Center for American Progress

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Redefining Teacher Pensions

Strategically Defined Benefits for New Teachers and Fiscal Sustainability for All

Raegen T. Miller September 2011

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Introduction and summary

Teachers are the most important school-based resource affecting student achievement.[1] Few would argue with this statement, or that the future competitiveness of the U.S. economy requires improved academic results from public schools, including those serving predominantly low-income students and students of color.[2] These facts should inform an array of changes to policies around the licensing of teachers and their performance evaluations, tenure, and compensation.[3]

As a facet of compensation, teacher pension policy should be subject to the outcome- and equity-oriented workforce goals of broader teacher reform programs. Teacher pension policy should help attract to teaching especially promising college-graduates and career-changers—candidates with combinations of cognitive and noncognitive characteristics known to predict the future effectiveness of teachers.[4] Pension policy should also attract candidates with expertise in shortage subject areas, such as math and science, as well as encourage especially effective teachers to remain in the profession and to work in the schools with the greatest needs.[5]

Yet pension policy is not a potent lever, on its own, for serving these workforce goals. Pensions, a matter of deferred compensation, represent a relatively small slice of total teacher compensation. The trick, then, lies in identifying pension policies that enable, catalyze, reinforce, or complement other policies sharing the goals of improving the overall quality of the teacher labor force and creating greater equity in the distribution of teaching talent.

Traditional defined-benefit pension plans, in which 89 percent of public school teachers participate (see text box for a primer on pension plans on page 6),[6] serve these goals poorly. One reason is that the financial condition of existing defined-benefit plans is vulnerable to "pension holidays," when employers—school districts—fail to make contributions to their employees' pension plans. Another culprit is imprudent benefit enhancements. Several consecutive years of unusually high returns on a pension plan's investments have been used in the past to justify benefit enhancements or to free up employer contributions for other uses.

But the long-term ability of a plan's assets to cover its liabilities generally requires that high returns in some years make up for low returns in others. State policymakers have short-term political incentives to ignore this fact.[7] Yet the financial vulnerability of defined-benefit pension plans matters a great deal because current teachers and retirees participating in these plans are legally guaranteed their anticipated benefits, by and large.

Effective compensation policies, including ones meant to address the goals above, require sound financial footing. Accordingly, this paper begins with two recommendations:

- Amend state constitutions subjecting any benefit-enhancing legislation to protracted, rigorous scrutiny

- Amend the Elementary and Secondary Education Act so that a school district's allocation of funds under Title I, Part A—a program that provides supplementary funds to school districts serving concentrations of low-income children—is penalized in proportion to failure to make actuarially required contributions to defined-benefit pension plans

These two measures are aligned with recommendations published by the American Federation of Teachers,[8] and they go some distance toward assuring retirees, currently active teachers, or prospective teachers that their pensions are safe and secure.

Policymakers can take comfort in the fact that two states, Georgia and Oklahoma, have already implemented the first recommendation, which does not entail immediate pain to stakeholders.[9] The second recommendation involves adding a tool to the suite of fiscal requirements for receipt of Title I funds.[10] The idea is appropriate because a substantial fraction of Title I funds wind up as contributions to pension plans, and embracing this recommendation offers federal policymakers a chance to respond concretely to popular concern around the sustainability of teachers' defined-benefit pension plans.

This paper goes much further, however, in redefining teacher pensions. We make a third recommendation that addresses the mismatch between traditionally defined-benefit pensions and the workforce goals our nation must embrace to improve the productivity of our education system. The problem, simply, is that traditional retirement benefits are back-loaded. Basically, pension wealth as a fraction of

cumulative earnings is much greater for teachers who spend multiple decades with a single employer than for those who teach for less than one decade.[11]

Back-loaded benefits have four interrelated shortcomings. First, back-loaded benefits buttress the traditional salary schedule in which pay is pegged to longevity. With defined benefits upon retirement keyed to final average salary (most often the highest average annual salary over any three consecutive years), teachers closest to retirement are understandably wary of changes in salary policy. That makes it difficult to accelerate salary growth for teachers in their first 10 years of service—a move that would promote retention of early-career teachers and arguably increase the supply of teaching candidates. This would allow employers to select, on average, candidates with greater promise.[12] Accelerated salary growth has become a tenable policy option because of widespread efforts to implement meaningful performance evaluation policies.[13]

Back-loaded defined benefits based on final average salary mean that teachers nearing retirement are motivated to oppose performance bonuses or incentives to teach in high-poverty schools or shortage subject areas if they cut into across-the-board salary increases.[14] And because long-term veterans tend to be highest on the political pecking order among teachers,[15] back-loaded pension benefits represent a formidable obstacle to the adoption of salary policies attuned to workforce goals. More bluntly, back-loaded pension benefits are the linchpin of the status quo in teacher compensation.

Second, back-loaded pension benefits may work well for prospective teachers planning careers of 30-to-40 years in the same state, but such plans are rare among prospective teachers in the 21st century. Research using the Department of Education's School and Staffing Survey data shows that by 2004 over 40 percent of new teachers were career-changers,[16] and a more recent survey conducted by the Pew Research Center shows that Millennials, today's teens, and twenty-somethings, are more than twice as likely as Baby Boomers to say they will switch careers.[17] Thus, back-loaded benefits are poorly matched with the anticipated career trajectories of today's potential teachers.

Third, the back-loaded benefits as offered by existing defined-benefit pension plans are not fully portable. Teachers who change states suffer serious losses of pension wealth, despite provisions designed to facilitate portability.[18] Little is known about interstate migration of teachers, but if barriers to migration frustrate compensation policy goals, then the dynamic career-plans of Millennials are likely to compound the problem.

Changing districts within states can also cost teachers substantial pension wealth because of contractual caps on salary-schedule placement in a new district.[19] Such caps, which can lower final average salary, and thus back-loaded pension benefits, are an artifact of traditional salary policies, and inimical to an incentive environment concerned with equity and productivity.

Fourth, back-loaded benefits get the incentives for remaining in the profession wrong. A compelling and consistent finding from 40 years of research on educational productivity, recently synthesized by Jennifer Rice King in a report for the Urban Institute, holds that teachers are as effective on average in promoting student achievement gains after 5 to 10 years as they ever will be.[20] Back-loading means that the pension-based incentive to teach for an additional year is much greater for teachers a couple of decades into the profession than for those with fewer than 10 years of experience. 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 fact, under the stipulation that policy changes only affect new teachers, there would be no downside in terms of teacher quality to embracing policies in which pension wealth grows steadily with cumulative earnings. And for most prospective teachers, such a pension wealth accrual pattern would better serve the primary purpose of pension policy—ensuring secure post-retirement income.

There is, fortunately, an established way to define pension benefits that fits this bill. In a so-called cash-balance arrangement,[21] teachers' defined benefits are represented by notional account balances that reflect teacher and employer contributions plus interest credited at some indexed rate.[22] Participants receive their benefits upon retirement either as a lump-sum or as an annuity—a lifetime stream of annual payments that is the socially responsible default option.[23]

By definition, in a cash balance plan the ratio of pension wealth to cumulative earnings is constant over years of service, and pension wealth accrues steadily such that the pension-based incentives to teach for an additional year are distributed quite evenly over years of service. In other words, cash balance defined benefits put retention incentives in play for early-career teachers and temper the exaggerated late-career incentives characteristic of back-loaded benefits.

Cash-balance defined benefits also resonate with the career expectations of today's prospective teachers. The approach allows teachers that have completed a vesting period to leave the profession or to begin teaching in another state with pension wealth proportional to cumulative earnings. The approach is also amenable to graduated vesting schedules in lieu of the traditional cliff vesting, whereby teachers suddenly become eligible for benefits after five years, typically, but sometimes as many as 10 years. And while cash balance defined benefits are closely related to salary, they shift attention from final average salary to career-average salary, thereby increasing the salience to new teachers of compensation policies serving outcome- and equity-oriented workforce goals.

This paper's third recommendation follows from these findings: Existing defined-benefit pension plans accommodate new teachers in dedicated tiers in which all of their benefits are defined using a cash-balance approach.

While their benefits would be defined differently, new teachers would participate in existing defined-benefit plans alongside teachers that expect back-loaded benefits. This arrangement for new teachers to participate in existing plans is important because the fund managers for these plans count on an annual influx of new participants to elevate risk-tolerance and, therefore, long-term investment yield.

The alternative—shunting new teachers into separate pension plans—would undermine the financial condition of existing plans. Furthermore, if separate plans for new teachers were defined-contribution plans, similar to the 401(k) retirement savings vehicles so prominent in the private sector, then the new teachers would forego the low management costs enjoyed by defined-benefit plans, and they would shoulder greater investment risks—increasing the chances that public investments in teacher retirement do not yield secure post-retirement income.[24]

The remainder of this paper presents background knowledge on the shortcomings of back-loaded pension plans in light of the need to attract top talent to the teaching profession in an era of multiple-mobile careers, and then unpacks the logic behind its three recommendations. The third recommendation is admittedly bold, especially in a climate of fiscal retrenchment and heightened political rhetoric. But the potential new costs associated with the cash-balance recommendation are manageable, and the paper shows that such costs represent crucial investments in our education system. The first two recommendations, in contrast, carry virtually no financial cost, embodying the ethos of "the new normal: doing more with less."[25]

Together, these three steps point the way toward a transition in the way that the teaching profession arranges for pensions, from one where the incentives for entering and remaining in the classroom are hopelessly mismatched with career expectations of 21st century teaching candidates, to a way in which pensions complement other compensation policies to improve the quality of the teaching workforce and the distribution of its talent.

Primer on public employee pension plans

Defined-contribution plans: A defined-contribution plan is one in which employers and sometimes employees contribute regularly to separate accounts established for employees. Employees decide individually how to invest pre-tax funds in their own account, and their post-retirement income is purely a function of the amount in their account at the time of separation minus tax payments upon withdrawal. Internal Revenue Code defines any plan other than a defined-contribution plan as a defined-benefit plan.[26]

Defined-benefit plans: Defined-benefit plans generally require employers and employees to make regular contributions of pre-tax dollars to a pension fund. Fund assets are used to pay retirees' benefits, which are taxed upon receipt. Plans have a lot of latitude in determining the level of benefits, and how benefits accrue. The dominant approach is to provide benefits equal to some fraction of employees' final-average salary. The Kansas Public Employee Retirement System, for example, specifies annual post-retirement income as 1.75 percent of final-average salary multiplied by the number of years of employment. A defined-benefit plan could just as well pay retirees a flat amount per year of service or use career-average salary in lieu of final-average salary.[27]

Cash balance defined-benefit plan: A cash-balance plan is a specific kind of defined-benefit plan that uses the concept of individual accounts while retaining employer responsibility for overseeing the investment of pension funds and for paying benefits. Plan administrators essentially pretend that contributions reside in separate accounts where they accrue interest at some guaranteed rate. Benefits correspond exactly to the balances in these abstract or notional accounts, and employees have the option to receive their benefits as a lifetime stream of annual payments or in a lump-sum payment upon retirement. Cash-balance defined-benefit plans are obligated, however, to offer retirees the option of receiving benefits in the form of an annuity—a stream of annual payments with the same present value as a lump-sum payment.

Solid financial footing

The idea that compensation policies should serve outcome- or equity-oriented goals in kindergarten-through-12th grade education is ambitious, but it is crucial to recognize that alignment between policies and goals cannot be gained in one fell swoop. Incremental improvement starts with respect for existing commitments and progressive principles.

When it comes to teacher pension policy, existing commitments amount to benefits anticipated by participants in defined-benefit plans. These benefits represent promises which must be kept as a matter of principle and because they enjoy strong legal protections.[28] Furthermore, impairing the post-retirement income of past and current teachers would send the wrong signal to prospective teachers. Fewer people would be inclined to enter public service as teachers if public employers were prone to clawing back deferred compensation.

But respect for existing commitments is a two-way street. Defined-benefit pension plans have characteristics—low management fees and a risk-pooled investment strategy—that help ensure participants a secure and adequate post-retirement income at the least cost to employers. The flip-side of these advantages, however, is that tax-payers are on the hook should plan assets turn out to be inadequate to cover benefits. This means policymakers have an affirmative obligation to ensure, on the one hand, that employers make actuarially required contributions to pension plans, and on the other hand, that benefits not be allowed to drift upward untethered to the fiscal analyses determining contribution rates.

There are many examples of policymakers' failing to fulfill these obligations. Such failures, the Achilles' heel of defined-benefit pension plans, reflect that policymakers' short-term political incentives can override their long-term responsibilities.[29] So let's pause here to examine each of these troublesome practices and how to prevent them.

Benefit enhancement

Examples of past benefit enhancements illustrate the need for safeguards. A 2008 law increased the percentage multiplier used by the South Dakota Retirement System from 1.625 percent to 1.7 percent.[30] The plan's liabilities increased by approximately 5 percent just months before entering a fiscal year during which the plan's investment fund endured its worst losses in 20 years.[31] In 2000, the Massachusetts legislature boosted 30-year veterans' lifetime pension income by an average of $165,000 while securing only $18,000 in additional contributions.[32] And in 1999, the California's State Teacher Retirement System increased the percentage multiplier for teachers with 30 years of service while increasing the maximum multiplier from 2.0 at age 60 to 2.4 at age 63.[33] This benefit enhancement has become the source of consternation, to say the least.[34]

There may be occasions when benefit enhancements do not threaten the long-term sustainability of a pension plan. Looking back on past examples, however, suggests that the exuberant atmosphere of a market bubble, when investment funds have enjoyed a run of above-average annual returns, may sometimes contaminate the decision process.

Georgia and Oklahoma, to their credit, have amended their state constitutions to require what amounts to a cooling-off period between the introduction of benefit-enhancing legislation and the decision to implement it.[35] An additional requirement that proposals undergo rigorous study during the interval helps ensure that the financial case for enhancement is neither specious nor fleeting.

Taxpayers in Pennsylvania may wish that their constitution had included these safeguards in 2002 when the Pennsylvania Public School Employees' Retirement System enhanced benefits. Safeguards against rash benefit enhancements may not have averted the state's current financial predicament, which is partly attributable to the Great Recession, but employer contribution rates are still set to increase by more than half while the state faces a budget shortfall.[36] And it certainly did not help matters that in 2002 Pennsylvania also embarked on a pension holiday.[37]

Pension holidays

Market trends can make otherwise responsible people behave irresponsibly. When hot financial markets provide extraordinarily good returns on pension plans' investments, governors, legislatures, and employee organizations tend to see

employer contributions to pension plans as superfluous. And when cool markets cause tax receipts and school revenues to sag, employer contributions are seen as less urgent than preserving programs and jobs.[38]

The problem with pension holidays is that contribution rates are set such that a plan's assets will be sufficient to meet its liabilities in the long run.[39] A plan's assets must seek returns continuously, in good markets and bad, so it is important that the stream of income meant to come from employer contributions remain independent of market cycles. Employers' failure to make scheduled contributions violates this independence with one of two consequences.

The affected plan will either run out of money before paying for all benefits anticipated by current teachers, retirees, and other beneficiaries such as surviving spouses; or it will have to revise upwards future employer contribution rates. Pennsylvania's experience highlights that these upward revisions can strike precisely when revenue is down.

The federal government should use the Elementary and Secondary Education Act to discourage pension holidays by penalizing a school district's Title I allocation in proportion to its failure to make actuarially required contributions to defined-benefit pension plans. Such a fiscal requirement makes perfect sense because 59 percent of Title I funds are used to pay salary and benefits for teachers and other instructional staff.[40] And this compensation includes a deferred component—employer contributions to pension plans.

School districts that fail to provide for deferred compensation of Title I teachers and other instructional staff in the current year encumber future revenue from nonfederal sources. Thus, when the federal government condones pension holidays, it allows school districts to dip into future state-and-local revenues to cover a liability created in the present.[41] Such activity is not inherently bad. After all, school districts routinely float bonds to finance capital projects. But creating future obligations by way of current expenditures seems particularly at odds with another of Title I's fiscal requirements: maintenance of effort. This is a condition for receipt of Title I funds under which districts must maintain current nonfederal expenditures at a rate that is at least 90 percent as high as that of the previous year.

So for the purposes of maintenance-of-effort calculations, current school-district expenditures should be discounted to reflect any failure to make employer contributions to defined-benefit pension plans. In other words, expenditures should not

be deemed satisfactorily high if they conceal a future liability. There is evidence that Title I's maintenance-of-effort provision does not serve its primary goal—to prevent the capture of federal funds for the purpose of state-and-local tax relief—so a separate fiscal requirement discouraging pension holidays is called for.[42]

Operation of a fiscal requirement around employer contributions to defined-benefit pension plans should not require significant new compliance efforts by school districts or states. The relevant figures are already reported accurately. States should be able to supply the Department of Education with a consolidated report covering all districts, except for those few such as Chicago and Kansas City, Missouri, whose teachers participate in municipal pension systems.

Laying the groundwork for new teacher-pension reforms

Undertaking these two reforms to fix the problem of pension holidays and imprudent benefit enhancements go some distance toward assuring retirees, currently active teachers, or prospective teachers that their pensions are safe and secure. And these two measures to shore up the financial condition of teachers defined-benefit pension plans set the stage for a redefinition of benefits for new teachers.

Traditional, back-loaded benefits

A survey of the landscape of teacher pension plans motivates the idea of redefining benefits for new teachers. Current teachers participate in one or more plans operated by over 60 pension systems.[43] Many plans include tiers separated by year of entry. Most pension systems involving teachers span an entire state, but some large cities, mainly in the Midwest, include teachers in municipal pension systems.[44] Plans have distinctive features, but they are generally united in their enthusiasm for back-loading.

The generic formula for back-loaded benefits

In a traditional defined-benefit pension plan, benefits are discussed in terms of projected annual post-retirement income. Post-retirement benefit increases may be prescribed or subject to legislative whim. How such increases are handled is important, but the approach taken has no bearing on the underlying formulas that determine benefits.[45]

Post-retirement income is traditionally defined as the product of credits for service on the job, some percentage multiplier, and final average salary (see text box on page 6). Service credits correspond to years of experience in positions covered by the plan plus any credit purchased, typically with pretax funds withdrawn from another retirement savings vehicle such as the defined-benefit pension plan in another state. Percentage multipliers depend in various ways on age and service credits, and they tend to be larger in the 13 states where teachers do not participate in Social Security.[46] Multipliers range from 1.1 percent in Indiana's Teacher Retirement Fund to 2.67 in Nevada's Public Employee Retirement System.[47]

Final average salary is most commonly defined as the average of the three highest consecutive annual salaries earned during service.[48] It corresponds to the standard of living to which teachers living within their means are accustomed at the time of retirement, and adequacy of projected post-retirement income from all sources is often gauged by the extent to which it replaces final average salary. A replacement

rate in the vicinity of 80 percent can be considered adequate, in general, because retirees do not have to save for retirement, their overall tax rate tends to be lower than prior to retirement, and they forgo the costs of commuting to work.[49]

But most importantly from the perspective of attracting world-class talent to our public school systems, pension benefits defined as a function of final average salary are inherently back-loaded, a feature that puts them at odds with the needs of new teachers, and the goal of improving the quality of the teaching workforce. Unfortunately, final average salary is not the only source of back-loading.[50]

Back-loading upon back-loading

The back-loading effect of traditionally defined benefits often has sources over and above the use of final average salary to calculate benefits. The value of an additional year of service credit can increase abruptly, either with the application of higher percentage multipliers to later intervals of service or with a bump in the multiplier at some age or service milestone.

The Mississippi Public Employee Retirement System, for example, assigns a multiplier of 2 percent to service through 25 years, and then a multiplier of 2.5 percent to service after 25 years. The multiplier in New York City's Teacher Retirement System jumps from 1.666 percent to 2 percent at 20 years of service credit.[51]

Back-loaded incentives

The effects of back-loading can be rendered graphically in a trajectory of pension wealth over time. Figure 1 depicts a generic trajectory showing the common features of a variety of estimated ones.[52] The trajectory has three distinct phases. First, until teachers are vested in their pension plan, their pension wealth derives purely from their own contributions to the plan (red segment).[53] Second, pension wealth jumps suddenly upon vesting, typically after five years of service, when it begins to reflect the defined benefits to which vested teachers are entitled. And from the point of vesting, pension wealth grows at a quickening pace until a teacher has served for roughly twenty-five years (blue segment). In the third phase of a long career, the rate of growth of pension wealth slows and pension wealth even begins to dwindle (green segment). After a point, the additional post-retirement benefit gained by an additional year of service is overcome by the decreasing duration of the retirement period during which a teacher would draw benefits.

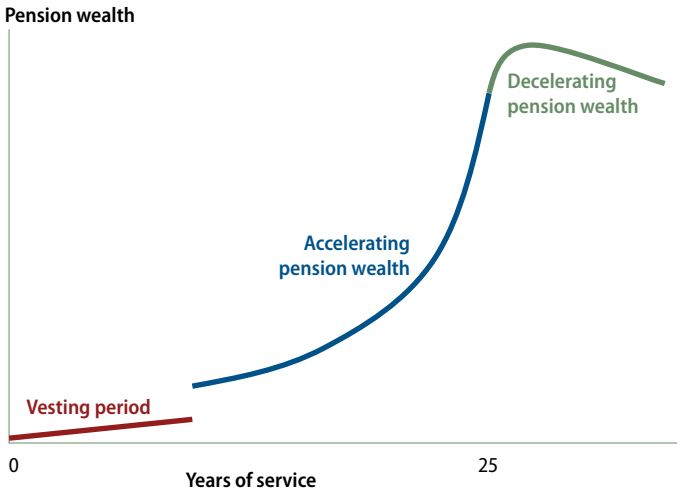
The presentation of pension wealth accrual makes the pension-related incentives to teach for an additional year apparent. Teachers who do not plan to teach until they have a vested benefit have zero pension-based incentives to teach for an additional year. For teachers who do plan to teach beyond the vesting period, the pension-based incentives to teach for an additional year are embedded in the year-over-year changes in pension wealth. The phrase "golden handcuffs" pertains to the period during which these incentives are greatest, the neighborhood around 25 years of service.[54]

The pension-based incentives to teach for an additional year are concentrated on teachers well into long careers in the classroom, a feature of back-loaded pension benefits burdened with two specific drawbacks. First, focusing incentives on long-term teachers impoverishes the incentive environment that most prospective teachers of the 21st century inhabit. In today's working environment, career shifts are increasingly the norm.[55]

FIGURE 1

The consequences of back-loading

Trajectory of pension wealth accrual for teachers participating in traditional defined-benefit pension plans



Source: This figure is modeled from Figure 4, Robert M. Costrell and Michael Podgursky, "Distribution of Benefits in Teacher Retirement Systems and Their Implications for Mobility" *Education Finance and Policy* 5 (4) 2010, available at http://www.mitpressjournals.org/toc/edfp/5/4. This generic trajectory shows what the these authors call "gross pension wealth," as opposed to net pension wealth, that portion of pension wealth deriving from employer contributions.

Second, the distribution of incentives is divorced from one of the most compelling and consistent findings from 40 years of research on teacher productivity. Specifically, a teacher with 5 to 10 years of experience is as effective in promoting student achievement, on average, as a teacher with more than 10 years of experience.[56] This finding also underscores the problems inherent in the traditional teacher-salary schedule, in which salary is pegged to years of experience, and indifferent to teachers' efficacy or the relative scarcity of teachers with their specific skills and knowledge.

The upshot: Other things being equal, exerting significantly greater effort to retain for another year teachers with more than 10 years of experience than to retain teachers with 5 to 10 years of experience is not a good strategy for promoting higher levels of student achievement. And because few prospective teachers are likely to remain in teaching for more than 10 years, whether Millennials or career-changing Gen Xers and Baby Boomers, it is hard to see the sense of offering them back-loaded benefits.

Instead, redefining pension benefits for new teachers provides a way of elevating the role of pension-based incentives in the decisions of those considering teaching while doing two crucial things. The first is preserving the accrued benefits of current teachers. The second is to foment interest in broader reform of teacher compensation, and to undermine support for the traditional salary schedule. Redefining benefits only for new teachers would reshape the trajectory of pension wealth accrual shown in Figure 1, not in one sudden shift but rather in a gradual transformation rolling from left to right as years go by and new cohorts of teachers enter the profession. The trajectory of benefit accrual for new teachers would take its shape from the specific nature of redefined benefits, to which we now turn.

Redefining pension benefits for new teachers

Pension systems should establish a new tier in defined-benefit plans to serve new teachers with benefits defined in terms of cash balances in notional accounts. Although their benefits would be defined differently, new teachers would actually participate in existing defined-benefit plans right alongside their veteran colleagues. We examine this practicality before moving on to the potential costs entailed by this recommendation.

Defined-benefit pension plans are administered under the assumption that each year will bring an influx of new participants. New participants bolster a plan's net cash flow, a factor that has some bearing on the timing and nature of all manner of financial decisions. And plans that are closed to new entrants become subject suddenly to more stringent funding requirements than plans that are still open.[57]

The influx of new participants influences fund managers' investment decisions by elevating the tolerance for risk. The liabilities associated with new participants lie in the distant future, thus pushing out the time horizon for realizing investment gains necessary to pay benefits for the average participant. Ignoring this practicality is tantamount to excluding new teachers from an employer's health insurance pool. Insurers' rates would quickly escalate because the pool's claims experience, or the average cost of medical care drawn by pool members, would sour with the loss of relatively young and healthy new teachers.

Potential costs of redefinition

Defining new teachers' benefits using a cash-balance arrangement may entail higher contribution rates for school districts. Potential new costs of this form are terribly important, but they should be considered in light of the current dynamics of pension policy, and the shortcomings of back-loaded benefits.

In many states clinging to back-loaded benefits, new teachers should anticipate lower benefits and longer vesting periods. In Illinois, for example, teachers hired after January 1, 2011 will accrue benefits that are less valuable and even more back-loaded than those of their colleagues who began teaching in prior years.[58] Illinois also doubled the length of its vesting period from 5 years to 10 years, as did Maryland for teachers hired after July 1, 2011.[59] The high likelihood of more such policy changes makes it somewhat unrealistic to compare a proposal to redefine benefits for new teachers using a cash-balance approach with the status quo.

A fair basis of comparison is also hard to come by because of the shortcomings of back-loaded benefits. One of the advantages of defining new teachers' pension benefits with cash-balance is that it would begin to erode support from the traditional experience-based salary schedule. Such support would dwindle with the addition of each new cohort of teachers for whom pension benefits are decoupled from final average salary, thus opening the door to sweeping changes in teacher compensation. A realistic comparison of redefined benefits to traditional ones would have to allow for seismic shifts in the way teachers' salaries are determined.

Ensuring adequate benefits

The challenge of making appropriate comparisons notwithstanding, the first potential new cost to school districts concerns the few new teachers who enter the profession in their 20s or 30s and remain in the profession and in the same state for decades. That some new teachers could wind up with inadequate post-retirement income after a full career of public service is a legitimate concern. Unless employers contribute to new teachers' cash-balance benefits at higher rates, such teachers would realize lower levels of benefits than they would have under the default traditional defined-benefit formula.

The reason for this shortfall can be seen in Figure 2, which overlays the pension wealth accrual trajectory associated with redefined benefits on the counterfactual, traditional trajectory. A fine-grained comparison reflecting changes to traditional pension and salary policies would affect the magnitude of the differences involved, but not the main story. Simply put, new long-term teachers' benefits would be lower under the cash-balance approach (red segment) because new short-term teachers' benefits would be higher (green segment).[60]

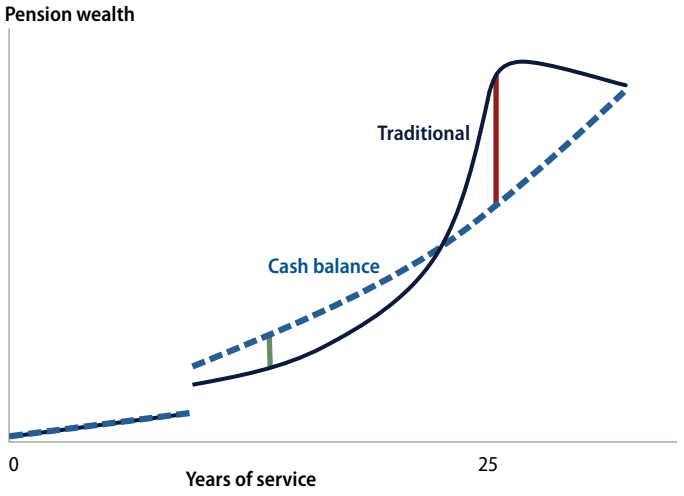
Increasing the rate of employer contributions on behalf of new teachers in cash-balance tiers of pension plans would address this concern directly, and a modest increase in employer contributions would have a desirable indirect effect. A modest increase would punctuate in two ways the shift in overall compensation philosophy that the adoption of cash-balance benefits for new teachers represents.

First, a modest increase in employer contributions on behalf of new teachers would further enhance the role of deferred compensation in the decisions of new early- and mid-career teachers. Second, a modest increase would signal the de-coupling of new teachers' pension benefits from final average salary, thus eroding support for the traditional salary schedule, and paving the way for adoption of salary policies allowing those teachers whom school districts would most like to retain—the most effective teachers, and those in shortage areas such as math and science—to earn higher salaries than other teachers.

FIGURE 2

The consequences of cash-balance tiers

Trajectories of pension wealth accrual for new teachers under a cash-balance defined-benefits scenario, and under the counterfactual, traditional arrangement



Source: This figure is modeled on Robert M. Costrell and Michael Podgursky, "Distribution of Benefits in Teacher Retirement Systems and Their Implications for Mobility," *Education Finance and Policy* 5 (4) 2010, available at http://www.mitpressjournals.org/toc/edfp/5/4, Figure 4. Note: The generic trajectories show what the these authors call "gross pension wealth," as opposed to net pension wealth, that portion of pension wealth deriving from employer contributions.

A modest increase in employer contributions for new teachers would have immediate symbolic value in the labor market, and the costs of such an increase would be phased in over time. Consider the hypothetical example of a district with a 25 percent teacher-turnover rate, a high figure, increasing employer contributions to new teachers' pensions by 1 percent of new teachers' compensation.[61] Such an increase would amount to well less than a quarter of 1 percent of total teacher compensation in the first year. Because new teachers are among those who would attrite in subsequent years, it could take the better part of a decade for the additional contributions to represent a full 1 percent of total teacher compensation, annually. In a district with a low turnover rate, this result might not obtain for a generation.

Even a modest new cost is serious business in states still hemorrhaging property wealth, the source of most revenue for public education. The role of the redefinition of benefits for new teachers and broader reform to teacher compensation may

be important in this sense. Recent national surveys highlight public willingness to boost public spending on teacher salaries if tied to innovative salary policies.[62] Perhaps a decade-plus of vociferous debate about education reform has keyed people into the importance of strategic thinking.

In contrast to a strategically defensible modest increase in employer contributions, an increase of the magnitude needed to make whole the new long-term, immobile teachers is cost prohibitive. Accrued pension wealth under the traditional defined-benefit plan for Missouri teachers, for example, is 10.3 percent of cumulative earnings at the time of vesting and peaks at approximately 47.8 percent.[63] But the rate of pension wealth accrual under a fiscally equivalent cash-balance plan would be static, and completely characterized by the employer contribution rate of 12.5 percent, the teacher contribution rate of 12.5 percent, and the rate of return guaranteed by the plan.

Nearly doubling contribution rates would take care of the new long-term, immobile teachers adversely affected by the steady accrual of pension wealth under cash-balance, but such increases are as unnecessary as they are unimaginable. Few new teachers can be expected to teach in the same state for long enough to be adversely affected by the redefinition of benefits, so huge increases in contribution rates corresponding to all new teachers for the sake of these few new teachers would be a terrible distortion of pension policy.[64] It would make far more sense for employers to ensure that new teachers receive effective guidance about retirement planning, and to elaborate voluntary retirement savings programs to ensure that long-term, immobile teachers have adequate post-retirement income.

There are many ways to structure voluntary retirement savings programs, which employers should integrate into their overall teacher compensation system. Indeed, employers may see fit to invest new resources in matching contributions to voluntary retirement savings accounts as a way of promoting retention.

Strategic vesting

The second potential cost associated with redefining pension benefits for new teachers has to do with the vesting of benefits. Traditionally defined-benefit plans employ "cliff" vesting, whereby teachers become suddenly eligible for a benefit after a fixed number of years, usually five years but as many as 10 years.[65] For all intents and purposes cliff vesting is a required feature of plans that define benefits in terms of final average salary, but a cash-balance arrangement for new teachers is quite amenable to graduated vesting of employer contributions.

Graduated vesting of deferred compensation is widely used in the private sector in defined-contribution plans, and graduated schedules already have a place in the context of employee retention-incentives in public education.[66] The Federal Perkins Loan program, for example, offers loan cancellation as a retention-incentive for teachers serving in high-poverty schools or hard-to-staff subjects. This schedule entails 15 percent loan forgiveness after year one, 30 percent after year two, 50 percent after year three, 70 percent after year four, and 100 percent after year five.[67] In the realm of tax-sheltered retirement savings, the Dallas Independent School District operates a 401(a) defined-contribution plan in which employer contributions are 25 percent vested after two years, 50 percent vested after three years, and 100 percent vested after four years.[68] These examples suggest a variety of options for introducing graduated vesting of employer contributions to new teachers' cash balance pensions.

There is strategic argument for graduated vesting of employers' pension contributions on behalf of new teachers. Some inexperienced teachers, notably Teach for America Corps members, are actually as effective in their first or second year as veteran teachers in the schools where they teach.[69] But approximately three out of every four Teach for America corps members leave teaching altogether before completing a traditional vesting period of 5 to 10 years.[70] Teach for America has ambitious growth plans, and a proliferation of initiatives designed to draw top talent into classrooms suggests a potential payoff in graduated vesting. Some top-flight new teachers would stay for an additional year, and become even more effective relative to veterans, were there a pension-based incentive to do so. A graduated schedule for the vesting of employer contributions can create such an incentive.

Any new costs associated with graduated vesting for new teachers would depend in part on the generosity of the vesting schedule relative to the status quo. Consider, for example, what would happen if the Teacher Retirement System of Texas, or TRS, adopted the Dallas 401(a) schedule instead of its current five-year cliff-vesting schedule. In this scenario new teachers that wind up separating from service after four years in the classroom would own all of the employer contributions made on their behalf to TRS. With an employer contribution rate of 6.4 percent and minimum new teacher salary of $27,320, each new four-year teacher carries a nominal cost of at least $7,000.[71]

But other conceivable schedules could turn out to be fiscally neutral, or close to it. For example, in lieu of cliff vesting at five years, new teachers could be 20-percent vested after three years, 40-percent vested after four years, and 60-percent

after five years, 80-percent vested after six years, and fully vested after seven years.[72] Under this scenario, the additional costs associated with new teachers that separate after three or four years would be at least partially defrayed by new teachers that separate after five or six years, thus forfeiting a fraction of employer contributions to their pensions that would have been vested under a five-year cliff vesting policy.

This paper does not embrace a specific vesting schedule, but it does urge policymakers to consider enlisting graduated vesting as a vehicle to further the workforce policy goals that motivate the cash-balance recommendation. Graduated vesting of deferred compensation plays a prominent role in the private sector among businesses competing for talented professionals, but in debates about vesting for teachers, the focus is almost exclusively on the length of cliff-vesting periods. The lead-up to a redefinition of pension benefits for new teachers is an opportunity to expand the debate. Given detailed information about attrition patterns and teacher salary across a state, researchers can construct formal projections of the costs associated with graduated vesting for new teachers.

Beyond basic cost projections, it would be nice to know more about the likely relationships between the characteristics of new teachers and their responses to a graduated vesting regime and other policy changes. There is currently a dearth of knowledge about such relationships. And this paper's recommendation to redefine pension benefits for new teachers rests on a lattice of indirect evidence and theory.

Researchers could generate knowledge needed to fine-tune pension and other compensation policies if they had access to relevant data.[73] Governing boards and legislatures should do what is necessary to follow in the footsteps of Missouri, where the Public School Retirement System shares information on teachers' individual retirement behavior with the State Department of Education, which in turn offers researchers access to de-identified data including information on teachers and students.[74] This type of access is behind a recent spike in knowledge anchored in several states, but most governing boards of pension systems are loath to share data in this way.[75] It may take statutory changes and additional prodding to secure cooperation, which is crucial if researchers are to glean knowledge about the effects of policy changes meant to affect the productivity of the teaching workforce.

Taking on the conventional wisdom

The idea of redefining benefits for new teachers with a cash-balance approach will be buffeted by conventional wisdom and pardonable leaps in logic. These problems arise from the history of cash-balance plans and their conceptual similarity to defined-contribution plans such as the 401(k).

The history around cash-balance pension plans is dominated by private-sector experience and the topic of conversion of traditionally accrued benefits to cash balances.[76] The topic of conversion is a thorny one for two reasons. First, legal challenges revolving around claims of age discrimination haunted cash-balance plans until 2006, when the 7th U.S. Circuit Court of Appeals put the age-discrimination story to rest with its decision recognizing the age-neutrality of a cash balance plan used by IBM, a high-tech corporation.[77] Second, fair conversion of traditionally accrued benefits to cash-balance involves significant costs.[78]

By confining the use of cash balance to new teachers, this paper's recommendations skirt the issue of conversion completely. This does not mean, however, that opponents of the idea will not raise the specters of age-discrimination and conversion costs.

Frequent analogies made between 401(k) plans and cash-balance defined-benefit pension plans create a potential confusion with respect to portability of benefits. The analogy is apt in the sense that notional accounts in cash-balance plans capture the level of expected benefits exactly the way 401(k) balances do. Portability of 401(k) balances, however, is bound up with the idea of roll-overs into tax-qualified vehicles such as Individual Retirement Accounts.[79]

But roll-overs are not what make cash-balance defined benefits for new teachers portable. Their portability comes instead from the fact that a teacher vested in a cash-balance plan suffers no penalty in benefit should she decide to leave the profession or begin teaching in another state. The reason is that cash-balance benefits accrue steadily, representing at all times a fixed percentage of cumulative earnings during the period of covered service.

Thus, a hypothetical teacher who works for 10 consecutive years in four different states offering cash-balance defined benefits would enjoy total benefits much as though she had worked the entire 40 years in just one of the states. Differing sala-

ries and contribution rates between states would certainly affect the total benefit, but the reasons that traditional benefits lack portability—final average salary from one employer eroded by inflation, failure to reach career milestone, excessive costs of purchasing service credits, and most importantly, forfeiture of employer contributions upon termination—would not.

Since cash-balance benefits are inherently portable, the main function of roll-overs away from them would be to divert public expenditures from low-cost, secure retirement income for new teachers to higher-cost, less secure arrangements. Prohibition of such roll-overs is smart and fair from a social benefit perspective. At the very least, policymakers should consider using tax incentives to discourage roll-overs, much as they should do to discourage teachers from taking the lump-sum option upon retirement.[80]

Conclusion

This paper offers three constructive recommendations that apply specifically to public school teachers, the largest group of state and local government employees, and one of special importance to the long-term economic competitiveness of our country. The recommendations embrace and protect existing defined-benefit pension plans, which are under withering attack across the country, because such plans play a role in ensuring that teachers have a secure, adequate post-retirement income at the least cost to employers.[81] Two of our recommendations safeguard the financial condition of existing defined-benefit plans.

The third recommendation is motivated by concerns about the effectiveness of the teaching workforce and equity in the distribution of teaching talent. Redefining pension benefits for new teachers using a cash-balance approach serves the practical needs of existing defined-benefit pension plans. This idea also matches the mobile and varied career aspirations of prospective teachers. And most importantly, it loosens the grip that the traditional salary schedule has on teacher compensation in the broadest sense.

Breaking compensation free of this grip is a necessary though not completely sufficient condition for building the teacher workforce needed to ensure U.S. economic competitiveness and equal opportunity for all children. Taking this first step by redefining teacher pensions would go a long way toward bolstering the quality of the teacher workforce and improving equity in the distribution of teaching talent.

Endnotes

1 Daniel Aaronson, Lisa Barrow, and William Sander, "Teachers and Student Achievement in the Chicago Public High Schools," *Journal of Labor Economics* 25 (1) (2007): 95-135; Steven Rivkin, Eric Hanushek, and John Kain, "Teachers, Schools and Academic Achievement," *Econometrica* 73 (2) (2005): 417-58; Jonah E. Rockoff, "The Impact of Individual Teachers on Student Achievement: Evidence from Panel Data," *American Economic Review* 94 (2) (2004): 247-252; Robert Gordon, Thomas J. Kane, and Douglas O. Staiger, "Identifying Effective Teachers using Performance on the Job" (Washington: The Brookings Institution, 2006).

2 Anthony P. Carnevale, Nicole Smith, and Jeff Strohl, "Help Wanted: Projections of Jobs and Education Requirements through 2018" (Washington: Center on Education and the Workforce, 2010), available at http://cew.georgetown.edu/JOBS2018/.

3 See, for example, Raegen Miller, "Tales of Teacher Absence" (Washington: Center for American Progress, 2008); Robin Chait and Raegen Miller, "Treating Different Teachers Differently" (Washington: Center for American Progress, 2010).

4 Jonah Rockoff, Brian Jacob, Thomas Kane, and Douglas Staiger "Can You Recognize an Effective Teacher When You Recruit One?" *Education Finance and Policy*, 6 (1) (2011): 43-74.

5 Robin Chait and Raegen Miller, "Treating Different Teachers Differently" (Washington: Center for American Progress, 2010).

6 Bureau of Labor Statistics, "Table 2. Retirement Benefits: Access, participation, and take-up rates, State and local government workers, National Compensation Survey" (2009), available at http://www.bls.gov/ncs/ebs/benefits/2009/ownership/govt/table02a.pdf.

7 Frederick M. Hess and Juliette P. Squire, "But the Pension Fund Was Just Sitting There …" *Education Finance and Policy 5* (4) 2010, available at http://www.mitpressjournals.org/toc/edfp/5/4.

8 Specifically, these recommendations are as follows. First, "States and other employers should pay their annual required contribution every year." Second, "All future changes to benefits should be reviewed for their impact on the plan's long-term financial health." See page 7, AFT Ad Hoc Committee on Revenues and Retirement Security, "Strengthening Retirement Security and Building a Better America" (American Federation of Teachers, 2011), available at http://www.urban.org/publications/1001455.html.

9 Chad Aldeman and Andrew J. Rotherham, "Better Benefits: Reforming Teacher Pensions for a Changing Work Force" (Education Sector, 2010), available at http://www.educationsector.org/publications/better-benefits-reforming-teacher-pensions-changing-work-force.

10 There are three fiscal requirements for receipt of Title I funds, and the requirements are overdue for a tune-up. See, for example, Saba Bireda and Raegen Miller, "Walking the Talk" (Washington: Center for American Progress, 2010), available at http://www.americanprogress.org/issues/2010/03/comparability_brief.html.

11 Pension wealth is the expected present value of the stream of annual payments to which a beneficiary is entitled to receive upon retirement. For a formal presentation of this definition, as well as descriptive analysis and simulations of the effects of reform, see Robert M. Costrell and Michael Podgursky, "Distribution of Benefits in Teacher Retirement Systems," *Education Finance and Policy* 5 (4) 2010.

12 Jacob Vigdor, "Scrap the Sacrosanct Salary Schedule," *Education Next*, 8 (4) (2008) available at http://media.hoover.org/sites/default/files/documents/ednext_20084_36Vigdor.pdf; Ann Duffett and others, "Waiting to Be Won Over: Teachers Speak on the Profession, Unions, and Reform" (Washington: Education Sector, 2008), available at http://www.educationsector.org/usr_doc/WaitingToBeWonOver.pdf; for a review of economic evidence about the effects of salary differentials on early career teachers, see Frank Adamson and Linda Darling-Hammond, "Speaking of Salaries" (Washington: Center for American Progress, 2011), available at http://www.americanprogress.org/issues/2011/05/teacher_salary.html.

13 There is currently a good deal of activity in states around elaborating and implementing meaningful performance evaluation systems for teachers. The federal Race to the Top Program stimulated some of this activity, and required that student achievement data be figured into the equation. For a view into the current activity, see Stephen Sawchuck, "States Flesh Out Teacher Evaluation Frameworks," *Education Week*, April 15, 2011, available at http://blogs.edweek.org/edweek/teacherbeat/2011/04/states_flesh_out_teacher_evalu.html?qs=teacher+evaluation; for the case that evaluation is in need of major attention, see Morgaen Donaldson, "So Long Lake Woebegon" (Washington: Center for American Progress, 2009), available at http://www.americanprogress.org/events/2009/06/teacherevaluation.html.

14 Craig Jerald, "Aligned by Design: How Teacher Compensation Reform Can Support and Reinforce Other Educational Reforms" (Washington: Center for American Progress, 2009) available at http://www.americanprogress.org/issues/2009/07/aligned_by_design.html. Moreover, findings of three recent surveys are consistent with the idea that new teachers are more supportive than veteran teachers of performance-based compensation reform. For an overview of the evidence, see Robin Chait, "Teacher Support for Compensation Reform" (Washington: Center for American Progress, 2009), available at http://www.americanprogress.org/issues/2009/11/compensation_surveys.html; For evidence that teachers in high demand fields such as mathematics and science are especially responsive to salary difference in their decisions to remain in teaching, see Richard J. Murnane and Randall J. Olsen, "the Effects of Salaries and opportunity Costs on Length of Stay in teaching: Evidence from North Carolina," *The Journal of Human Resources* 25 (1) (1990): 106–124; Barbara Q. Beaudin, "Former teachers Who Return to Public Schools: District and teacher Characteristics of teachers Who Return to the Districts they Left," *Educational Evaluation and Policy Analysis* 17 (4) (1995): 462–475. For evidence around retention of teachers who have higher measured ability and, presumably, have more options outside of teaching, see Todd R. Stinebrickner, "Estimation of a Duration Model in the Presence of Missing Data," *Review of Economics and Statistics* 81 (3) (1999): 529–542.

15 The assertion that veteran teachers wield disproportionate political power among teachers is practically self-evident. High rates of churn among new entrants to the profession and tenure policies represent a concrete basis for the assertion. New research is beginning to hone in on more nuanced questions about teachers and their unions. A survey conducted by Public Agenda and Learning Points Associates, for example, found that Generation Y (Millennial) teachers were less likely than older teachers, 36 percent versus 54 percent, to agree strongly with this statement: "Without collective bargaining, the working conditions and salaries of teachers would be much worse." See Jane G. Coggshall, Amber Ott, Ellen Behrstock, and Milly Lasagna, "Supporting Teacher Talent: The View From Generation Y" (2008) available at http://www.publicagenda.org/pages/supporting-teacher-talent-view-from-Generation-Y.

16 For statistic cited, see William H. Marinell, "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, 2009 (a version of this thesis is currently under peer-review); for related material, see William H. Marinell, "Mid-career teachers and principals." In B. Cooper & S. Conley, eds., *Finding, preparing, and supporting school leaders: Critical issues, useful solutions* (Lanham: Rowman & Littlefield Education, 2010) pp. 65-87.

17 Pew Research Center, "Millennials: Confident. Connected. Open to Change" (2010) p. 46, available at http://pewsocialtrends.org/assets/pdf/millennials-confident-connected-open-to-change.pdf.

18 Robert M. Costrell and Michael Podgursky, "Golden Handcuffs: Teachers Who Change Jobs Pay a High Price," *Education Next* 10 (1) (2010): 60–66, available at http://educationnext.org/golden-handcuffs/.

19 The following example is fairly typical. In Maryland's Montgomery County Public Schools, teachers with master's degrees and 20 years of experience in Florida, for example, would land on the 11th step on the salary schedule as though they had just 10 years of experience. See http://www.montgomeryschoolsmd.org/departments/ersc/employees/pay/schedules/salary.aspx.

20 Jennifer King Rice, "The Impact of Teacher Experience: Examining the Evidence and Policy Implications" (Washington: National Center for Analysis of Longitudinal Data in Education Research at the Urban Institute, 2010, Brief 11) available at http://www.urban.org/publications/1001455.html.

21 For a more comprehensive primer, see Janet S. Hansen, "Teacher Pensions: A Background Paper" (Washington: Committee for Economic Development, 2008) available at http://www.ced.org/library/reports/43/237-teacher-pensions; for a research brief covering a host of pension reform issues, see Janet S. Hansen, Michael J. Podgursky, and Robert M. Costrell, "Teacher Retirement Systems: Research Findings" (Nashville: National Center on Performance Incentives, 2009) available at http://www.performanceincentives.org/conference/Final_ResearchBriefNCPIlayoutJuly20.pdf.

22 The cash balance defined-benefit serving some of California's part-time and substitute teachers ties its guaranteed interest rate to the 30-year treasury rate, for example. See California State Teachers Retirement System, "Cash Balance Benefit Program" available at http://www.calstrs.com/Members/Cash%20Balance%20Benefit%20Program/summary.aspx.

23 The main reason that annuitized benefits should be the default option is to lower the risk that teachers outlive their savings, which is possible when teachers take a lump-sum distribution. For evidence relating to the take-up of different options under cash balance defined-benefit plans involving private-sector workers, see Kevin E. Cahill and Mauricio Soto, "How Do Cash Balance Plans Affect the Pension Landscape?" available at http://crr.bc.edu/images/stories/Briefs/ib_14.pdf?phpMyAdmin=43ac483c4de9t51d9eb41.

24 Beth Almeida and William B. Fornia, FSA, "A Better Bang for the Buck: The Economic Efficiencies of Defined Benefit Pension Plans" (Washington: National Institute on Retirement Security, 2008), p.12, available at http://www.nirsonline.org/storage/nirs/documents/Bang%20for%20the%20Buck%20Report.pdf.

25 Secretary of Education Arne Duncan, "The New Normal: Doing More with Less," Remarks at the American Enterprise Institute, November 17, 2010, available at http://www.aei.org/docLib/20101117-Arne-Duncan-Remarks.pdf.

26 26 U.S.C.§414(j), available at http://www.law.cornell.edu/uscode/26/414.html#j.

27 Employee Benefit Research Institute, "Fundamentals of Employee Benefit Programs" (2008) available at http://www.ebri.org/publications/books/?fa=fundamentals.

28 For a detailed discussion of the legal protections afforded benefits provided by public employee pension plans, see Amy Monahan, "Public Pension Plan Reform: The Legal Framework," *Education Finance and Policy* (5) (2010), available at http://ssrn.com/abstract=1573864.

29 Frederick M. Hess and Juliette P. Squire, "But the Pension Fund Was Just Sitting There …" *Education Finance and Policy* 5(4) 2010, available at http://www.mitpressjournals.org/toc/edfp/5/4.

30 Like many plans, the South Dakota Retirement System's plan uses different multipliers for different segments of service. The 2008 law (HB 1019) also moved forward by six years the date before which the 1.7 multiplier applies. See Ronald K. Snell, "Pensions and Retirement Plan Enactments in 2008 Legislatures" (Washington: National Conference of State Legislatures, 2008), available at http://www.ncsl.org/programs/fiscal/pensun08.htm.

31 South Dakota Retirement System, "Comprehensive Annual Financial Report" (2009), available at http://www.sdrs.sd.gov/files/documents/publication/2009%20CAFR.pdf.

32 Ken Ardon, "Public Pensions: Unfair to State Employees, Unfair to Taxpayers." White paper #30 (Pioneer Institute for Public Policy Research, 2006), available at http://www.pioneerinstitute.org/pdf/06_pension_paper1.pdf.

33 Robert M. Costrell and Michael Podgursky, "Efficiency and Equity in the Time Pattern of Teacher Pension Benefits: An Analysis of Four State Systems" (Washington: Center for Analysis of Longitudinal Data in Education Research, Urban Institute, 2007, Working Paper #6) available at http://www.caldercenter.org/PDF/1001070_Efficiency_Equity.pdf.

34 Ed Mendel, "Arnold: Republicans 'sold out' on pension reform," available at http://calpensions.com/2010/10/17/arnold-republicans-sold-out-on-pension-reform/.

35 Chad Aldeman and Andrew J. Rotherham, "Better Benefits: Reforming Teacher Pensions for a Changing Work Force."

36 For 2010-11, Pennsylvania school districts must make contributions to the Pennsylvania Public School Employees' Retirement System amounting to 5.64 percent of payroll, but this rate will be 8.65 percent, a 53 percent increase. See http://www.psers.state.pa.us/er/employer.htm. According to the Center on Budget Policy Priorities, Pennsylvania faces a budget gap going into 2011-12 equivalent to 16.2 percent of its current fiscal year budget. See Elizabeth McNichol, Phil Oliff and Nicholas Johnson, "States Continue to Feel Recession's Impact" (Washington, DC: Center on Budget and Policy Priorities, 2010) available at http://www.cbpp.org/files/9-8-08sfp.pdf.

37 Aldeman and Rotherham, "Better Benefits."

38 Oklahoma and New Jersey provide current case studies of the tensions that sometimes lead to pension holidays. See Mary Williams Walsh, "Pension Fraud by New Jersey is Cited by S.E.C." *The New York Times*, August 18, 2010 available at http://www.nytimes.com/2010/08/19/business/19muni.html; or Michael McNutt, "Officials Criticize Lack of Funds for Oklahoma Teachers' Retirement System" NewsOK, August 5, 2010, available at http://newsok.com/officials-criticize-lack-of-funds-for-oklahoma-teachers-retirement-system/article/3482542.

39 The subject of the discount rate used by actuaries when determining contribution rates is a controversial and technical topic. This paper does not address the subject. For an accessible treatment, see Aldeman and Rotherham, "Better Benefits."

40 Jay G. Chambers and others, "State and Local Implementation of the No Child Left Behind Act, Volume VI—Targeting and Uses of Federal Education Funds" (Washington: U.S. Department of Education, Office of Planning, Evaluation and Policy Development, Policy and Program Studies Service, 2009) p. 64, available at http://www2.ed.gov/rschstat/eval/disadv/nclb-targeting/nclb-targeting.pdf.

41 When a "government [employer] contributes less than the annual required contribution calculated by actuaries," the government is currently required to report this shortfall as a liability. See Governmental Accounting Standards Board, "Preliminary Views Supplement: Preliminary Views of the Governmental Accounting Standards Board on Major Issues Related to Pension Accounting and Financial Reporting by Employers" (2010) p. 2.

42 Nora Gordon, "Do Federal Grants Boost School Spending? Evidence from Title I" *Journal of Public Economics* 88 (9-10) (2004): 1771-1792.

43 See National Education Association, "Characteristics of Large Public Education Pension Plans" (2010), available at http://www.nea.org/assets/docs/HE/CharacteristicsLargePubEdPensionPlans2010.pdf. The Public Fund Survey tracks 126 pension plans, including ones involving teachers. Public Fund Survey, available at www.publicfundsurvey.org.

44 Teachers in the major school districts in these cities participate in pension plans operated by local systems: Chicago, Duluth, St. Paul, St. Louis, New York City, Austin, San Francisco, Denver, and Fairfax County, Virginia. See National Education Association, "Characteristics of Large Public Education Pension Plans."

45 The Hawaii Employees Retirement System, for example, increases post-retirement benefits automatically at a fixed rate of 2.5 percent. The Tennessee Consolidated Retirement System pegs the rate to the Consumer Price Index, but capped at 3 percent. Actuaries can factor such prescribed increases into far-sighted funding requirements. In contrast, ad hoc legislated increases to post-retirement benefits have to be folded into funding requirements after the fact. See National Education Association, "Characteristics of Large Public Education Pension Plans"

46 In the following states, the group of public school teachers is not included among employee groups for whom Social Security participation is mandatory: Arkansas, California, Colorado, Connecticut, Illinois, Kentucky, Louisiana, Massachusetts, Maine, Missouri, Nevada, Ohio, and Texas. The Section 218 agreements for some of these states, however, allow individual districts to fold teachers into Social Security. See Janet S. Hansen, "Teacher Pensions: A Background Paper" (Committee for Economic Development, 2008) available at http://www.ced.org/images/library/reports/education/report_educ200806pensions.pdf.

47 The effective percentage can be altered by caps on pension income. Many plans have no cap, but caps of 60 percent to 100 percent of final average salary are not rare. See National Education Association, "Characteristics of Large Public Education Pension Plans."

48 National Education Association, "Characteristics of Large Public Education Pension Plans."

49 Almeida and Fornia, "A Better Bang for the Buck."

50 National Education Association, "Characteristics of Large Public Education Pension Plans."

51 Ibid.

52 Costrell and Podgursky, "Efficiency and Equity in the Time Pattern of Teacher Pension Benefits: An Analysis of Four State Systems."

53 Robert Costrell and Michael Podgursky, "Reforming K-12 Educator Pensions: A Labor Market Perspective" (TIAA-CREF Institute Policy Brief, February 2011), available at http://www.tiaa-crefinstitute.org/pdf/research/dvds_books/pb_reformingpension0211a.pdf

54 Robert M. Costrell and Michael Podgursky, "Golden Handcuffs: Teachers Who Change Jobs Pay a High Price."

55 Pew Research Center, "Millennials: Confident. Connected. Open to Change" (2010) p. 46, available at http://pewsocialtrends.org/assets/pdf/millennials-confident-connected-open-to-change.pdf.

56 Jennifer King Rice, "The Impact of Teacher Experience: Examining the Evidence and Policy Implications."

57 Ilana Boivie and Beth Almeida, "Look Before You Leap: The Unintended Consequences of Pension Freezes" (Washington: National Institute on Retirement Security Issue Brief, October 2008), available at http://www.nirsonline.org/storage/nirs/documents/Pension%20Freeze%20Issue%20Brief.pdf.

58 Robert Costrell and Michael Podgursky, "Reforming K-12 Educator Pensions: A Labor Market Perspective."

59 See Maryland State Retirement and Pension System, "Summary of Pension Reform Changes Effective 07-01-2011" (2011), available at http://www.sra.state.md.us/News/Pension_Reform_Conference.pdf.

60 See, for example, Figure 1 in Robert Costrell and Michael Podgursky, "Reforming K-12 Educator Pensions: A Labor Market Perspective."

61 Ashley Keigher, "Teacher Attrition and Mobility: Results From the 2008–09 Teacher Follow-up Survey" (Washington: U.S. Department of Education, 2010) available at http://nces.ed.gov/pubs2010/2010353.pdf; What constitutes a modest increase depends on current rates of contribution. Pennsylvania's plight, mentioned above, involves an increase from 5.64 to 8.65 percent of compensation, an increase of 53 percent. An increase of one percent of compensation would constitute a 17.7 percent increase in employer contributions, certainly modest by comparison.

62 William Howell, Paul E. Peterson, and Martin West, "The Persuadable Public: The 2009 Education Next-PEPG Survey asks if information changes minds about school reform" *Education Next,* 9 (4) 2009, available at http://educationnext.org/persuadable-public/; "Americans' Views on Teacher Tenure, Merit Pay, and Other Education Reforms" *TIME*, September 9, 2010, available at http://www.time.com/time/nation/article/0,8599,2016994,00.html.

63 See Figure 4 and Table 2, Costrell and Podgursky, "Distribution of Benefits in Teacher Retirement Systems and Their Implications for Mobility."

64 Pew Research Center, "Millennials."

65 With a three-year vesting period, the North Dakota Teacher Fund for Retirement stands out among defined-benefit pension plans. Among large public education pension plans, 59 percent have five-year vesting and 17 percent have 10-year vesting. See National Education Association, "Characteristics of Large Public Education Pension Plans."

66 Under the Employee Retirement Income Security Act of 1974, private-sector employer contributions to pension plans become the property of employees in at most six years when a graduated schedule is used, and fewer in the case of cliff-vesting.

67 "Federal Perkins Loan Teacher Cancelation," available at http://studentaid.ed.gov/PORTALSWebApp/students/english/cancelperk.jsp.

68 "Dallas Independent School District 401(a) Teacher/Employee Recruitment and Retention Program Summary Plan Description" (2007), available at http://www.region10rams.org/files/401a/Dallas_ISD_TERRP_%28ends_8_31_08%29_Summary_Plan_Description_20100201113606.pdf.

69 Zeyu Xu, Jane Hannaway, and Colin Taylor, "Making a Difference? The Effects of Teach For America in High School" (Washington: The Urban Institute/CALDER 2008-09), available at http://www.urban.org/UploadedPDF/411642_Teach_America.pdf; Paul T. Decker, Daniel P. Mayer, and Steven Glazerman, "The Effects of Teach For America on Students" (Princeton: Mathematica Policy Research, Inc. 2004), available at http://www.teachforamerica.org/assets/documents/mathematica_results_6.9.04.pdf.

70 Survival analyses reveal that 27.8 percent of corps members persist in teaching for at least five years (a much smaller percentage remains in the same school). See Morgaen L. Donaldson and Susan Moore Johnson, "The Price of Misassignment: The Role of Teaching Assignments in Teach For America Teachers' Exit From Low-Income Schools and the Teaching Profession," *Educational Evaluation and Policy Analysis* 32 (2) (2010), available to subscribers at http://epa.sagepub.com/.

71 Teacher Retirement System of Texas, "TRS Benefit Handbook" (2009), available at http://www.trs.state.tx.us/benefits/documents/benefits_handbook.pdf; "2010-2011 Minimum Salary Schedule," Texas Education Agency, available at http://www.tea.state.tx.us/index2.aspx?id=2147485382.

72 For a discussion of potential costs of 7-year graduated vesting for public employees, see Kansas Public Employees Retirement System, "Plan Design: A Review of Current Public Pension Issues" (2000), available at http://www.nasra.org/resources/Kansas%20study.pdf.

73 Researchers seeking to estimate the effects of pension plan characteristics on the quality of the teacher workforce face many challenges. One that has proved insurmountable in many jurisdictions is obtaining relevant data from pension system administrators. Real and perceived legal barriers play a part in this, which is a shame because there exist adequate research protocols for protecting individuals and tax identification numbers offer a perfect unique identifier by which to match pension records with district or state department of education data on teachers.

74 Personal communication from Michael Podgursky, professor of economics at the University of Missouri, July 14, 2010.

75 See, for example, Robert M. Costrell and Michael Podgursky, "Distribution of Benefits in Teacher Retirement Systems and Their Implications for Mobility."

76 Kevin E. Cahill and Mauricio Soto, "How Do Cash Balance Plans Affect the Pension Landscape?" Research Brief 14 (Boston: Center for Retirement Research, 2003), available at http://crr.bc.edu/images/stories/Briefs/ib_14.pdf; Report to the Chairman, Special Committee on Aging, United States Senate, "Cash Balance Plans: Implications for Retirement Income" (General Accounting Office, 2000), available at http://www.gao.gov/products/HEHS-00-207.

77 Cooper v. IBM, (7th Cir. 2006), available at http://www.ca7.uscourts.gov/tmp/7R0TTIBS.pdf.

78 Christian E. Weller, "Ensuring Retirement Income Security with Cash Balance Plans." (Washington: Center for American Progress, 2005).

79 26 U.S.C § 401 defines qualified plans, an involved subject.

80 Christian E. Weller, "Ensuring Retirement Income Security with Cash Balance Plans."

81 For a survey of these attacks, see Ron Snell, "Pension Reform: Not Easy, But Worth It" (Washington: National Conference of State Legislatures, 2010), available at http://www.ncsl.org/?tabid=20716.

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