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Teacher Pensions and Teacher Quality

DRAWING ON EXISTING EVIDENCE TO FORMULATE NEW IDEAS

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Over the past twenty years, the cost of teacher pensions has ballooned. Districts with the highest spending on pension costs for teachers now spend almost 10 percent of their annual per pupil expenditures on those pensions (and that does not include contributions made by the state or employees). At the same time, the financial footing of many pension systems, which took a hit in the Great Recession, has failed to recover in many states. With these concurrent patterns, increased attention has been focused on those pensions in both academic and policy circles.

Also, over this period research has made clear what many people have already known: teachers can have a powerful impact on student learning. Yet, there is little connection between teacher compensation and their ability to improve student learning. In this brief, I draw on existing literature to describe teacher pension systems, including how they differ from other pension systems, and discuss the implications of those systems for the quality of teachers in schools. Deferred compensation systems like teacher defined benefit plans are designed with the idea of retaining teachers and inducing effort through the threat of dismissal before the payoff period (i.e., before eligibility for the pension). However, this review of the literature finds little relationship between teacher quality and pension incentives, probably in part because, in public schools today, tenure protects teachers from the threat of dismissal. I conclude by offering a range of policy options. I offer some new possibilities grounded in the goals of (1) giving teachers the option to have more of their lifetime compensation paid to them while they are working and (2) giving citizens information about how much money is spent on teacher pensions (at the expense of spending on other things).

Intro to Teacher Compensation

Teacher compensation can be divided into two main components: current compensation and deferred compensation. Current compensation consists of salary, other earnings, and benefits (health insurance, vacation and sick days, class size and other working conditions, etc.) while employed. Deferred compensation is composed of the retirement benefits and other benefits former employees receive once they retire and are no longer working. The focus of this brief is on deferred compensation,

specifically teacher pensions (though I will also briefly discuss retiree health insurance below).

Importantly, very little of teacher compensation, whether current or deferred, salary or benefits, is directly linked to teacher performance in the classroom. Instead, most forms of teacher compensation, both current and deferred, are tightly connected to teacher experience. In current compensation, this occurs through a salary schedule that heavily emphasizes experience and that gives cost-of-living adjustments in percentage terms (thereby giving experienced teachers higher cost-of-living adjustments in dollar terms). In deferred compensation, the emphasis on experience happens in a couple of ways. First, this occurs through the fact that retirement benefits are based on earnings at the point where the employee stops working for the pension system. Second, this occurs through the highly nonlinear returns that accrue to teachers and administrators who spend long periods of time working within the same pension system. Although teachers' ability to improve student test scores improves with experience (Papay and Kraft 2015, Wiswal 2014), the current compensation system does not do well at retaining the highest-value-added teachers (Wiswal 2014).

The consequence of this is an overall pay structure that is highly backloaded and has very limited ability to attract, retain, and reward the highest-quality teachers. Changes to teacher compensation, including to the pension system, could be used to reward high-quality teachers, thereby enticing better teachers into the classroom and encouraging them to stay.

Overview of Teacher Pensions[1]

Although the salaries and earnings while teachers are employed are mostly determined by districts, most teacher pension plans are administered at the state level.[2] In about half of the states, teachers participate in a pension system that includes only teachers; in the other half, teachers participate in a pension plan that also includes other public sector employees. All teacher pension systems, save one in Alaska, are either defined benefit pension systems or systems with a defined benefit component. In six states, teachers are offered a choice to enroll in either a defined benefit or defined contribution plan. Nationwide, in 2018, 89 percent of teachers participated in a defined benefit pension plan.[3]

In most states, teachers contribute federal Social Security taxes and therefore are eligible for a Social Security retirement benefit. In fifteen states, teachers do not pay federal Social Security taxes while employed in the public schools; in another three states, some teachers participate in Social Security while others do not. However, even teachers who do not participate in Social Security during their employment in the public schools may still qualify for retirement benefits from Social Security through other employment or through their spouses' employment.

The pensions of public school teachers are quite different from their counterparts in the private sector. For example, in 2005, while 92 percent of public sector employees had access to a defined benefit-style pension through their employer, only 33 percent of private sector workers did (Munnell, Haverstick, and Soto 2007). As described below, these defined benefit systems have multiple features that lead teachers' lifetime compensation to be more backloaded than the compensation of other professions (Roza 2015). Also, as it stands now, the compensation in these systems does little to reward teacher quality. Therefore, along two important dimensions, the teacher pension systems compound two key inefficiencies in teacher current compensation. As discussed later, correcting these inefficiencies would likely lead to improvements in teacher quality, in part by making teacher compensation more attractive relative to other job opportunities of early career teachers.

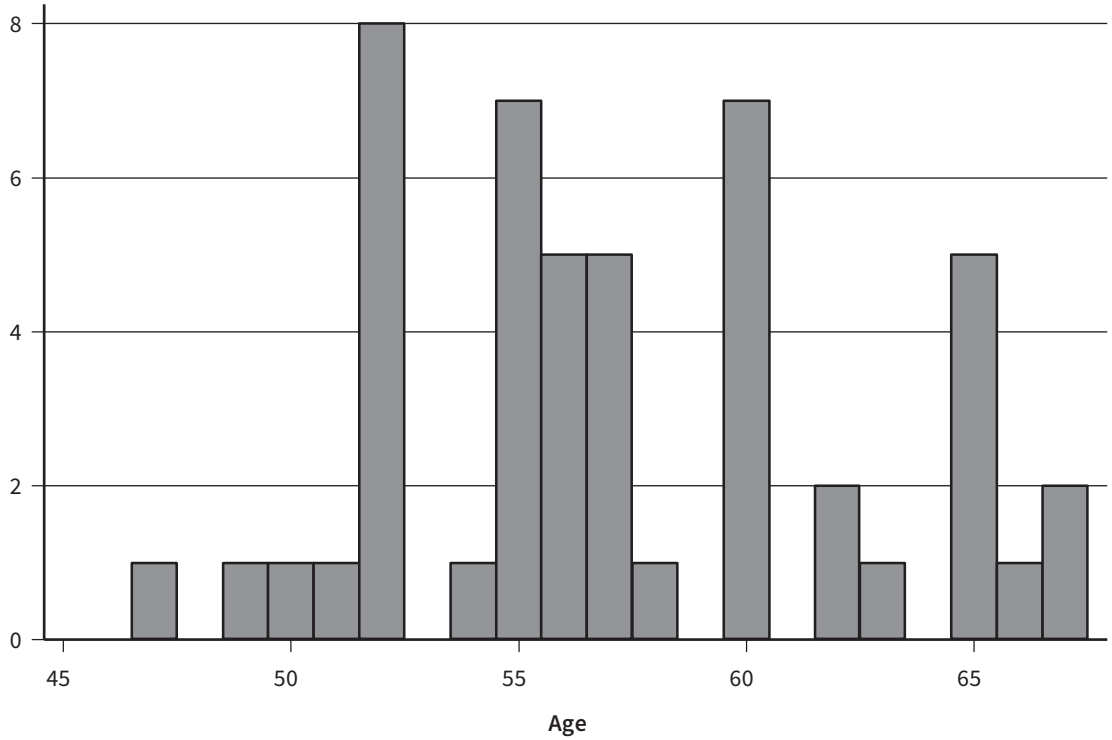
Key Features of Defined Benefit Plans

In defined benefit pension plans, upon retirement, members receive a set (or defined) benefit rather than a benefit determined by the amount the employee contributed. Probably the most well-known defined benefit system in the United States is Social Security, in which workers contribute payroll taxes throughout their lives in exchange for a retirement benefit of a predetermined size that is proportional to their earnings over the course of their lifetimes.

While eligibility for benefits in Social Security is completely determined by a participant's age, in teacher pension defined benefit plans, eligibility for benefits is determined by a participant's age, years of service, or some combination of the two. For example, in California, teachers who have vested in the system can retire at age fifty-five. In another example, teachers in the New York State pension system may retire with thirty-five years of service regardless of their age. And, in a third example, in the Texas Teachers' Retirement System, eligibility is determined by the rule of eighty: any combination of age and years of service totaling at least eighty makes someone eligible to begin collecting retirement benefits if the employee is at least age sixty.

It is useful to place the ages of retirement eligibility in teacher pension systems in the context of the retirement ages in Social Security. To do so, I calculated the earliest age at which a continuously employed teacher who started working at age twenty-two becomes eligible for an unreduced retirement benefit, known as the normal retirement benefit, in each state's pension system.[4] The distribution of these ages across states is shown in figure 1. The age of retirement eligibility for career teachers ranges from forty-seven to sixty-seven. The age at which Americans today are eligible for "full" benefit collection in Social Security is sixty-six. In comparison, only one state system has pension eligibility rules for career teachers that would preclude them from collecting their full pension benefits by age sixty-six.[5]

Figure 1. Number of states with each normal retirement age for state teacher pension systems, including the forty-nine states with defined benefit pension systems for teachers in 2011*



** Earliest retirement age, unreduced benefits, for teacher who started teaching at age 22.*

Source: Data from Doherty, Jacobs, and Lueken 2012.

That these eligibility ages are relatively early in people's lives is particularly important because the incentives to retire immediately upon reaching either early or normal eligibility in teacher pension systems are quite strong. This is because, although the expected present value of lifetime pension wealth typically increases as people continue working, it often jumps upward at the early and normal retirement ages and begins declining afterward. There are clear points, namely vesting and normal retirement age, where pension wealth increases markedly. For a specific concrete example, Costrell and McGee (2010) show that lifetime pension wealth for a teacher in Arkansas who works continuously starting at age twenty-five *doubles* if the teacher retires at the early retirement age rather than the year before. Koedel and Podgursky (2016) show that similar increases in pension wealth are possible for teachers in Missouri.

Importantly, this structure means that workers who are mobile or who for other reasons do not stay within the same teacher pension system for twenty to thirty years will receive relatively little. This is because not staying until the high-increasing years of pension wealth accrual means forgoing a large part of one's pension wealth. This

is in contrast to Social Security, which is portable across employers. In addition, these defined benefit systems often require teachers to accrue between five and ten years within the pension system before a teacher is eligible for a pension. Teachers who spend less time in the profession forgo collecting benefits entirely.[6]

Another notable difference between public sector pensions and Social Security is in the definition of earnings used to calculate the retirement benefit. Social Security retirement benefits are a function of earnings over workers' lifetimes.[7] Benefits in defined benefit plans for public school teachers are instead a function of workers' "final" or "end-of-career" earnings. Operationally, "final" is defined as the average of employee earnings in the last one to five years of their careers.[8] Since earnings are typically highest at the end of people's careers, this difference makes teacher pension plans more generous than Social Security, on average.

Similarly, relative to Social Security, teacher pensions are relatively generous in terms of payout. A pension system's generosity can be measured in terms of the fraction of end-of-career earnings that the retirement benefit replaces, known as the replacement rate. The median replacement rate of Social Security in terms of final earnings is 64 percent and the replacement rate in Social Security decreases with lifetime labor supply (Biggs and Springstead 2008). In teacher pensions, the replacement rate in terms of final average salary is equal the benefit factor multiplied by years of service. Benefit factors range between 1.1 and 2.5 per year of service across plans.[9] While seventeen states cap the maximum benefit a retiree can collect, just three of those states have caps below 75 percent of final earnings.

The combination of nonlinear incentives, final average salary calculations, and relatively high replacement rates leads teacher pay to be much more backloaded than pay in other similar fields. At the same time, while employed, the rigid and steeply sloped experience-based salary schedules and automatic cost-of-living adjustments in percentage terms lead teacher compensation to be much more backloaded than in other professions (Vigdor 2008, Roza 2015). Therefore, these features of the pension system compound the backloading of teacher pay relative to other professions.

Another feature of most teacher pension plans is a restriction on the number of hours an employee can work or the amount of earnings her employment can generate while she is collecting a retirement benefit. In principle, these restrictions stem from a desire to not allow employees to "double-dip" (to receive both a pension and a salary at the same time). These are similar to restrictions on earnings in Social Security but the restrictions in teacher pensions are much stricter.[10] Also, in Social Security, these restrictions disappear once workers reach older ages. In teacher pension systems, these restrictions are in place regardless of teacher age, experience, or quality.[11]

Teacher pension systems are funded through three types of contributions (employee, employer, and state). Additional funds come from the returns on any assets remaining in the pension fund after current obligations have been met. Employees and employers (districts) contribute set percentages of employee earnings each year to the pension system, while states make contributions on either a regularly scheduled or ad hoc basis. Because payments to retirees are fixed at predetermined levels that are not directly connected to fund assets, the investment risk in teacher pension systems is borne by the systems, not by teachers.

Key Features of DC Plans

The structure of defined benefit pension plans for teachers stands in stark contrast to the structure of defined contribution plans that are more typical in the private sector. In defined contribution plans, employees and employers make contributions throughout employees' work-lives. Those contributions are placed in individual retirement savings accounts. The accrual of pension wealth in defined contribution plans is smooth throughout employees' careers. Vesting periods range from zero to three years and accrued pension wealth is typically portable across employers. Because investment choices are made by employees (with some restrictions) and pension wealth is comprised of the accrued contributions and earnings on those contributions, investment risk in defined contribution plans is borne by the employee. However, as with defined benefit plans, there is no explicit component of defined contribution plans that is directly linked to teacher performance (unless the underlying salaries are based on teacher performance).

Retiree Health Insurance

In addition to pensions, public school teachers in forty-nine states have access to retiree health insurance (Pew Charitable Trusts and MacArthur Foundation 2016).[12] These state-sponsored retiree health insurance programs provide subsidized health insurance to teachers collecting benefits from the state pension system. By providing health insurance to older public school employees before they qualify for Medicare at age sixty-five, retiree health insurance systems make it easier for career teachers to leave their jobs. Because the retiree health insurance is only available to former employees collecting retirement benefits, the offer of retiree health insurance likely exacerbates the incentives inherent in pension systems described below. This is supported by research that has shown that the offer of retiree health insurance leads public school teachers to retire earlier than they would have otherwise (Fitzpatrick 2014). It is beyond the scope of this brief, but reforming teacher retiree health insurance along the lines of the reforms to teacher pensions suggested below would have an effect on teacher quality and the overall fiscal health of state and local teacher compensation (since these plans are even more underfunded than teacher pensions discussed below).

Effects of Teacher Pensions on Teacher Quality

Various features of the defined benefit teacher pension systems affect teachers' decisions about where to work, when to work, and how to work that inevitably affect student outcomes and well-being. In this section, I first discuss the research evidence on these distortions and how they relate to teacher quality. Then, I turn to discussion of the teachers' preferences for pension benefits relative to other forms of compensation and for different types of pension benefits.

The nonlinear accrual of pension wealth heavily encourages retirement at certain ages or levels of experience, particularly those ages where an employee reaches eligibility for either the early or normal retirement benefit. Said differently, for employees nearing the early or normal retirement ages, there is a strong incentive to continue working in public schools in order to obtain the large increase in pension wealth at the relevant age. Since pension wealth begins declining after the normal retirement age, there is a strong incentive to stop working at or just after the normal retirement age.

There is now an extensive literature using data from many different states and different eligibility ages that confirms that teachers' decisions about when to retire are heavily influenced by eligibility ages and the related incentives in their pension systems (Furgeson, Strauss, and Vogt 2006; Harris and Adams 2007; Costrell and Podgursky 2009; Costrell and McGee 2010; Brown 2013; Fitzpatrick and Lovenheim 2014; Ni and Podgursky 2016; Ni, Podgursky, and Wang 2019).

Importantly, in the current pension systems, the financial incentive to continue working or not around the retirement eligibility point is not directly related to teacher quality. If the teachers retained during the run-up to eligibility are of higher quality, on average, than their peers who leave earlier, then the system is working to improve overall teacher quality. Also, if the teachers who leave just after reaching eligibility are of lower quality than later retirees, then the system is also working to improve teacher quality.

The first type of evidence on how incentives in defined benefit pensions alter the quality of the teaching workforce comes from Illinois where, in the 1990s, teachers were offered a generous early retirement incentive that allowed retirement up to five years earlier than traditionally permitted in the system. Teachers who retired when the early retirement incentive was introduced were more likely to be those waiting for retirement eligibility before retiring. Fitzpatrick and Lovenheim (2014) show that, despite causing nearly 10 percent of the teaching workforce to retire, the early retirement incentive had little effect on test scores. This suggests that the teachers induced to stay until retirement eligibility are no better or worse on average than the average teacher in the system and likely worse than the average retiree (since more experienced teachers are on average higher-quality teachers than the average teacher).

The second type of evidence comes from research utilizing direct measures of teacher quality (from value-added scores and other measures used in teacher evaluation systems). In studies using data from Missouri, North Carolina, and Tennessee, researchers have examined whether higher- or lower-quality teachers are more likely to be induced to stay or retire by the nonlinearities in pension wealth accrual around eligibility ages (Koedel, Podgursky, and Shi 2013; Mahler 2018; Ni, Podgursky, and Wang 2019). The results across these studies are mixed on some margins, but this may be because some of them lack statistical power. One thing that is consistent across this research is that good teachers are being "pushed" out of teaching by the way incentives change after reaching the normal retirement ages. Designing a system that encourages those teachers to continue in the classroom would improve child outcomes.

At a minimum, the existing empirical evidence suggests that the incentives driven by nonlinear wealth accumulation are doing little to improve teacher quality. Moreover, as pointed out by Koedel and Podgursky (2016), it is unlikely that teacher quality quickly changes from increasing to decreasing in the rapid and discontinuous ways that pension accrual wealth does. As such, the existing discontinuous nature of pension wealth accrual is unlikely to lead to a higher-quality teacher workforce than would exist without such nonlinearities.

This is also true of vesting periods, which in theory might be used to entice teachers to stay in the profession until they become eligible for collection of any pension from the system. In practice, there is no evidence to suggest that vesting periods increase retention of any teachers, let alone the highest-quality teachers (Aldeman and Robson 2017). Similarly, one other way in which pension eligibility may affect labor supply is by restricting teacher mobility across different pension systems. Although there is clear empirical evidence that teacher, and notably administrator, mobility is restricted, it is not clear that this decrease in mobility enhances the welfare of students (or of teachers).

Given that the nonlinearity in the pension system has not been shown to cause clear decreases in overall teacher quality, one might be tempted to think the current pension structure is relatively innocuous. However, in addition to representing a forgone opportunity to create a system that rewards the highest-quality teachers, systems structured with these nonlinearities in pension wealth accrual also have significant costs in terms of fairness and support of teachers. That is because, combined, these features around eligibility and vesting mean that few people who start teaching will ever receive a pension. In the median state, fewer than half of teachers will reach the vesting point of their pensions (Aldeman and Robson 2017). Fewer still—about 25 percent in the median state—will reach a break-even point where the value of their future payments from the pension system will equal their own contributions.

Another feature of the system—the final average salary calculation—also has limited capacity to improve teacher quality given how it is currently being used. Clear evidence exists that districts engage in what is known as pension spiking—increasing employees' pay at the end of their careers so that pension benefits become larger (Fitzpatrick 2017). Districts do this by providing end-of-career bonuses to teachers. Like salary schedules, rather than being explicitly connected to teacher performance, those bonuses are generally used to reward years of service with the district. As such, they have limited ability to improve teacher quality or student outcomes. However, pension spiking is a real source of pension underfunding since it increases the size of liabilities relative to employee and employer contributions and may go unnoticed in funding calculations (if they are not part of the salary schedule).

The return-to-work restrictions in teacher pension systems also affect teacher labor supply, but likely do little to improve quality. This is because, although these restrictions have been shown to limit return-to-work behavior among public school employees (Fitzpatrick 2019), the restrictions are not directly tied to teacher performance.

More generally, a survey of the teacher pension-related literature fails to support the idea that teacher pensions are improving teacher quality. In part, this may be because the evidence is limited, but it is also likely related to the fact that teacher pension systems are not explicitly designed with teacher quality in mind.

Two additional strands of research provide evidence that the current setup of backloaded teacher compensation through the defined benefit teacher pension system is unlikely to be helpful for recruiting and retaining high-quality teachers. First, there is evidence from multiple settings that, when given the choice, teachers prefer current compensation to pension benefits. Fitzpatrick (2015) found that teachers were willing to pay just twenty cents for an additional dollar in pension benefits in Illinois. Similarly, Johnston (2019) found that teachers in Houston reported valuing an increase in pension benefits at the margin at just sixty cents on the dollar. Also, Biasi (2019) shows that teacher retirement behavior is more responsive to changes in salaries than to changes in pension benefits. She also shows that moving teachers' lifetime compensation forward from pension benefits to salary would have a positive effect on the quality of the teaching workforce. Combined, this work suggests that, even if the highest-quality teachers place a premium on deferred compensation, current levels of pension wealth for teachers are higher than they would need to be in order to keep the best teachers if that money were spent on current compensation.

Second, evidence can be found in the literature examining teacher decisions when given a choice between participating in either a defined benefit or a defined contribution plan. Goldhaber and Grout (2016) make use of an environment in Washington State where

teachers chose between a defined benefit plan and one with both defined benefit and defined contribution characteristics. Chingos and West (2015) made use of an option for new teachers in Florida to choose between a defined contribution and a defined benefit plan. Both find that teacher quality is higher among the teachers who choose the defined contribution plan.

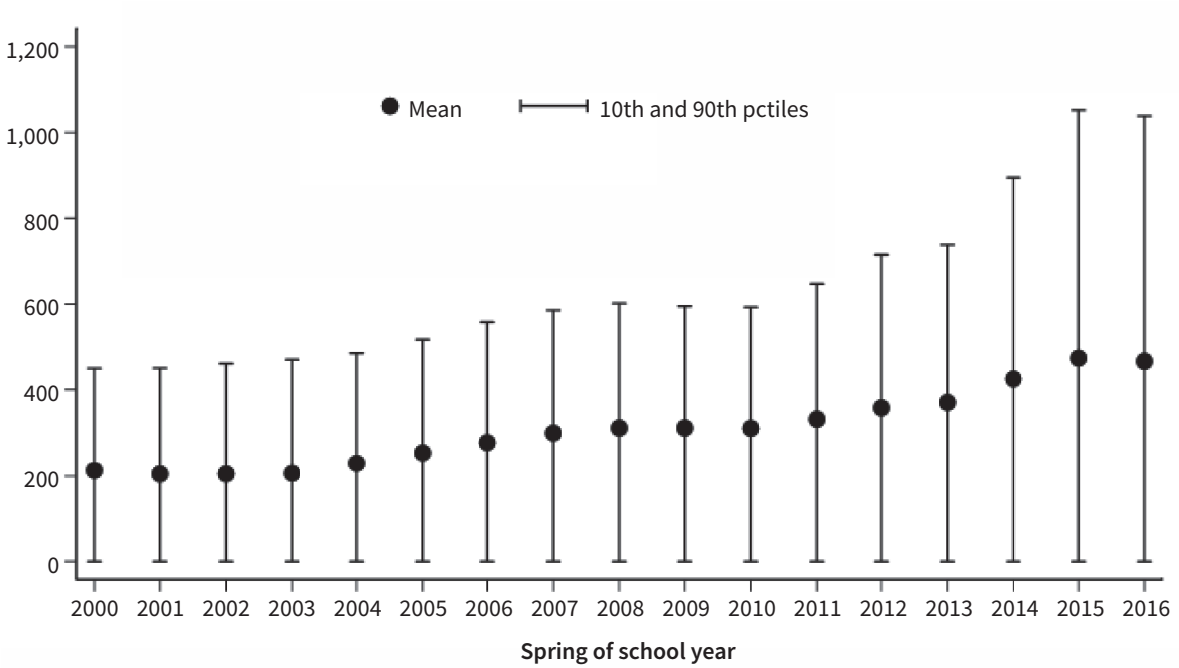
The Funding Landscape

Although the focus of this policy brief is on ways to improve the quality of the teacher workforce through changing teacher pension systems and teacher compensation more broadly, it is important to also discuss the funding issues at play in current teacher pension systems. To give an overview, census estimates show that state and local governments are paying out over $300 billion in benefits each year and that state and local governments are responsible for about 75 percent of the contributions to public pension funds. However, contributions are not enough to cover expected payouts. Public pension funds are unfunded at significant levels. Official reports of the underfunding estimated it was $1 trillion in 2017, with pension plans holding assets covering just 70 percent of their liabilities on average.[13] More conservative estimates place the level of underfunding at closer to $4 trillion.[14] Since teachers make up about one-third of the public sector employee and retiree population, it is reasonable to estimate that teacher pensions are paying about $100 billion in benefits a year and are underfunded by between $300 billion and $1 trillion.[15]

There is significant heterogeneity in the impact of pension costs on district budgets. Figure 2 contains box-plots of the amount of money per pupil districts were spending in thirty-eight states across the country between 2000 and 2016. In 2016, while some districts were not making any contributions to their teacher pensions, others were paying over $1,000 per student. To put that number in perspective, $1,000 per student was 9 percent of the average per pupil spending across all districts in the country in 2016. The cost to districts of teacher pension contributions has more than doubled in real terms over the past two decades. For example, in 2000, the average district in the sample contributed $214 per pupil (in 2016 dollars); by 2016, the average district was contributing $469 per pupil to teacher pensions.

Data from the Bureau of Labor Statistics showcase an even more precipitous rise in the amount of money governments spend on pensions for teachers. In 2004, state and local governments spent an additional 8.6 percent of teacher salary on retirement and savings benefits for those teachers.[16] By 2019, that number had more than doubled, reaching 18.5 percent. (These numbers do not include contributions made into the Social Security system on behalf of teachers, which have remained relatively constant over this period.) In comparison, spending for management, professionals, and other related occupations on

Figure 2. Per pupil expenditures on pension contributions across districts in thirty-eight states from 2000 to 2016



Source: Based on the author's calculations using data from the Common Core of Data on thirty-eight states for which employer contribution rate information was available for the period from 2000 to 2016.

retirement and savings benefits remained relatively constant at between 5 and 6 percent of salary over the same period.

For the most part, the above numbers do not include the increased costs of these pensions paid by teachers themselves. Between 2008 and 2014, as forty-three states had declines in funding ratios of their teacher pension plans, twenty-nine states increased teacher contribution rates (Doherty, Jacobs, and Lueken 2015). That means that either teachers' paychecks were smaller as a result or that salaries had to increase in order to keep teachers' take-home pay constant, which in turn means that either taxes went up or spending on other school resources fell.

Policy Proposals

Before discussing potential policies to change pensions directly, it is important to highlight that the single most-effective policy change for enhancing the quality of the teacher workforce, and, hence, student outcomes, is to reform teacher compensation during the period in which teachers are employed. Because all pension systems are connected to earnings while employed, tying earnings to quality will have

increased value for attracting high-quality teachers by increasing the lifetime payoff to them of being better teachers.

Reforms for Existing Workers

In most states, pension benefits already accrued by teachers are protected by the states' constitutions. Moreover, most state constitutions also only allow pension structure to be changed for incoming teachers, not existing teachers. Because the benefits accrued by existing teachers are the ones that will need to be paid the soonest, they are the benefits that contribute the most to the funding problems discussed above. So, in order to reform pension underfunding, it is necessary to find ways to change benefits for existing teachers. Without changes to the existing state constitutions, that will involve giving teachers choice in how their compensation changes or making changes to other forms of compensation—or both.

One way to change benefits for existing teachers is to offer existing teachers (and potentially retirees) choices between the existing defined benefit pensions they have accrued and other forms of compensation. For example, states could offer teachers the choice to roll over the amount of retirement benefits they have accrued from the defined benefit pension system to a defined contribution system. In exchange, going forward, those teachers would continue to accrue benefits in the defined contribution system. Transferring benefits from the defined benefit plan to the defined contribution accounts would involve some up-front costs to the pension plans. But, in exchange, the liabilities of the pension plans would decrease. Given that high-quality teachers prefer defined contribution plans, this might have the effect of improving teacher quality by attracting and retaining higher-quality teachers.

In another example, states could extend a broader set of lump sum offers to a broader set of employees. This would build on the current setup in some systems where, upon retirement, teachers can choose to collect a lump sum payout or a retirement annuity or, most often, some combination of the two. Typically, for these retiring teachers, the size of the lump sum option is restricted to be part of a teacher's pension. Going forward, states could make more use of the lump sum option by improving the terms or expanding lump sum programs by making them available at levels that compensate for a full exchange of retirement benefits (rather than the partial programs that now exist in many states). They could also offer lump sum options to both working teachers and retirees. Lump sum options plans have been used successfully in the private sector.

Another way is to alter the setup of current compensation to make less of it "pensionable." Currently, some forms of teacher compensation, like salaries, are pensionable. Other forms of compensation, like some bonuses, are not. States could begin paying teachers more of their compensation in non-pensionable forms, including non-pensionable salary. This could be set up inside or outside of a teacher choice

context. For example, states could give teachers the choice of receiving either a small raise in pensionable salary or a larger raise in non-pensionable salary. Since every dollar of increased pensionable compensation corresponds to about a $10 increase in pension fund liabilities, this would have the potential to decrease pension fund liabilities. Based on the existing research, this might also have the ability to attract and retain the highest-quality teachers.

Changes to Pensions for New Teachers

In addition, some changes to the pension systems for new teachers going forward have potential for improving teacher quality, enhancing the fairness and equity of the system across different employees, and improving the fiscal health of the systems in the long run (though perhaps not in the short run).

Base benefit size on lifetime earnings. Replacing the final average salary benefit calculation method with one based more on earnings throughout employment likely would more closely link contributions to liabilities. This would bring the teaching profession more closely in line with other occupations in terms of the backloading of pay, which might help it attract better teachers.

Create broader systems of reciprocity. Reciprocity arrangements would limit any drag on teacher mobility inherent in existing siloed teacher pensions. It would also create a more equal system across more and less mobile teachers. Given that the most mobile workers are likely the most productive, this would also likely make teaching a more attractive profession to the highest-quality teachers. The most extreme form of this type of arrangement would be to move all teachers into the Social Security system (Gale, John, and Holmes 2015).

Much of the discussion around reforming teacher pensions has focused on converting from the defined benefit structure to some form of a defined contribution or cash balance plan (for examples, see Aldeman and Vang 2019; Mahler, Chingos, and Whitehurst 2014). Over the past two decades, several states have switched to some form of hybrid defined benefit-defined contribution or cash balance plan and several others have moved to give employees choice across the type of plan they participate in. These shifts in plan structure are attractive because they eliminate the emphasis on final salary and on remaining with the same employer throughout one's career (since the balances in these plans generally are portable). Eliminating the nonlinear returns to experience may improve the quality of the teacher workforce indirectly by decreasing distortions in labor supply that work implicitly to retain lower-quality teachers until they reach eligibility and to push out higher-quality teachers when they finally do reach eligibility. However, without additional changes to teacher compensation that are directly tied to teacher performance, even large shifts in plan structure will be unlikely to have large impacts on the quality of the teaching workforce.

Reforms Explicitly Tied to Teacher Quality

None of the policy changes mentioned above are directly tied to quality. Given the existing structure of teacher pay, it is difficult to tie teacher pension compensation to teacher performance without tying current compensation to teacher performance. However, districts and states can and should experiment with bonuses and incentives aimed at encouraging high-performing teachers to continue teaching even when they have passed peak pension eligibility points. This could include using end-of-career bonuses and deferred retirement option plans to reward teachers who are perennially performing at the highest levels.[17] Recent evidence suggests that these types of bonus plans might be cost-effective ways to encourage the best teachers to remain in the classroom (Podgursky, Ni, and Wang 2019).

Reforms to Provide Citizens with More Information

The way data on education expenditures are currently collected and shared makes it difficult to determine how much districts and states are spending on teacher pensions. This is because there is no line item information on pensions separate from other forms of benefits. Also, currently, states make little information on school spending available in easy-to-digest forms. Some have posited that it is this shrouded nature of pension costs that has led to their overuse and underfunding (Glaeser and Ponzetto 2014). Without this information easily accessible, it is difficult for citizens to understand the scope of the costs and to determine whether it is a cost they support funding.

One potential policy solution to this problem is to make data on district expenditures on pensions and the underfunding of state pension systems readily available to taxpayers and citizens. For example, this could involve adding pension and compensation spending information to already available district report cards that contain information on school performance and other metrics. Alternatively, it could involve a separate data resource that reports district spending on pensions. The main goal would be to provide clear and transparent information so that citizens could make informed choices about the spending on pensions versus other things.

NOTES

1 In this section, I present a brief overview of the pension landscape and describe key features of pension systems. More information can be found in earlier reviews by Costrell and Podgursky (2009), Friedberg and Turner (2010), and Koedel and Podgursky (2016).

2 Exceptions include teachers in some major cities in seven states. The cities include Boston, Kansas City, MO, Chicago, St. Paul, MN, St. Louis, Omaha, New York City, and San Francisco. In general, state legislatures determine the parameters even of these city pension plans.

3 Most of the 11 percent without defined benefit pensions are likely private school teachers. See https://www.bls.gov/ncs/ebs/benefits/2018/ownership/govt/table02a.pdf.

4 These ages are calculated using information from 2011. Although many states have made changes to the retirement eligibility ages and years of service requirements for new employees in recent years, it is likely to be the case that these ages are still relevant for most employees today.

5 In addition, teachers in forty-six state pension systems can retire even earlier if they are willing to accept a reduction in their annual benefit. This option is like the early retirement option in Social Security, where benefit collection can start at age sixty-two with a reduction in the size of the benefit. I do not know of any source that has carefully cataloged the early retirement ages in teacher pension systems. However, since only eleven states have full retirement ages that are higher than the early retirement age in Social Security, it is safe to say that the vast majority of teachers can collect early retirement benefits at a younger age than Social Security participants.

6 Teachers can collect their contributions if they leave before they have vested, but they forgo any contributions made by employers on their behalf.

7 More precisely, the highest thirty-five years of a worker's earnings are used to calculate the benefit.

8 Occasionally, the definition of "final" earnings is slightly more complicated. For example, in the Illinois Teacher Retirement System, the size of the retirement benefit is a function of the average of the four highest consecutive annual earnings in an employee's last ten years of service.

9 The information in this paragraph is based on the author's review of pension plan documents in 2015. Details may have changed, particularly for new members.

10 For example, earnings reduced by the Social Security earnings test are returned to the worker later on in life.

11 Some plans allow for exceptions to these return-to-work restrictions for teachers in hard-to-staff areas.

12 See https://www.pewtrusts.org/-/media/assets/2016/09/state_retiree_health_plan_spending.pdf?la=en&hash=696048360DA36AFFFF3566AA6885 983060879E60.

13 See https://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2019/06/the-state-pension-funding-gap-2017.

14 See, for example, Rauh (2017).

15 These estimates are based on a sample of districts in thirty-eight states for which we were able to obtain employer contribution rates for 2000 to 2016.

16 See https://www.bls.gov/web/ecec/ececqrtn.pdf. Per hour worked, reported wage and salary for teachers in 2004 was $34.69 and retirement and savings spending was $2.97. In 2019, the most recent numbers are $44.66 and $8.26, respectively.

17 To my knowledge, few pension plans for public school teachers make use of deferred retirement option plans (DROPs). In a DROP, an employee eligible for retirement continues working without accruing additional years of service in the defined benefit pension system. In return for the continued service, the employer makes set contributions to a retirement savings account, which accrues interest. Upon retirement, the employee begins receiving her defined benefit retirement benefit plus the funds in the DROP account (which can be structured as a lump sum payment or as a rollover into another qualified plan). DROPs could be used by school districts and states to improve the quality of the teacher workforce by directly tying eligibility for them to measures of teacher productivity.

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