



Could a Cash Balance Plan Benefit Illinois Public School Teachers?

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The Teachers' Retirement System of the State of Illinois is one of the worst-funded public pensions in the nation. In 2013, it held enough assets to cover only 41 percent of its future obligations (Buck Consultants 2014). This shortfall has led to several reforms, mostly involving benefit cuts that have undermined retirement income security for Illinois teachers and made it more difficult for Illinois school districts to attract and retain qualified teachers.

Instead of simply cutting teacher pensions, state policymakers should consider altering the plan design to distribute benefits more evenly across the workforce. One option is a cash balance plan, which combines features of 401(k)-type plans and traditional pensions. Under these plans, employers contribute a set share of each employee's salary each year to a retirement fund that earns investment returns. Plan benefits are expressed as an account balance, as in a 401(k) plan, but investments are pooled and professionally managed, and often guarantee some minimum return. Because the account balance may continue to increase with investment returns after teachers separate, teachers who separate early may accumulate substantial savings by the time they reach retirement age. In the existing teacher pension plan, however, retirement benefits are frozen when teachers separate, so inflation and lost interest erode their values while teachers wait to collect. Cash balance plans would thus put teachers who spend less than a full career in public employment on a path to retirement security and enable more members to accumulate retirement benefits, an increasingly important feature as employees change jobs more frequently. In addition, cash balance plans allow participants to

collect their benefits as lifetime annuities (instead of having to purchase them from private insurance companies that usually offer unfavorable rates).

This brief describes the distribution of pensions provided to Illinois teachers under the current plan and simulates outcomes under a proposed cash balance plan. Our longer report (Johnson and Southgate 2014) details our methods. Results show that 72 percent of Illinois public school teachers hired before 2011—and 56 percent of those with five or more years of completed service—would fare better in the simulated cash balance plan, even though the cash balance plan would be no more costly to taxpayers than the existing plan.

Retirement Benefits under the Existing Plan

The retirement system includes two tiers, one covering Illinois teachers hired before January 1, 2011, and the second covering those hired later. Tier-1 teachers receive lifetime pensions equal to 2.2 percent of their final average salaries multiplied by completed years of service, capped at 75 percent of their final average salaries. Final average salary is calculated over teachers' 4 consecutive highest-compensated years of service during their final 10 service years. Teachers may begin collecting full benefits at age 62 if they have completed at least 5 years of service, at age 60 if they have completed at least 10 years of service, or at age 55 if they have completed at least 35 years of service. Reduced early pensions are available at age 55 for teachers who do not qualify for full benefits but have at least 20 years of service. Once retirees begin collecting, their pensions automatically rise 3 percent each year, regardless of the inflation rate. These escalators, however, do not begin until age 61.

Tier 2 cuts teacher pensions for new hires by restricting benefit eligibility, lengthening the final average salary calculation, and limiting cost-of-living adjustments for retirees. Tier-2 teachers do not qualify for full benefits until they have completed 10 years of service and reached age 67. Reduced early benefits are available at age 62, after 10 years of service. Final average salary is calculated over teachers' 8 consecutive highest-compensated years of service during their final 10 service years. Annual cost-of-living adjustments are set equal to one-half the percentage change in the consumer price index, but they may not exceed 3 percent and do not begin until age 67.

Teachers in both tiers must contribute 8.4 percent of their salaries each year. Upon separation, they may elect refunds of their contributions instead of receiving future pension benefits, but they do not receive any interest on those past contributions.

Long-tenured public school teachers in Illinois earn substantial retirement benefits in the tier-1 plan. For example, teachers hired at age 25 who complete 35 years of service and earn average salaries

over their careers will receive lifetime pensions that pay \$96,500 a year at age 67, in 2014 constant dollars, and are worth \$1.3 million over their lifetimes. Although teachers must contribute 8.4 percent of their salaries each year to the plan to help offset the cost of these benefits, a 35-year career would generate \$740,000 in lifetime employer-financed benefits for age-25 hires. Teachers hired relatively late in life also receive generous pensions in the original state pension plan.

However, teachers who join the state payroll at relatively young ages and stay for less than 25 years get little, if anything, from the plan. For example, age-25 hires must teach for 22 years before they accumulate rights to future pension benefits worth more than their required plan contributions. Teachers who choose to have their contributions refunded lose money because the plan does not credit them with any interest. Only 18 percent of newly hired teachers remain in state employment for 25 years, and only 30 percent of new hires stay for at least 5 years. Overall, 66 percent of all newly hired teachers and 47 percent of teachers who complete at least five years of service would lose money by participating in the tier-1 plan.

Recent reforms make Illinois's state pension plan even less appealing to most public school teachers. For age-25 hires who retire after 35 years of service, the tier-2 plan provides pensions worth \$609,000 over their lifetimes, less than half as much as they would receive in the tier-1 plan and only \$6,000 more than the value of their required plan contributions. Required tier-2 plan contributions are worth more than future pensions for all age-25 hires who separate with less than 35 years of service or more than 43 years of service. Overall, 84 percent of all newly hired teachers and 74 percent of teachers who complete at least five years of service lose money by participating in the tier-2 plan.

Which teachers benefit most from the existing tiers depends on when they are hired and how long they work. For example, age-25 hires receive about \$234,000 from the tier-1 plan, net of their own required contributions, if they separate with 29 years of completed service, but \$389,000 if they complete 30 years. Relative to their career earnings, age-55 hires in tier 1 who separate after 7 years of service receive 17 times as many state-financed benefits as age-25 hires who separate after 23 years. But age-25 hires in tier 1 who retire after 42 years of service receive only about one-third as many state-financed benefits, relative to their career earnings, as those who retire after 35 years.

Potential Outcomes under a Cash Balance Plan

Illinois State Senator Daniel Biss (D-Evanston) introduced a bill in 2012 to create a cash balance plan for state employees, including public school teachers.¹ Under his proposal, teachers and school districts would each contribute the same share of teachers' salaries to the plan. Account balances would receive

interest credits equal to the actual state return on investments, but no less than 5 percent and no more than 10 percent in any year. Both employee and employer contributions would vest immediately. Upon separation, teachers could immediately withdraw their balances, or they could keep their funds in the plan and receive an actuarially fair, lifetime annuity beginning at age 67. The annuity would be computed using a 5 percent interest rate and would provide the same cost-of-living adjustment as the tier-2 plan.² Teachers who left state employment before age 67 and chose to keep their balances in the plan would earn 5 percent interest each year until they began collecting their annuities.

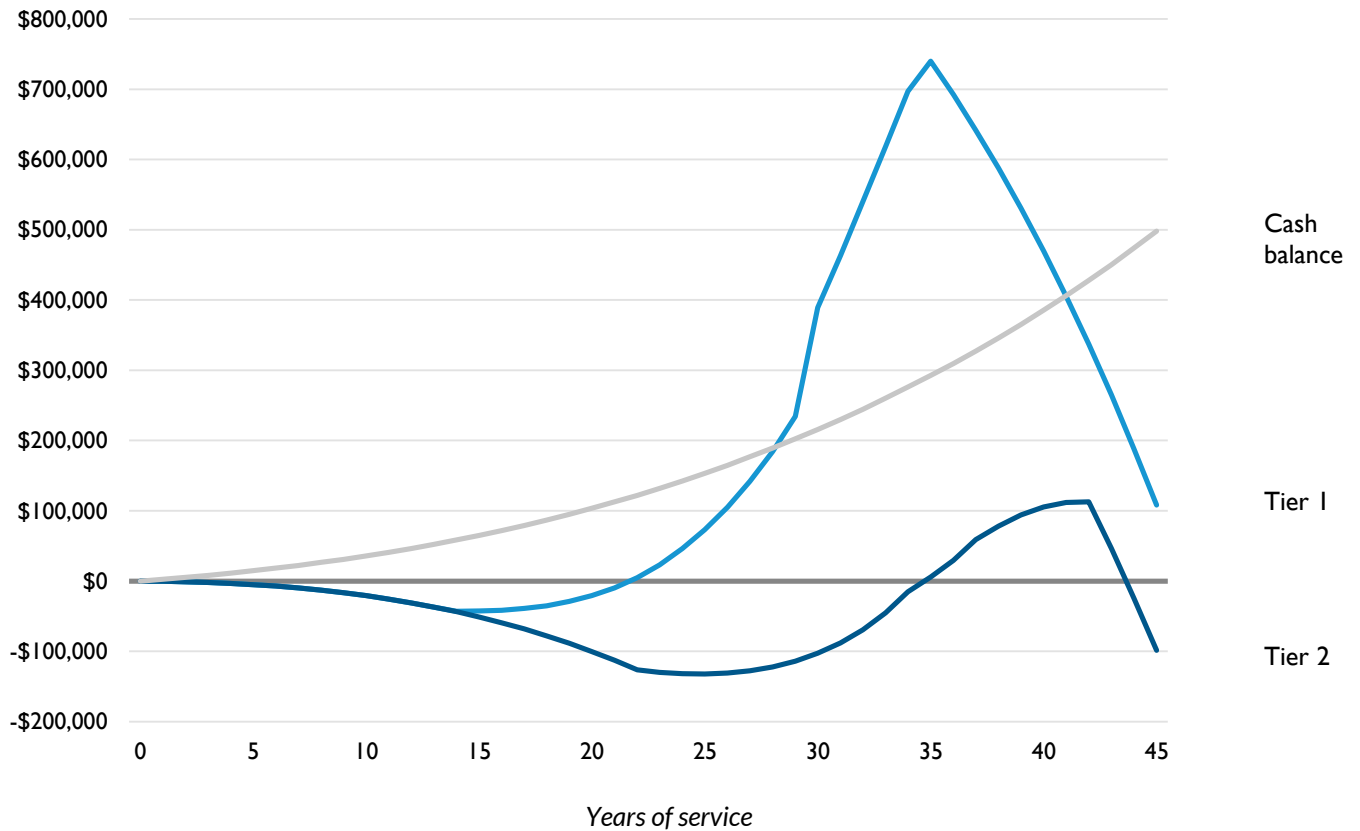
We simulated future pension benefits for newly hired Illinois public school teachers in a cash balance plan similar to Senator Biss's proposal. We modified the contribution rates he proposed so that the expected employer cost of the plan for new hires would equal the expected cost of the tier-1 plan. We set employee contribution rates at 8.4 percent, the existing rate in tiers 1 and 2, which implies an employer contribution rate of 5.0 percent to equilibrate expected costs.³ All other elements of the simulated cash balance plan are as described in Senator Biss's proposal. Outcomes under the cash balance plan are uncertain because they depend on variable investment returns. We accounted for this uncertainty by simulating benefits under 1,000 investment return scenarios and reporting the average outcome. The random investment return for each scenario was drawn from a normal distribution with a mean of 8.0 percent and standard deviation of 11.0 percent. We measured the lifetime benefits in the cash balance plan as the account balance accumulated by the time teachers separate from state employment.

Average account balances in a cash balance plan structured under these terms would grow steadily over a career. Assuming that the accounts earn expected returns of 8 percent—the current rate of return assumed by the plan's trustees—teachers hired in 2014 at age 25 can expect to accumulate \$99,000 (in constant 2014 dollars) after 10 years of service, \$298,000 after 20 years, \$646,000 after 30 years, and \$1.2 million after 40 years. Teacher contributions account for about two-thirds of the accumulated balance.

Most teachers hired at age 25 would receive more from the simulated cash balance plan than the existing state pension plans (figure 1). The proposed cash balance plan would generate higher lifetime benefits, net of teacher contributions, for all age-25 hires in tier 2 and for all age-25 hires in tier 1 except for those teachers retiring with between 29 and 40 years of completed service. For many teachers, the gains from transitioning to the cash balance plan would be substantial. Relative to tier 1, for example, teachers would gain \$57,000 in net lifetime benefits after 10 years of service by transitioning to the cash balance plan and \$124,000 after 20 years of service. Tier-2 teachers with 25

years of service would gain \$286,000 in net lifetime benefits by moving into the simulated cash balance plan.

FIGURE 1
Expected Value of Lifetime Pension Benefits Net of Employee Contributions for Tier 1, Tier 2, and the Proposed Cash Balance Plan



Source: Authors' calculations based on plan documents and actuarial reports.

Notes: All monetary figures are in constant 2014 dollars. Estimates assume that investments earn 8 percent per year and the annual inflation rate is 3.25 percent, the rates adopted by the teacher retirement system.

Overall, 72 percent of Illinois public school teachers in the tier-1 pension plan would fare better in the simulated cash balance plan, including 56 percent of teachers with five or more years of completed service, even though the cash balance plan would be no more costly to taxpayers than the tier-1 plan. Teachers with relatively short tenures and those who join the state payroll at relatively young ages are most likely to gain in the cash balance plan. For example, the cash balance plan would generate higher pensions for 91 percent of teachers separating with between 5 and 9 years of completed service, 81 percent of those separating with between 10 and 14 years of service, and 52 percent of those

separating with between 15 and 19 years of service, as well as nearly all teachers who separate with less than 5 years of service. By contrast, only 9 percent of teachers with between 30 and 34 years of service would fare better under the cash balance plan. In addition, 84 percent of teachers hired before age 25, 76 percent of teachers hired at ages 25 to 29, and 66 percent of teachers hired at ages 30 to 34 would gain in the cash balance plan compared with only 45 percent of teachers hired at ages 40 to 49. Gains from transitioning to the cash balance plan would be substantial. Teachers with five or more years of service who would fare better in the cash balance plan would experience a median gain of \$45,000 in lifetime benefits net of their own contributions.

Teachers receiving few benefits in the existing state pension plan would fare better in the cash balance plan. In tier 1, 66 percent of teachers would not receive any state-financed benefits from the existing pension plan. All would gain in the simulated cash balance plan. However, only 11 percent of tier-1 teachers receiving \$50,000 or more in tier-1 pension benefits, net of their own contributions, would do better in the cash balance plan.

Conclusions

Enrolling newly hired teachers in a cash balance plan instead of the existing traditional final average salary plan would not solve all the problems plaguing Illinois teacher pensions. For example, the state must still figure out how to pay for the existing unfunded liabilities that have accumulated primarily as a result of the state's past failures to make its required plan contributions. Moreover, there is no guarantee that the state will satisfy any future financial obligations to the cash balance plan, given past failures to fund the traditional plan. Nonetheless, cash balance plans offer several important advantages. The cash balance format would relieve taxpayers from bearing the entire investment risk associated with the teacher retirement plan by shifting some of those risks to teachers. It would also limit the uncertainty involved in projecting future pension obligations, thus reducing the chances that the pension fund would be unable to pay promised benefits. Most importantly, a cash balance plan would distribute pension benefits more fairly than the existing traditional plan, promoting retirement security for both short- and long-term teachers.

Notes

1. For details, see H.R. 6149, 97th General Assembly (IL 2011 and 2012). <http://www.ilga.gov/legislation/97/HB/09700HB6149.htm>.
2. The cost-of-living adjustment would be paid out of the account balance.
3. Senator Biss's proposal sets both employee and employer contribution rates at 8 percent for state employees who are not covered by Social Security.

References

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