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*American Enterprise Institute for Public Policy Research*

# The Impact of Act 10 on Public Sector Compensation in Wisconsin

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AEI ECONOMIC POLICY WORKING PAPER 2012-02, May 29, 2012

## The Impact of Act 10 on Public-Sector Compensation in Wisconsin

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### Executive Summary

After a protracted legal and political battle, on March 11, 2011 the Wisconsin state legislature passed Act 10, the Budget Repair Act, which increased public employee contributions toward pensions and health coverage and restricted union powers of collective bargaining and dues collection. This study analyzes public sector salaries and benefits in Wisconsin, with a particular focus on disentangling the risk-adjusted value of pension benefits offered in the public sector from accounting conventions that can understate the cost and value of defined benefit pension plans. We find that state and local government employees receive salaries roughly equal to those paid to private sector Wisconsin employees with similar education and experience or working in jobs with similar skill requirements. However, even following Act 10, pension benefits for Wisconsin public employees are roughly 4.5 times more valuable than private sector levels while health benefits are about twice as generous as those paid by larger private sector Wisconsin employers. This difference results in a combined salary-benefits compensation premium of around 22 percent for state workers over private sector workers, with varying but often larger pay advantages for local government employees.

## Introduction

New York Times columnist Paul Krugman declared that for backers of Wisconsin's Act 10 the goal "is to make Wisconsin — and eventually, America — less of a functioning democracy and more of a third-world-style oligarchy."<sup>1</sup> Krugman was more theatrical than most in denouncing the set of Wisconsin public sector reforms enacted on March 11, 2011. The spirit of Krugman's condemnation, however, has been echoed by a broad coalition of labor activists, students, left-leaning political commentators, and Democratic politicians. Words such as *radical*, *extreme*, and even *un-American* have been used to describe Act 10.

The law itself has two major components. First, it requires public-sector workers to make larger contributions to their pension and health benefits, effectively reducing their compensation. Second, Act 10 limits the power of public-sector unions by restricting collective bargaining for most workers and making dues collection more difficult.

How objectionable are these changes? Are they really unfair to public workers? One of the best ways to answer this question is to compare public-sector compensation with private-sector compensation. Politics and ideology aside, almost everyone agrees that public workers should be paid at fair market rates—neither more nor less than comparable private workers.

If public employees in Wisconsin were already paid less than comparably-skilled private workers in the state, then Act 10 would only exacerbate an unacceptable situation. Alternatively, if public workers were enjoying a compensation premium over their private-sector counterparts, then Act 10 could be considered a valuable reform.

In this study, we compare the wages and benefits for government employees in Wisconsin to those of comparable private-sector workers. We find that, even following significant increases to pension and health insurance contributions mandated by Act 10, total public sector compensation in Wisconsin remains comfortably ahead of compensation for private sector workers with similar levels of education and experience. Specifically:

- *After* Act 10, Wisconsin state workers receive health benefits nearly twice as valuable and pension benefits more than 4.5 times as valuable as what workers in large private firms receive.
- *Before* Act 10, Wisconsin state employees received total compensation (salary and benefits) about 29 percent higher than comparable private sector workers. *After* Act 10, the compensation premium is about 22 percent.
- In dollar terms, the average Wisconsin state worker *after* Act 10 receives total compensation including benefits equal to \$81,637 versus \$67,068 for a similarly-skilled private worker, a difference of \$14,569.

The implication is that Act 10 is far from a radical or sweeping reform. Its direct reductions to public sector compensation still preserve a substantial premium for public workers, and its limitations on the political power of unions could reflect a reasonable desire to restrict the growth of compensation in the future. Act 10's reforms fail to restore pay parity between the public and private sectors in Wisconsin.

The remainder of this report details our methodology for comparing compensation in each sector, starting with wages and moving on to the fringe benefits targeted by Act 10.

## Wages

The general intuition about public-sector compensation is that wages are lower than private sector levels while benefits are more generous. For that reason, we cannot determine the generosity of public-sector compensation merely by comparing benefits between sectors. We need to consider total compensation, starting with wages.

To compare the wages of different groups of workers, labor economists utilize the "human capital model." The human capital approach relies upon empirical evidence that wages are driven largely by worker productivity, measured in most studies by education and experience. Since public workers in Wisconsin differ from private workers in terms of skills and other characteristics, we must control for those differences before comparing

average wages. The standard approach uses linear regression, in which the natural logarithm of wages or salaries is regressed on a set of worker characteristics, including an indicator (or “dummy”) variable for whether an individual is a government worker. The value of this dummy variable tells us the difference in wages between the two sectors after accounting for the control variables. That difference is the unexplained wage penalty or premium associated with government work.

Below we present several different wage analyses to give readers a sense of the data and results, but we can preview the conclusion now: Overall, wages appear to be roughly equal between comparably-skilled public and private workers in Wisconsin. Some specifications will show a small wage penalty for public workers, and others will show a small wage premium. We are not wedded to a precise estimate, but there is no evidence that a large wage penalty or wage premium is skewing overall compensation.

We limit our analysis to full-time civilian workers ages 18 to 64 who earned a wage or salary during the whole previous calendar year.<sup>2</sup> What we will call the “standard controls” in all of our wage regressions are: education, experience, usual hours worked per week, immigrant status, race, gender, ten broad occupational categories, year dummies, and several interaction terms. Though the list of standard controls is long, results are similar with smaller combinations of the controls listed. We include all of them for the sake of completeness.

Our first analysis uses the five most recent years of the Current Population Survey’s (CPS) Annual Social and Economic Supplement, covering the calendar years 2006 through 2010. A benefit of this dataset is that it contains a variable for size of the worker’s firm, which is positively correlated with wages. Whether to include a firm size control in a public-private comparison is controversial, since firm size is an employer characteristic rather than a worker characteristic, but we have the opportunity to observe its effect. A drawback of the CPS is the sample size—only about 5,500 total workers in Wisconsin over five combined years.

Our second analysis uses the 2008 and 2009 editions of the American Community Survey (ACS), the successor to the decennial Census “long form” that is now distributed each year by the Census Bureau. A major strength of the ACS is the sample size, which gives us over 28,000 Wisconsin workers over a two-year period. The ACS does not include firm size, but it does provide two other variables that can supplement the standard list: tighter geographic controls for where individuals live (referred to as “public use microdata areas” or PUMAs), and degree fields for college graduates.

PUMAs define 31 distinct Census regions within Wisconsin that vary in terms of average wages and standard of living. If public workers are disproportionately spread across high- or low-income areas, controlling for PUMAs will help prevent that geographic dispersion from skewing the comparison to private workers.<sup>3</sup>

Degree fields for college graduates help to address a common problem with the human capital model—the built-in assumption that all college degrees have equivalent value in the marketplace, from an Ivy League engineering degree to a B.A. in French poetry from a community college. By controlling for specific degrees rather than just years of education, we develop a somewhat better picture of individual worker skills. This is a relatively new variable for human capital regressions, having just been introduced into the ACS in 2008, but choice of college major can have a significant impact upon earnings once individuals enter the marketplace.<sup>4</sup>

Table 1. Wage premium or penalty, Wisconsin state and local government employees relative to private sector workers.

Dataset (Controls)	Wage Effect (%)
CPS (standard)	-2.1
CPS (standard + firm size)	-5.1
ACS (standard)	-0.8
ACS (standard + PUMAs)	1.0
ACS (standard + PUMAs + degree fields)	5.6
Source: Author’s calculations using various datasets.	

Table 1 displays the wage penalty or premium associated with government work based on different regression specifications. For example, using the CPS and standard controls, Wisconsin public workers receive 2.1 percent lower salaries than comparable

private-sector workers in the state. But using the ACS with standard controls as well as PUMAs and degree fields indicates that public workers receive 5.6 percent *more*. While the results vary from a small penalty to a small premium depending on the specification, there is no evidence for a large difference in either direction.

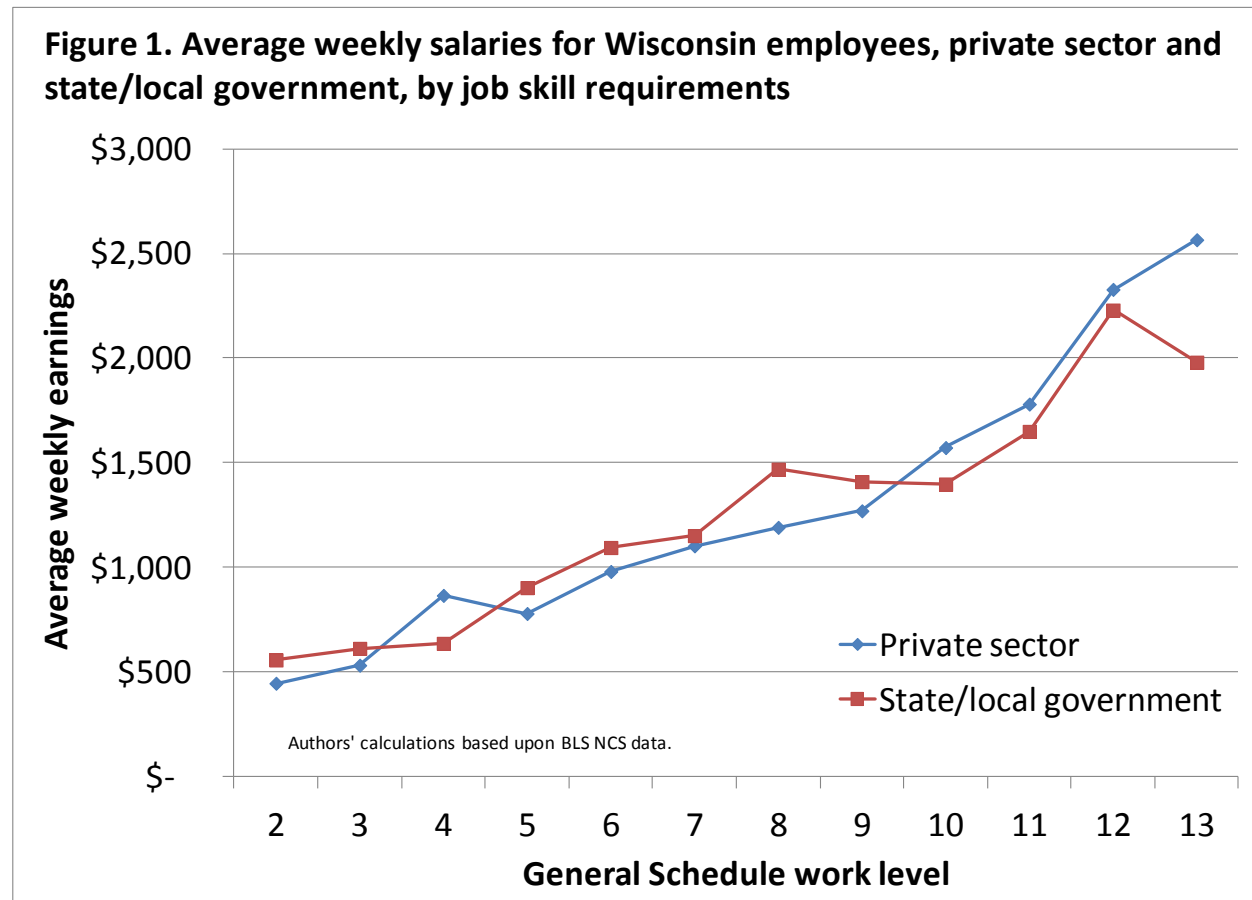
To supplement the human capital model, we present an alternative approach that, rather than comparing salaries for workers with similar skills, compares salaries for jobs with similar skill requirements. This jobs-to-jobs approach relies upon data from the National Compensation Survey (NCS) conducted by the Bureau of Labor Statistics (BLS). Unlike the CPS and ACS, which survey individuals, the NCS is a survey of employers. As part of the survey, BLS economists analyze the job skill requirements of different work positions and assign them a “work level” based upon the federal General Schedule, which ranges from GS-1 to GS-15.

BLS economists have compared public and private sector pay nationwide using these work levels. They found that after controlling for job skill requirements and major occupational categories, state government employees nationwide receive average salaries approximately 3.5 percent below private sector levels, while local government employees receive salaries around 7.2 percent above those of similar private sector workers.<sup>5</sup> The inclusion of benefits increases these pay differences.

The NCS data available to the public are not as detailed as those available to internal government researchers, making calculations of weighted average salaries across employee work levels impossible. However, it is possible to provide basic comparisons of Wisconsin public and private sector wages at a given work level. The NCS contains 1,208 private sector data points in Wisconsin and 439 public sector data points. State and local government employees are not disaggregated, so we treat them as a single group. The average weekly salary for Wisconsin private sector positions in the NCS is \$947, while state and local government jobs pay an average wage of \$1,192 per week. However, the average GS work level for private sector Wisconsin jobs is 5.4, while for public sector positions it is 7.2.



Figure 1 shows average weekly wages by GS level for Wisconsin private sector and government employees. Public and private sector weekly wages are roughly comparable up through the GS-13 level, at which point private sector wages are significantly above those of state and local government employees. However, given the small sample sizes, we caution against interpreting any difference at a single GS level.



The work-level approach is potentially valuable, since the NCS offers a finer-grained analysis of skill requirements than the human capital model alone can provide. Two caveats are necessary, however. First, it is essential in a survey like this that both groups of jobs—in this case, public and private jobs—are evaluated on exactly the same criteria. Second, it is possible that jobs with the same skill requirements in each sector could actually be held by people with different levels of skill, perhaps due to different hiring

practices in each sector.<sup>6</sup> Given the data available, we cannot determine with certainty whether either of these criteria are satisfied.

In summary, there is little evidence of a large disparity in wages between the public and private sectors in Wisconsin after controlling for the skills demanded by public sector jobs or supplied by public sector employees. We can see plausible arguments for a small public wage penalty or a small public wage premium, but neither disparity could be large enough to skew overall comparisons of compensation. Our working assumption, therefore, is a wage difference of zero between sectors. This makes calculations simple and helps to focus attention on the same part of compensation targeted by Act 10--the benefits.

### Comparing Benefits: The Data Challenges

**Table 2. Principal categories of fringe benefits**

**Paid leave**

- Vacation
- Holiday
- Sick
- Personal

**Insurance**

- Life
- Health
- Short-term disability
- Long-term disability

**Retirement and savings**

- Defined benefit
- Defined contribution

**Legally required benefits**

- Social Security and Medicare
  - Social Security
  - Medicare
- Federal unemployment insurance
- State unemployment insurance
- Workers' compensation

*Source National Compensation Survey, Bureau of Labor Statistics.*

Fringe benefits include paid time off, health insurance, health coverage, pensions, taxes paid on workers' behalf – such as for Social Security and Medicare – and other forms of non-cash compensation. Table 2 summarizes the main types of fringe benefits as categorized by the BLS.

Our principal source of data on benefits is the Employer Costs for Employee Compensation (ECEC) dataset published by the BLS as part of the NCS. The ECEC is a survey of employers regarding the contributions they make on employees' behalf toward a variety of fringe benefits, shown in Table 2. The ECEC has occasionally been billed as a comprehensive source of information on benefits, but it has a number of drawbacks, especially for state-level analyses.

First, the ECEC data are not actually comprehensive. The dataset entirely excludes retiree healthcare costs, for example, and its pension cost estimates are based only on what governments decide to put into their pension funds, which can differ significantly from the value of the future benefits that employees have been promised.

Second, ECEC data are not available on a state-by-state basis. The smallest area it covers is a Census “division,” which in this case merges Wisconsin with the surrounding states of Illinois, Indiana, Michigan, and Ohio. For private sector employees this is not a significant problem, since private sector trends are driven by the market and tend to cross state lines. However, one of the issues motivating Act 10 was the argument that Wisconsin public employees received more generous pension and health benefits than government workers in adjoining states.

In the following sections we use ECEC data for the private-sector comparison group and for the smaller, less important benefit categories in the public-sector. The major benefit data for public workers, however, will come from various actuarial reports, government disclosures, and academic studies specific to Wisconsin.

Our baseline estimates are focused on Wisconsin state government employees. The large number of local governments make comprehensive estimates of local government benefits difficult. However, we supplement the discussion with reference to benefits paid in major localities such as Milwaukee.

The last issue is the choice of a private-sector control group. As an establishment survey based around employers, the ECEC data do not contain detailed individual-level skill controls similar to those in the CPS and ACS wage data. Fortunately, benefit generosity is more a function of firm size than worker skill. Companies tend to offer the same benefit packages to most of their employees, but larger companies offer the more generous packages.

Since the Wisconsin state government is a “large firm,” we compare public sector benefits to those paid to individuals employed in private sector establishments of 100 or

more employees, which BLS data indicates includes around 43 percent of the workforce. “Establishment size” refers to the number of employees at one work site, whereas “firm size” is the total number of employees working at a firm regardless of location. Comparing to benefits paid at establishments of 100 or greater produces a similar match to the firm size controls used in the CPS salary regressions, where the largest firm size is categorized as 1,000 or more.

For context, Table 3 illustrates the value of total hourly benefits by private sector establishment size, relatively to the overall average among all workers. For instance, establishments of 1 to 99 workers pay total benefits equal to 70 percent of the overall average, while establishments of 500 or more workers pay benefits equal to 159 percent of the average. Our chosen category of private sector establishments with 100 or more workers pays benefits 31 percent larger than the overall average. Roughly 44 percent of Wisconsin private sector employees are employed in establishments of 100 or greater, with the remainder in smaller establishments that on average provide less generous benefits.<sup>7</sup> Thus, we are comparing Wisconsin public sector workers to a sub-group of private sector employees who receive relatively generous fringe benefits.

Table 3. Value of total hourly benefits relative to “all workers,” by establishment size.						
Establishment size	1-99	1-49	50-99	100+	100-499	500+
Total hourly benefits/overall average	0.70	0.67	0.79	1.31	1.07	1.59
Percent of WI private workforce	56%	42%	14%	44%	27%	17%
Source: National Compensation Survey, Bureau of Labor Statistics.						

## Pensions

Comparing the value of pension benefits can be challenging because public- and private- sector employees generally participate in different types of pension plans. Most private-sector employees participate in “defined contribution” (DC) 401(k)-type pension

plans. In a DC plan, the employer may provide a matching contribution to the pension account but guarantees no specific benefit in retirement. All risk is borne by the worker. Most public employees, by contrast, have traditional defined benefit (DB) pensions that provide a guaranteed monthly benefit at retirement.<sup>8</sup>

An important point should be clarified from the outset. The value today of an employee benefit that will be paid in the future – such as pensions or retiree health benefits – depends on how generous the benefit is *and* how likely it is to be paid. The value of benefits to employees does *not* depend upon whether those benefits are pre-funded (as DB pensions are) or are paid on a pay-as-you-go basis (as are retiree health benefits). Moreover, for benefits that are pre-funded, their value does not depend upon the employer's funding strategy – that is, whether the pension plan makes higher contributions invested in safer assets (as does WRS) or invests in riskier assets and makes lower contributions (as does the Milwaukee Employee Retirement System). The degree of prefunding, and whether those funds are invested in safe or risky assets, determines how cost burdens are distributed between current and future taxpayers. It does not determine the value of benefits to employees themselves.

Public sector employees with DB pensions receive benefits that are, on average, both more generous and less risky than those paid by private sector DC pensions. Our approach accounts for differences in both generosity and risk.

Based on the ECEC, the average employer contribution toward DC pensions in the private sector is 3.1 percent of salaries. This employer contribution can be treated as equivalent to a 3.1 percent increase in private sector wages.

The Wisconsin Retirement System (WRS) administers a DB plan that covers about 90 percent of the state's government employees. In the WRS, retirement benefits are equal to around 1.7 percent of final salary multiplied by the number of years of service.<sup>9</sup> To fund these benefits, the Wisconsin state government now contributes an amount equal to 5.8 percent of workers' wages, matched by a 5.8 percent contribution from state employees. As

we will see, however, simple comparisons of employer contribution rates can be highly misleading.

To illustrate the relative generosity of public and private sector pension benefits, we calculate annual retirement benefit levels under the WRS and a stylized 401(k) pension plan for an individual who retires at age 65 with final earnings of \$56,700.<sup>10</sup> To generate an equal guaranteed pension benefit, a private sector worker with a 401(k) plan would need to amass roughly \$839,000 at retirement.<sup>11</sup> For our simulations, a career-long salary history is generated using WRS assumptions regarding the growth of individual wages from year to year. We estimate the WRS benefits payable to such a retiree assuming working careers in 5-year increments from a high of 40 years to a low of 10 years.

Using the same salary history, we model the annual benefits that would be payable from a 401(k) plan assuming an employee contribution of 5.8 percent of wages – to match public employee contributions to the WRS – and an employer contribution of 3.1 percent of pay, based upon ECEC data.

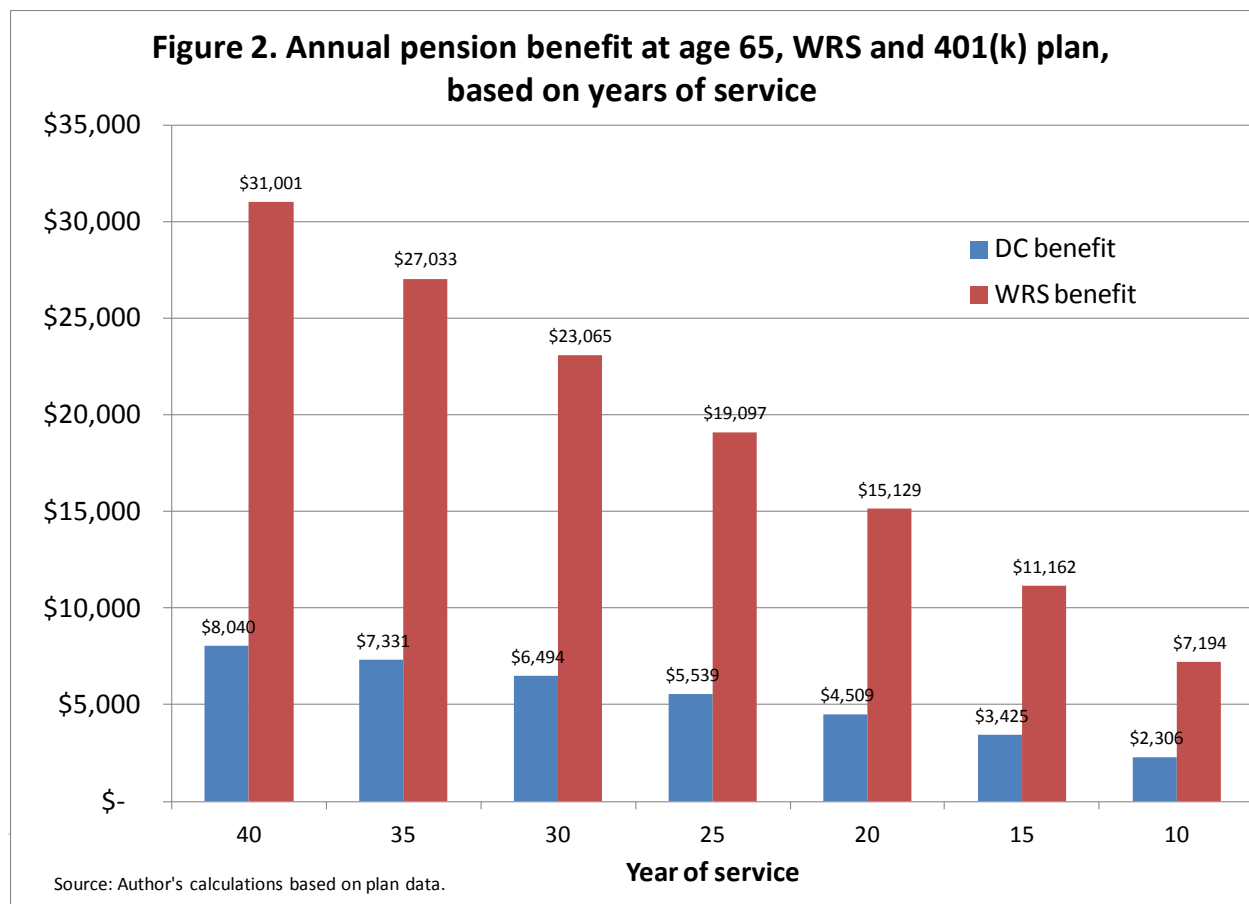
In calculating the benefits payable from the 401(k), we must assume a rate of investment return on account contributions. It might be tempting to assume a mix of stocks and bonds--what most workers with 401(k) plans choose--and then utilize an assumed future return on such a portfolio. That choice would be wrong, however, because it would produce a retirement benefit with far greater risk than WRS's defined benefits, which are guaranteed by law and legal precedents.<sup>12</sup>

The Congressional Budget Office and White House Office of Management and Budget address this problem by “risk adjusting” investment returns.<sup>13</sup> This requires assuming that the 401(k) earns a rate of return available on assets with risks similar to that of WRS benefits. Holding risk constant allows for an “apples to apples” comparison of benefit levels. Similarly, as David W. Wilcox, the director of research and statistics for the Federal Reserve Board has stated:

These [public pension benefits] happen to be really simple cash flows to value. They're free of credit risk. There's only one conceptually right answer to how you discount those cash flows. You use discount rates that are free of credit risk. This is one of those things where it just really is that simple.<sup>14</sup>

We use the average of 10- and 20-year yields on U.S. Treasury securities as of July 1, 2011, which was 3.67 percent.<sup>15</sup>

Figure 2 shows annual benefits at age 65.<sup>16</sup> In all cases WRS benefits significantly exceed those payable to a private sector worker with a corresponding 401(k), by margins between 3- and 4-to-1.<sup>17</sup> Alternately, we can solve for the level of 401(k) contributions that would give a private sector worker the same level of guaranteed pension benefits as a Wisconsin state employee with the same salary. The required saving rate is approximately 30 percent of salary. The fact that public employees can enjoy these levels of benefits *without* making such large pension contributions is clearly relevant to our view of public



sector pay in Wisconsin.

While helpful, these stylized calculations have their limits. Public employees have different career lengths and salaries and tend to retire when it is most financially advantageous to do so.<sup>18</sup> Moreover, in addition to retirement benefits the WRS also provides disability and survivor benefits, which the simple calculations shown in Figure 1 cannot represent. To capture these aspects of the WRS we turn to an actuarial measure called the “normal cost” of the program. The normal cost refers to the contributions plans make today – at an assumed 7.2 percent investment return – to fund benefits accruing to workers in a given year.<sup>19</sup> The normal cost for WRS in 2011 was 11.6 percent of wages, with 5.8 percent each paid by employees and the government.<sup>20</sup>

However, the normal cost calculated using a risky rate of return reflects only the contribution rate at which the WRS could “expect” to be able to pay benefits. It does not reflect the fact that WRS benefits are guaranteed and must be paid regardless of how the plan’s investments fare. As the federal Bureau of Economic Analysis notes,

If the assets of a defined-benefit plan are insufficient to pay promised benefits, the plan sponsor must cover the shortfall. This obligation represents an additional source of pension wealth for participants in an underfunded plan.<sup>21</sup>

For the reasons we outline, the BEA states that, “Contributions aren’t always a good approximation for the value of benefits accrued through service.”

To capture the full value of DB pensions to Wisconsin employees, we recalculate the normal cost using a risk-adjusted interest rate. The normal cost of WRS pensions when discounted at a 3.67 percent interest rate rises from 11.6 percent of wages to 29.5 percent of wages.<sup>22</sup> Prior to Act 10, most state employees contributed only 0.2 percent of their wages toward pensions,<sup>23</sup> meaning that the net value of WRS benefits to employees was  $29.5 - 0.2 = 29.3$  percent of wages.<sup>24</sup> With Act 10 enacted, most government employees must contribute 5.8 percent of their wages, reducing the net value of WRS pensions to 23.7 percent of wages.



This figure can be interpreted in several ways. First, it represents the share of salaries private sector workers with DC pension plans would need to save to generate the same benefits with the same risk as those paid by the WRS. Alternately, we might say that Wisconsin public employees would be roughly indifferent between receiving WRS benefits or receiving a 23.7 percent increase in their annual salaries.

Another way to think about this issue is to consider the effective rate of return guaranteed to pension participants. Wisconsin pensions calculate their contributions by “discounting” future benefits at a 7.2 percent interest rate. Mathematically, this is the same as the government setting a contribution rate and then paying a guaranteed 7.2 percent return on those contributions.<sup>25</sup> Alternately, one might say that if private sector employers made the same contributions to 401(k) plans as government employers *and* paid a guaranteed 7.2 percent rate of return on those contributions, then average private sector benefits would be equal to those paid by the WRS. Since private sector employer don’t provide guaranteed returns, total benefits for private employees will be lower. This difference is not driven by lower administrative costs of public employee pension plans or better investment practices. It is driven by the fact that public pensions invest their assets aggressively, giving the benefits to public employees while passing the risks on to taxpayers.

Our approach to valuing pensions is consistent with economic theory, peer-reviewed academic publications, and government research on pension financing. Despite the near-universal agreement among financial economists about risk-adjusting the value of pension benefits, however, several objections are made to this approach.

One claim made is that what matters is the cost to the government of public pensions, not the value of benefits received by employees. This argument implies that the best measure of pension compensation for Wisconsin public employees is 5.8 percent of wages, the current employer contribution rate. But the current cost of pensions to the government is not the *total* cost. As noted above, governments must pay pension benefits

even if assets fall short. Discounting the normal cost of WRS pensions at a low-risk interest rate captures the value of this contingent liability.<sup>26</sup>

Moreover, even if governments *could* somehow provide pension benefits worth 23.7 percent of wages to employees at a cost of just 5.8 percent of payroll to themselves, this does not imply that employees should be the beneficiaries of this bonus. Other forms of compensation for public workers could be reduced to return the total pay package to market levels and thereby lower costs to taxpayers.

Another objection from pension advocates is that we are “projecting” that the WRS will receive only a 3.67 percent return on WRS investments, which is well below its historical average. In reality, our approach does not say that WRS cannot earn 7.2 percent on average. It merely points out that WRS cannot earn 7.2 percent returns *without taking significant investment risk*. Risk comes at a cost, and shifting that risk from employees – where it resides under DC pensions – to taxpayers increases the value of pensions for public employees. Acknowledging this fact does not involve prognosticating on future investment returns.

What about private-sector DB plans? The ECEC reports that, on average, private sector employers in Wisconsin’s Census Division contribute 3.9 percent of wages toward DB pensions. While corporate DB pensions are clearly less risky than DC plans, they are not as guaranteed as public sector DB pensions.<sup>27</sup> Moreover, private DB pensions value their liabilities using more conservative corporate bond interest rates, which have roughly the same risk as private DB benefits. Thus, the private sector employer contribution is a reasonable representation of the value of DB pensions.

However, many private sector DB plans have also been closed, meaning that the plans continue to pay benefits without workers accruing new benefits. Part of the employer payment reported in the ECEC is therefore not compensation for current employees. According to the PBGC, only around half of current private employer DB pension contributions go toward funding the normal costs of the plans, with the remainder

financing benefits earned in the past.<sup>28</sup> To account for this, we halve the 3.9 percent employer contribution rate, for an adjusted value of 1.45 percent of salaries.

With regard to DC pensions in the public sector, ECEC data report that, for all states in the East North Central Census Division, average public employer contributions toward DC pension plans equal 1 percent of salaries. However, this is likely driven by Michigan, which has a DC plan for public employees. We are not aware of any significant DC plan benefits for Wisconsin public employees, so we change that value to zero.

We make one final adjustment to retirement benefits. ECEC data report a 4.7 percent contribution to Social Security by public employers in the East North Central Division. This number is biased downward by states such as Illinois and Ohio, where public workers generally do not participate in Social Security. In contrast, 99 percent of actively-employed WRS participants are also in Social Security.<sup>29</sup> To correct for this, we change 4.7 percent to  $(0.99)(6.2) = 6.1$  percent.

### **Employee Health Coverage**

Prior to Act 10, Wisconsin state employees paid 4.35 percent of their total health premiums, with the government providing the remaining 95.65 percent. According to HC Trends, a market-oriented health organization based in Milwaukee, the Wisconsin state employee contribution “was less than half the average contribution rate for state government employees in other Midwestern states and one-third the national average for state employees.”<sup>30</sup> In addition, Wisconsin state employees had unusually low deductibles, co-insurance, and other out-of-pocket costs.

Act 10 mandated that Wisconsin state employees pay 12.6 percent of total health premiums. In addition, co-insurance charges were introduced and maximum out-of-pocket costs increased. The value of health coverage for Wisconsin state employees clearly decreased following Act 10.

According to HC Trends, however, average taxpayer health contributions per Wisconsin employee will total \$13,972 in 2012. This figure is 9 percent higher than in the

next-most-generous adjoining state and 21 percent higher than the average in the four adjoining states studied by HC Trends (Iowa, Minnesota, Illinois, and Michigan).

For analytical purposes, we express the value of employer health care contributions as a percentage of salaries. According to the 2010 Comprehensive Annual Financial Report for the WRS, the average salary in 2010 for employees covered by the WRS was \$46,501. The WRS assumes that average total payroll increases by 3.2 percent per year, implying a 2012 average salary of \$49,525. Employer health contributions for 2012 are equal to 28.2 percent of average salaries. Prior to Act 10, the value of employer provided health coverage would be approximately 33 percent of salaries due to lower contributions and more generous coverage.

For private sector employees we rely upon the ECEC data for the East North Central Census Division. For private sector workers in establishments of 100 or more employees, employer health contributions are on average equal to 14.2 percent of employee wages.

Overall, these results imply that health coverage for Wisconsin state government employees is nearly twice as generous as that received by private sector employees, even following the contribution increase implemented through Act 10.

### **Retiree Health Coverage**

Most full-time public sector employees are eligible for retiree health insurance, which covers health costs from the time workers retire until they become eligible for Medicare at age 65, supplementing Medicare thereafter. These benefits often are referred to as OPEBs (Other Post Employment Benefits).

State and local governments are required to calculate and disclose the value of retiree health obligations under rules established by the Governmental Accounting Standards Board. However, the valuation for Wisconsin state employees appears not to have been made public. This may be because retiree health coverage for state government employees is quite limited. Retired state workers may simply buy into the insurance plan offered to working age employees. This privilege carries a small implied subsidy due to the

lower costs offered under such a plan compared to a plan whose premiums are based on retirement-age individuals. Based on figures published by the Wisconsin Department of Employee Trust Funds, we estimate that this implicit subsidy has a value of approximately 2.4 percent of wages.<sup>31</sup>

Retiree health coverage is less common in the private sector and is generally less valuable where it is available. According to NCS data, nationwide 25 percent of employees categorized as “management, professional, and related” have access to retiree health coverage.<sup>32</sup> Alternately, 28 percent of employees in establishments of 100 or more workers have access to retiree health coverage. However, a Kaiser Family Foundation survey reports that 29 percent of companies that report offering retiree health coverage do not offer it to newly hired workers.<sup>33</sup>

Little data is available on the value of retiree health coverage, making overall estimates difficult to generate. For these purposes, we will assume that the value of retiree health coverage for private sector employees who have access to it is similar to that of Wisconsin state government employees, for whom such coverage is worth approximately 2.4 percent of pay. We assume that 28 percent of comparable private sector workers have access to such coverage, for an average value of 0.7 percent of wages. We acknowledge that these figures for retiree health are not nearly as precise as our estimates for pensions and regular health coverage. At the same time, the value of retiree health benefits in the private sector is not plausibly large.

### **Total Benefits**

Table 4 displays the value of fringe benefits for Wisconsin public workers and private sector workers in establishments of 100 or more employees. Benefits are expressed as a percentage of wages.

**Table 4. Fringe benefits by type, as percent of salaries, Wisconsin state employees and private sector (establishments of 100+ employees)**

<b>Benefit type</b>	<b>State</b>	<b>Private 100+</b>
<b>TOTAL BENEFITS</b>	<b>75.6%</b>	<b>44.2%</b>
<b>Paid leave</b>	<b>10.9%</b>	<b>12.4%</b>
Vacation	4.1%	6.4%
Holiday	3.1%	3.9%
Sick	2.7%	1.5%
Personal	1.0%	0.7%
<b>Insurance</b>	<b>31.2%</b>	<b>15.9%</b>
Life	0.2%	0.3%
Active worker health	28.2% *	14.1%
Retiree health	2.4% *	0.7% *
Short-term disability	0.1%	0.5%
Long-term disability	0.3%	0.3%
<b>Retirement and savings</b>	<b>23.7%</b>	<b>5.1%</b>
Defined benefit	23.7% *	1.9% *
Defined contribution	0.0% *	3.2%
<b>Legally required benefits</b>	<b>9.8%</b>	<b>11.1%</b>
Social Security	6.1% *	6.9%
Medicare	1.6%	1.7%
Federal unemployment insurance	0.0%	0.1%
State unemployment insurance	0.4%	0.7%
Workers' compensation	1.7%	1.7%
<b>Sources: BLS ECEC; authors' calculations (marked with *).</b>		

establishments of 100 or more employees.

### Putting It All Together

Since salaries are approximately equal between Wisconsin public and private sector employees with similar levels of education and experience, more generous benefits create a

As discussed above, data for major public-sector benefit categories are derived from specific sources on Wisconsin state workers. Minor public-sector benefits and most of the private-sector data come from the ECEC, which reflects not Wisconsin specifically but the East North Central Census Division. Table entries that do *not* come from the ECEC are marked with an asterisk (\*).

While the paid leave and legally required benefits categories are roughly equal between sectors, health and retirement benefits are substantially higher for Wisconsin state workers than for workers in large private firms.

Total fringe benefits for Wisconsin state government employees are estimated to be equal to 75.6 percent of salaries, versus 44.2 percent for private sector workers in

public sector premium in terms of overall compensation. The combined wage and benefit advantage for Wisconsin state employees post-Act 10 is approximately 22 percent.<sup>34</sup>

Prior to the passage of Act 10, which increased employee contributions for pensions and health coverage, the public sector premium was significantly greater. Moving the 5.8 percent wage contribution to the WRS back to the previous 0.2 percent requirement would raise total benefits to 81.2 percent of salaries. In addition, the combination of lower premiums and more generous health coverage prior to Act 10 would raise benefits by approximately 4.2 percent of salaries, making the total benefits package worth about 85.4 percent of salaries. This figure would generate an overall public sector compensation premium of around 29 percent.

### **The Local Picture**

As noted, the pension and health benefits listed in Table 4 apply primarily to state workers, not employees of local governments. Benefits vary considerably for local government workers throughout the state, but we can explore benefit levels in some of the larger municipalities.

Among the major benefit categories, pension benefits vary the least between state and local government workers. Most of the public workforce at both the state and local level is enrolled in the WRS. The major exception is the Milwaukee area. Workers participating in the Milwaukee Employees' Retirement System (ERS) receive a substantially better deal than WRS participants. The risk-adjusted normal cost of the ERS plan for general-category (meaning non-public safety) workers is 47 percent of wages, with an employee contribution of about 6 percent.

Unlike WRS, a substantial percentage of ERS participants are public safety workers, whose pension benefits are even more generous. If both general-category and public safety workers are considered together, the risk-adjusted normal cost of ERS becomes an awe-inspiring 65 percent of wages.<sup>35</sup>

Health insurance for local government employees is more varied than pension benefits. A survey of Wisconsin school districts found that in the 2010-2011 school year, teachers and other school staff on average paid only 4 percent of the premium cost for single health coverage and 5 percent of the cost for family coverage.<sup>36</sup> In just six of 276 districts did employees pay more than 12 percent of premiums for single coverage, and in only 12 cases did they pay more than 12 percent of family coverage premiums.

For non-teaching local government employees, data are more scarce. However, the media fact-checker Politifact gathered data on four Wisconsin cities. In Madison, most full-time employees pay nothing toward their health coverage. In LaCrosse, most employees pay 3.1 percent of premium costs, while Milwaukee city workers pay 3 percent to 8 percent of premiums. In Wausau, employees pay 10 percent of premiums, although they have no co-pays except for emergency room visits.<sup>37</sup>

As noted above, retiree health benefits are modest at the state level, but certain localities have been very generous. In Kenosha County, for instance, retiree health coverage is on average worth 8.5 percent of salaries.<sup>38</sup> In Milwaukee County, the value of accruing retiree health coverage is equal to 12.7 percent of salaries.<sup>39</sup>

Milwaukee public schools offer even more generous retiree health coverage, with a value equal to 17.4 percent of wages.<sup>40</sup> In other words, typical Milwaukee teachers would be roughly indifferent between their retiree health benefits and a 17.4 percent salary increase throughout their careers. Relative to salaries, Milwaukee school teachers may receive the most generous retiree health coverage of any non-public safety employees in the country. In sharp contrast, Madison schools provide retiree health benefits equal to just 0.5 percent of wages.<sup>41</sup>

In summary, some of the larger municipalities – Milwaukee in particular – appear to offer benefits that substantially outstrip the benefits provided to direct employees of the state of Wisconsin. Including the benefits for local workers would almost certainly increase the public-sector compensation premium that we calculated in the previous section.



However, we emphasize again that individual localities differ significantly, and pay comparisons specific to a particular locality should always use local data.

### **Compensating Differentials: Job Security**

It is well-understood that public sector employment is more secure than private sector jobs. It is more difficult to fire public employees for cause, and layoffs are smaller and less frequent in the public sector. This does not mean that government employees have guaranteed jobs for life. As we have seen, there have been layoffs in state and local governments around the country in response to budgetary shortfalls. Rather, public employees' probability of being laid off or dismissed for cause is significantly lower than that of private sector workers. Economists going back to Adam Smith have argued that greater or lesser job security should impose a "compensating differential" on wages.<sup>42</sup> That is, occupations with less job security must offer superior wages or other benefits to compensate for the risk of unemployment, while employers offering greater security can pay lower wages.

Using Canadian data, Kumar and Coates (1982) found that for each percentage point difference in the average unemployment rate of an occupation, average wages increased by 2.7 percent.<sup>43</sup> While the sample sizes in the CPS data are insufficient to calculate unemployment rates for the period covered, state and local government employees generally have unemployment rates several percentage points lower than those of private sector workers with similar levels of education and experience. Thus, all else equal, Wisconsin public employers could offer wages and benefits somewhat lower than private sector firms while still maintaining a competitive total compensation package. As we have found, however, wages and benefits are already *higher*, not lower, for Wisconsin public workers.<sup>44</sup>

### **Conclusion: Act 10 Had Only a Modest Impact on the Public Sector Pay Premium**

Is Act 10, the set of public-sector reforms signed enacted in 2011 amidst nationwide political controversy, a radical piece of legislation? Is it fundamentally unfair to public-

sector workers in Wisconsin as its opponents allege? One way to answer that question is to evaluate the total wages and benefits received by public sector workers in the state. If compensation is below market levels, Act 10 would only increase the unfair burden currently falling on public workers, making it more difficult for the government to attract and retain the workers it needs. But if compensation is *above* market levels, Act 10 could be a reasonable fiscal measure, particularly when facing a budget deficit.

We find that Wisconsin state workers received total compensation about 29 percent greater than comparable private workers before Act 10 was passed. The increased employee health and pension contribution mandated by Act 10 have reduced that premium, but it is still around 22 percent. In addition, public workers in large municipalities such as Milwaukee continue to receive an even better compensation package than what state workers enjoy.

It is difficult to view Act 10 as a radical or sweeping reform. It could be more accurately described as a modest step, one that may actually be inadequate to address the continuing imbalance in Wisconsin between public and private compensation. The ultimate impact of Act 10's restrictions on union political power are difficult to quantify, but these restrictions can be seen as a reasonable attempt to restrain the growth of public-sector compensation going into the future.

## Notes

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<sup>1</sup> Krugman, Paul. “Wisconsin Power Play,” *New York Times*, February 20, 2011.

<sup>2</sup> We also exclude federal workers and respondents who report earning less than \$10,000 in the previous year, which for full-time, full-year workers is likely to be measurement error.

<sup>3</sup> For the importance of geographic controls on public sector pay see Taylor, Lori L. “Comparing Teacher Salaries: Insights from the U.S. Census.” *Economics of Education Review*. 2008.

<sup>4</sup> Altonji, Joseph G., Erica Blom, Costas Meghir. “Heterogeneity in Human Capital Investments: High School Curriculum, College Major, and Careers.” NBER Working Paper No. 17985. April 2012.

<sup>5</sup> Gittleman, Maury, and Brooks Pierce. “Compensation for State and Local Government Workers.” *Journal of Economic Perspectives*, vol 26, no 1 (Spring 2012): 217–42.

<sup>6</sup> Both of these problems are present when comparing federal and nonfederal pay. See Congressional Budget Office. “Reducing Grades of the General Schedule Workforce.” September, 1984.

<sup>7</sup> Authors’ calculations from 2011 Quarterly Census of Employment and Wages (QCEW) data.

<sup>8</sup> In Wisconsin and a number of other states, post-retirement benefit increases – similar to Cost of Living Adjustments – are discretionary or paid based upon availability of resources. Thus, Wisconsin public employees carry an element of market risk, but it is small relative to their overall benefits. Moreover, their “core” benefits cannot be reduced, place a limit on the degree to which market returns can impact their benefits.

<sup>9</sup> The WRS replaces a slightly higher percentage of earnings for years of work that took place prior to 1999 and a slightly lower percentage for years after 2000, making the precise replacement factor a function of the worker’s individual career history.

<sup>10</sup> This is the average wage at retirement for WRS workers that we projected based on WRS data on the average earnings and average wage of current employees and WRS assumptions regarding the growth of wages over an individual’s work history. However, the actual wage that we assume does not affect the relative difference in benefits—i.e., the ratio of public to private retirement benefits.

<sup>11</sup> This would be the price of an annuity, at terms offered to federal government employees by the Thrift Savings Plan, paying the same annual benefits for life beginning at age 65.

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<sup>12</sup> Section 40.19, WI Stat, states that “[R]ights exercised and benefits accrued to an employee under this chapter for service rendered shall be due as a contractual right and shall not be abrogated by any subsequent legislative act.” Moreover, court rulings have held that benefits accrued under the WRS are protected against alteration unless replaced by benefits of equal or greater value. *Wisconsin Professional Police Ass’n, Inc. v. Lightbourn*, 627 N.W.2d 807 (Wis. 2001) Other court rulings have held that once a public employee is hired, the pension benefit formula in place as of that time may not be changed. *Welter v. City of Milwaukee*, 571 N.W.2d 459 (Wis.App. 1997)

<sup>13</sup> See Congressional Budget Office. “Evaluating and Accounting for Federal Investment in Corporate Stocks and Other Private Securities.” 2003; and Office and Management and Budget, *Analytical Perspectives, Fiscal Year 2006 Budget*, February 2005, p. 421.

<sup>14</sup> Wilcox, David. Testimony before the Public Interest Committee Forum sponsored by the American Academy of Actuaries, September 4, 2008. Novy-Marx and Rauh present a similar argument; see Novy-Marx, Robert, and Joshua Rauh. “The Liabilities and Risks of State-Sponsored Pension Plans.” *Journal of Economic Perspectives*, vol. 23, no. 4 (Fall 2009), pp. 191–210. In analyzing federal employee pensions, the CBO used a discount rate 1 percentage point above the Treasury rate. However, the CBO explicitly noted that this was because federal pensions lack the legal protections that state pension plans like the WRS are entitled to.

<sup>15</sup> This is the midpoint of 2011, the year we are focusing on. The current yield is around 2.2 percent, while the Social Security Administration projects that over the next 25 years the yield on Treasury securities (which are held by the Social Security trust fund) will average 5.3 percent.

<sup>16</sup> We convert lump sums in DC pensions to an annual benefit stream using prices for an inflation-indexed annuity offered by the federal Thrift Savings Plan. This annuity differs from the WRS, where post-employment benefit increases are based not upon inflation but upon investment earnings. Under WRS plan rules, benefits are increased annual so long as the investment income credited to the “retired life funds” exceeds the 5 percent assumed return on the fund, other plan variables are within projected ranges and the benefit increase would be greater than 0.5 percent. Unlike Social Security COLAs, these benefit increases can be reduced if investment income is insufficient, although benefits can never go below the initial level granted at retirement. Over the long term, these post-employment benefit increases have been higher than Social Security COLAs – 4.7 percent annually over the past 28 years versus 2.9 percent for Social Security – but less certain. We treat these benefit increases as having approximately the same value as an annuity option offered by the federal Thrift Savings Plan that promises annual benefit increases equal to rise in the Consumer Price Index, with a maximum of 3 percent per year. We use TSP annuity prices as of May 2012 to determine benefit

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levels payable from a private 401(k) plan. In practice, private annuities offer somewhat lower benefits than TSP annuities.

<sup>17</sup> If we assume a higher riskless return of 5.3 percent, the average ratio of WRS to private pension benefits falls to 2.8, while if we use the current Treasury yield of 2.2 percent the average WRS/DC pension ratio rises to 4.1. All of these figures are significantly higher than the 1.9-to-1 ratio of the government contribution to the WRS of 5.8 percent of pay to the average DC employer match of 3.1 percent.

<sup>18</sup> Costrell, Robert M., and Michael J. Podgursky. 2009. "Peaks, Cliffs and Valleys: The Peculiar Incentives in Teacher Retirement Systems and their Consequences for School Staffing." *Education Finance and Policy* 4(2): 175–211.

<sup>19</sup> The normal cost is distinct from contributions made to pay off unfunded liabilities. Together, these form the Annual Required Contribution (ARC) employers make to public pensions.

<sup>20</sup> "Frequently Asked Questions about Wisconsin Retirement System (WRS) Contribution Rates," Department of Employee Trust Funds, State of Wisconsin, November 30, 2010, at [http://www.etf.wi.gov/news/2011\\_Contribution\\_Rate\\_FAQ.pdf](http://www.etf.wi.gov/news/2011_Contribution_Rate_FAQ.pdf), p. 2.

<sup>21</sup> Marshall B. Reinsdorf and David G. Lenze. "Defined Benefit Pensions and Household Income and Wealth." Bureau of Economic Analysis. Research Spotlight. August 2009. Also see David G. Lenze. "Accrual Measures of Pension-Related Compensation and Wealth of State and Local Government Workers." Bureau of Economic Analysis. April 2009.

<sup>22</sup> For details on how normal costs vary with the discount rate assumption, see Andrew G. Biggs and Jason Richwine. "The Effect of Pension Accounting Rules on Public-Private Pay Comparisons." *ABA Journal of Labor and Employment Law*, forthcoming.

<sup>23</sup> "Questions & Answers Regarding 2011 Wisconsin Act 10 (Budget Repair Bill) & 2011 Wisconsin Act 32 (Biennial Budget Bill)," Office of State Employment Relations, State of Wisconsin, August 12, 2011, at <http://oser.state.wi.us/docview.asp?docid=7246>, p. 4

<sup>24</sup> Technically, pre-reform Wisconsin law had provided for a much higher employee contribution, but in practice many public employers, including the state of Wisconsin itself, "picked up" (paid for) most of the employee contribution themselves. This is generally no longer allowed under Act 10.

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<sup>25</sup> This does not mean that each individual WRS participant receives the same return. Long-career workers do better, while short-career workers do worse. But for public employees *as a group*, WRS pays high returns with very little risk to participants.

<sup>26</sup> For instance, see Brown, Jeffrey R. and Wilcox, David W. "Discounting State and Local Pension Liabilities." *American Economic Review*, vol. 99, May 2009; Congressional Budget Office. "The Underfunding of State and Local Pension Plans." May, 2011; Biggs, Andrew G. "An Options Pricing Method for Calculating the Market Price of Public Sector Pension Liabilities." *Public Budgeting and Finance*, Fall 2011. The Congressional Budget Office followed an approach essentially identical to ours in a 2012 report on federal employee compensation. Justin Falk. "Comparing Benefits and Total Compensation in the Federal Government and the Private Sector." Congressional Budget Office. January 2012.

<sup>27</sup> The Pension Benefit Guarantee Corporation (PBGC) insures benefits up to a maximum of around \$55,000 for workers retiring at 65 or \$36,000 for workers retiring at 60. High income retirees or those who retired early could see some cuts to their benefits should their employer go bankrupt or otherwise drop the plan.

<sup>28</sup> Email correspondence with PBGC staff.

<sup>29</sup> Department of Employee Trust Funds, State of Wisconsin. "2010 Comprehensive Annual Financial Report." August 26, 2011. p. 57

<sup>30</sup> HC Trends. "One Year After Act 10: Comparing Wisconsin's State Employee Plan with Other Government & Private Sector Plans." April 2, 2012.

<sup>31</sup> We estimate the normal cost of retiree health benefits based upon data on the Annual Required Contribution, unfunded OPEB liabilities, interest rates, wage growth, the period over which unfunded liabilities are amortized and total employee payroll.

<sup>32</sup> Bureau of Labor Statistics. National Compensation Survey. Table 42. Health-related benefits: Access, private industry workers. March 2011.

<sup>33</sup> The Kaiser Family Foundation and Health Research and Educational Trust. "Employer Health Benefits: 2008 Summary of Findings." At <http://ehbs.kff.org/images/abstract/7791.pdf> (September 25, 2011).

<sup>34</sup>  $1.756/1.442 - 1 = 0.217$ , or 21.7 percent.

<sup>35</sup> Normal costs from Buck Consultants. "City of Milwaukee Employees' Retirement System Actuarial Valuation Report as of January 1, 2011." Table 2c. The total normal costs are very high relative to the

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published normal costs because ERS uses an 8.5 percent discount rate—high even by public pension standards.

<sup>36</sup> Wisconsin Association of School Boards. “2010-2011 Health Insurance Cost Comparisons.” Available at [http://www.wasb.org/websites/employment\\_law\\_hr\\_services/File/health\\_insurance\\_cost\\_contribution\\_comparisons/1011\\_teacher\\_health\\_insurance\\_data.pdf](http://www.wasb.org/websites/employment_law_hr_services/File/health_insurance_cost_contribution_comparisons/1011_teacher_health_insurance_data.pdf)

<sup>37</sup> PolitiFact Wisconsin. “Wisconsin Rep. Jennifer Shilling says many local governments require employees to pay more than 20 percent of their health insurance premiums.” February 27, 2011. <http://www.politifact.com/wisconsin/statements/2011/mar/03/jennifer-shilling/wisconsin-rep-jennifer-shilling-says-many-local-go/>

<sup>38</sup> Kenosha, Wisconsin Financial Statements Including Independent Auditors’ Report December 31, 2007.

<sup>39</sup> County of Milwaukee, Wisconsin. “Comprehensive Annual Financial Report for the Year Ended December 31, 2010.” Pp. 139-140.

<sup>40</sup> Gabriel Roeder Smith & Company. “Milwaukee Public Schools. Retiree Health Care and Insurance Programs, Actuarial Valuation as of July 1, 2009.” July 25, 2010.

<sup>41</sup> Gabriel Roeder Smith & Company. “Madison Metropolitan School District. Retiree Healthcare Program, Teacher Emeritus Retirement Program, and Administrators Retirement Plan. Actuarial Valuation as of Insurance Programs, as of July 1, 2007.” June 24, 2008.

<sup>42</sup> Smith stated: “Employment is much more constant in some trades than in others. In the greater part of manufactures, a journeyman may be pretty sure of employment almost every day in the year that he is able to work. A mason or a bricklayer, on the contrary, can work neither in hard frost nor in foul weather, and his employment at all other times depends on the occasional calls of his customers. He is liable, in consequence, to be frequently without any. What he earns, therefore, while he is employed must not only maintain him while he is idle, but make him some compensation for those anxious and desponding moments which the thought of so precarious a situation must sometimes occasion.... *The high wages of those workmen, therefore, are not so much the recompense of their skill as the compensation for the inconsistency of their employment.*” Smith, Adam. *The Wealth of Nations*. 1776.

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<sup>43</sup> Pradeep Kumar and Mary Lou Coates. "Occupational Earnings, Compensating Differentials, and Human Capital: An Empirical Study." *The Canadian Journal of Economics*, Vol. 15, No. 3. (Aug., 1982), pp. 442-457.

<sup>44</sup> Critics point out that such trends are not readily apparent in U.S. data. (Keefe, Jeffrey. "Desperate techniques used to preserve the myth of the overcompensated public employee." Economic Policy Institute. March 10, 2011.) However, this may be due to the types of data available. Most analyses of public sector pay in the U.S. rely either upon household surveys, in which individuals describe their qualifications for jobs (education, experience, etc.) or establishment surveys in which employers describe the skill requirements of positions (as represented by GS grade levels in the National Compensation Survey). Research has shown that such data may incorrectly show no compensating wage premium attached to jobs that provide less job security, and in fact might erroneously show that less secure jobs pay *less* than similar jobs with greater job security. (Hae-shin Hwang, W. Robert Reed, and Carlton Hubbard, "Compensating Wage Differentials and Unobserved Productivity," *The Journal of Political Economy*, Vol. 100, No. 4 (August 1992), pp. 835–858.) Kumar and Coates show that when either establishment or household data type are analyzed separately, a compensating differential for employment risk is not found. However, when the authors constructed a dataset that combined individual education and experience with job skill requirements, a premium paid to jobs with greater employment risk became apparent and was robust to several different specifications.