

The Economic Policy Institute is Wrong:
**Public Employees
ARE Overpaid**

A Report by the Center for Union Facts

Center for
UnionFacts

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EXECUTIVE SUMMARY

A series of studies released by the union-funded Economic Policy Institute (EcPI) seeks to extend the myth of the undercompensated public employee.¹ Authored by Dr. Jeffery H. Keefe, an associate professor at Rutgers University, the studies examine public employee compensation on a national level, as well as in Indiana, Michigan, New Jersey, Ohio, and Wisconsin.

Public employee compensation is a politically sensitive issue, especially in the five states referenced above. All have Republican governors (some newly elected) who have discussed reforming public employee compensation or bargaining rules as a part of larger plans to reduce the state budget gap. These governors have argued that the cumulative effect of generous employee compensation, pensions, and health obligations has stretched state budgets, and that reductions in costs are warranted.

The response from public employee unions has been fierce: in states like Wisconsin, the anger has boiled over into large public protests. The academic response has been no less aggressive: the six studies released by EcPI all strain to show that—even accounting for more generous fringe benefits in the public sector—public employees as a whole are *undercompensated* relative to their private sector counterparts. The claims of under-compensation are as high as seven percent in states like Indiana and Michigan. Nationally, Dr. Keefe estimates that public employees make close to four percent less than their private sector counterparts.

This positioning has been advanced in the media to make the point that—since public employees are already underpaid relative to the private sector—proposals to further reduce public employee benefits or salaries are unfair.

This conclusion does not withstand close scrutiny. In seeking the appropriate comparison point, the EcPI study inappropriately assumes that any state government employee would be just as likely employed in the largest-size private sector firm if they weren't working in the public sector. The study also excludes part-year full-time workers from the analysis, removing a significant portion of the public sector workforce (including one-quarter of all teachers) from consideration.

It could be a coincidence that the EcPI study makes two substantial errors, both of which bias the results in its preferred direction. Regardless, what's clear is that when correcting for these omissions and inappropriate assumptions in EcPI's regression, you find that public employees are **not** underpaid relative to their private sector counterparts. **In fact, according to their own analysis, public employees at both the state and local levels enjoy a compensation premium of close to five percent compared to an employee of similar education and experience in the private sector.**

That five percent pay premium should be considered a floor, not a ceiling. Public sector workers enjoy substantially greater job security than their private sector counterparts; their layoff and discharge rate as a percent of total employment is over three times lower than the private sector as a whole. Prior

¹ According to government filings, the Economic Policy Institute received \$2.578 million from labor unions in 2009, including \$382,500 from the American Federation of State, County, and Municipal Employees.

literature has shown that a pay differential exists in some industries to compensate for an increased likelihood of job loss. Additionally, there are measurement issues that need correcting: public employees like teachers that work full-time but only a part of the year have 36 weeks of total compensation pro-rated over a 52-week period. That means the per-month compensation of this significant portion of the public sector is substantially understated in the Keefe study.

New research that accounted for these and other factors would likely find an even larger pay premium than is documented here.

LABOR UNION COMPENSATION vs. PUBLIC EMPLOYEE COMPENSATION

There's a tension between the rhetoric of labor unions in general and public employee unions in particular. Labor unions and their advocates often reference a union wage premium, proudly pointing out statistics that show members of unions have larger paychecks and earn more generous benefits than their non-unionized counterparts. One analysis available on the AFL-CIO website puts it this way:

In nearly every occupational category, workers who are not members of unions have smaller paychecks than union members.²

And:

Union workers are more likely than their nonunion counterparts to be covered by health insurance, and to receive pension benefits and paid sick leave, according to the federal Bureau of Labor Statistics.³

A 2003 paper authored by Lawrence Mishel and Matthew Walters of EcPI makes this point even more explicitly:

Unions raise wages of unionized workers by roughly 20% and raise compensation, including both wages and benefits, by about 28%.⁴

As recently as February 2011, a paper by EcPI economists Heidi Shierholz and Elise Gould trumpeted the wage benefits of working in a state that doesn't have a "Right to Work" (RTW) law (and thus a stronger union presence):

Wages in right-to-work states are 3.2% lower than those in non-RTW states, after controlling for a full complement of individual demographic and socioeconomic variables as well as state macroeconomic indicators. Using the average wage in non-RTW states as the base (\$22.11), the average full-time, full-year worker in an RTW state makes about \$1,500 less annually than a similar worker in a non-RTW state.⁵

However, with public employee unions, the issue of compensation is handled in a more delicate manner due to worries that their paychecks and benefits could be at risk when their state or municipality faces a budget shortfall. Since public employees are paid by taxpayers and not businesses, there's more public sensitivity to the idea that a particular group of workers is enriching themselves at taxpayers' expense.

One report from the American Federation of State, County, and Municipal Employees (AFSCME), constructed using data from the 1990s, reflects this disconnect between the usual union "wage premium" rhetoric and the rhetoric on public employees:

² Available at: <http://www.aflcio.org/joinaunion/why/uniondifference/uniondiff5.cfm>

³ Available at: <http://www.aflcio.org/joinaunion/why/uniondifference/uniondiff6.cfm>

⁴ Available at: <http://www.epi.org/page/-/old/briefingpapers/143/bp143.pdf>

⁵ Available at: <http://www.epi.org/publications/entry/6796/>

When public workers are compared to private workers who perform essentially the same jobs, the playing field is level. **The only clear advantage many public workers may enjoy relative to the private sector is better pension coverage.**

To summarize, the union line seems to be that being in a union results in higher wages and more generous benefits—unless you happen to be a member of a public sector union, in which case the union doesn't provide any financial advantage or benefit over a nonunionized worker.

Dr. Jeffrey H. Keefe, an associate professor at Rutgers University, takes this defense a step further in a recent series of papers released by EcPI⁶. His final analysis concludes that public employees are not only even with their public sector counterparts, but that they're actually at a compensation disadvantage.

APPLES-TO-APPLES COMPARISON

A simple top-line comparison of Bureau of Labor Statistics' (BLS) data shows a sizable gap in total compensation (i.e. wages and fringe benefits) between the public sector and the private sector. In one recent edition of the Employer Cost for Employee Compensation (ECEC) report, the BLS put it this way:

Total employer compensation costs for private industry workers averaged \$27.73 per hour worked in March 2010. Total employer compensation costs for State and Local government workers averaged \$39.81 per hour worked in March 2010.⁷

The BLS cautions against directly comparing the public and private sector workforce because of “variations in work activities and occupational structures.” For instance, many of the positions that exist in the public sector—like firefighters or police officers—don't have a direct corollary in the private sector.

Dr. Keefe uses a similar argument to inform the design of his studies. Instead of comparing employees across occupations, he compares employees of similar human capital—specifically, education, experience, race, sex, and disability. He also controls for organization size, citing academic literature demonstrating that employees in large organizations tend to earn more than employees in small organizations.

Dr. Keefe provided us with his regression results for the “All Public Employees” measure in his national study, which are available in the Appendix of this report⁸. In table 6 of his original paper, he reports the following results in his compensation comparison of public versus private employees:

⁶ Available at:

http://www.epi.org/publications/entry/debunking_the_myth_of_the_overcompensated_public_employee/

⁷ Available at: http://www.bls.gov/news.release/archives/ecec_06092010.pdf

⁸ Dr. Keefe would not make state-specific regression results available to us due to a paper on this topic that he's preparing for journal publication. He indicated in email correspondence that he'll make everything available following that paper's publication.

	Total Compensation, Controlling for Annual Hours Worked
All Public Employees	-0.0374
State Employees	-0.0755
Local Employees	-0.0184

In other words, controlling for the factors mentioned above, Keefe finds that—even including fringe benefits—public employees across the country suffer approximately a 3.7 percent compensation penalty relative to their counterparts in the private sector. The compensation gap is somewhat larger for state government employees, and smaller for local government employees.⁹

UNREALISTIC ASSUMPTIONS

There are two significant errors in Dr. Keefe’s analysis which have a considerable effect on the final result of his study: an improper assumption about organization size, and an improper exclusion of a key employee group. We’ll focus first on organization size.

All state employees, and many local government employees, work in a large organization (classified as a company with 1,000 or more employees). The distributions, taken from March 2009 Current Population Survey data, are displayed in the table below.

	Firm Size Distribution			
Worker group	<u>1-99</u>	<u>100-499</u>	<u>500-999</u>	<u>1000+</u>
Private sector	34.2%	15.7%	6.9%	43.2%
State Government	0.0%	0.0%	0.0%	100.0%
Local Government	15.0%	21.4%	13.5%	50.2%

In his analysis, Dr. Keefe assumes that a public employee that isn’t working in state government would be employed at the largest organization size in the private sector. To take a simple example, this is similar to assuming that any tech support employee in Washington state government would, upon leaving their job, be competitive for employment at Microsoft.

As the firm size distribution above demonstrates, this is a wholly unrealistic assumption. For instance, only 43 percent of workers currently in the private sector are employed by large organizations. Consequently, it’s unreasonable to assume that all workers in the public sector would be employed in the largest organization size if they left the government.

⁹ We focus just on total compensation in this study. As Dr. Keefe acknowledges in his paper, “state and local government workers receive more of their compensation in employer-provided benefits.”

To correct this error, we construct a model (based on the same personal characteristics that Dr. Keefe uses in his model) to predict the actual distribution of employer size for public sector workers if they were to relocate to the private sector. What we discover is that a sizeable number of public employees (over 55 percent) would be employed in smaller firm sizes were they to relocate to the private sector.

	Predicted Private Sector Firm Size Distribution			
<u>Worker group</u>	<u>1-99</u>	<u>100-499</u>	<u>500-999</u>	<u>1000+</u>
State Government	34.8%	15.9%	6.7%	42.6%
Local Government	35.1%	15.9%	6.7%	42.4%

When we update Keefe’s same analysis to account for this more accurate firm size distribution, his results change considerably: as the table below demonstrates, instead of a nearly four percent compensation penalty for state and local workers, there’s actually a premium of approximately three percent for all public employees (controlling for annual hours worked)¹⁰. The premium is slightly less than three percent for state employees individually, and slightly greater than three percent for local employees individually.

This clearly demonstrates that the “wage penalty” trumpeted by EcPI is actually just a byproduct of an incomplete statistical analysis.

	Comparison of state and local with private sector earnings, adjusted for org. size		
	Unadjusted premium (Keefe)	Unadjusted Corrected Premium*	Size-adjusted Corrected premium
All Public Employees	-0.0374	-0.0232	0.0310
State Employees	-0.0755	-0.0561	0.0282
Local Employees	-0.0184	-0.00626	0.0326

*Dr. Keefe’s sample size changes by an unusually large amount (over 15,000 workers) between his wage regression and his total compensation regression. In the “corrected” column above, we’ve redone Dr. Keefe’s work with what we believe is a more accurate sample size. Further detail is provided in the Appendix.

MISSING EMPLOYEES

As we’ve demonstrated by correcting for an incorrect assumption in the organization size variable in Dr. Keefe’s analysis, public employee compensation is approximately 3 percent greater than what a similarly-experienced private-sector employee would receive. But the analysis is still incomplete.

In the beginning of his study, Dr. Keefe indicates that he’ll be excluding part-time workers from his analysis. He calls this decision “standard practice,” and offers the following explanation:

¹⁰ We repeat Keefe’s analysis by replacing the reported firm size dummies for public sector workers with the predicted probability of being in each firm size category. See Appendix for full details.

When analyzing hours of work most studies exclude part-time workers, since their hours vary, they earn considerably less than comparable full-time workers, they are more weakly attached to the labor force, and they often lack benefit coverage.

This statement, tucked in the middle of a paragraph on the third page of the study, seems relatively uncontroversial.

But when studying public sector compensation, this exclusion is significant: Dr. Keefe excludes part-time workers, but he also excludes *part-year* full-time workers¹¹. This excluded group includes approximately one-quarter of all school teachers, many of whom who work full-time but only do so 36 weeks out of the year¹². It also includes college graduates who began working full-time part way through the year, or retirees who stopped working part way through the year.

In sum, eliminating this important group removes over 12,000 employees from the sample, including key public sector employees like school teachers. Adding these “missing” employees back in to the analysis further weakens the “wage penalty” hypothesis proposed in the studies released by EcPI, as the table below demonstrates.

	Comparison of state and local with private sector earnings, adjusted for organization size and including part-year full-time employees		
	Unadjusted premium (Keefe)	Size-adjusted Corrected premium	Size-adjusted, w/ Missing Employees
All Public Employees	-0.0374	0.0310	0.0477
State Employees	-0.0755	0.0282	0.0449
Local Employees	-0.0184	0.0326	0.0493

Far from facing a four percent “penalty” relative to their private sector counterparts when using Keefe’s analytical design, public employees as a whole enjoy approximately a five percent premium over their similarly situated private sector counterparts (again, controlling for annual hours worked).

CONCLUDING THOUGHTS

We have demonstrated that, using the same study design and a similar set of control variables as selected by Dr. Keefe, there’s actually a **five percent compensation premium** for public sector employees. This runs contrary to the claims made by Dr. Keefe’s study, labor unions like AFSCME, and

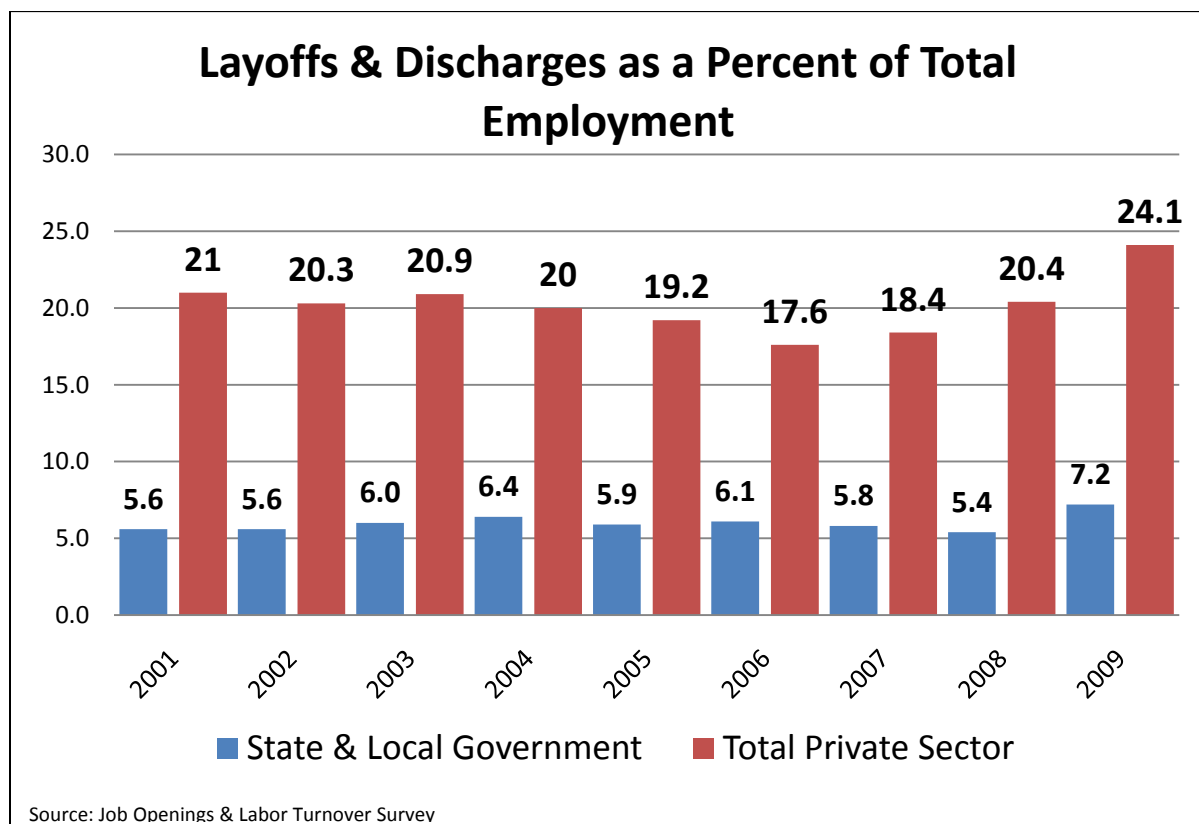
¹¹ We contacted Dr. Keefe to clarify his definitions on which workers were excluded and which were not, but he just directed us to look it up in the Current Population Survey. Therefore, we’ve reconstructed his sample size to closely match the one in his original regression—a sample size that could only be obtained by excluding part-year full-time workers.

¹² According to the Census Bureau, the collector of the income data from which this estimate is derived, “A full-time, year-round worker is a person who worked 35 or more hours per week (full-time) and 50 or more weeks during the previous calendar year (year-round). For school personnel, summer vacation is counted as weeks worked if they are scheduled to return to their job in the fall.” Many of the “excluded” teachers thus classified themselves incorrectly to the Census survey taker.

labor-funded organizations like EcPI. It's unclear whether or not these errors were intentional; what is clear is that the conventional wisdom of a well-paid public employee is **strengthened** by a more careful look at the data.

As a caveat, it's important to mention a few unaccounted-for variables in EcPI's analysis: the considerable job security that public employees enjoy over their private sector counterparts and the potential measurement error caused by the presence of employees that only work 9 months out of the year.

Academic studies have suggested that employees with less job security may receive higher wages to compensate for the increased risk of job loss.¹³ It's beyond the scope of this paper to determine whether a similar differential exists in the private sector relative to the public sector, but the graph below suggests that the inclusion of such a measure would create an even larger premium in total compensation in the public sector¹⁴.



Additionally, public sector employees like teachers only work full-time nine months of the year. A study that pro-rates a nine month salary over a full year would have the effect of reducing per-month compensation. Factoring this into future research would also likely increase the public employee premium relative to the private sector.

¹³ For instance, see Li (1986) and Moretti (2000)

¹⁴ There are considerably higher rates of layoff/discharge in some private sector industries than others. This graph is just for general comparison purposes.

TECHNICAL APPENDIX

Using data from the March 2009 Current Population Survey (CPS), Dr. Keefe's methodology estimates the effect of public sector employment on total compensation by using the following regression:

$$(1) \text{Comp}_i = \alpha_0 + \alpha_1 \text{Public}_i + \alpha_2 \text{FS2}_i + \alpha_3 \text{FS3}_i + \alpha_4 \text{FS4}_i + X_i B + e_i$$

Where the i subscript indexes the employee, Comp_i is the log of compensation, Public_i is a dummy indicating whether the worker is a state or local government employee, FS2-FS4 are 3 firm size dummies indicating the firm size of the employer (100-499, 500-999, or 1000+ employees); and X_i is a vector of other characteristics that affect earnings (work hours, sex, experience, education, disability, race and ethnicity). The dummy for the smallest firm size (1-99 employees) is omitted. Two measures of compensation are considered. Earnings include only wage and salary income. Total compensation includes earnings and the estimated value of fringe benefits.

The estimated coefficient on the Public dummy represents the size of the public sector premium or penalty. An implicit assumption in this calculation is that public sector workers would locate in similarly sized employers if they switched to the private sector.

To examine the sensitivity of the estimated public sector premium to the treatment of employer size, we attempt to replicate Keefe's work as closely as possible. We use the 2009 March CPS data and include private sector and state and local employees, but exclude federal employees, the self-employed, and part-time, agricultural, and domestic workers. We also restrict the sample to full-time, full-year workers, but consider the effect of expanding the sample to include full-time, part-year workers as well. We use Keefe's estimates of the fringe benefit mark-up rates by occupation, firm size, and public sector status.

To predict the likely distribution of employer size for public sector workers if they were to relocate to the private sector, we estimate an ordinal probit model of firm size with a sample of private sector workers. The probability of being in each of the four size categories is modeled as function of the same personal characteristics included in Keefe's compensation equation. The estimates of the ordinal probit model are then used to estimate the probability that each public sector worker would locate in each of the four firm size categories.

The estimated ordinal probit model is given in table A1 below. The results indicate that the predicted firm size is greater for more educated workers, women, and more experienced workers below. Applying the ordinal probit model estimates to the public sector workforce provides an estimated distribution of workers across the four firm size categories. The actual and predicted distribution is provided in table A2 for state and local workers combined and separately.

Table A3 is Dr. Keefe's regression results for all public employees from his study. In table A4, we provide estimates of a compensation equation using alternative assumptions and samples. In this table, we group state and local workers together and estimate a public sector premium for the two groups combined. Specification (1) is our best attempt to match Keefe's specifications for total compensation;

in specification (2) we add in a firm size measure for predicted employee distribution, and in specification (3) we include part-year full-time workers. Table A5 repeats the same exercise, but estimates the compensation differential separately for state and local workers.

Table A1. Ordinal probit model of employer size for private sector workers.

Disabled	0.0567 (1.92)
Hours worked last year	0.0000730 (5.16)
Experience	0.00419 (2.88)
Experience²	-0.0000829 (-2.90)
Female	0.0432 (4.09)
Education	
High school graduate	0.256 (12.4)
Some college	0.395 (17.9)
Associates degree	0.404 (16.4)
Bachelors degree	0.524 (23.6)
Masters degree	0.585 (21.2)
Professional degree	0.372 (8.46)
Doctorate	0.615 (12.2)
Asian	0.0524 (2.22)
Black	0.193 (11.7)
Hispanic	-0.130 (-8.28)
Intecept 1	0.290 (7.26)
Intercept 2	0.704 (17.6)
Intercept 3	0.875 (21.8)
Sample size	50,579

Note: The sample is restricted to private sector full time workers in the March 2009 Current Population Survey. The 4 firm size categories are 1-99, 100-499, 500-999, and 1000+. t-statistics are in parentheses.

Table A2. Comparison of predicted and actual firm size distributions.

<u>Worker group</u>	Firm Size			
	<u>1-99</u>	<u>100-499</u>	<u>500-999</u>	<u>1000+</u>
Private sector	34.2%	15.7%	6.9%	43.2%
State and local				
Actual	9.7%	13.8%	8.7%	67.8%
Predicted	35.0%	15.9%	6.7%	42.4%
Difference	-25.3%	-2.1%	2.0%	25.4%
State				
Actual	0.0%	0.0%	0.0%	100.0%
Predicted	34.8%	15.9%	6.7%	42.6%
Difference	-34.8%	-15.9%	-6.7%	57.4%
Local				
Actual	15.0%	21.4%	13.5%	50.2%
Predicted	35.1%	15.9%	6.7%	42.4%
Difference	-20.1%	5.5%	6.8%	7.8%

Table A3. Log-Compensation Regression (from Keefe)

	Coefficient	t-statistic
Constant	9.1264	471.73
Public	-0.0374	-5.49
Firm size		
100-499	0.0794	9.38
500-999	0.1260	11.69
1000+	0.1362	19.17
Hours last year	0.0004	68.37
Disabled	-0.1951	-6.6
Experience	0.0342	47.24
Experience²	0.0342	47.24
Female	-0.2478	-46.5
Education		
Doctorate	1.1356	48.99
Masters	0.9329	65.87
Professional degree	1.2169	54.93
Bachelors degree	0.7385	58.69
Associates degree	0.5052	36.52
High school only	0.2435	20.11
Some college	0.3863	30.29
Asian	-0.0057	-0.48
Black	-0.1347	-16.65
Hispanic	-0.0858	-10.23
Number of Observations	43558	

**Table A4. Compensation
Differential for All Public Workers.**

	(1) Yes	(2) Yes	(3) Yes
Fringe benefits included in compensation			
Firm size measure for public sector workers actual or predicted	Actual	Predicted	Predicted
Sample include full-time part-year workers	No	No	Yes
Public	-0.0232 (-3.49)	0.0310 (4.77)	0.0477 (7.05)
Size 100-499	0.156 (22.7)	0.165 (22.9)	0.169 (22.9)
Size 500-999	0.201 (21.5)	0.219 (21.5)	0.209 (19.8)
Size 1000+	0.209 (39.4)	0.217 (39.0)	0.215 (37.7)
Disabled	-0.105 (-8.13)	-0.105 (-8.18)	-0.140 (-11.3)
Hours last year	0.000297 (47.9)	0.000295 (47.7)	0.000702 (163)
Experience	0.0339 (53.0)	0.0338 (52.9)	0.0373 (59.2)
Experience²	-0.000500 (-39.8)	-0.000499 (-39.7)	-0.000548 (-43.9)
Female	-0.277 (-60.1)	-0.277 (-60.2)	-0.229 (-48.7)
Highs school graduate	0.279 (30.0)	0.279 (30.0)	0.292 (32.2)
Some college	0.419 (42.1)	0.418 (42.0)	0.406 (41.6)
Associates Degree	0.512 (46.5)	0.510 (46.3)	0.525 (47.6)
Bachelors degree	0.783 (78.6)	0.782 (78.5)	0.783 (79.4)
Masters degree	0.965 (82.0)	0.962 (81.7)	0.953 (80.4)
Professional degree	1.307 (68.8)	1.310 (69.0)	1.220 (61.0)
Doctorate	1.139 (55.1)	1.141 (55.2)	1.089 (50.1)
Asian	-0.0475	-0.0460	-0.0173

	(-4.50)	(-4.36)	(-1.56)
Black	-0.154	-0.155	-0.129
	(-21.8)	(-21.9)	(-17.9)
Hispanic	-0.123	-0.119	-0.0707
	(-17.8)	(-17.3)	(-10.1)
Constant	9.304	9.302	8.289
	(525)	(525)	(628)
Number of Observations	59667	59667	72403
R-squared	0.38	0.38	0.50

**Table A5. Compensation
Differential for State and Local
Workers.**

	(1) Yes	(2) Yes	(3) Yes
Fringe benefits included in compensation	Actual	Predicted	Predicted
Firm size measure for public sector workers actual or predicted	No	No	Yes
Sample include full-time part-year workers			
State	-0.0561 (-5.29)	0.0282 (2.75)	0.0449 (4.18)
Local	-0.00626 (-0.79)	0.0326 (4.17)	0.0493 (6.07)
Size 100-499	0.154 (22.5)	0.165 (22.9)	0.169 (22.9)
Size 500-999	0.199 (21.2)	0.219 (21.5)	0.209 (19.8)
Size 1000+	0.212 (39.6)	0.217 (39.0)	0.215 (37.7)
Disabled	-0.104 (-8.07)	-0.105 (-8.17)	-0.140 (-11.3)
Hours last year	0.000296 (47.9)	0.000295 (47.7)	0.000702 (163)
Experience	0.0339 (53.0)	0.0338 (52.9)	0.0373 (59.2)
Experience²	-0.000500 (-39.8)	-0.000499 (-39.7)	-0.000548 (-43.9)
Female	-0.277 (-60.2)	-0.277 (-60.2)	-0.229 (-48.7)
Highs school graduate	0.279 (30.0)	0.279 (30.0)	0.292 (32.2)
Some college	0.418 (42.0)	0.418 (42.0)	0.406 (41.6)
Associates Degree	0.512 (46.4)	0.510 (46.3)	0.525 (47.6)
Bachelors degree	0.783 (78.6)	0.782 (78.5)	0.783 (79.4)
Masters degree	0.964 (81.9)	0.962 (81.7)	0.953 (80.4)
Professional degree	1.308 (68.9)	1.310 (69.0)	1.220 (61.0)

Doctorate	1.145 (55.2)	1.141 (55.1)	1.089 (50.0)
Asian	-0.0471 (-4.47)	-0.0460 (-4.36)	-0.0172 (-1.56)
Black	-0.154 (-21.8)	-0.155 (-21.9)	-0.129 (-17.9)
Hispanic	-0.123 (-17.8)	-0.119 (-17.3)	-0.0707 (-10.1)
Constant	9.304 (525)	9.302 (525)	8.289 (628)
Number of Observations	59667	59667	72403
R-squared	0.38	0.38	0.50