



## REVIEW OF TWO REPORTS ON TEACHER PENSIONS

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*Reviewed By*

Teresa Ghilarducci

The New School of Social Research

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### Summary of Review

Two recent studies from the Center for American Progress raise a variety of issues about teacher pension plans. The debate centers around changing from the traditional defined-benefit plans to cash balance plans, where the teacher and the school contribute to a fund as a constant, defined, percentage of pay every pay period.

Both reports rely on bodies of evidence concerning: (1) how a typical teacher's productivity (measured by a teacher's impact on test scores) changes over her or his career, and (2) how teachers' decisions to enter, stay, or retire from teaching depend on annual changes in the value of their pension plan. Unfortunately, there is limited evidence on these two questions, and conclusions about these matters are cloudy. Shifting to a new pension design to save money—as California is contemplating—may have exactly the opposite effect; bolstering current plans may prove the more economical and practical approach.

While this review raises some concerns, these two new reports perform a service—particularly when read together—in raising issues in this developing area of policy inquiry. Moreover, both reports appropriately acknowledge the limited nature of our knowledge in this area and the small number of quality research reports that are available.

**Kevin Welner**

*Editor*

**William Mathis**

*Managing Director*

**Erik Gunn**

*Managing Editor*

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**National Education Policy Center**

School of Education, University of Colorado  
Boulder, CO 80309-0249  
Telephone: 303-735-5290  
Fax: 303-492-7090

Email: [NEPC@colorado.edu](mailto:NEPC@colorado.edu)  
<http://nepc.colorado.edu>

Publishing Director: Alex Molnar

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# REVIEW OF *REDEFINING TEACHER PENSIONS* AND *BUYER BEWARE*

*Teresa Ghilarducci, The New School of Social Research*

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## I. Introduction

Contributing to the recent debate about how to reform and finance public school teachers' pension plans are two new studies from the think tank Center for American Progress. One study, *Redefining Teacher Pensions: Strategically Defined Benefits for New Teachers and Fiscal Sustainability for All*,<sup>1</sup> is authored by Raegen T. Miller. The second, *Buyer Beware: The Risks to Teacher Effectiveness from Changing Retirement Benefits*,<sup>2</sup> is authored by Christian Weller. The reports address the costs and benefits of switching from the commonly used traditional defined-benefit (DB) pension plans to cash balance (CB) plans. The main difference between the two types of plans from the teacher's point of view is that the pension benefit in traditional plans is determined by a teacher's final salary. In contrast, CB plans accrue pensions faster because they base the final benefit on a career average; they are more "front-loaded" than the traditional "back-loaded" defined-benefit plan. From the point of view of the employer, the actuarial required annual contribution to the traditional plan varies from year to year depending on returns to the fund and changes in liabilities. In contrast, the annual required contribution to the cash balance plan remains the same.

Most (89%)<sup>3</sup> public school teachers participate in defined-benefit plans in which teachers earn monthly retirement benefits for life based on a benefit multiplier, years of service, and typically, the average of the last three to five years of salary. In a DB benefit structure, the value of the pension benefit slowly increases and spikes up when the employee vests in the pension benefits, and it then increases for every year of service, since the final benefit is based on years of service and pay increases. These traditional DB plans can be thought of as back-loaded because teachers earn more retirement benefits relative to their salary later in their careers, creating incentives for teachers to stay on the job and in the plan, which typically encompasses most public schools in a state.

In a CB plan, teachers and employers contribute a share of an employee's salary into an account that earns a defined interest rate (the interest rate may vary slightly around a fixed rate). Therefore, in a CB plan, the pension value is a constant percentage of teachers' salaries, based on career-average earnings, not just the final years of pay.

A debate about which type of pension plan attracts and retains the most highly performing teachers in cost-effective ways is currently taking place as state and local governments face steep revenue declines. At the same time, the recession reduced the rate of investment return on states' pension funds, forcing states to increase their ongoing contributions when they can least afford it. Unlike many of the participants in the debate, these papers advise that current teachers' benefits should not be cut and that the CB plan should not reduce the average benefit. One report, *Redefining Teacher's Pensions*, advocates a CB plan but does not argue that a CB is cheaper. That is, it proposes an honest switch that would maintain the average benefit and costs.

In fact, it is expensive to replace a traditional pension plan with a CB plan if current benefits for teachers are maintained. This is because under the current DB structure teachers with just a few years of service received no benefits, but in a CB plan short-stayers would receive a small benefit. Thus, during the transition, current benefits would have to be paid without the transfer from short-term to longer-term service teachers. But *Redefining Teacher Pensions* argues the expense may be worthwhile, even if a CB plan encourages more turnover. Moreover, *Redefining Teacher Pensions* argues turnover is not a great obstacle because it takes only a few years for teachers to get to their peak performance. It argues as well that CB plans might create an incentive for more highly qualified applicants to enter teaching.

In contrast, *Buyer Beware* argues that the ability of cash balance plans to attract young teachers is likely weak and that if it takes teachers 10 years to get to peak performance then the turnover encouraged by CB plans will be very costly in term of lost average productivity when a district loses teachers who are still training.

Both reports conclude that if the CB effect on productivity is not strong, then shoring up existing pensions could be more cost-effective than switching to CB plans.

Neither report endorses transitioning to a type of pension plan (defined contribution) based on the 401(k) model, in which a teacher's retirement income would depend on the performance of her or his investments.

## II. Findings and Conclusions of the Reports

Two of the three main recommendations in *Redefining Teacher Pensions* criticize states for not adequately funding their teacher pension plans and call on states to better finance existing DB plans. First, the report argues that the federal government should use the Elementary and Secondary Education Act to encourage states to continuously contribute to their pension funds by reducing a school district's Title I allocation if the state fails to make actuarially required contributions to the defined-benefit plan.

The second recommendation is that states follow the lead of Georgia and Oklahoma and amend their state constitutions to require that an independent board cost out any benefit enhancements that the legislature makes before the benefit enhancement are implemented. The argument here is that state legislatures take an easy political path by

enhancing benefits that have very high long-term costs. The delay in implementation may help politicians be less eager to raise benefits that the state ultimately will not honor.

Beyond these first two recommendations, however, *Redefining Teacher Pensions* advocates replacing current DB pension benefits for new teachers with CB plans. Under a CB plan, teachers would receive retirement benefits either as a lump sum or, preferably, as a lifetime stream of annual payments. Since the pension wealth in CB plans accrues steadily over a teacher's career, the report argues that the pension-based incentives to teach for an additional year are distributed evenly over a teacher's years of service. This means a CB plan would provide greater incentives for teachers to remain teaching in the critical time around years three to five, when their productivity is growing rapidly,<sup>4</sup> and at a time when younger teachers are more likely to leave. *Redefining Teacher Pensions*

*Teacher pensions have become a prominent topic in educational policy debates. These two reports are valuable contributions, not so much because of the proposals they set forth but as flags for the complicated and sometimes counter-productive effects of many current proposals.*

argues that the increase in pension accrual might slow down the turnover in this crucial time period, especially compared with back-loaded DB pension plans. Those more traditional plans, argues *Redefining Teacher Pensions*, unwisely create incentives for teachers, especially more politically powerful veteran teachers, to clamor for salary increases at the end of their careers. The report argues that this pension-design effect weakens support for alternative compensation systems, such as reward for performance and higher pay for newer teachers—systems that the report's author supports.

The second CAP report, *Buyer Beware*, is much shorter and more focused. It concludes that school districts' chances of improving average teacher effectiveness in a district—where teacher's effectiveness is mostly discussed as a measure of a teacher's effect on students' test scores—are less than 42% if districts switched from DB to CB plans. *Buyer Beware* brings together two areas of research: research that links pensions to teachers' decisions to stay or leave the profession and research that relates teacher turnover to teacher effectiveness. That is, *Buyer Beware* cautions against a move from traditional DB plans to a CB plan design because the switch would increase turnover, lower the average age of teachers, and increase training costs. All three effects decrease overall teaching effectiveness in a school district.

Both reports recommend more research into how changing vesting schedules would affect turnover. *Redefining Teacher Pensions* calls for all states to adopt the Missouri rules, which require that state's Public School Retirement System to share information on teachers' individual retirement behavior with researchers after the data are cleaned to protect information on teachers and students.

### III. Rationale for the Reports' Findings

Both reports attempt to offer insights into an area where the empirical research provides no clear answers. The *Redefining Teacher Pensions* report speculates about the effects of CB plans based on, the report acknowledges, scant literature on the productivity-age-experience profile of teachers' careers and on the labor supply responsiveness of teachers to elements of pension design. *Buyer Beware* instead uses economic simulations of pension design effects' on teacher effectiveness, concluding that switching to a CB design would likely cost states more money and reduce teacher effectiveness.

A foundational idea in both reports is that employers should use pay and employee benefits to engineer individuals' decisions to become teachers and continue a career in teaching, either in a certain school district or in the profession. Both studies acknowledge that pensions are an important part of teachers' pay and that different pension designs produce different benefits for each year of service. Both reports rely on the same type of model that relates the value of pension benefit accrual to each year of a teacher's service. As noted earlier, in a CB plan the relationship between accrual and service is more even than in a traditional DB plan.

A DB plan provides a benefit based on a specific, defined formula. CB plans specify the amount of contributions into an employee's account—based as a percent of current salary—to be made by the employer and employee, and the employer defines the rate of return on those contributions. After the vesting period, the teacher can withdraw the amount in the CB plan so the value each year stays even with salary and returns. With the DB approach, the pension value jumps up sharply at about year 10 (when, typically, a teacher is eligible to eventually collect a pension). The value of the traditional benefit continues to rise steeply past age 53 because pensions are based on final average salaries.<sup>5</sup>

Both reports use arguments based in labor economics that assert that employers eventually create compensation designs, including pensions, that induce employees to stay long enough to train for peak performance and then leave when productivity starts to wane. The theory is that the pension design is an artful balance of inducing loyalty and commitment when needed, and encouraging retirement decisions when the time is right.

The essential element of a traditional, back-loaded, DB pension is to not provide (vest) pensions for new, inexperienced teachers until they are operating at peak. A pension system that does not encourage teachers to stay teaching when their productivity is just about to peak, therefore, may not be doing its job to optimize turnover decisions. Similarly, a pension system that encourages teachers to work long after their productivity has declined would also be a failure. It's a neat trick, a worthy trick, to get the incentives right, and that is what pension design aims to do, along with ensuring an adequate pension benefit.<sup>6</sup>

*Redefining Teacher Pensions* argues that back-loaded DB pensions do not meet the productivity goals, while CB plans do. In contrast *Buyer Beware* concludes that adopting front-loaded, CB plans would likely reduce teaching effectiveness because the change

would encourage turnover, increase training costs, and reduce funds available for pay raises for new teachers. The resulting increased turnover would reduce the average level of teacher experience in a district, which, in turn would diminish teacher effectiveness.

To its credit, *Buyer Beware* refers to the scholarship on why teachers decide to stay in their jobs and therefore backs off from making too many claims about how important pension design is in decisions to stay or go. The report suggests that teachers' decisions to remain in the profession or at a particular school generally depend not on marginal changes in pension accrual but on larger issues, such as “work-life quality issues,” including “sense of support by school leadership, role in decision-making, and school safety or classroom management issues.”<sup>7</sup>

Finally, *Buyer Beware* points out that private companies can use stock options and other devices to encourage longevity and loyalty, but in terms of financial incentives school districts have very little besides back-loaded pension plans to encourage loyalty and reduce turnover.

Below is a more detailed look at the rationales for the findings in each report.

### **A. Rationale for the Findings in *Redefining Teacher Pensions***

*Redefining Teacher Pensions* offers four critiques of DB pension plans, and with each one, concludes that the DB approach works against retaining and attracting highly productive teachers. First is the assertion that, because the ultimate pension benefit in a traditional defined-benefit pension plan is based on final salaries, veteran teachers will use their bargaining power to boost their final salaries at the expense of innovative pay systems such as merit pay for new teachers.

The second criticism is that, according to a 2004 Harvard University thesis,<sup>8</sup> 40% of teachers change careers. Retirement plans that serve teachers with careers of 25-30 years serve those teachers very poorly. Third, defined-benefit plans are not easily portable across states. (*Buyer Beware* agrees with this third criticism.) The fourth criticism of the DB structure is the claim that teacher productivity—promoting student achievement gains—peaks at between five and 10 years of teacher experience. From this empirical claim, which is supported by only one study, *Redefining Teacher Pensions* concludes that back-loading pensions means that pension incentives to teach an additional year are much greater for teachers a couple of decades into the profession than for those with fewer than 10 years of experience. Miller, the author of *Redefining Teacher Pensions*, writes, “It is plausible that a more even distribution of retention incentives along the continuum of experience could increase the rate of retention among teachers still on the learning curve without significantly lowering the retention of effective teachers with more than 10 years of experience.”

In contrast, *Redefining Teacher Pensions* argues, cash balance plans have the attractive feature of not penalizing teachers who leave the profession or who migrate to teach in

other states. Teachers can withdraw money from their CB accounts; in contrast a teacher who leaves a DB plan forgoes large increases in the benefit at higher years of service.

## **B. Rationale for the Findings in *Buyer Beware***

*Buyer Beware* is a straightforward economic policy change study that simulates how teachers' effectiveness changes under different pension designs. Key inputs in the simulation are how pension design affects turnover; how steep the learning curve is for new teachers to become maximally effective; and how initial pay affects teacher productivity, learning, and turnover.

There are four steps in the *Buyer Beware* simulations. First, the report equalizes the contribution costs to each type of pension plan the author simulates: a typical teacher's DB pension plan's annual cost, a CB plan's pay credit, and the costs of a defined-contribution plan (such as a 401(k)). The equalized cost used in the report is 10.25% of pay, the current typical cost of state pension plans. The second step is "Monte Carlo simulations" that create 1,000 hypothetical scenarios based on the existing evidence for the key parameters to calculate the probability of improving teacher effectiveness after switching retirement benefit design. The third step is to alter each assumption about the role of experience, effectiveness, and turnover to model how changing pension design affects the probability of improving average teacher effectiveness.

Last, the report calculates the transition costs from a defined-benefit pension to alternative retirement benefits. There are always transition costs—*Redefining Teacher Pensions* acknowledges them also—because in a CB system high-turnover teachers would be collecting small CB benefits that in a DB system would be available to fund the higher benefits of longer-service teachers.

*Buyer Beware* concludes that a state should do four things if it does switch to a CB plan. Three of the four recommendations in the list (described below) are aimed at preserving teacher effectiveness. (The fourth recommendation of *Buyer Beware* agrees with *Redefining Teacher's Pensions* that states should increase pension contributions.)

First, *Buyer Beware* calls for policymakers to devise personnel strategies that lower teacher turnover if CB plans were in place. If schools do not devise personnel tools that have the same longevity incentives that back-loaded defined pension plans do, eliminating DB plans may lower average teacher effectiveness in a state. School districts that hire teachers who can spend up to 10 years learning from mentors, acquiring training, and learning from experience to get as good as they can get would experience a decline in average productivity if the teachers were induced to leave 15 or 20 years into their careers.

Second, *Buyer Beware* warns policymakers who switch to CB plans that they need policies to accelerate the learning curve, to make new teachers more effective faster so that losing teachers five to 10 years into their careers does not reduce average productivity as much.



Third, policymakers who switch to CB plans would have to increase initial pay for new teachers in order to attract high-quality new teachers and in order to maintain high productivity in the face of higher turnover.

There is some evidence that public employers would have only limited success in doing these things—reducing turnover, accelerating the learning curve, or raising initial pay to raise the chance of success of greater teacher effectiveness. First, there are few opportunities for public-sector employers to lower employee turnover. Private-sector employers that do not offer a defined-benefit pension often rely on stock options or other incentive pay to lower turnover for a desired amount of time. Public-sector employers do not have this opportunity. Second, accelerating the learning curve means increasing skill development support for new hires. The evidence from labor economics suggests that private employers are reluctant to provide key training to their employees if they feel that the employees will not be around long enough to make full use of the costly new training.<sup>9</sup>

#### IV. Reports' Use of the Research Literature

Both reports are trying to do a hard thing—linking pension design to teacher turnover and teacher turnover to productivity—since research about all three connections is scarce. Both authors acknowledge the thin evidence for their conclusions and call for more research. Oddly, given the dearth of studies, the reports generally cite different research, only overlapping on three researchers, and even then not using the same studies. The main problem is no study isolates pension designs' effects on key decisions teachers make about work effort and attachment. Also, there apparently are few comprehensive studies on how quickly teachers reach peak performance.

Both reports rely on the work of Robert Costrell and Michael Podgursky on how pensions should be designed to meet the needs of a changing teacher workforce. However, the reports do not cite the same Costrell and Podgursky reports.<sup>10</sup>

To support its argument for front-loading pension benefits and paying new teachers more, *Redefining Teacher Pensions* also relies crucially on Jennifer King Rice's work<sup>11</sup> that synthesizes the literature to conclude that teachers peak at between five and 10 years of experience and that subsequent years of experience are not associated with much further improvement in student achievement outcomes. *Buyer Beware* uses a different Rice study to support a similar conclusion about the steepness of teachers' learning curves, but it uses that work to make an opposite argument: that high teacher turnover would raise training costs and lower a school district's average teacher effectiveness.<sup>12</sup> (It's worth noting here that *Buyer Beware* acknowledges that its simulations and conclusions are only as good as the underlying evidence.)

Unfortunately, *Redefining Teacher Pensions*' second conclusion, that veteran teachers use their superior bargaining power to boost their last years' salary at the expense of increasing salaries for new teachers, is based on three studies—some more than 15 years old—that are not very convincing because they are limited to survey data.<sup>13</sup>

## V. Review of the Reports' Methods

Both reports could have been improved by a critical analysis of the history of teachers' pensions. A close review of historical fits and starts, experimentation, and the variety of pension plans may reveal why school districts eventually accepted the DB model across the nation. For instance, school districts may have experimented with different designs and found the defined-benefit design best suited their needs.

Further, neither report mentions the revolutionary changes in women's opportunities that have expanded professional women's choices of occupations beyond the ghettos of teaching and nursing. Moreover, the declining stigma of divorce and the declining pay of men results in a decreasing economic value of marriage and an increasing concern among women about their financial futures. Because of these changes, one might expect that women entering the workforce would be even more concerned about—and would demand even more—secure pensions in their choice of professions.

If we accept that the incentives built into pension plans have an important effect on teachers' choices to remain in the profession, the next question is how to structure those incentives. *Redefining Teacher Pensions'* strong recommendation for CB plans depends on a supported empirical conclusion and on a very questionable assumption regarding how to benefit from teachers who reach peak performance. The supported empirical point is simply that many new teachers leave teaching after a few years, prior to reaching full potential at approximately five to 10 years.

However, the report then seems to miss the point that a fall in the rate of performance improvement is not the same thing as a fall in performance. If performance peaks at seven years, a sound compensation scheme should induce leaving well after seven years as teachers continue to work at peak performance. If an employee peaks at seven years and stays at peak performance, the compensation scheme should be arranged to induce the employees to work for many years beyond that—at least paying back in productivity what was forgone during the training period.

The problem with CB plans not penalizing turnover is that high turnover and higher pay for new teachers may lower the average level of experience in schools as it increases costs. More experienced, and presumably more effective teachers (again the arguments hinge on the evidence), will likely leave their jobs and be replaced by less experienced teachers. Whether the drop in experience matched by an increase in pay for newer teachers would increase or decrease average teacher productivity depends on the amount of turnover of experienced teachers, how long it takes a teacher to reach maximum productivity, and whether higher pay attracts better new teachers. Some of these key factors are not considered in *Redefining Teacher Pensions*.

## VI. Review of the Findings and Conclusions

As mentioned, both reports address the appropriateness of current pension systems meeting the changing needs of school systems. In doing so, both crucially rely on two

bodies of research. The first is evidence about the trajectory of teacher productivity (measured in terms of a teacher's impact on standardized test scores) over the work life-cycle of a teacher. The second is how much teachers' decisions to stay or leave the profession are affected by the design of their pension plan.

*Buyer Beware* recommends states increase funding for current pensions rather than spend money transitioning from traditional DB plans to CB plans. The problem of states underfunding DB plans, this report concludes, is not the result of plan design but rather of faulty and inadequate funding. (In fact, both reports contend that pension systems have been underfunded). *Buyer Beware* presents a sound argument that switching to a CB plan is likely to cost more and is also likely to lower the average effectiveness of a teaching work force.

Similarly, a major consideration in both reports is that it will cost a lot to change the pension plan design if current teachers' benefits are not cut—which raises a whole host of legal and political questions. Both reports astutely point out that cutting pensions would be unwise. This is because under the current system, short-stay teachers subsidize the pensions for long-timers. Both authors are aware that increased costs associated with a shift to a CB system could lower future salary increases, which becomes a self-defeating strategy.<sup>14</sup>

*Buyer Beware* acknowledges, however, that one of the best features of CB plans is their portability across district and state lines. It argues that portability could be improved under existing DB plans through reciprocity agreements and other such mechanisms. This, too, is an important point, as is *Buyer Beware's* contention that the downside of portability is potentially serious. Since the CB design does not penalize leaving the profession, many middle-aged, peak-performing teachers may be induced to leave. To understand why this is a concern, note the general acknowledgement that the teacher learning curve levels off after a certain age when teachers stop improving—are at least, do not improve as rapidly. But, as mentioned throughout this review, these reports cite no evidence of teachers' performance degrading significantly after reaching maximum effectiveness. Accordingly, losing a veteran teacher may generally mean losing someone working at a peak performance level. The goal is to design pensions to create incentives for such peak-performing teachers to remain on the job.

In truth, little evidence exists that teachers' decisions to enter, leave, or retire from teaching are largely due to pension accrual schedules or marginal increases in pay. Thus, policymakers are considering decisions on the basis of limited information.

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

These reports address vital areas in contemporary compensation policies and school finance. Unfortunately, while proposals to change teacher pension plan design rest on claims about teacher productivity, research about how to define "teacher productivity" in terms that are broader than test scores, and how productivity changes over a typical teacher's career cycle, remains undeveloped and unclear. These reports also do not

consider an obvious and vital factor: the history of why defined-benefit plans dominate teacher compensation plans and why they have worked so well for nearly a century all across the nation. *Buyer Beware* appropriately calls on policymakers to be cautious about implementing CB plans advocated in *Redefining Teacher Pensions*. Both reports appropriately call on policymakers to increase funding for teachers pensions. And *Redefining Teacher Pensions* offer two interesting recommendations worth consideration: tying adequate pension funding to Title 1 funding and changing state constitutions to inhibit unaffordable benefit increases.

*Buyer Beware* is an appropriately named report because it conditions its negative assessment of CB plans on the lack of good data on how a pension plan's design attracts and retains the best teachers. The report points out that the transition is costly and the costs could be used to shore up existing plans and pay new teachers more.

California Governor Jerry Brown on October 27, 2011, proposed a CB plan for California's new teachers. Under the new plan, teachers who will have 35 years of service would receive 75 percent of their salaries. The new pension is compared with the current pensions, in which teachers who retire at age 64 with 35 years of service have pensions worth 84 percent of their final pay.<sup>15</sup> These two new reports from the Center for American Progress will most likely be cited in discussions about how the new pension proposal may affect teacher quality and effectiveness in California.

Teacher pensions have become a prominent topic in educational policy debates. These two reports are valuable contributions, not so much because of the proposals they set forth but as flags for the complicated and sometimes counter-productive effects of many current proposals. The costs of changing pension systems may be greater than the potential gains; our ability to measure teacher productivity remains elusive; the characteristic and historical underfunding of retirement plans is a time-bomb; the ability to attract and retain young, talented teachers remains problematic; and the scant research evidence we have on all these issues indicate that careful and wise deliberation of teacher pension systems has not reached fruition—in fact, it has just begun.

## Notes and References

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1 Miller, R. T. (2011). *Redefining Teacher Pensions. Strategically Defined Benefits for New Teachers and Fiscal Sustainability for All*. Washington DC: Center for American Progress. Retrieved November 14, 2011, from [http://www.americanprogress.org/issues/2011/09/redefining\\_teacher\\_pensions.html](http://www.americanprogress.org/issues/2011/09/redefining_teacher_pensions.html).

2 Weller, C. E. (2011). *Buyer Beware The Risks to Teacher Effectiveness from Changing Retirement Benefits*. Washington DC: Center for American Progress. Retrieved November 14, 2011, from [http://www.americanprogress.org/issues/2011/09/buyer\\_beware.html](http://www.americanprogress.org/issues/2011/09/buyer_beware.html).

3 Miller's endnote 6 cites Bureau of Labor Statistics (2009). Table 2. Retirement Benefits: Access, participation, and take-up rates, State and local government workers, National Compensation Survey. Washington, DC: Author. Retrieved November 14, 2011, from <http://www.bls.gov/ncs/ebs/benefits/2009/ownership/govt/table02a.pdf>.

4 Rice, J. K. (2010). *The Impact of Teacher Experience: Examining the Evidence and Policy Implications*, Brief 11. Washington, DC: National Center for Analysis of Longitudinal Data in Education Research at the Urban Institute. Retrieved November 14, 2011, from <http://www.urban.org/publications/1001455.html>.

5 Both reports display similar graphs with these relationships. Miller's graph is on page 16, and Weller's graph is on page 5.

6 This article describes how deferred compensation lines up with the needs of the employer to induce employees to stay beyond the period in which they are paid more than their productivity at the beginning of their careers:

Allen, S.G., Clark, R.L., & McDermed, A. (1993). Pensions, bonding, and lifetime jobs. *Journal of Human Resources* 28 (3), 463–481.

7 Weller cites the following studies on the causes of teacher turnover:

Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The high cost of leaving: An analysis of the cost of teacher turnover. *Journal of Education Finance* 36 (1), 22-37.

Loeb, S., Darling-Hammond, L., & Luczak, J. (2005). How teaching conditions predict teacher turnover in California schools. *Peabody Journal of Education* 80(3), 44-70.

Smith, T. & Ingersoll, R. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal*, 41 (3), 681-714.

Somech, A. (2010). Participative decision making in schools: A mediating moderating analytical framework for understanding school and teacher outcomes. *Educational Administration Quarterly* 46 (2), 174-209.

Only in the conclusion does *Redefining Teachers Pensions* mention an important incentive not related to pension or pay. The Federal Perkins Loan program forgives student loans for new teachers under certain circumstances, providing an incentive for new college graduates to be teachers. Such a program may be a more effective incentive than a CB, front-loaded pension plan or a slight increase in starting pay.

8 Miller's endnote 16 cites William H. Marinell (2009). Policy solution or hollow promise? Will mid-career entrants to U.S. public school teaching help avert a teacher shortage, reduce racial and gender imbalances, and fill vacancies in hard-to-staff subjects and schools? Harvard University, Graduate Education Thesis, M3380.

9 Niehaus, G. & Yu, T. (2005). CB plan conversions: evidence on excise taxes and implicit contracts. *Journal of Risk and Insurance*, 72 (2),321-352.

Ippolito, R.A. (1997). *Pension Plans and Employee Performance: Evidence, Analysis, and Policy*. Chicago and London: University of Chicago Press.

10 *Redefining Teachers' Pensions* cites:

Costrell, R.M. & Podgursky, M. (2010). Distribution of benefits in teacher retirement systems. *Education Finance and Policy* 5(4).

Costrell, R.M. & Podgursky, M. (2010). Golden handcuffs: Teachers who change jobs pay a high price. *Education Next* 10 (1): 60–66. Retrieved November 14, 2011, from <http://educationnext.org/golden-handcuffs/>.

Costrell, R.M. & Podgursky, M. (2007). Efficiency and equity in the time pattern of teacher pension benefits: An analysis of four state systems, Working Paper #6. Washington, DC: Center for Analysis of Longitudinal Data in Education Research, Urban Institute. Retrieved November 14, 2011, from [http://www.caldercenter.org/PDF/1001070\\_Efficiency\\_Equity.pdf](http://www.caldercenter.org/PDF/1001070_Efficiency_Equity.pdf).

*Buyer Beware* cites

Costrell, R., and Podgursky, M. (2009). Peaks, cliffs, and valleys: The peculiar incentives in teacher retirement systems and their consequences for school staffing. *Education Finance and Policy* 4 (2), 175-211.

11 Rice, J. K. (2010). *The Impact of Teacher Experience: Examining the Evidence and Policy Implications*, Brief 11. Washington, DC: National Center for Analysis of Longitudinal Data in Education Research at the Urban Institute. Retrieved November 14, 2011, from <http://www.urban.org/publications/1001455.html>.

12 Rice, J. K. (2003). *Teacher quality: Understanding the effectiveness of teacher attributes*. Washington, DC: Economic Policy Institute.

13 Miller cites this review article in endnote 14. For an overview of the evidence, see Chait, R. (2009) *Teacher Support for Compensation Reform*. Washington, DC: Center for American Progress. Retrieved November 14, 2011, from [http://www.americanprogress.org/issues/2009/11/compensation\\_surveys.html](http://www.americanprogress.org/issues/2009/11/compensation_surveys.html).

14 At the end of the *Redefining Teacher Pensions*, the author tosses in a disconnected and ill-supported argument that links two research findings briefly to argue that pensions should reward young teachers. It asserts that 75% of Teach for America teachers leave teaching after three years and that TFA teachers are just as effective, as measured by test scores, as the teachers they work beside, according to two studies:

Xu, Z., Hannaway, J., & Taylor, C. (2009) *Making a Difference? The Effects of Teach For America in High School*. Washington, DC: The Urban Institute/CALDER. Retrieved November 14, 2011, from [http://www.urban.org/UploadedPDF/411642\\_Teach\\_America.pdf](http://www.urban.org/UploadedPDF/411642_Teach_America.pdf).

Decker, P.T., Mayer, D.P., & Glazerman, S. (2004). *The Effects of Teach For America on Students*. Princeton: Mathematica Policy Research, Inc. Retrieved November 14, 2011, from [http://www.teachforamerica.org/assets/documents/mathematica\\_results\\_6.9.04.pdf](http://www.teachforamerica.org/assets/documents/mathematica_results_6.9.04.pdf).

Yet because TFA teachers are placed in hard-to-staff schools, the comparison teachers that they work with are also relatively inexperienced and minimally trained. See Heilig, J.V. & Jez, S.J. (2010). *Teach For America: A Review of the Evidence*. Boulder, CO: National Education Policy Center. Retrieved November 5, 2011, from <http://nepc.colorado.edu/publication/teach-for-america>

In any case, this finding comes late in *Redefining Teacher Pensions*, and it is offered to suggest, not prove, that new teachers have different career trajectories. But TFA supplies a very small source of new teachers, and even if the number were larger, it seems that higher pay, not front-loaded pensions, would induce lower turnover. (In fact, *Redefining Teacher Pensions* acknowledges the need for higher pay.) In the end, the problem of front-loaded pensions inducing early and high turn-over remains problematic.

15 Fensterwald, J. (2011). "Pension reform's Impact on Teachers: Brown would raise new teachers' retirement age to 67." Blog post at *Thoughts On Public Education (TOP-Ed)*, a forum on education policies in California and Silicon Valley. It is funded by the William and Flora Hewlett Foundation, the Stuart Foundation and the Walter S. Johnson Foundation, and sponsored by the Silicon Valley Education Foundation. Retrieved November 14, 2011, from <http://toped.svefoundation.org/2011/10/28/pension-reforms-impact-on-teachers/>.

DOCUMENTS REVIEWED:

**Redefining Teacher Pensions.  
Strategically Defined Benefits for New  
Teachers and Fiscal Sustainability for All**

**Buyer Beware: The Risks to Teacher  
Effectiveness from Changing Retirement  
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AUTHORS:

Raegen T. Miller (*Redefining...*);  
Christian Weller (*Buyer...*)

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Teresa Ghilarducci, The New School for Social  
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E-MAIL ADDRESS:

Teresa.Ghilarducci@gmail.com

PHONE NUMBER:

(212) 229-5901 #2

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