



REVIEW OF *ASSESSING THE COMPENSATION OF PUBLIC-SCHOOL TEACHERS*

Reviewed By

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Summary of Review

This report compares the pay, pension costs and retiree health benefits of teachers with those of similarly qualified private-sector workers. The study concludes that teachers receive total compensation 52% greater than fair market levels, which translates into a \$120 billion annual “overcharge” to taxpayers. Built on a series of faulty analyses, this study misrepresents total teacher compensation in fundamental ways. First, teachers’ 12% lower pay is dismissed as being appropriate for their lesser intelligence, although there is no foundation for such a claim. Total benefits are calculated as having a monetary value of 100.8% of pay, while the Department of Labor disagrees, giving a figure of 32.8%—a figure almost identical to that of people employed in the private sector. Pension costs are valued at 32%, but the real number is closer to 8.4%. The shorter work year is said to represent 28.8% additional compensation but the real work year is only 12% shorter. Teachers’ job stability is said to be worth 8.6%, although the case for such a claim is not sustained. In sum, this report is based on an aggregation of such spurious claims. The actual salary and benefits for teachers show they are in fact undercompensated by 19%.

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REVIEW OF *ASSESSING THE COMPENSATION OF PUBLIC-SCHOOL TEACHERS*

Jeffrey H. Keefe, Rutgers University

I. Introduction

Teacher pay, benefits and compensation have moved to the forefront of national educational reform agendas. Greater efficiency at less cost has become the rallying cry. The Heritage Foundation and American Enterprise Institute have joined this movement with their report *Assessing the Compensation of Public-School Teachers*.¹ The study, authored by Jason Richwine and Andrew Biggs, compares the wages (as well as benefits including pensions and retiree health benefits) of teachers with those of similarly educated and experienced private-sector workers. Accepting the often-heard claim that teachers “don’t work in the summer,” the study calculates a cost of teachers’ shorter work-years and places a monetary value on what its authors see as greater teacher job security. The report concludes that teachers receive total compensation at a level that is 52% greater than fair-market levels, which translates into an annual overcharge of more than \$120 billion to taxpayers.

II. Findings and Conclusions of the Report

The report begins by using a standard human capital wage analysis to compare teacher salaries to those of similarly educated and experienced private-sector workers. The study uses pooled cross-sections of the *Current Population Survey, March Supplement*, for 10 years from 2001 through 2010. These data indicate that public-school teachers earn 19.3% less than comparably educated and experienced workers. The report then cites some studies that question the rigor of college-level teacher-education programs. This supposed lack of rigor may, according to the report, permit individuals to earn baccalaureate and advanced degrees in education with lesser cognitive ability than would be possible in other fields of study.

Using the National Longitudinal Survey of Youth (NLSY), the report states that

Teacher scores on the AFQT [Armed Forces Qualification Test] lag behind other full-time workers with the same education levels by about 0.25 standard deviations. These data indicate that, on average, teachers do not have the same cognitive skills as other college graduates (p. 8).

AFQT² scores are used as a general measure of trainability and are a primary criterion used by the Armed Forces to determine enlistment eligibility. The new report, however, treats the AFQT scores as a measure of IQ.

The report presents three teacher wage regression models using the NLSY data. The first shows a teacher salary penalty of 12.6% (meaning that teachers are paid 12.6% less than non-teachers with the same education level). The second regression adds the AFQT score, still including education level in the model; the teacher penalty falls to 10.7%. The

The report often fails to consider research that contradicts its findings.

third model replaces education level with the AFQT score. In this model the teacher salary penalty becomes statistically insignificant. The study contends that eliminating education as a control variable and letting AFQT be the lone predictor provides the most accurate wage estimates, and concludes that the “wage gap between teachers and non-teachers disappears when both groups are matched on an objective measure of cognitive ability rather than on years of education.” In other words, teachers are paid in proportion to their “intelligence.”

The report also finds that public-school teachers earn higher wages than private-school teachers. However, the comparison fails to control for differences in working conditions between private and public schools. It also finds that workers who switch to teaching jobs from non-teaching jobs receive a wage increase of roughly 9%, while teachers who change careers (many because their contracts are not renewed) to non-teaching jobs see their wages decrease by 3%.

The report next addresses employee benefit costs. Standard accounting for employee benefits—for example, in the U.S. Department of Labor’s survey, *Employer Costs for Employee Compensation* (2011)—indicates that public-school teachers and private-sector workers in establishments employing more than 100 workers receive similar levels of benefit compensation. The report, however, contends that pensions for public-school teachers are significantly more generous than the average private-sector retirement plan. This generosity, however, is allegedly hidden by public-sector accounting practices that permit lower employer contributions than are permitted by private-sector plans. The report calculates that teacher pension costs add 32% to wage costs, compared to 6.2% in the private sector. Furthermore, the report claims that most teachers receive retiree health benefits, but that most calculations of the cost of teachers’ benefits obscure their true cost by excluding retiree health-care costs. The researchers estimate that these benefits add 9.9% to teacher salary costs while private-sector retiree health benefits add only 1.3%.

In addition, teachers work a shorter work year on average than do many other employees. Using the National Compensation Survey which reports only hours worked during the school day and school year, the authors calculate a “work year leave benefit” worth an additional 28.8% of teacher salaries. Finally, the report claims that job security for teachers is considerably greater than in comparable professions. The report calculates that

the value of job security adds 1% to wages, but since it protects teachers' above-market compensation, the value of job security rises to 8.6% of wages.

The study concludes that teachers earn similar wages to comparable employees but because the cost of their benefits doubles their salary, public-school teachers receive a total compensation premium of 52%.

III. The Rationale for the Findings and Conclusions

This study claims that other studies showing that teachers are under-compensated fail to take into account the relative cognitive ability of teachers in assessing market wages. This omission, the report reasons, results in mistaken estimates that teacher salaries are significantly below market value. Other cost comparisons also underestimate the true costs of pension benefits, retiree health insurance, job security, and work-year leave. The study's rationale is that when these factors and costs are adequately addressed the prevalent assessment that teachers are inadequately compensated is disproven and that, in fact, teachers are significantly over-compensated.

IV. The Report's Use of Research Literature

The report cites studies primarily conducted by think tanks. Academic peer-reviewed citations are sparse, consisting mainly of articles authored or co-authored by Michael Podgursky. The report often fails to consider research that contradicts its findings. For example, the Economic Policy Institute published three papers that report a significant teacher earnings penalty that has been rising over time.³ When the report uses the AFQT to measure workforce intelligence, it fails to engage the extensive literature that questions the role of IQ and the AFQT test scores in social-stratification research, the inability of the AFQT to measure IQ, and the unreliability of AFQT scores in predicting worker performance or earnings.⁴ For example, Cawley, *et. al.*⁵ concluded that measured cognitive ability is only weakly correlated with wages and that it explains little of the variance in wages across individuals and over time⁶. Another empirical challenge to the predictive ability of AFQT scores arises from the test's racial bias, which causes it to understate the true skills of non-whites relative to whites.⁷

The research cited in this report also fails to engage the accounting debates over public employee pensions. For example, it ignores a series of studies published by the Center for State and Local Government Excellence⁸ as well as research by Baker, Bohn, and Morrissey⁹ that challenges how public pension assets are accounted for and addresses the broad problem of pension underfunding. These studies raise serious questions about the overstatement of pension values in this report.

V. Review of the Report's Methods

There are significant problems with the technical methods employed in this study. For example, it makes a fundamental mistake in its handling of the NLSY data from 1990 to 1994.¹⁰ An ordinary linear least squares (OLS) model is used to estimate the public-school teacher wage effect (i.e., whether teachers are paid less than non-teachers). However, this

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method assumes that the standard errors are based on independent observations in each year, when in fact the NLSY samples the *same* individuals in each year. The resulting bias causes an inaccurate estimate of wage effects. This most likely means that the analysis will show the very lack of difference they found in their comparisons.

This also raises a related problem. Recall, the main finding is that there is no teacher effect when the AFQT score is used in place of level of education. To reach this conclusion, the sample needs substantial statistical power. The NLSY, with an annual sample of only the same 100 full-time public-school teachers, lacks the power to justify such a finding. This means that even if the AFQT teacher-effect estimates were correct, this research would be too weak to validly demonstrate that there is no teacher wage penalty. The sample is simply too small to sustain that conclusion.

Another major problem is that the study uses a linear variable, years of education, to measure education. The research literature says these effects are nonlinear: completed degrees contribute substantially more to earnings than an additional year would indicate. A linear variable therefore under-values high school diplomas, college degrees and advanced degrees, while over-valuing the completion of grades or years in college.¹¹

Additional methodological problems in this study will be addressed in the next section along with the findings.

VI. Review of the Validity of the Findings and Conclusions

As the discussion of methodology indicates, the only reliable estimate of teacher wages this research identifies is a 19% overall penalty for teachers. The other estimates set forth in the report are plagued by numerous statistical and measurement problems.

The erroneous application of a cognitive ability model

A cognitive ability model that does not account for education level is meaningless, because individuals are employed in jobs that depend on the skills acquired through education. This is why education level, not cognitive ability, is used to calculate human capital: it captures the level of investment in workers' skills.

The income of surgeons, for instance, is high because of their education and training. The cognitive ability of surgeons is also high, but that ability is best understood as necessary but not sufficient. A personal investment is also required. There are people with high cognitive ability who have not completed high school who are performing unskilled work, while there are people of average cognitive ability who are performing highly skilled jobs. Therefore, comparing teachers to people of the same AFQT level who have not invested in their education does not demonstrate whether a teacher wage penalty exists. Cognitive ability may enable educational investments but it is education that creates the skills that facilitate professional performance. Consequently, measured cognitive ability is correlated only weakly with wages and explains little of the variance in wages across individuals and time.¹² The only reliable comparison in this report is its starting point: there is a 19% penalty for teachers.

The incorrect comparison of employee benefit costs

The standard cost accounting source for employee benefits is the U.S. Department of Labor’s Survey, Employer Costs of Employee Compensation (ECEC).¹³ These data indicate that private-sector workers in establishments employing more than 100 workers receive slightly more benefits than do public-school teachers. When we add the costs of teacher

Table 1. Employer Costs for Employee Compensation, September 2011

Compensation Component	Public School Teachers	Private-Sector Employers with 100 or more workers
Wages	70.3%	67.7%
Insurances	11.6%	9.2%
Retirement contributions	8.4%	4.4%
Legally mandated contributions	5.1%	7.7%
Paid leave	4.4%	7.7%
Supplemental pay	0.2%	3.3%
ECEC benefits total	29.7%	32.3%
Retiree health insurance	2.0%	0.5%

Source: Calculations by the author using data from

U.S. Bureau of Labor Statistics (2011, Dec. 7). *National Compensation Survey*, Employer Costs for Employee Compensation for September 2011. Washington, DC: U.S. Department of Labor. Retrieved January 26, 2012, from <http://www.bls.gov/news.release/pdf/ecec.pdf>, along with additional sources.¹⁴

retiree health insurance, the differences largely disappear. However, the composition of benefits in the private and public sectors is very different. As reflected in Table 1, public employees, including teachers, receive more valuable pension and health insurance contributions, while private-sector workers receive more paid time off, supplemental pay, and legally mandated benefits.

As mentioned earlier, the report claims that pension programs for public-school teachers are significantly more generous than the typical private-sector retirement plan but that this generosity is hidden by public-sector accounting practices. According to the calculations made in the report, teacher pensions' accounting costs add 32% to wage costs. However, the Department of Labor disagrees and reports a figure of 8.4% for teachers in the ECEC. ECEC states that the private-sector cost is 6.2%.¹⁵

The erroneous health care funding assumptions.

In addition to pensions, many (but not all) career teachers are also eligible for retiree health benefits, but the costs of those health benefits are often excluded from the current cost of employee benefits. Most states have pay-as-you-go retiree health care financing. This means that each year a state must allocate funds from its operating revenue to pay for retiree health care, often in the form of supplemental insurance since most retirees qualify for Medicare. The U.S. General Accounting Office¹⁶ estimated that retiree health benefits cost states approximately 2% of employee salary, or 1.5% of total compensation. Yet the calculations used in the report assume the plans will be prefunded, meaning that states and local governments need to both pay current benefits and prefund future benefits. The report then applies this inflated calculation to a convenience sample and concludes that these benefits add 9.9% to teacher annual salary costs—while estimating that private-sector retiree health benefits add only 1.3% to salaries. The GAO estimate of 2% for teachers is the more reliable and realistic comparison figure. The cost of teacher health benefits is greatly exaggerated in this report.

In reality, retiree health benefits for public sector employees are not out of the ordinary. Indeed, teachers might very well have received similar benefits had they taken a different career path. Only 36.4% of state and local governments provide health insurance to retirees under the age of 65, with 25.4% providing health insurance to retirees over age 65.¹⁷ Many large private-sector firms also provide health benefits to retirees: 34.5% of private firms with more than 1,000 workers provide such benefits to those under age 65, and 31.8% of such firms provide them to those over age 65.¹⁸

The double-counting of work year differences

Teachers work a shorter average work year than do many professional employees. This is reflected in their annual pay. Using the National Compensation Survey, the report calculates what the authors call a “work year leave benefit” worth an additional 28.8% of teacher salaries. They derive this by dividing 15 weeks of leave by 52 weeks, or 28.8% of salary. This generous leave estimate is arrived at by double counting. Teacher

compensation is already computed based on the shorter teacher work year. Furthermore, the study fails to account for evening and week-end out-of-class-time preparation, grading, out-of-classroom duties, and summer and school-year professional development. Also, by using 52 weeks as the denominator, the analysis assumes that other professions do not provide for vacations.

A more systematic assessment found that the average teacher's work year is 43.9 weeks, about 14% (not 28.8%) shorter than that of other college graduates¹⁹ Allegretto, Corcoran, and Mishel, who used wage equations that control for *all* teacher hours worked, including time spent grading and preparing for classes, report that the teacher wage penalty in 2010 was 12.1%.²⁰

The job stability “bonus”

The report asserts that teachers receive a compensation premium arising from job security which is equivalent to 8.6% of compensation. It is important to make a distinction between *job security*, which involves a legal guarantee of a job, and *job stability* that arises from the normal workings of labor-market demand. Local education public employees have had job stability, but they do not have job security. Teacher tenure, which is available in some states and districts, is generally awarded after several years of “at will” employment. A teacher with tenure remains employed unless the district has “just cause” for dismissal or unless there are layoffs. In the latter case, the district may apply seniority rules, need-based criteria, or some other set of rules. Tenure does not provide a job guarantee.

More than 218,000 education public employee jobs have been lost²¹ in the last three years, suggesting that such employees do not enjoy broad job security. Another indicator of the teacher job market (although not a direct measure of job stability or security) is the teacher unemployment level, which in 2010 was 4.2%, slightly below the average professional unemployment rate of 4.5%, but much higher than the unemployment rate of 2.7% for legal occupations and 2.5% for health care practitioners.²²

Thus, there is no solid ground to justify a financial value of 8.6%.

VII. Usefulness of the Report for Guidance of Policy and Practice

The Department of Labor's ECEC data show that the value of benefits for public-school teachers is 29.7% of their compensation, which is slightly less than the 32.3% figure for private-sector workers in establishments with 100 or more employees. The ECEC omits the costs of retiree health benefits, which adds 2% of salary to teacher compensation costs—making the two sectors almost identical. This report, however, concludes that a more complete accounting puts the true value of benefits not at 29.7% or 31.7%, but at 100.8% of salary. It's a startling claim—a claim that cannot be reasonably supported.

Adding together teacher wages at market level and benefits so generous that they allegedly represent more than the salary itself, this report concludes that teachers receive total

compensation 52% greater than market levels, which translates into more than a \$120 billion “overcharge” to taxpayers each year. Built on a series of faulty analyses, this study misrepresents total teacher compensation. Nonetheless, this problematic study will be used for headline-grabbing claims of dramatic overpayment of teachers. This is particularly troubling in the current political climate of budget cuts for education, weakening or elimination of teacher tenure, reduction of pension benefits, implementation of unproven merit pay policies, and the privatization of public education through charter schools and vouchers. Any discussion of teacher compensation should be based on high-quality evidence; this report does not advance that discussion.

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that are owed to private-sector pensioners. In contrast, no state has entered bankruptcy or defaulted on state general obligation bonds or pension payments since the Civil War. This reliability of payment has allowed states to apply the standard actuarial analyses based on generally accepted state and local accounting rules to calculate liabilities using the historical return on plans' return on assets over 30 years invested in a balanced portfolio (a discount rate of 8% rather than 4%). Using these actuarial methods, public pension plans are, nonetheless, underfunded at present, but their underfunding is primarily attributable to the recent poor performance of financial markets, not to some fundamental structural problem or accounting chicanery. Traditional actuarial methods in accounting for pension obligations have served both the states and the participating employees well over the last century, and there is no evidence that they have led to a substantial unrecognized liability, as this study claims. The average current general obligation, 10-year state GO bond yield is only 1.89%, indicating that the bond market believes states are managing their liabilities, including pension liabilities, which are reported on their financial statements.

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