Public sector workers and job security

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PUBLIC SECTOR WORKERS AND JOB SECURITY

*By Alicia H. Munnell and Rebecca Cannon Fraenkel**

Introduction

One issue that comes up in discussions of compensation of state/local workers is their job security relative to that of workers in the private sector. Several questions arise in this regard. How much more secure are public sector jobs? Has their relative security declined in the Great Recession? Do different types of public sector workers fare differently? And how should greater job security be incorporated in the calculus of relative compensation? This *brief* addresses these issues.

The discussion proceeds as follows. The first section presents data on the employment of state/local workers and private sector workers over the last three business cycles. It indicates that, despite declines in employment that have not yet fully abated, state/local workers fared somewhat better relative to private sector workers during this recession than in the past. The second section presents regression results on the relative job layoff experience of state/local workers between 1990-2007 and 2008-12, which quantifies the difference in job security between state/local workers and private sector workers in the two periods. The third section looks at teachers, non-teacher state workers, and non-teacher local workers separately to see how their employment levels have varied over time. At first, it looks like teachers fared better than non-teachers, but the regression analysis, which focuses on layoffs and controls for education, shows that teachers have no more job security than other public employees. The fourth section briefly discusses alternative ways of thinking about job security in the context of relative compensation considerations.

The final section concludes that – due to the nature of the public sector – state/local workers have historically had greater job security than private sector workers, and that relationship continued through the Great Recession. Some argue that job security should be quantified and added to comparisons of public and private compensation. Our view is that while job security is attractive, other non-monetary factors make public sector jobs less attractive. Even if these negative factors are ignored, however, estimates of the value of job security suggest that it is not large enough to overturn the conclusion that state/local and private sector workers receive about the same compensation.

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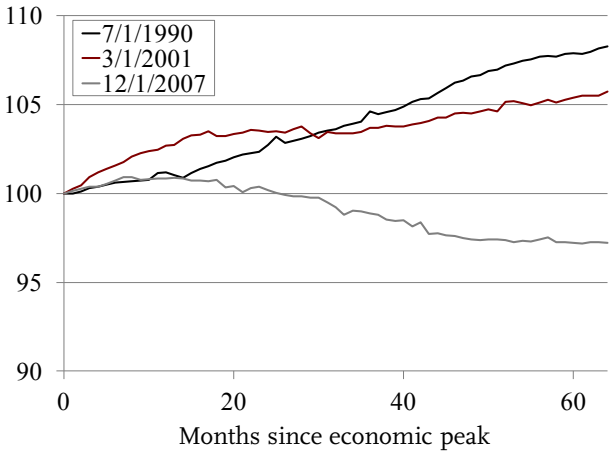
Employment Trends over the Business Cycle

The perception is that state/local workers have been hurt much more during the Great Recession than during past recessions, and that public sector layoffs are slowing the recovery. Indeed, it is easy to see the source of this perception. During the 1990 and 2001 recessions, state and local workers experienced a slowdown in hiring, but no decline in the size of the workforce (see Figure 1).[1] In contrast, during the Great Recession, employment levels dropped and 60 months after the onset of the recession are continuing to fall – currently they are at only 97 percent of their 2007 level. Such employment declines are unusual because many state and local workers deliver essential services such as public safety, health, and education that cannot easily be reduced without substantial harm to communities.[2] In addition, the need for safety-net programs – like Medicaid and unemployment benefits – rises during recessions, increasing demand for public workers to ensure that vulnerable citizens' needs are met. As a result, the steady decline in employment from the Great Recession represents a sharp break from the last two recessions.

Figure 1. Indexed Employment of State/Local Workers from Economic Peak: Past Three Recessions



Sources: National Bureau of Economic Research (2010) and U.S. Bureau of Labor Statistics (2013).

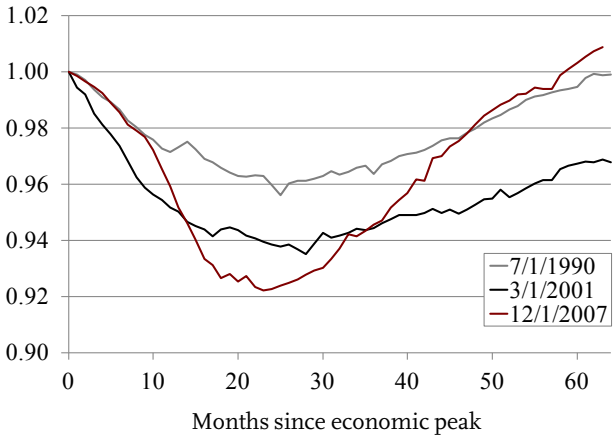
The question under consideration, however, is the experience of state and local workers *relative* to workers in the private sector. The story here is that while state and local employment declined substantially this time around, the private sector saw such dramatic losses that state/local workers fared relatively better than in prior recessions. Figure 2 shows the public and private employment experience for each of the recent recessions.

Figure 2. Indexed Employment of Private vs. State/Local Workers in Recessions: 1990, 2001, and 2007

Sources: National Bureau of Economic Research (2010) and U.S. Bureau of Labor Statistics (2013).

Figure 3 shows the ratio of the indexed private to public employment levels for each recession. For example, 20 months after the 2007 economic peak, private sector employment was 93 percent of its 2007 level and state/local employment was stable at 100 percent, so the ratio of indexed private to public employment shown in the figure is 93 percent. Comparable figures are 96 percent for the 1990 recession and 94 percent for the 2001 recession, suggesting that the private sector workforce was hurt relatively worse this time around.

Figure 3. Ratio of Indexed Private to Indexed State/Local Employment



Sources: National Bureau of Economic Research (2010) and U.S. Bureau of Labor Statistics (2013).

Regression Analysis: 1970-2007 versus 2008-2012

The data presented above focus simply on changes in overall employment levels; declines in these levels can be the result of either attrition or layoffs. But attrition, the most common way for public employers to shed jobs, does not interfere with a worker's job security while layoffs do. Since job security is the focus of this brief, the analysis focuses on unemployment and job loss.

The key question is how the layoff experience of state/local workers compares to private sector workers. While state/local workers appear to have an advantage, public and private workers are not directly comparable. For example, state/local workers tend to be more highly educated, a factor that often reduces the likelihood of layoffs. Thus, it is unclear whether state/local workers are more insulated from the business cycle because of the nature of their employer or because of their own socioeconomic characteristics.

Regression analysis was used to sort out the relative importance of these factors on the unemployment and job loss experience of state/local and private sector workers. The data come from the nation's largest annual labor market survey, the March supplement of the *Current Population Survey* (CPS), which includes detailed questions about labor force participation and rich demographic information. The survey asks the unemployed where they last worked, which makes it easy to know whether someone was in the public or private sector. Thus, it is possible to estimate an equation that relates the probability of being unemployed to previous employment and a host of worker characteristics. These characteristics include gender, race, marital status, immigrant status, education, and experience. Equations were estimated for the periods 1990-2007 and 2008-2012, and included controls for occupation, firm size, states, metro area, and years.[3] Separate equations were estimated for: 1) those who were unemployed for any reason, including loss of a temporary or seasonal job; and 2) those who were unemployed due to permanent job loss.

The results of the regressions show that, after controlling for a wide range of worker characteristics, being employed by a state or local government reduces the probability of unemployment by 1.4 to 2.5 percentage points (see Table 1).[4] (Full regression results are shown in the Appendix.) In interpreting these results, a negative number means that a public sector worker is less likely to lose a job than a private sector worker; so the larger the negative number, the greater the job security. The numbers are not only statistically significant but also economically meaningful, given that the nation's overall unemployment rate ranges from about 5 to 10 percent. As Figure 3 in the previous section suggested, the relative security offered by state/local employment was somewhat greater during the Great Recession than for the period 1990-2007, and this finding is supported by the coefficients in Table 1.[5]

Table 1. Effect of Being a State/Local Worker on the Probability of Job Loss, Percentage Point

Definition of unemployment	1990-2007	2008-2012
Unemployed for any reason	-2.0	-2.5
Job loser	-1.4	-2.0

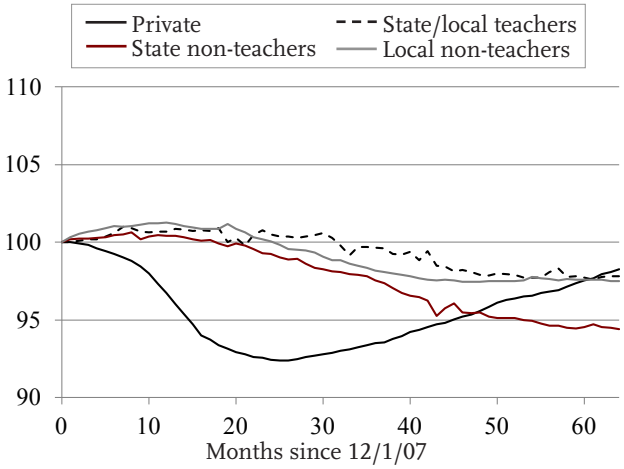
Source: Authors' estimates from regression equations reported in Appendix.

Teachers versus General Employees

Public sector employees consist of those employed by the state and those employed by localities, and they comprise several very different groups of workers – teachers, general government employees, and public safety personnel. A lingering question is how these groups fared relative to the private sector prior to and during the Great Recession.

Figure 4 shows the employment patterns since the economic peak in 2007 for state/local teachers (53 percent of the total), state non-teachers (14 percent), and local non-teachers (33 percent – the biggest component of which is public safety personnel). The chart suggests that employment levels of teachers have held up better than other public employees. But teachers are more educated than the average public sector worker, so again the groups cannot be directly compared.

Figure 4. Indexed Employment by Category in Most Recent Recession



Sources: National Bureau of Economic Research (2010) and U.S. Bureau of Labor Statistics (2013).

The real question is how teachers fared compared to other state/local employees and to private sector workers controlling for the fact that they have more years of schooling, are more likely to be female, etc. To answer that question, the earlier equations predicting the probability of unemployment and job loss were re-estimated including the three groups of public employees. The results presented in Table 2 show three things: 1) teachers are no more secure than other state or local workers, and may actually be somewhat less secure;[6] 2) all three groups of public employees had a lower probability of being unemployed than private sector workers; and 3) the relative security associated with public employment was greater for all three groups in 2008-12 than it had been in 1990-2007.[7]

Table 2. Effect of Being a State/Local Teacher, a State Non-Teacher, and a Local Non-Teacher on the Probability of Job Loss

Definition of unemployment	1990-2007	2008-2012
Unemployed for any reason		
Teachers	-1.1	-1.6
State non-teachers	-1.8	-2.2
Local non-teachers	-2.6	-3.2
Job loser		
Teachers	-0.8	-1.2
State non-teachers	-1.3	-1.8
Local non-teachers	-1.8	-2.5

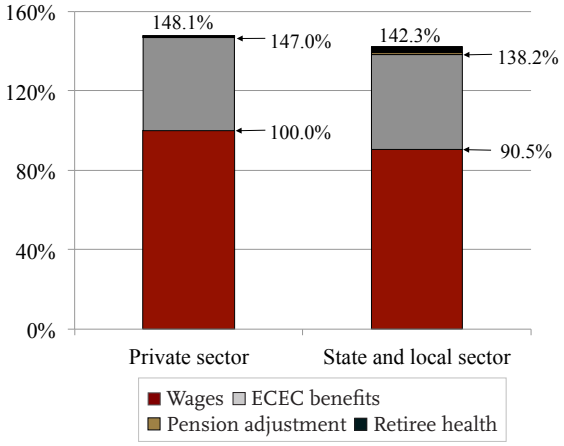
Source: Authors' estimates from regression equations reported in Appendix.

What to Make of These Results?

Despite the employment declines in the public sector this time around – a situation that continues today even as the private sector recovers – state and local employees are less likely to experience a layoff than private sector workers. Some argue that the value of job security should be quantified and added to the calculation of compensation in the public and private sectors.[8] That calculation generally shows that average compensation in the two sectors is roughly equal, although the breakdown of compensation between cash wages and benefits differs dramatically (see Figure 5 on the next page).[9]

We believe that job security is just one of many non-quantifiable factors that characterize public sector employment. For example, in some studies, public sector workers report feeling undercompensated, a feeling that may stem from several negative aspects of their work environment. Anyone who has visited a state or local employment site knows that the accommodations are often spartan and outmoded.[10] In addition, public employees operate in an environ-

Figure 5. Total Compensation of State/Local and Private Sector Workers, as Percentage of Private Sector Wages, 2010



Source: Munnell et al. (2011).

ment where wages are compressed, so even high skilled workers have little chance of ever earning a lot of money.[11] Moreover, public employees often receive little recognition for their work and are sometimes blamed for the current budget shortfalls facing state and local governments.

But say one wants to quantify the value of job security and incorporate that measure into the compensation calculation, how should the exercise proceed? A recent study gave this advantage a baseline value of 6.4 percent of private sector wages.[12] On the other hand, the difference in the cost for supplemental unemployment insurance suggests that the premium for job security in the public sector amounts to only 2.4 percent of private sector wages.[13] Either estimate is unlikely to overturn the general conclusion that private sector and state/local workers receive about the same level of compensation, including both wages and fringe benefits.[14]

Conclusion

Given the nature of their employment, state/local workers have historically been less vulnerable to layoffs than private sector workers. And, despite the negative impact of the Great Recession on state/local employment, public workers still had a greater degree of job security than private workers during this period. While this relative security is an attractive aspect of state/local employment, other non-monetary factors make public sector jobs less attractive. Even if these negative factors are ignored, estimates of the value of job security suggest that it is not large enough to overturn the conclusion that state/local and private sector workers receive about the same total compensation.

Endnotes

1 In contrast, during the 1981-82 recession, the state/local sector did experience reductions in employment levels.

2 Researchers also find that public employees in other countries are much less susceptible to business-cycle fluctuations than their private sector counterparts. See Pfeifer (2011) and Said (2012).

3 This formulation follows Biggs and Richwine (2011). The argument for including firm size is that most state and local workers are employed by large entities. Including this variable means that public employees are being compared mainly to employees of large firms, which – for reasons not fully understood – tend to pay higher wages and benefits. Omitting the variable would make the effect of working for a state or locality somewhat larger. Firm size is firm size at job last year, so does not reflect actual firm size for those who changed jobs before the March CPS.

4 The relationship was estimated using both ordinary least squares (OLS) and probit equations, and the results were generally consistent. The OLS equations are reported in both the tables and the Appendix because the coefficients are easier to interpret.

5 These results should be interpreted with caution, however. While a Wald test of the OLS results confirms that the coefficients on state/local workers for the Great Recession are statistically different than those for the period 1990-2007, a separate probit estimation finds no statistically significant difference between the periods. The probit findings confirm that state and local workers have greater job security in all periods, but we cannot rule out the possibility that the greater job security observed in the Great Recession period is due to random chance.

6 While the OLS results suggest that teachers are less secure than other public sector workers, the probit findings indicate that the difference in job security between teachers and other state/local workers is statistically insignificant.

7 A Wald test of the OLS results confirms this difference. However, probit results cannot confirm that this difference is statistically different from zero.

8 Biggs (2011a and 2011b).

9 See Munnell et al. (2011) for a complete discussion of the compensation comparison.

10 DeSantis and Durst (1997).

11 Borjas (2002).

12 See Biggs and Richwine (2011) for the value of public sector job security.

13 Biggs (2011a).

14 See Ramoni and Bellante (2004) for a discussion of the challenges in valuing job security.

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APPENDIX

Appendix

The first regression equation for each time period includes all workers reporting unemployment, including those who are unemployed as a result of the loss of a temporary or seasonal job. The second specification counts as unemployed only those who are unemployed due to job loss. The sector for unemployment is designated as the sector that the unemployed individual worked in at his last job.

Table A1. Regression Results for Private Sector Workers and All State/Local Workers

	1990-2007		2008-2012	
	Unemployed	Job loser	Unemployed	Job loser
Federal worker	-0.0094 ***	-0.0087 ***	-0.0106 ***	-0.0166 ***
	(0.0014)	(0.0011)	(0.0027)	(0.0022)
State or local worker	-0.0200 ***	-0.0142 ***	-0.0252 ***	-0.0197 ***
	(0.0007)	(0.0005)	(0.0013)	(0.0010)
Female	-0.0147 ***	-0.0104 ***	-0.0178 ***	-0.0144 ***
	(0.0007)	(0.0005)	(0.0014)	(0.0011)
Black	0.0326 ***	0.0132 ***	0.0350 ***	0.0179 ***
	(0.0010)	(0.0007)	(0.0019)	(0.0016)
Hispanic	-0.0084 ***	-0.0037 ***	-0.0086 ***	-0.0063 ***
	(0.0010)	(0.0007)	(0.0017)	(0.0014)
Immigrant	-0.0098 ***	-0.0064 ***	-0.0124 ***	-0.0090 ***
	(0.0008)	(0.0006)	(0.0013)	(0.0010)
Married	-0.0288 ***	-0.0149 ***	-0.0331 ***	-0.0204 ***
	(0.0006)	(0.0005)	(0.0012)	(0.0010)
Married woman	0.0186 ***	0.0086 ***	0.0192 ***	0.0117 ***
	(0.0008)	(0.0006)	(0.0017)	(0.0013)
Hispanic woman	0.0203 ***	0.0114 ***	0.0210 ***	0.0117 ***
	(0.0013)	(0.0010)	(0.0023)	(0.0019)
Black woman	-0.0011	-0.0021 **	-0.0095 ***	-0.0087 ***
	(0.0013)	(0.0010)	(0.0026)	(0.0021)
Experience	-0.0104 ***	-0.0004 **	-0.0098 ***	-0.0005
	(0.0003)	(0.0002)	(0.0006)	(0.0004)
Experience squared	0.0001 ***	0.0000	0.0001 ***	-0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	-0.0123 ***	-0.0025 ***	-0.0131 ***	-0.0037 ***
	(0.0002)	(0.0002)	(0.0005)	(0.0004)
Experience * education	0.0007 ***	0.0001 ***	0.0006 ***	0.0001 ***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Experience squared * education	-0.0000 ***	-0.0000 ***	-0.0000 ***	-0.0000 *
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Constant	0.2327 ***	0.0550 ***	0.2544 ***	0.0721 ***
	(0.0039)	(0.0029)	(0.0076)	(0.0061)

Table A1. Continued

	1990-2007		2008-2012	
	Unemployed	Job loser	Unemployed	Job loser
Firm size controls	Yes	Yes	Yes	Yes
Occupation group controls	Yes	Yes	Yes	Yes
Year controls	Yes	Yes	Yes	Yes
State control	Yes	Yes	Yes	Yes
Metro area controls	Yes	Yes	Yes	Yes
Observations	1,041,566	1,041,566	336,290	336,290
R-squared	0.0338	0.0216	0.0400	0.0278

Note: Standard errors are in parentheses. Coefficients are significant at the 10-percent (*), 5-percent (**), or 1-percent (***) level.
Sources: U.S. Department of Labor, *Current Population Survey* (1990-2012); and Biggs and Richwine (2011).

Table A2. Regression Results for Private Sector Workers and Type of State/Local Worker

	1990-2007		2008-2012	
	Unemployed	Job loser	Unemployed	Job loser
Federal worker	-0.0092 ***	-0.0086 ***	-0.0103 ***	-0.0163 ***
	(0.0014)	(0.0011)	(0.0027)	(0.0022)
State non-teacher	-0.0177 ***	-0.0126 ***	-0.0221 ***	-0.0177 ***
	(0.0012)	(0.0009)	(0.0023)	(0.0019)
Local non-teacher	-0.0258 ***	-0.0183 ***	-0.0324 ***	-0.0252 ***
	(0.0009)	(0.0007)	(0.0018)	(0.0015)
State or local teacher	-0.0108 ***	-0.0075 ***	-0.0163 ***	-0.0125 ***
	(0.0012)	(0.0009)	(0.0023)	(0.0018)
Female	-0.0150 ***	-0.0105 ***	-0.018 ***	-0.0146 ***
	(0.0007)	(0.0005)	(0.0014)	(0.0011)
Black	0.0326 ***	0.0132 ***	0.0350 ***	0.0179 ***
	(0.0010)	(0.0007)	(0.0019)	(0.0016)
Hispanic	-0.0087 ***	-0.0039 ***	-0.0089 ***	-0.0065 ***
	(0.0010)	(0.0007)	(0.0017)	(0.0014)
Immigrant	-0.0098 ***	-0.0064 ***	-0.0125 ***	-0.0091 ***
	(0.0008)	(0.0006)	(0.0013)	(0.0010)
Married	-0.0286 ***	-0.0148 ***	-0.0330 ***	-0.0202 ***
	(0.0006)	(0.0005)	(0.0012)	(0.0010)
Married woman	0.0184 ***	0.0085 ***	0.0190 ***	0.0116 ***
	(0.0008)	(0.0006)	(0.0017)	(0.0013)

Table A2. Continued

	1990-2007		2008-2012	
	Unemployed	Job loser	Unemployed	Job loser
Hispanic woman	0.0206 ***	0.0116 ***	0.0212 ***	0.0119 ***
	(0.0013)	(0.0010)	(0.0023)	(0.0019)
Black woman	-0.0010	-0.0021 **	-0.0093 ***	-0.0086 ***
	(0.0013)	(0.0010)	(0.0026)	(0.0021)
Experience	-0.0103 ***	-0.0004 *	-0.0097 ***	-0.0004
	(0.0003)	(0.0002)	(0.0006)	(0.0004)
Experience squared	0.0001 ***	0.0000	0.0001 ***	-0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Education	-0.0123 ***	-0.0024 ***	-0.0131 ***	-0.0037 ***
	(0.0002)	(0.0002)	(0.0005)	(0.0004)
Experience * education	0.0007 ***	0.0001 ***	0.0006 ***	0.0001 ***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Experience squared * education	-0.0000 ***	-0.0000 ***	-0.0000 ***	-0.0000 *
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Constant	0.2327 ***	0.0549 ***	0.2545 ***	0.0721 ***
	(0.0039)	(0.0029)	(0.0076)	(0.0061)
Firm size controls	Yes	Yes	Yes	Yes
Occupation group controls	Yes	Yes	Yes	Yes
Year controls	Yes	Yes	Yes	Yes
State control	Yes	Yes	Yes	Yes
Metro area controls	Yes	Yes	Yes	Yes
Observations	1,041,566	1,041,566	336,290	336,290
R-squared	0.0339	0.0217	0.0401	0.0279

Note: Standard errors are in parentheses. Coefficients are significant at the 10-percent (*), 5-percent (**), or 1-percent (***) level.
Sources: U.S. Department of Labor, *Current Population Survey* (1990-2012); and Biggs and Richwine (2011).

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