

## Comments on “Comparing Compensation: State-Local Versus Private Sector Workers,” Center for State and Local Government Excellence

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I and my co-author, Jason Richwine of the Heritage Foundation, entered the discussion on public sector compensation largely in response to a paper published by the Center for State and Local Government Excellence (CSLGE) in April 2010 titled “Out of Balance? Comparing Public and Private Sector Compensation Over 20 Years.” This paper, authored by Keith Bender and John Heywood, concluded that, on average, state and local government employees received total wages and benefits around 7 percent lower than private sector workers with similar education, experience and other attributes. Jason and I argued that this was likely an underestimate, as the study understated the value of public sector defined benefit pensions, omitted the value of retiree health coverage that is predominant in the public sector, and excluded the value of public employees’ greater job security. Our critique was extended to a series of additional papers published by the Economic Policy Institute and authored by Rutgers University Professor Jeffrey Keefe.

This month, the CSLGE released a new study authored by Alicia H. Munnell, Jean-Pierre Aubry, Josh Hurwitz, and Laura Quinby of the Center for Retirement Research at Boston College, a group that is well-known for its expertise on pension and retirement issues. That study, titled “Comparing Compensation: State-Local Versus Private Sector Workers,”<sup>1</sup> references our work explicitly and confirmed two of our basic critiques:

- First, pay comparisons should focus on the pension benefits employees will receive rather than how much employers currently contribute toward those pensions. Employer contributions can differ significantly from the public to the private sector, even assuming the same level of retirement benefits; without adjusting for these funding differences, mistaken conclusions will be drawn. These adjustments will tend to increase the value of measured pension compensation to public sector employees.
- Second, pay comparisons should include the value of retiree health coverage, which is not included in the standard benefits data published by the Bureau of Labor Statistics. Inclusion of retiree health coverage, which is both more common and more generous in the public sector, also will tend to increase the measured level of public employee compensation.

We are happy that these points may have been resolved and we suspect that our approach will become the standard in future public sector pay studies.

However, the new paper by Munnell, et al concludes that, overall, state and local government employees receive a total compensation penalty of around 4 percent, barely higher than the 7 percent

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<sup>1</sup> Available at [http://www.slge.org/index.asp?Type=B\\_BASIC&SEC={6B5D32FD-C99D-41F7-9691-4F1B1D11452B}&DE={43B3A1F9-3BCB-4EDB-A334-7F4B183BF3B2}](http://www.slge.org/index.asp?Type=B_BASIC&SEC={6B5D32FD-C99D-41F7-9691-4F1B1D11452B}&DE={43B3A1F9-3BCB-4EDB-A334-7F4B183BF3B2})

penalty found by Bender and Heywood. We would have expected a significantly larger difference between the two studies. In part, this small difference is due to several countervailing arguments made by Munnell, et al.; in part it also is because the authors, while accepting our basic arguments regarding pensions and retiree health care, do not extend them as fully as we believe is appropriate. In addition, Munnell et al. reject our view that public employees enjoy greater job security than similar private sector workers, and thus make no attempt to assign a value to it.

While we are gratified that our basic analytic points have been validated by respected researchers, the difference in the bottom line figures between Munnell et al. and some of our own work deserves greater explanation and clarification. We here give a detailed response because of the credibility of the authors and the quality of their work. Because this memo was constructed quickly, we are open to comments and critiques and will revise or correct it as needed.

## **Objects of Study: Nationwide vs. Individual States**

The Munnell et al study looks at state and local government employees as a single group, while we have analyzed pay for public employees in two states, California and Ohio.<sup>2</sup> It is very important to bear these differences in mind because, as Munnell et al. note, there is a great deal of heterogeneity between states.

Both of our studies and Munnell et al begin by comparing salaries. The core approach is to compare wages paid to public and private sector employees while controlling for the many differences between the two workforces, the most important of which are that public employees have greater average education and experience than private workers. Controlling for these population differences allows us to isolate pay differences generated from working in the public versus the private sector.

Munnell et al note that, on average, state and local government employees around the country receive a salary penalty of 9.5 percent versus similar private sector employees. We agree. However, as the authors also note, not every state is similar. The lowest paid third of states pay salaries 21 percent less than similar private sector workers receive, the middle third receive an average pay penalty of 0.5 percent and the top third receive an average pay premium of 2.0 percent. Both California and Ohio tend to have lower salary penalties than the average state.<sup>3</sup> Thus, the larger salary penalty found by Munnell et al. for state and local employees nationwide should not be interpreted as contradicting our own findings.

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<sup>2</sup> See Richwine, Jason and Andrew Biggs, "Are California Public Employees Overpaid?" Heritage Foundation *Center for Data Analysis Report* No. CDA11-01, March 17, 2011, at <http://www.heritage.org/Research/Reports/2011/03/Are-California-Public-Employees-Overpaid> and Biggs, Andrew G. and Jason Richwine, "Public vs. Private Sector Compensation in Ohio." Prepared for the Business Roundtable of Ohio. September 14, 2011, at <http://www.dispatch.com/content/downloads/2011/09/BRT-Public-Sector-Comp-Study.pdf>.

<sup>3</sup> While our salary penalty estimates differ slightly from those of the authors, we find that California public employees are in the 84<sup>th</sup> percentile of the wage penalty distribution and Ohio in the 94<sup>th</sup> percentile, indicating that both pay significantly higher relative salaries than the typical state.

Similarly, Munnell et al. reduce measured defined benefit pension benefits by 15 percent to reflect CPS data in which only 85 percent of public employees report being eligible for a pension plan. I suspect that the 85 percent figure may be a function of survey response error, as BLS [data](#) indicate that 91 percent of full-time public employees are offered a defined benefit pension.<sup>4</sup> More importantly, though, coverage by DB pensions is closer to universal in the states where public sector compensation is controversial. I am not aware, for instance, that any cities or localities in California or Ohio offer only DC pension plans. Thus, it would not have been appropriate for us to reduce measured pension compensation by 15 percent in our studies of Ohio and California public employees.

Put in simple terms, public employee compensation is a major issue in a small number of states in which government workers appear to be relatively well-paid. Public sector pay is not a major issue in Kansas, Texas or Louisiana – three states in which the salary penalty is particularly large. In states where the salary penalty is small or negative – for instance, California, Ohio, Rhode Island, and New Jersey – public sector pay is a much more active issue. Looking only at nationwide averages can obscure important differences between states.

## Defined Benefit Pension Compensation

Munnell et al agree with us that a public-private pay study should compare the benefits employees actually will receive, not merely the contributions toward benefits that employers make today. The reason is that pensions in the public and private sectors fund benefits in very different ways, so the same level of future benefits can imply very different levels of contributions today. IN particular, public pensions discount their liabilities at a high 8 percent interest rate, which allows for much lower contributions today for any given level of future retirement benefits. In the private sector, DB plans may use only around a 5.5 percent discount rate (which implies contributions around twice as high per dollar of future benefits) and DC plans can invest risklessly only at the Treasury yield, which we assume to be 4 percent (this implies contributions around three times higher per dollar of guaranteed retirement benefits).

Using an analogy we have also employed, the authors state,

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

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<sup>4</sup> In addition, the CPS question actually refers to pensions in general, which could include DC plans. BLS reports that 99 percent of full-time public employees are offered some form of pension. The CPS results may be a function of poor financial literacy, particularly by lower-paid full-time workers, who are significantly less likely to report being offered a pension.

This is a very important point and we are happy that the authors agree with us, particularly given that the Economic Policy Institute's Keefe labeled us as "desperate" and "befuddled" for using this approach.<sup>5</sup>

Since we agree on the basic methodology, why do Jason Richwine and I find much higher implicit pension compensation than do the authors of the CSLGE study? There are several differences in specific aspects of our calculations.

### Discount Rate

Researchers must choose a discount rate at which to value the DB pension benefits promised to public sector workers. Since public sector DB benefits are effectively guaranteed, consistent with the other literature on state and local pensions we use a 4 percent discount rate to represent the yield on U.S. Treasury securities with durations similar to those of public pension benefits.<sup>6</sup>

A 4 percent discount rate may actually be conservative. At present, Treasury yields are well below this level: over a duration of 15 years, the [current yield](#) is approximately 2.5 percent. Moreover, as Rauh and Novy-Marx note, [point out](#), public sector pension plans effectively promise a guaranteed *inflation-adjusted* return, so a downward adjustment for inflation risk may also be appropriate.

However, as Munnell et al. note, the low Treasury yield also reflects a liquidity premium, as Treasuries can be traded any time the holder wishes. Public pension benefits cannot and need not be traded, so a somewhat higher discount rate may be appropriate. Rauh and Novy-Marx assume these adjustments are roughly off-setting and continue to assume a 4 percent discount rate, as do we.

Munnell et al. increase the discount rate 1 percentage point to account for liquidity risk, but make no adjustment for inflation risk. Thus, they begin with a 5 percent baseline discount rate. In our calculations for Ohio public employees, this 1 percentage point increase in the discount rate by itself would reduce total measured compensation by around 7.5 percent.

In addition, the authors cite a paper by Christian Gollier, stating that "recent academic literature suggests that a defined contribution account can earn a certainty equivalency return of 1.23 percentage points more than the risk-free interest rate by allowing for investment in equities." As a result, the authors add an additional 1.23 percentage points to discount rate, for a total of 6.23 percent. This change would reduce total compensation for Ohio public employees by 13.6 percent. So determining the proper discount rate is an extremely important issue.

In effect, [the Gollier paper](#) cited by Munnell et al extends a finding from a 1969 paper by Paul Sameulson, which concluded that – even if higher stock returns exist as compensation for higher risk –

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<sup>5</sup> Jeffrey H. Keefe, "Desperate Techniques Used to Preserve the Myth of the Overcompensated Public Employee," Economic Policy Institute *Issue Brief* No. 294, March 10, 2011, at [http://epi.3cdn.net/1e05db309d0aa64571\\_rxm6bnqw8.pdf](http://epi.3cdn.net/1e05db309d0aa64571_rxm6bnqw8.pdf)

<sup>6</sup> For instance, see Brown, Jeffrey R. and Wilcox, David W., "Discounting State and Local Pension Liabilities," *American Economic Review*, vol. 99, May 2009. Novy-Marx, Robert and Rauh, Joshua D., Public Pension Promises: How Big are They and What are They Worth? (October 8, 2010). *Journal of Finance*, forthcoming. Available at SSRN: <http://ssrn.com/abstract=1352608>.

under certain conditions an individual would be better off holding part of his investment portfolio in stocks. Gollier calibrates this basic result using assumptions on individuals' risk aversion, the size of the equity premium and the risk of equities, to determine the size of the welfare improvement. He finds that this gain is equal to a 1.23 percentage point increase in the riskless rate of return an investor might receive.

While in itself this isn't particularly controversial – after all, many studies show an advantage to holding stocks and most individuals do hold them – what would be controversial is assuming that this finding justifies revaluing all assets and liabilities using a higher discount rate. After all, there is no reason to apply this result only to public sector DB pension benefits. Moreover, to the degree that this finding may be generally applicable, it may already be priced into asset values. In short, while the Gollier paper may be cited by advocates for public pensions and the higher discount rates they use in valuing their liabilities, I would be surprised if it were adopted in the academic literature on pension valuation or, by extension, public employee compensation.

These questions need more time to be fully hashed out. But I will say that a), the effects of using a 6.23 percent discount rate versus a 4 percent rate are large in terms of the effects on measured pension compensation; and b), our approach is much more in line with the existing pension literature than that of Munnell et al. We are confident our choice of a 4 percent discount rate is at least as strong as the higher rate used by the authors. Indeed, doing nothing other than discounting pension benefits at the 4 percent yield used in the academic literature would shift Munnell et al's overall public employee compensation penalty of around 4 percent into a premium of 5 to 10 percent. In short, the broad conclusion of the paper – that public employees are fairly compensated or slightly underpaid – hinges on the use of a discount rate well above that used in similar academic work.

A more plausible argument for a higher discount rate, to my mind, would be that Treasury rates have been above 4 percent in the past and may well be above 4 percent in the future. A study looking at relative compensation over time might then use a higher rate than currently prevails. Nevertheless, a study looking at public sector compensation *today* must acknowledge the fact that public employees effectively receive a guaranteed 8 percent return on both their pension contributions and employer contributions made on their behalf while the best guaranteed return a private sector worker with a 401(k) plan can receive is around 2.5 percent on Treasury securities. The disparity in compensation implied by these different effective returns is large.

### **Estimation**

Even assuming we used the same discount rate as Munnell et al, there remain differences in the values of pension benefits calculated. One problem in making such calculations is that pension plans (to their discredit) generally do not release projections of their annual benefit payments in future years; they publish only a single present value of all future benefit payments, usually discounted at an 8 percent interest rate that is wrong for these purposes. All of us have to find some workaround. Munnell et al, along with others such as Rauh and Novy-Marx, have attempted to estimate future benefit payouts based on the present values reported by plans, then re-discount these payouts using a difference

interest rate. We have tried something similar, but found that – in the instances in which we had actual data from pension plans work from – our methods tended to produce underestimates.

For that reason, we've generalized from a detailed [analysis](#) of nine different plans under the umbrella of the Florida Retirement System, conducted by the plan's actuaries using plan data.<sup>7</sup> This analysis shows how the normal cost for the program – that is, the value of benefits accruing in a given year – increases as the discount rate is lowered. While the FRS plans differ in terms of the generosity of their benefits and the populations they serve, the proportionate rise in the normal cost as the discount rate falls is quite consistent across plans.<sup>8</sup> [Figures published](#) by the Washington State Actuary appear to show an even larger increase in normal costs as the discount rate rises (see p.11 of the Risk Assessment).

This leads us to believe that the FRS analysis may serve as a good proxy for plans around the country. Lowering the assumed discount rate from 8 percent to 6.25 percent would increase the normal cost of the FRS Regular plan from 8.1 percent to around 15.8 percent, a 93 percent increase. (As we said, the discount rate has a *huge* effect.) The authors don't specify the adjustment factor they use, but I suspect our adjustment is larger than theirs. Were we to use a 4 percent discount rate – which, again, is the dominant rate used in the literature – the FRS normal cost would rise from 8.1 percent to around 29.2 percent of wages. The latter figure represents the amount a typical worker with a 401(k) plan would need to invest in Treasury securities to generate the same guaranteed retirement income as an average Florida public employee would receive. Thus, it also is possible that methodological factors understate the true level of public sector compensation in the Munnell et al study.

This all could be clarified if state and local pensions published normal costs and other figures under a variety of discount rates; they are, after all, investing in risky assets so the actual interest rate they will receive is uncertain. But this is only to say that we find a larger cost difference based on several analyses of plan data.

## Retiree Health Care

The authors accept that entitlement to future retiree health coverage should be included as part of current compensation, and agree that this value should be derived from the “normal cost” of the plan – that is, the cost of benefits accruing in the current year, represented as a percentage of wages in the current year. The authors estimate the average normal cost of retiree health coverage as 7.6 percent of wages. They also agree with us that this cost to the government should be grossed up by around 25 percent to account for the fact that retired public sector employees otherwise would have to pay higher prices to purchase coverage in the individual market, for a total value of 9.5 percent of wages. So far we're on the same page.

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<sup>7</sup> Robert S. DuZebe. “Study Reflecting Impact to the FRS of Changing the Investment Return Assumption to one of the following: 7.5% percent, 7.0% percent, 6.0% percent, 5.0% percent, 4.0% percent and 3.0% percent. Milliman. March 11, 2011.

<sup>8</sup> Across nine plans, which cover regular employees, public safety officers, judges, elected officials and others, shifting from the baseline FRS discount rate of 7.75 percent to a 4 percent discount rate would increase the normal cost by an average factor of 2.65, with a minimum increase of 2.44 times and a maximum increase of 2.92 times.

## Risk-Adjustment

While the authors begin with a reasonable approximation of the value of retiree health coverage, they reduce this value by half to account for the risk that reforms will lower the generosity of retiree health care. I believe this reduction is over-large even granting that risk, although honest analysts can differ, and more importantly believe that it obscures the basic point of a pay study, which is to determine whether government employers are promising excessive compensation to employees.

Retiree health coverage is generally not guaranteed in the same way as pension benefits. To account for the chance that this coverage could be reduced, Munnell et al reduce the value of retiree health coverage by half, to about 4.9 percent of pay. This reduction implies a belief that, on average, public employees would be willing to give up their right to accrue all future retiree health coverage in exchange for a salary increase equal to half the size of those future benefits. Would they actually take this deal? Evaluating the risk and value of retiree health coverage is far more difficult than, for instance, looking at the values of stocks and bonds, so reasonable people can disagree. But my gut tells me that most public employees wouldn't accept the deal and thus that the authors' risk-adjusted value is too low.

Perhaps more importantly, this type of adjustment can be misleading: in a study designed to help policymakers decide *whether* to reduce public sector compensation, Munnell et al. effectively assume that retiree health coverage *already* has been reduced by half. Unless well understood, this will lead to incorrect policy conclusions.

## Eligibility

The authors' treatment of private sector retiree health eligibility also raises questions, though the data on such coverage is admittedly spotty and, in our own work, we did not include the value of private retiree health insurance.

The authors assume that 65 percent of public employees are eligible for retiree health coverage, which presumably would reduce their already risk-adjusted figure of 4.9 percent of salaries down to 3.2 percent. The authors base this 65 percent eligibility assumption on data indicating that a similar percentage of public employees are eligible for health insurance while working.

However, this figure is likely driven down by the presence of part-time employees; [according to](#) the Medical Expenditures Panel Survey, among full-time public employees, 80 percent are enrolled in health insurance. According to the [BLS's](#) National Compensation Survey, 98 percent of full-time state and local employees are offered health coverage and 82 percent participate. Moreover, extrapolating from these figures is risky, since a working age public employee is more likely to participate in a spouse's health plan than would a retired public employee, given the rarity of retiree health coverage in the private sector.

A Pew [study](#) notes that 82 percent of public employees in units of 200 or more workers are eligible for retiree health coverage. Looking only at full-time employees, again, the figure is likely to be higher.

In any event, normal costs for retiree health coverage calculated by plan actuaries are based on *all* employee payroll, including that of employees who may not eventually qualify for benefits or who

choose not to participate in the program.<sup>9</sup> So measured costs should not be reduced based upon those factors. As far as I can see, the only reduction likely should be for the percentage of full-time public employees who are not offered retiree health coverage. I would be surprised if that number were the 35 percent assumed by the authors.

While there is a great deal of uncertainty, if we relied on Clark and Morill's note that retiree health insurance plans "cover virtually all full-time public sector employees"<sup>10</sup> and used the authors' 9.5 percent baseline value without risk adjustment, total public employee compensation would rise by roughly 2 percentage points. This by itself would cut the authors' measured public sector compensation penalty in half. While a value of 9.5 percent of wages is not a perfect figure, for the reasons outlined above it seems at least as reasonable as the lower figure used by the authors.

Munnell et al also may overestimate retiree health coverage in the private sector. Based on data from the Medical Expenditure Panel Survey the authors assume that 18 percent of the relevant private sector workforce is eligible for retiree health coverage. But simply because a private company reports offering retiree health care does not mean all its full-time employees may participate. For instance, [a Kaiser Family Foundation survey](#) reports that 29 percent of companies that report offering retiree health coverage to active employees don't offer it to newly-hired workers. Other employers have frozen accumulations of benefits even for current employees. Data is admittedly sparse, but there are reasons to believe that the authors' 18 percent figure is a maximum.

### Generosity of Benefits

Munnell et al. assume that, contingent on a private sector worker being eligible for retiree health care, the generosity of coverage matches that of the public sector. I am skeptical. A Pew study [noted](#):

Of [large private firms] that do offer benefits, they tend to be considerably less generous than those offered by state governments. The Citizen's Budget Commission in New York [took a look](#) at employers that offer retiree health coverage and found that 10 percent pay the full premium compared with 32 percent in the states.

Among these states are those, such as California, Rhode Island, Illinois, and Ohio, where public employee compensation has become a controversial issue. And, because these tend to be the larger states, by my count (based upon data [gathered](#) by Clark and Morrill) around 40 percent of state and local employees pay no retiree health premium. In the private sector as of 2006, around 17 percent of large employers who offered retiree health coverage paid the full cost, according to Kaiser, although the percentage of employees is less clear.

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<sup>9</sup> A similar point applies to DB pensions: the 8 percent effective return paid by DB pensions is inclusive of individuals who fail to vest or those who die prior to retirement without leaving a survivor; effective returns to employees who survive to retirement age and have a normal life expectancy thereafter could be significantly above 8 percent.

<sup>10</sup> Clark, Robert and Melinda S. Morrill. "The Funding Status of Retiree Health Plans in the Public Sector." National Bureau of Economic Research Working Paper 16450. October 2010

When Jason Richwine and I [surveyed](#) the normal costs (in dollar terms) for a random selection of private sector companies that offer retiree health coverage, we found them to be very low compared to that of California (which, admittedly, offers generous coverage). For instance, the annual cost of accruing benefits in California was almost \$7,500 per employee, while for IBM it was only around \$500. While we analyzed only four private firms, even the most generous – General Electric – had per employee accruals less than half that of California. Part of this, as noted above, is that not all active employees are eligible to earn benefits, which lowers the per employee accumulation. But it's also likely that part is due to lower generosity of benefits.

Munnell et al assume that 18 percent of the comparison group of private employees receives retiree health coverage and that this coverage matches the generosity of the public sector. I suspect that true coverage is lower and benefits less generous. None of this tells you precisely what the value of private sector retiree health coverage should be, but these factors point toward a lower number than was used in the CSLGE study.

## Job Security

We know that public sector employees care about job security – try reducing it and see what happens – and we know that job security is valuable. Assigning a value to it based on the data is very difficult, as we discuss in our [paper](#) on federal employee pay. These data problems make critiques such as those from Keefe, in which attempts to show that industries with lower rates of involuntary separation do not pay lower pays, essentially moot.

### How Secure are Public Sector jobs?

Munnell et al state, correctly, that job security in the public sector *should* be higher because public employees have higher education levels and better-educated workers generally are fired or laid off less. From this, and an analysis of changes in overall employment over the past year or so, the authors conclude that “it is not clear that public sector workers have any greater job security than their private sector counterparts after accounting for their education level.” Readers can perform their own gut check on this conclusion.

Moreover, other data point to different viewpoints. We analyzed a longer time period and used the unemployment rate as our principle variable. Over the last ten years the unemployment rate for state/local government employees nationwide averaged 2.1 percent. For private sector workers with similar education and experience average unemployment was 5.5 percent, more than twice as high. Now, it may be that private sector workers are more likely to become voluntarily unemployed than public employees, but much of this large difference in unemployment rates is presumably due to greater public sector job security.

### The Value of Job Security

Our formal model for valuing job security is based upon the same sort of risk-adjustment that Munnell et al use in adjusting retiree health benefits. If retiree health should be valued down based on its uncertainty, public sector employment presumably should be valued up based on its certainty. In general, we find that public sector job security by itself is worth around an extra 2 percent of pay. Again,

do the gut check: would you accept 2 percent lower pay in exchange for the job security of a public sector employee? I would guess that most people would. The value of job security is higher if it protects a job in which the person receives a pay premium. That is, the value of job security is dependent on the relative wages and benefits paid to public employees.

In addition, anecdotal evidence also points to a job security bonus in the public sector. Munnell et al cite a [blog item](#) I wrote noting that premiums for private unemployment insurance are less than half expensive as those for private sector workers. This difference implies a job security pay premium of around 2.4 percent of compensation, right in line with our findings. The authors imply that this is a maximum value, since the difference in unemployment insurance premiums is not controlled for education. However, I did not compare private unemployment insurance premiums for all private employees but to employees classified as “professional and business services.” This group can include, [according to](#) the BLS, “advertising and public relations services,” “computer systems design and related services,” “employment services,” “management, scientific, and technical consulting services,” and “scientific research and development services.” This class has higher hourly earnings and is likely comparable to, and perhaps better educated, than the average state and local government employee.

In addition, we also note in our federal pay paper that Congressional employees receive higher pensions in explicit compensation for not having the job security of other federal workers. These higher pensions increase total compensation by at least 3 percent, which is higher than our baseline result.

Finally, a recent [academic survey](#) based on German respondents found that

In general, 57% of these respondents prefer to work in the public sector with high employment security and lower wages. In fact, they are willing to give up annual earnings to be employed in the public sector of on average 4,713 euros or approximately 10%, ranging from 1,000 euros (2%) to 13,800 euros (31%).

We cannot say for sure how much job security is worth. But we can say it is worth something more than zero and we believe that our estimates are reasonable or even conservative.