Teacher Pension Reform:

Lessons and Warnings From West Virginia

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Introduction

West Virginia's teacher pension reform is often wielded today to impede and discredit reform efforts across the country. For example, in 2014, the National Education Association published an article citing the experience of reform in West Virginia as a warning to other states tackling their teacher pension problems, claiming that reform "doesn't have to make sense — just money — for the enemies of public pensions."² For the defenders of teacher pension funds, the West Virginia story is example #1 of why states should stick with their traditional defined benefit (DB) pension plans.3

And yet, this analysis of West Virginia's pension reform is not entirely correct. In fact, it is largely based on commonly held myths about pensions and alternative retirement plans, such as a 401(k)style defined contribution (DC) plan. To provide effective and sustainable teacher retirement systems, states cannot be captive to mythology and misinterpretations of past reforms. Instead, states should base decisions about their retirement systems on a sober examination of how pensions and DC plans each impact teachers' retirement benefits — as well as their consequences for taxpayers and state budgets — which is critical to building more effective and sustainable teacher retirement systems.

We found that neither the state pension plans — before or after the reform — nor the DC plan provided a particularly high-quality retirement benefit. To that end, we analyzed the structure and modeled the retirement wealth accumulation for all three of West Virginia's teacher retirement plans. We found that neither the state pension plans — before or after the reform — nor the DC plan provided a particularly high-quality retirement benefit. Indeed, all three options were poorly constructed and left the majority of West Virginia's teachers with inadequate retirement benefits.

The consequences of these structural shortcomings vary. The problems with the state's pension result in a retirement plan that does not provide a sufficient benefit to a majority of teachers and is quite expensive due to longstanding unfunded liabilities. The state's DC plan, on the other hand, also struggles to provide a high-quality benefit because teachers do not fully qualify for the contributions the state makes to a teacher's retirement fund until 12 years of service — a threshold that about half of West Virginia's teachers never reach.

West Virginia's attempts to address its pension problems are, as many have argued, instructive for other states. But the full evidence supports neither blind allegiance to state pension systems nor unquestioning faith in DC plans.

The truth is somewhere in the middle: Poorly constructed teacher retirement plans — DB and DC alike — produce poor results for states and teachers. A defined contribution plan, if welldesigned, can meet the retirement needs of most teachers. Defined benefit systems, if wellfunded and structured properly, can work, particularly for teachers who stay in schools for at least 20 to 25 years.

Perhaps lawmakers in West Virginia fell prey to the idea that by switching from a pension to a DC, the legacy cost of the pension would, much like new enrollees in the fund, simply go away. More likely, however, is the problem of misaligned incentives. Politicians responsible for setting the state's budget and reliably stewarding the continual payments necessary to keep up with its obligations often decide to invest in other areas. And it's hard to blame them — to say that you will spend millions today toward the problems of tomorrow is often not a winning political message. Voters and, indeed, politicians in all likelihood would prefer to invest in other, more immediate concerns. Although understandable, this approach to pension debt proves disastrous. Any state pursuing pension reform must also, as a part of that effort, develop and implement a way to continue to pay down the debt that cannot be pushed off for later generations. That only serves to delay and magnify the inevitable consequences.

Although the severity of the problem will vary, with about \$500 billion collectively in total unfunded pension liabilities, nearly every state could learn lessons from the West Virginia story.4 States should consider carefully the lessons of West Virginia's attempted reforms and avoid those missteps by designing retirement plans that:

- Set the shortest possible vesting period for teachers to qualify fully for their retirement benefits:
- Establish employer and employee contribution rates that, at minimum, total between 10 and 15 percent;
- Automatically enroll employees into the program;
- Provide low-cost options and life cycle funds that adjust an employee's portfolio as she gets closer to retirement; and,
- Create an actionable and accountable plan to pay down unfunded liabilities.

States should be clear with teachers as well as their taxpayers on how they plan to deal with their pension debt.

States should be clear with teachers as well as their taxpayers on how they plan to deal with their pension debt. Hopefully, this approach will create greater confidence that any changes to the retirement system will meet teachers' needs, as well as create public accountability to keep the legislature from shirking its responsibility to fund outstanding pension liabilities.

A Brief History of Teacher Retirement Reforms in West Virginia

Established in 1941, West Virginia's state Teachers' Retirement System (TRS) provided teachers with a defined benefit pension plan. Like many statewide retirement plans of the era, it was originally designed to suit the needs of long-term, mainly female, employees. While benefit rules were tweaked over time and contribution rates fluctuated, the plan's basic structure of benefits remained the same until 1991.6

The impetus for change dates back to March 1990, when West Virginia teachers walked off their jobs in pursuit of better pay and overall upgrades to the state's education system.⁷ The key issue of the strike was rooted in wages — at the time, West Virginia teacher salaries were the third lowest in the country, behind only South Dakota and Arkansas.8 It was also the third statewide teacher strike in the country that year. Teachers in both Utah and Washington staged one-day walkouts to demand higher salaries, and while countywide and citywide strikes were relatively common, statewide movements were fairly rare. The West Virginia strike, which lasted nine days and left about a third of the state's students unable to attend class, pushed state legislators to act.

The session resulted in a \$1,000 salary increase for all teachers. At the same time, the state's teacher pension fund faced \$3.5 billion in unfunded liabilities.

The walkout ended with government promises to increase teacher pay and improve education programs, and in August, the state legislature held a special session to address education issues.

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teachers hired after July 1, 1991, in a defined contribution retirement plan. The plan was funded through an employee contribution of 4.5 percent, with the state kicking in 7.5 percent, while the state also contributed another 7.5 percent to the defined benefit plan. Legislators felt the defined contribution plan would curb the debt costs of the existing defined benefit system. In an interview with Pensions & Investments at the time, TRS administrator Willard Ansel said, "The whole idea in the start of a new system is to cut off the bleeding in the old one."9



Assistant Treasurer Jerry Simpson was also quoted in *Pensions & Investments*, saying, "The legislature was concerned about the underfunding. They didn't want to see it grow. The state is trying to address the problems of the retirement systems now rather than pass the buck to a future Legislature or governor."

However, despite these intentions, Ansel noted that switching to a DC plan was only the first step in truly addressing the plan's unfunded liabilities. Said Ansel, "If we continue with only the 15 percent contribution, we'll be swimming but drifting further downstream."

Ansel's predictions were not far off. By 2005, the state had not adequately addressed the plan's debt costs and instead continued its descent "downstream." West Virginia lawmakers voted that year to freeze the DC system, citing the stock market slump and poor investment choices made by teacher members. That year, the state changed its plan again and enrolled new hires in the DB plan. Current teachers were offered a one-time decision whether to rejoin the state pension fund or remain in the DC plan. Teachers largely elected to return to a DB plan, though a subset of those already enrolled in the DC plan found it beneficial and opted to stay. 10

In 2015, with the pension system still facing unfunded liabilities, legislators created a new tier within the state's TRS. New hires faced a higher employee contribution rate, a later retirement age, and a reduced benefit multiplier used to calculate pension payments.

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Most recently, in 2018, West Virginia teachers won a 5 percent pay raise after another statewide strike. 11 Teachers entered the strike under circumstances similar to the 1990 demonstrations, with West Virginia teacher salaries the fourth lowest in the country.¹² While pension reform was not on the table this time, in January 2019, state lawmakers proposed draft legislation that would tie additional pay raises to larger class sizes.¹³

Sorting Fact From Fiction

The back-and-forth of West Virginia's teacher retirement system from a traditional pension to a DC plan, and back to a pension, provides a useful example to clarify three commonly held myths about both defined benefit and defined contribution retirement plans. These myths help to stymie critical reform efforts and contribute to the persistence of state pension problems.

Below, we unpack these three myths using West Virginia's experiences with pension reform:

Myth 1: State pension plans provide a valuable retirement benefit for most teachers.

In the popular imagination, pensions are often held up as the gold standard for retirement plans. The fact that employers hold the risk on behalf of workers, and that benefits are guaranteed, is, on its face, certainly compelling. But this raises two important questions. One, who actually earns those guaranteed benefits? And two, how valuable are those benefits?

Nationally, only about half of all teachers ever even qualify for a pension.¹⁴ Only approximately 20 percent of teachers become pension winners or those who earn a maximally valuable annual retirement benefit. 15 This happens because of how pensions are structured.

This situation also applies in West Virginia, where a teacher's eventual pension benefit is determined by three key variables:

- A 2 percent multiplier
- Years of service
- 3. Average of the teacher's five highest salaries earned during the teacher's final 15 years of service

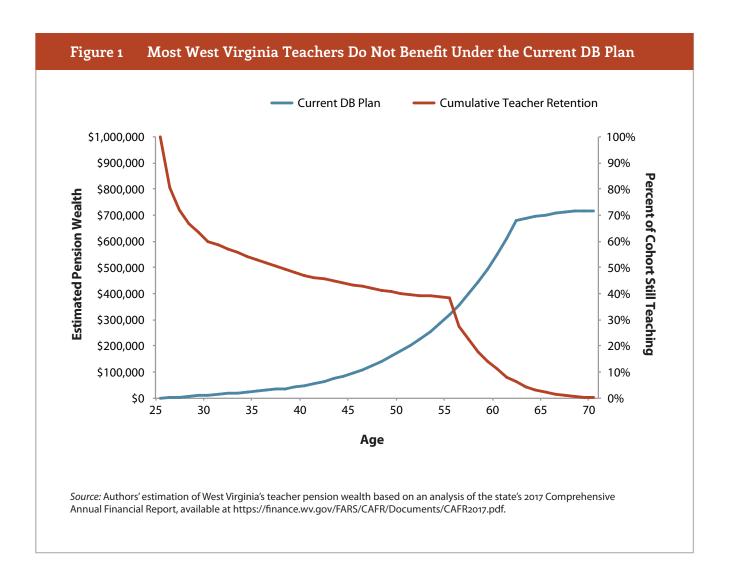
Due to this structure, benefits accrue very slowly for the first 15–20 years of a teacher's tenure. Pension wealth then grows dramatically toward the end of a teacher's career. As shown in Figure 1, teachers in West Virginia experience about 15 years of stagnant benefit wealth through their early and mid-career. It is only after about 25 years of service that a West Virginia teacher's pension benefit really starts to grow. Although the specific years it takes for a teacher's retirement benefits to grow considerably varies state by state, all teacher pensions follow a similar structure and delay benefit wealth for decades.

A critical problem with the back-loaded nature of teacher pensions is that most teachers never make it to the point when their retirement wealth really takes off.

A critical problem with the back-loaded nature of teacher pensions is that most teachers never make it to the point when their retirement wealth really takes off. Based on our model of West Virginia's current teacher pension plan, only 40 percent of West Virginia teachers who begin at age 25 will still be teaching in the state at age 50, which, as shown in Figure 1, is approximately the age when wealth accrual picks up the pace. The red line tracks the state's cumulative teacher retention rate by age. This model uses a cohort rate; in other words, at age 25, their first year of service, 100

percent of the teachers in the cohort are in the classroom. However, that declines rapidly over the first few years. And after five years, at age 30, only 63 percent of the cohort are still teaching.

The blue line follows an individual teacher's estimated pension wealth by age. And as a teacher's age increases, so does her pension wealth. However, it is very gradual, only picking up the pace of accumulation around age 50, after 25 years of service. While there is a lot to glean from this graph, the most important takeaway is that as pension wealth increases, the share of teachers who qualify for that level of retirement benefit decreases. In other words, the greater the pension wealth, the fewer teachers who will earn it.

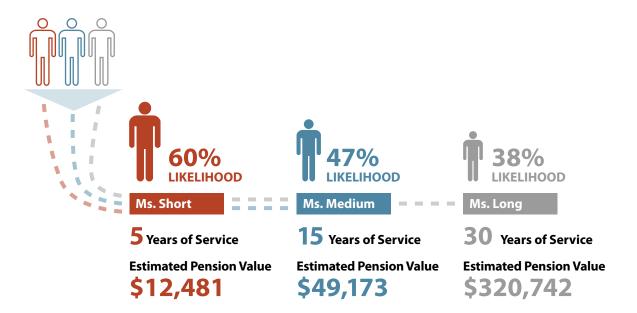


The problem is even worse for those teachers who spend only a few years in the classroom. This is due to the state's vesting rules. Vesting is when a teacher becomes entitled to the full value of their pension. All state pension funds have vesting periods, or a set number of years that a teacher must serve before she can access all her pension benefits. How long that is varies considerably from state to state.

In West Virginia, teachers vest after five years of service. Nevertheless, according to the state's own teacher retention assumptions, 40 percent of new teachers will leave before vesting. That means that close to half of all new teachers in West Virginia will have no employer-provided retirement savings when they leave the profession. These teachers will have fewer years to save for retirement than most other workers and, as a consequence, will have a harder time generating sufficient retirement wealth.

Probabilities of New West Virginia Teachers' Retirement Outcomes

Ms. Short, Ms. Medium, and Ms. Long each began their teaching careers in West Virginia at age 25. Like many new professionals, they did not give much thought to retirement. And that's understandable; it is a long way off. However, there are a number of career decisions that can dramatically affect their retirement wealth.



Source: Author's estimation of West Virginia's teacher pension wealth based on an analysis of the state's 2017 Comprehensive Annual Financial Report, available at https://finance.wv.gov/FARS/CAFR/Documents/CAFR2017.pdf.

West Virginia's teacher pension system is, unfortunately, a great example of why pensions simply do not work well for the majority of teachers. Rather than supporting a narrative that pension reform is a foolhardy exercise, West Virginia instead provides clear evidence that many existing state teacher pension plans may not offer high-quality benefits to the majority of participating teachers.

Myth 2: Defined contribution plans cannot provide a good retirement benefit for teachers.

The most commonly proposed alternative to state pension plans is a defined contribution (DC) plan. A 401(k)-style account is an example of a typical DC plan, which combines annual employer and employee contributions into an investment fund. There are, however, other retirement plan options to modify or replace state pension funds. For instance, a few states offer a hybrid plan, which combines aspects of both DB and DC plans.

Defenders of traditional teacher pension funds use West Virginia to argue against this move. They contend that the state went back to the pension system in 2005 because the state's DC plan didn't live up to expectations and offered teachers a meager benefit.

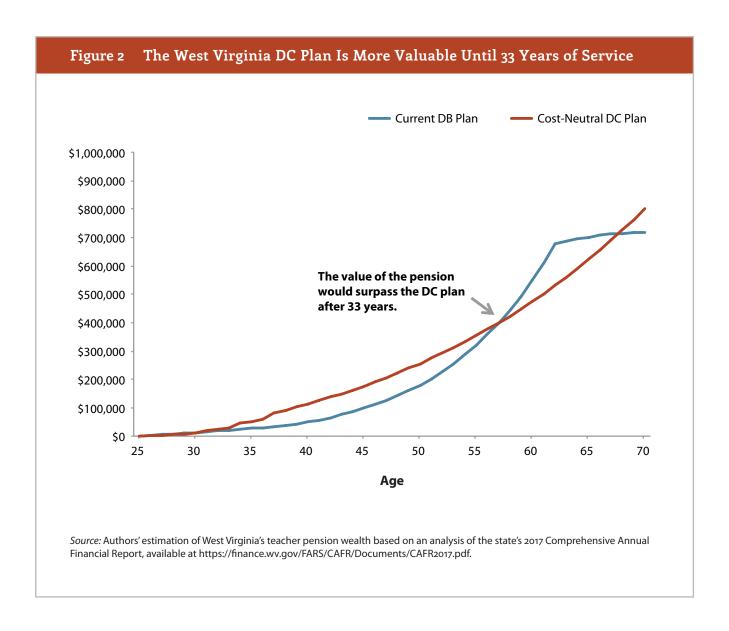
Despite the claims that the plan produced only a paltry benefit, the DC plan offered a better benefit for most of West Virginia's teachers compared with that of the pension system. These criticisms are half-right: West Virginia's DC plan was not well-designed. And despite the claims that the plan produced only a paltry benefit, the DC plan offered a better benefit for most of West Virginia's teachers compared with that of the pension system.

West Virginia's DC plan imposes a very long vesting period. Teachers were partially vested after six years of service, which is a year longer than it takes a teacher to fully vest in the pension fund, and had to serve 12 years before

fully vesting in the DC plan. This vesting structure today would be considered far outside the mainstream. In fact, it would not be permitted in the private sector at all under federal standards in the Employee Retirement Income Securities Act of 1974. Setting aside the lengthy vesting period, which makes it hard for many teachers to earn full retirement benefits, West Virginia's DC plan has a relatively high contribution rate compared with those of other 401(k) plans in the private sector. The state's plan is based on an overall contribution rate of 12 percent of teacher salaries. The 12 percent comprises 4.5 percent from teachers and 7.5 percent from the employer.

The lengthy vesting period was the most glaring problem with West Virginia's DC plan. Nevertheless, even the flawed plan would have provided a more valuable retirement benefit to approximately 77 percent of West Virginia teachers. Although it is difficult to discern from Figure 2 (since the value of the DC and DB plans are so similar early in a teacher's career), for the first five years of service, the DB plan generates a more valuable retirement benefit. However, due to vesting rules, teachers wouldn't qualify for employer-provided benefits until completing their fifth year under the pension or their sixth year under the DC plan. But between teachers' sixth and 33rd year of service, the DC plan produces greater retirement wealth. Given West Virginia's teacher retention rates, that means the DC plan is a better option for more than three-quarters of the state's educators.

Despite West Virginia's DC plan generating a better benefit for most teachers, a DC plan could be designed more effectively to better meet teachers' retirement needs.



Although they will vary from state to state, under DC plans, benefits accrue steadily each year of service. Pensions, on the other hand, are back-loaded and typically require between 25 and 30 years to generate more retirement wealth. In short, there are significant trade-offs for teachers between the two styles of retirement plans.

Myth 3: Defined contribution (DC) plans exacerbate state pension debt.

Between 1991, when West Virginia closed its teacher pension fund to new hires, and 2005, when it reopened the pension fund, the state's unfunded pension liability ballooned from approximately \$3.5 billion to \$5 billion in just 14 years. The state's switch to a DC plan was blamed for the significant growth in West Virginia's pension debt.

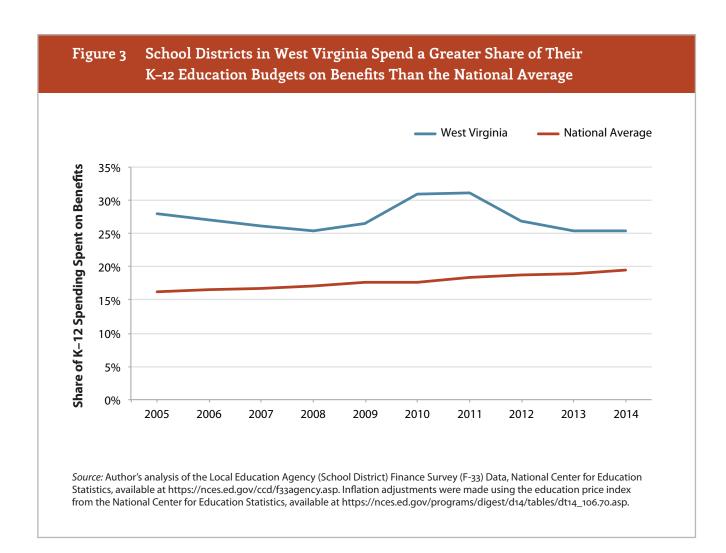
The crux of that criticism is that by closing the pension fund to new hires, West Virginia severely limited the ability of the fund to generate additional revenues to pay off its pension obligations. At first glance, that critique seems reasonable; however, it discounts the fact that the fund was no longer generating new liabilities, since new teachers weren't entering the fund. In other words, the number of teachers on the rolls of the pension fund is held constant, and therefore the state's total pension obligation shouldn't increase.

The state's unfunded pension liability, however, can grow despite teachers no longer being added to the rolls. This can occur in two different ways or in a combination of both. First, the state could simply fail to make the necessary investments in the fund. Second, the investments the state made with their pension funds could produce poor returns. In West Virginia's case, it appears as though the state made slightly more than the required yearly investment into the pension fund through the mid-'90s into the early 2000s. This marginally improved the system's funding ratio from 11.6 percent in 1994 to 19.1 percent in 2003. However, that means that more than 80 percent of the pension obligations were unfunded.

West Virginia districts today spend on average 25 percent of their budgets on benefits. That ranks in the top five of all states in the country.

The consequences of rising pension debt were significant for school districts in the state. And although West Virginia is one of only a handful of states that spent a lower percentage of its overall K–12 education budget on benefits in 2014 compared with 2005, West Virginia districts today spend on average 25 percent of their budgets on benefits. That ranks in the top five of all states in the country.

As shown in Figure 3, school district budgets in West Virginia are eaten up significantly by benefit spending. In fact, for a few years, districts spent over 30 percent of their education budgets on benefits.



Elements of a High-Quality DC Plan

DC plans are not inherently good or bad. Although DC plans do not share the same problems with debt as pension plans do, they can nevertheless fail to provide sufficient retirement if they're poorly structured. And there are other retirement plans that states can consider as alternatives to state teacher pension systems.

But if states decide to implement DC plans for teachers, what should those plans looks like?

To that end, we tested two different DC plan models that West Virginia — or any other state, for that matter — could adopt and compared them with each state's existing pension benefit. For the first model, we kept the 12 percent contribution rate currently employed by West Virginia's DC system, but we dropped the vesting period completely. The second model increased the contribution rate to 15 percent of teachers' salary. For this analysis, we assumed a 4 percent real rate of return.

As shown in Figure 4, if West Virginia were to drop the vesting period for its DC plan entirely, a teacher's retirement wealth would increase markedly. Furthermore, under this model, the DC plan would be a better retirement option compared with the state pension fund for the first 33 years of service. According to the state's teacher retention numbers, this plan would be a better retirement option for 82 percent of teachers in West Virginia. A DC plan with a total contribution rate of 15 percent of salary without a vesting period would produce a more valuable retirement benefit than the state pension plan for virtually every teacher in the state.

It is important to keep in mind that making these changes is not cost-neutral. Dropping the vesting period or increasing the contribution rate both produce more valuable teacher retirement benefits and also raise the cost of the plan overall. In theory, a similar increase in benefits could be achieved by dramatically redesigning West Virginia's DB plan. Small tweaks, such as increasing the multiplier, however, likely would be insufficient to produce similar results.

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Elements of a High-Quality DC Plan (continued)

Changing the Parameters of West Virginia's DC Plan Figure 4 Can Increase Teacher Retirement Wealth

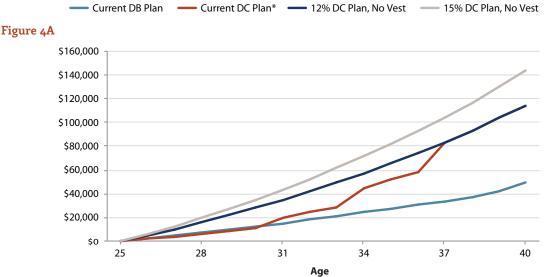
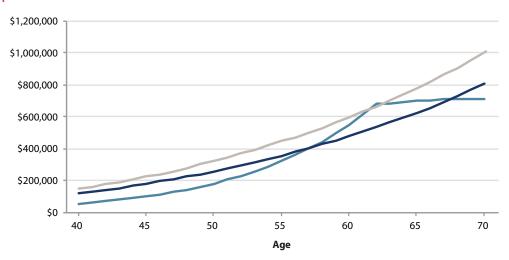


Figure 4B



Source: Author's estimation of West Virginia's teacher pension wealth based on an analysis of the state's 2017 Comprehensive Annual Financial Report, available at https://finance.wv.gov/FARS/CAFR/Documents/CAFR2017.pdf.

*Due to the vesting rules of West Virginia's current DC plan, after 12 years of service, the current DC plan and the 12 percent DC plan without a vesting period produce the same value. Thus, the lines in the graph above overlap and appear as a single line at age 37.

Elements of a High-Quality DC Plan (continued)

If states elect to implement a DC plan, there are five key elements they should incorporate into their DC plans to ensure they serve teachers well and provide them with a sufficient benefit in retirement.

1. Set the shortest possible vesting period for teachers to qualify fully for their retirement benefits. In some circumstances, a vesting period makes sense. A new company, for example, may want to incentivize employees to stay with them for a number of years to reduce the need to train new people and to preserve institutional knowledge. But there is little evidence that vesting periods influence early- and mid-career teacher behavior. Indeed, state assumptions about teacher retention do not suggest they believe that vesting periods, at least in traditional pension plans, encourage teachers to stick around.¹

In the end, a long vesting period on a teacher retirement fund — either a pension or a defined contribution plan — serves mainly as a cost-saving strategy for the state at the expense of individual teachers. To provide a more valuable retirement benefit to teachers that better meets the needs of today's educator workforce, states should set their vesting period in such a way that the vast majority of teachers qualify for their benefits.

2. Establish default employer and employee contribution rates that at minimum total between 10 and 15 percent. Just as pension plans do, 401(k)-style retirement plans invest annual employee and employer contributions in the market. Retirement wealth is generated both through the contributions themselves and from the returns those investments make. Investing in the market does introduce some risk, but the same is true of pensions that are subject to market whims and rely on the legislature to make the necessary investments in the fund each year.

Despite the power of compound interest, teacher retirement wealth in a defined contribution plan must start with adequate savings rates. To ensure that teachers' retirement savings reach sufficient levels by the time they retire, most financial experts recommend that individuals save 10-15 percent of their salary each year, depending on their age, their expected rate of return, and the age they want to retire. While how much states can contribute varies and is influenced by each state's particular financial context, states should at least match teachers' contribution.

3. Automatically enroll employees into the program.

New teachers should be automatically enrolled into the state DC plan. While employees could choose to decline coverage, states should default teachers into the plan. This strategy demonstrably increases participation in the state retirement plan and ensures that teachers save for retirement every year they are employed, which is critical for accumulating sufficient wealth by the time they reach retirement age. However, for some teachers — particularly those who begin their career later in life — the minimum employee contribution rate is insufficient to meet their retirement goals. Therefore, states should provide ample support and resources to help teachers make informed financial decisions and tailor their retirement to meet their needs.

Elements of a High-Quality DC Plan (continued)

4. Provide low-cost options and life cycle funds that adjust an employee's portfolio as they near retirement. Early on, DC plans did not provide enrollees with many investment options, and their tools often were unsophisticated. Today, that has changed—there are a plethora of investment options and retirement tools designed to adapt to employee's needs as they age and grow closer to retirement.

Among those choices, teachers would benefit from a life cycle fund. This kind of plan structures the investments based on the teacher's age and her projected retirement date. As such, the fund will adapt its investment structure and mitigate risk as teachers age. States may want to consider setting a life cycle fund as the default retirement option for teachers. Finally, it will be critically important that the states provide financial literacy support and resources to teachers, since these options can be confusing. 5. Create an actionable and accountable plan to pay **down unfunded liabilities.** The failure to deal with debt has driven the pension crisis in virtually every state in the country. Indeed, the most important lesson from West Virginia's history of teacher retirement reform is that states must have a plan to deal with their existing unfunded liabilities. Switching to a DC plan will keep states from creating new pension obligations; however, it will do nothing to address any existing debts.

To avoid the mistakes West Virginia made and to build a retirement system that both serves the needs of new teachers and meets the obligations promised to current teachers, states must have a strategy to tackle their pension debt. Of course, plans' details will vary widely from state to state, but all of them must be structured in such a way that legislatures are accountable to them. For example, a state legislature could established a dedicated funding revenue stream or a pension obligation bond that would make pension payments concrete and owed to bondholders rather than to the fund. Even the best plan will fail if state legislatures are allowed to wiggle out of them and direct funds that should go toward pension debts elsewhere.

While there is no perfect DC plan, these five features will help ensure that states, in collaboration with educators, develop a retirement system that provides a valuable benefit to teachers without breaking the bank.

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Conclusion

The teacher pension problem in this country is a growing financial crisis that will likely get worse before it gets better. Despite considerable evidence that the traditional pension structure does not benefit the vast majority of teachers, adherents continue to defend it. Rather than helping to instruct other states on how best to serve teacher and state interests, West Virginia's teacher pension reform story is instead wielded as a weapon against reform efforts.

That is a costly misreading of what happened in the Mountain State. To address the deep pension hole states find themselves in, the first step is to stop digging. This means learning from West Virginia's story and avoiding its mistakes. States should carefully examine their current retirement system and consider what reforms are necessary to ensure they provide high-quality retirement options aligned with teacher retirement interests. And, finally, they must set up a reasonable plan to pay down existing pension obligations for which their legislatures will be held accountable.

Pension reform is not an escape from the pensions owed to current and retired teachers; rather, it is a necessary change that provides the vast majority of tomorrow's teachers with a more valuable benefit than they could have hoped for from a pension. Failing to learn the lessons from West Virginia will, in the end, come at great cost to teachers and states alike.

Appendix

Table 1 Assumptions for West Virginia's DB Plan Modeling (Figures 1, 2, and 4)

Entry age	25	
Beginning salary	\$40,000	
Salary growth ¹⁷	Years of service	Salary increase
	1–14	5.571%
	15–25	4.714%
	26–34	3.857%
	35–50	3.53%
Employee contribution rate	6%	
Employer contribution rate for benefits ¹⁸	4.62%	
Rate of return	7.5%	
Inflation rate	3%	

 Table 2
 Assumptions for West Virginia's DC Plan Modeling (Figures 2 and 4)

Entry age	25	25	
Beginning salary	\$40,000	\$40,000	
Salary growth ¹⁹	Years of serv	ice Salary increase	
	1–14	5.571%	
	15–25	4.714%	
	26–34	3.857%	
	35–50	3.53%	
Employee contribution rate	6.5%	6.5%	
Employer contribution rate	7.5%	7.5%	
Rate of return	6.5%	6.5%	
Inflation rate	3%	3%	

In Figure 4, for each of the three DC plans modeled, I used a 7 percent return-on-investment assumption to make clearer comparisons in the retirement wealth generation of each plan. West Virginia's DB plan, however, retained its 7.5 percent return-on-investment assumption.

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Teacherpensions.org provides high-quality information and analysis to help stakeholders—especially teachers and policymakers—understand the teacher pension issue and the trade-offs among various options for reform. We believe there is a need for additional analysis of and communication about teacher pensions—an issue that has not yet gained sufficient traction nationally, despite its seriousness and immediacy. We aim to make the issues around teacher pensions more accessible and relevant to the general public, more compelling to policymakers, and more understandable for current teachers.

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