government pensions, and public sector pay and benefits.

Before joining AEI, Biggs was the principal deputy commissioner of the Social Security Administration (SSA), where he oversaw SSA's policy research efforts. In 2005, as an associate director of the White House National Economic Council, he worked on Social Security reform. In 2001, he joined the staff of the President's Commission to Strengthen Social Security. Biggs has been interviewed on radio and television as an expert on retirement issues and on public vs. private sector compensation. He has published widely in academic publications as well as in daily newspapers such as *The New York Times*, *The Wall Street Journal*, and *The Washington Post*. He has also testified before Congress on numerous occasions. In 2013, the Society of Actuaries appointed Biggs co-vice chair of a blue ribbon panel tasked with analyzing the causes of underfunding in public pension plans and how governments can securely fund plans in the future. In 2014, *Institutional Investor Magazine* named him one of the 40 most influential people in the retirement world.

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