



No One Benefits

How teacher pension systems are
failing BOTH teachers and taxpayers

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About NCTQ

The National Council on Teacher Quality is a non-partisan research and policy organization working to ensure that every child has an effective teacher.

NCTQ is available to work with individual states to improve teacher policies. For more information, please contact Sandi Jacobs at sjacobs@nctq.org or 202-393-0020.

Executive Summary

The structure of teacher pension systems in the United States is, by and large, untenable. Not only are these systems costly to states, school districts and taxpayers, but the carefully guarded retirement benefits are being squeezed and distributed unfairly in ways that are also costly to teachers.

Since 2008, the National Council on Teacher Quality (NCTQ) has tracked the health of teacher pension systems in the 50 states and the District of Columbia as part of our annual *State Teacher Policy Yearbook*. This year, we expand our coverage of pensions to provide a more detailed picture of the pension policy landscape and make a forward looking case for pension reform. In this analysis, we:

- Provide an overview of the pension funding crisis in the United States.
- Explore the technical and sometimes hidden features of teacher pensions that are costly to taxpayers.
- Examine the elements of current pension systems that make them not fair, advantageous or beneficial to teachers.
- Outline a forward looking approach to reforming teacher pensions that can help shore up states financially and improve their ability to recruit and retain highly-effective teachers.

Key Findings

Pension systems are severely underfunded. According to the most recent data available, NCTQ estimates that teacher pension systems in the United States have almost **\$390 billion** in unfunded liabilities. Funding shortfalls have grown in all but 7 states between 2009 and 2012.

Pension underfunding is even worse than meets the eye due to unrealistic assumptions and projections about returns on investments. Even with states almost certainly overestimating how well funded their pension systems are, NCTQ finds that pension systems in just 10 states are, by industry standards, adequately funded.

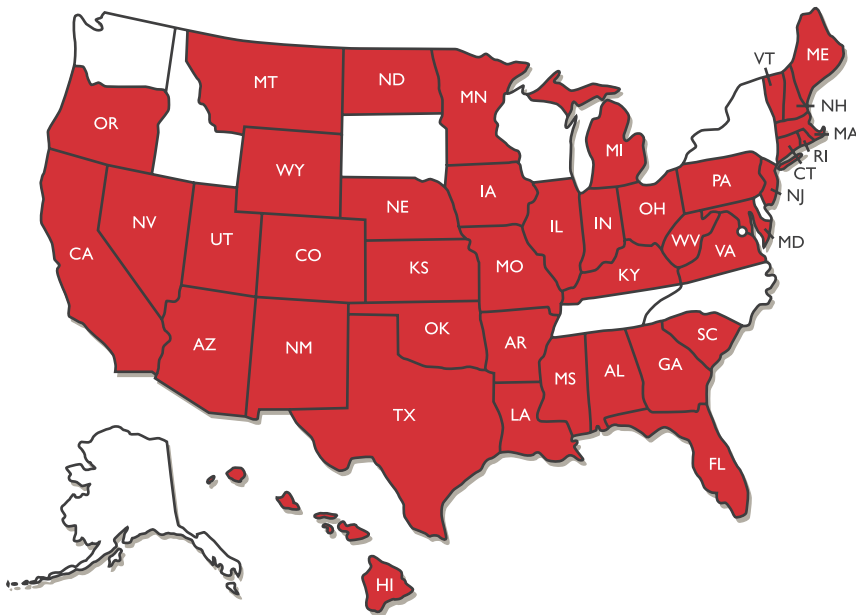
Retirement eligibility rules add to costs. In 38 states, retirement eligibility is based on years of service, rather than age, which is costly to states and taxpayers as it allows teachers to retire relatively young with full lifetime benefits. In the just ten states—**Alaska, California, Illinois, Kansas, Maine, Minnesota, New Hampshire, New Jersey, Rhode Island** and **Washington**—that no longer allow teachers to begin collecting a defined benefit pension well before traditional retirement age, states save about \$450,000 per teacher, on average.

Most pension systems are inflexible and unfair to teachers. Many assume that defined benefit pension plans are a clear win for teachers. But while most defenders of the status quo fight tooth and nail to preserve traditional pension plans, the reality is that these costly and inflexible models are out of sync with the realities of the modern workforce. Current

pension systems are built on a model that assumes low mobility and career stability and helps to put public education at a competitive disadvantage with other professions.

Some of the ways teachers are shortchanged by current pension systems:

- It takes too long for teachers to vest in defined benefit plans—and it is getting longer across the states. All but three states make teachers wait more than three years; 15 states (up from nine in 2009) now make teachers wait for 10 years to vest in their pension plans.
- Since 2008, 27 states have increased the amount teachers must contribute to their pensions. In 38 states, teachers and/or districts are making excessively high contributions to their pension systems.



Currently, teacher pensions in these 41 states are not sufficiently funded.

In numerous ways, teachers and school districts are being squeezed to make up ground for poorly funded state pension systems. Since 2008, 40 states have raised employer contribution rates, at an average cost of **\$1,200** more per teacher each year. Over the same time period, 27 states have raised teacher contributions, costing the average teacher almost **\$500** more per year.

By reducing cost of living increases, raising retirement eligibility age, increasing teacher contributions and fiddling with benefit formulas, states are tinkering with systems at teacher expense while avoiding reform that would actually put states, districts, teachers and taxpayers on firmer ground. In some cases, these changes are necessary corrections for past over-promising, but these small adjustments are no replacement for systemic reform, and they have a real impact on teachers' wallets.

Since 2008, 40 states have put the squeeze on teachers, with three quarters of these changes made just in 2011 and 2012. To date:

- 22 states have lowered lowering cost of living adjustments
- 25 states have increased retirement age
- 20 states are lengthening the number of years used as a base for computing final average compensation (which typically has the effect of lowering compensation)

- 13 states have changed multipliers in ways that reduce benefits
- 27 states have raised teacher contributions to pension plans
- 21 states have reduced benefits while increasing teachers' contributions (squeezing in two directions)

Here is the bottom line:

The pension crisis is real. An uptick in the economy may ameliorate some of the immediate consequences, but pension systems were in dire need of attention well before the economic downturn.

The pension crisis is systemic. States' pension woes can't be fixed by tinkering with vesting periods or shaving down benefits to teachers, the path most states have taken to date. Real solutions require comprehensive rethinking of how we provide retirement benefits to teachers.

States are putting their own financial health, as well as the security of their teachers, at great risk by failing to take on a comprehensive approach to pension reform that addresses fundamental problems. In all, 22 states and the District of Columbia made changes to their teacher pension systems (or public employee systems that include teachers) in 2012 alone. But in most states the policies adopted attempt to tinker with systems in need of serious attention, and many of the changes are hurting teachers, taxpayers or both.

NCTQ Recommendations

The financial crisis in pension systems across the United States is a devastating reality that also provides an unprecedented window of opportunity for reform. NCTQ has consistently argued that if states want to get and keep teachers for promising and productive careers while maintaining a fiscally responsible commitment to retirees states must:

1. Offer teachers the option of a flexible and portable defined contribution pension plan.

All teachers should have the option of a fully portable pension system as their primary pension plan. Today, **Alaska** is the only state in the nation that has adopted a mandatory defined contribution pension plan for teachers, as is commonplace in so many other professions.

2. At a minimum, ensure that defined benefit pension plans are as portable, flexible and fair to all teachers as possible.

If states are going to maintain the option of a defined benefit plan, they should consider restructuring their systems as cash balance plans. Cash-balance pension plans may be the best new "hybrid" model as they provide greater flexibility and a safety net to teachers while also offering more financial stability to states and districts. Kansas and Louisiana have recently adopted cash-balance plans.

3. Ensure some basic principles of fairness.

Teachers should be able to:

- Vest no later than the third year of employment
- Have the option of a lump-sum rollover to a personal retirement account upon termination of employment that includes, at minimum, the teacher's contributions and accrued interest at a fair interest rate

- Have options for withdrawal from either defined benefit or defined contribution plans that include funds contributed by the employer
- Purchase time for unlimited previous teaching experience at the time of employment. Teachers should also be allowed to purchase time for all official leaves of absence, such as maternity or paternity leave.

4. Shore up pension funding for existing commitments.

States need to take action to secure the financial health of teacher pensions by beginning to adjust unrealistic assumed rates of return and make scheduled payments to their pension systems. Systemic reform of teacher pensions requires states to make tough decisions that are right for the long term. Unfunded liabilities serve no one well. And stretching liabilities out over enormous time or maintaining assumptions of rates of return that are unsustainable is a house of cards that is bound to collapse.

5. Institute safeguards that prevent politically expedient decisions.

States need strategies to prevent the raiding of pension funds and to stop policymakers from making politically expedient commitments now that will not have to be paid for until much later. Pension enhancements have been an effective way to negotiate increased teacher compensation while deferring the costs to future years. Many of the costly features discussed in this analysis have never been on the public radar but have huge public consequences.

6. Require that pension systems are neutral, uniformly increasing pension wealth with each additional year of work.

The formula that determines pension benefits should be neutral to the number of years worked. It should not have a multiplier that increases with years of service or provide for longevity bonuses. Pension systems that set up teachers to earn vastly different benefits for the same number of years worked are costly and unfair. The formula for determining benefits should preserve incentives for teachers to continue working until conventional retirement ages.

Looking Ahead

Teacher pension systems in the vast majority of states are not set up for the modern professional. Our society is more mobile. The teaching field used to be able to ignore larger trends in employment because it had a lock on smart, educated females. But this simply is not the case anymore. Student loan debt is on the rise—the average college graduate has over \$20,000 in debt for each degree earned—making cash in pocket at the start of employment in the form of a higher salary even more valued than money back loaded on the end of a teaching career.

There are myriad policy proposals for helping to make the teaching profession more lucrative and attractive to prospective teachers—and how we compensate teachers is an important part of the formula. We cannot afford to rethink strategies for attracting and retaining highly-effective teachers unless we understand the full range of compensation offered to teachers, and that includes retirement benefits. Reform must address how pensions can be shaped for the good of teachers, taxpayers and, ultimately, students alike.

No One Benefits:

How Teacher Pension Systems Are Failing Both Teachers and Taxpayers

Background

Until the recent prolonged economic downturn, with states particularly hard hit, teacher pensions were on policymakers' back burners. Doomsday predictions about states and cities collapsing under the weight of public employee benefit systems were largely ignored, as they were most often delivered with a partisan slant. While the occasional watchdog group made hay with stories about bloated pension benefits or retiree health plans that paid for cosmetic surgery,¹ such stories did little to erode the public's commitment to providing generous benefits for those who dedicated their careers to educating children. Only the phenomenon of nearly bankrupt governments has forced policymakers to stand to attention, confronting the challenge that many teacher compensation systems—steadily increased by state legislatures year in and year out and under little public scrutiny—are financially unsustainable.

Teacher pensions have become big news in major budget battles and contract negotiations across the country. The most notable example was in Wisconsin, where Governor Scott Walker faced a recall vote in 2011 in no small part due to his proposal to have teachers contribute to their pension and health care costs. But even where pensions are not in the headlines, the crisis is looming in the shadows. In this year's very public Chicago teacher strike, *The New York Times* reported, "One of the most vexing problems for Chicago and its teachers went virtually unmentioned: The pension fund is about to hit a wall."²

Scant public attention to pension reform may have at least as much to do with the mind-numbing complexities of the systems as any effort to keep the topic out of public scrutiny.

Our aim is to try to remedy that with a readable and thorough overview of this complicated topic. Each year in our *State Teacher Policy Yearbook*, NCTQ reviews the state rules, regulations and policies that shape the teaching profession, including what states are doing to address their pension health. NCTQ collects and analyzes a wealth of state data about teacher pensions, and we present our findings through two different lenses: how financially sound state teacher pension systems are and how flexible and fair they are to teachers.

According to NCTQ's 2012 analysis of state teacher pension systems, states have almost \$390 billion in unfunded teacher pension liabilities on the books.

1 Lindsay Tugman, "Buffalo, NY teachers get free plastic surgery," *CNN*, February 22, 2012.

2 Mary Williams Walsh, "Next school crisis for Chicago: Pension fund is running dry," *The New York Times*, September 19, 2012.

As we have tracked these issues over the last five years, NCTQ has consistently argued that states rely on costly and inflexible pension models that do not reflect the realities of the modern workforce. We also argue that the financial health and sustainability of most states' pension systems are questionable, at best.

But the issue at hand is not just that these systems are, by and large, untenable. The reality is that the current structure of teacher pensions may be in the best interest of *neither teachers nor taxpayers*. Of course, pension insolvency is not in anyone's best interest. We also show that there are many ways that teachers, especially those early in their careers, are disadvantaged, and that carefully guarded retirement benefits are already being squeezed and distributed unfairly in ways that are costly to teachers.

It all adds up to make it the right time—an absolutely necessary time—to scrutinize state teacher pension systems. We aim to provide an introduction and reference guide on critical teacher pension issues, with state-by-state compilations of data and policy, and an effort to connect the disparate dots to explain why teacher pensions are and should be a hot topic for education reformers.

But before we dive in, a few words about what this paper does—and does not—attempt to do:

- This paper does not make an argument against teacher pensions. It does argue strongly for their sustainability.
- This paper does not argue against higher compensation for teachers. Indeed, higher compensation must be available in order to attract the caliber of teaching candidate many schools desire. In order to rethink how teachers get paid, nothing about the current compensation system can be held exempt from discussion.
- Finally, this paper does not argue for breaking commitments already made to veteran teachers or for pulling the rug out from under teachers who have dedicated their careers to educating children. It is about taking a new approach to retirement benefits that appreciates the interests of teachers, taxpayers and children alike.

Organization of the paper

After a short introduction to the basics in **Pensions 101**, which continues in Appendix A for those who need a more in-depth tutorial, this analysis is organized into the following four sections:

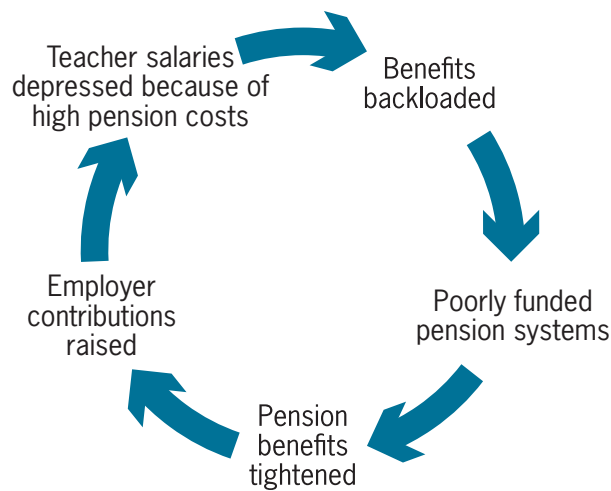
- Part I** Provides an overview of the pension funding crisis in the states.
- Part II** Explores the technical and sometimes hidden features of teacher pensions, such as cost of living adjustments, that are costly to taxpayers.
- Part III** Examines the elements of current pension systems—such as long vesting periods and low portability that make them not fair, advantageous or beneficial to teachers.
- Part IV** Outlines a forward looking approach to reforming teacher pensions that can help shore up states financially and improve their ability to recruit and retain highly-effective teachers.

No one benefits

The pension crisis is real. An uptick in the economy may ameliorate some of the immediate consequences, but no one is predicting the massive and unprecedented level of funding—from improved investment returns, state and local coffers or a federal bailout— that would be needed to achieve sound fiscal health. Pension systems were in dire need of attention well before the economic downturn. The problem also will not be fixed with overly optimistic and short-sighted projections.

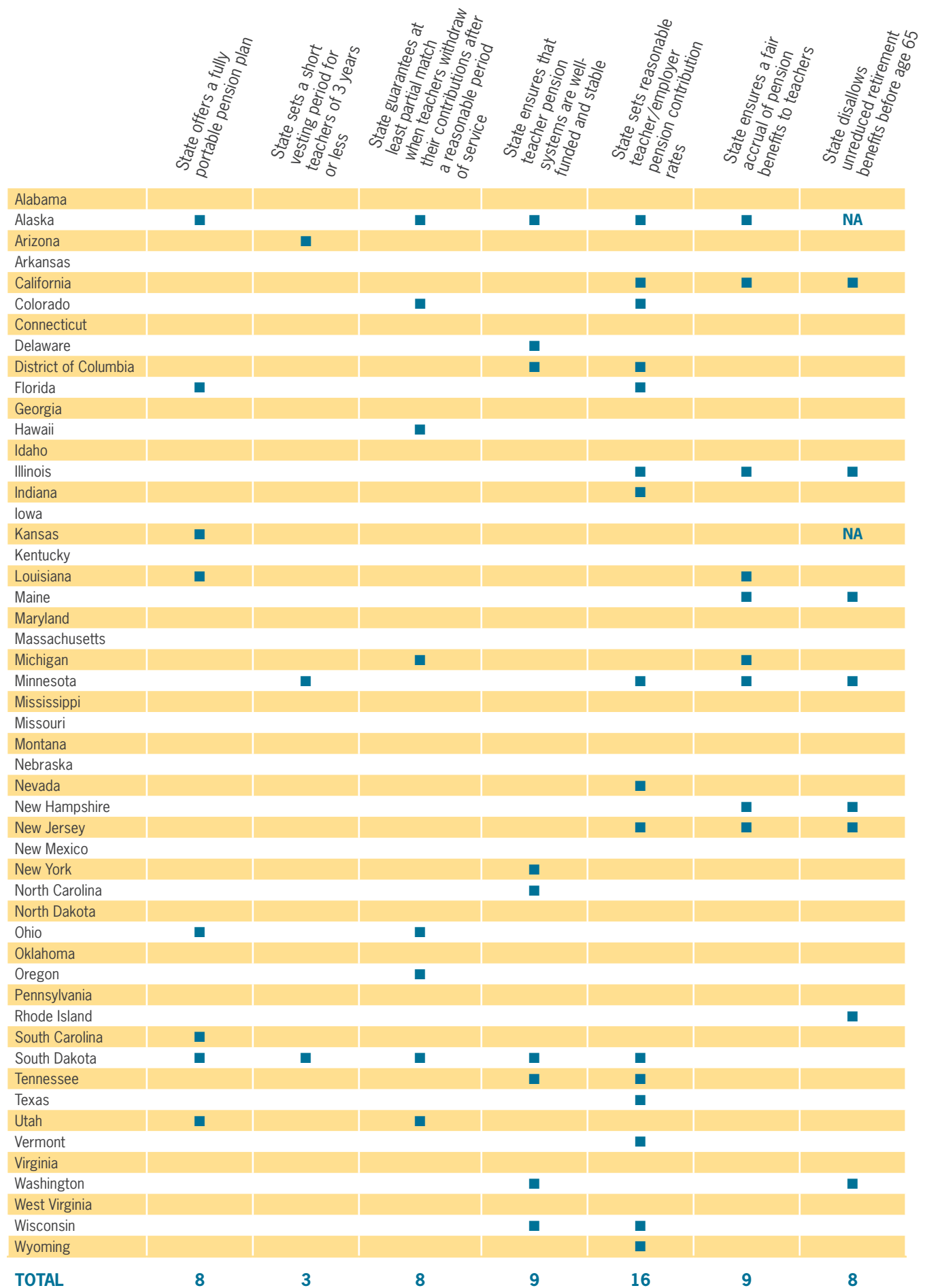
The pension crisis is systemic. States' pension woes can't be fixed by tinkering with vesting periods or shaving down benefits to teachers, the path most states have taken to date. Real solutions require comprehensive rethinking of how we provide retirement benefits to teachers.

Figure 1. A no win situation



Teacher benefits are largely back loaded (which means that teachers accumulate benefits slowly at first and then at a faster rate the longer they stay in a school system), and many state pension systems are poorly funded. Over time, this leads states to accumulate liabilities that force them to tighten retirement benefits to teachers and require higher payments into pension systems for teachers and for local districts. School districts find themselves committing increasingly higher shares of the dollars for compensation just to pensions, unable to either raise salaries or expand the workforce. With a workforce that is likely to live longer and, as we will show, often encouraged to retire at relatively young ages, states, districts and teachers are ultimately in a no-win cycle of diminishing returns.

Figure 3. Key elements of fair, neutral and portable teacher pension systems





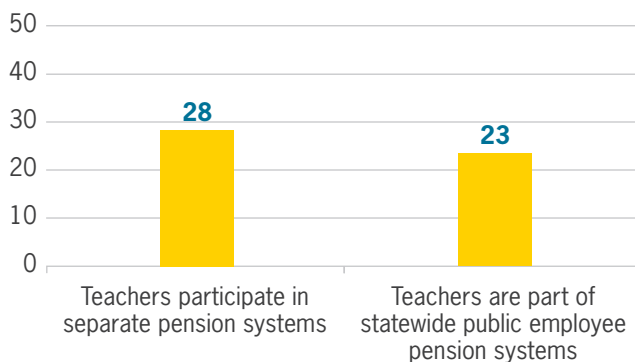
Pensions 101

Despite the enormity of the financial implications of teacher pension systems for the profession and for taxpayers, there is one simple explanation for why the issue is off the radar in most discussions of teacher policy. It's complicated. So we begin with a bit of a lay of the land about how teacher pensions work today. This “Pensions 101” tutorial continues in more detail in Appendix A.

Defined benefit pension plan

The vast majority of states—37 states and the District of Columbia—offer teachers only a defined benefit pension for their mandatory plan. A defined benefit plan is a pension that promises to pay a guaranteed specified amount per month for life to each person who retires after a set number of years of service or upon reaching a set age. Teachers usually contribute to these plans, and states and districts are responsible for the remainder of the costs; in a few cases, teachers do not contribute and all payments into the system are made by states and school districts. The pension system is responsible for the investment of payments and bears the risk of lower than expected investment returns. The defined benefit pension is rarely portable. That is, as the saying goes, “you can’t take it with you.” If a teacher moves across state lines and continues to work as a teacher, she starts again from square one in a new system.

Figure 4. State retirement systems for teachers



Defined contribution pension plan

Much less common for teachers, but much more typical for recent generations of workers in general, is the defined contribution plan. To date, only **Alaska** has adopted a mandatory defined contribution pension system for teachers.

Defined contribution plans, such as 401(k) plans, set a fixed level of contributions for both teachers and their employers and allow teachers to choose among investment options for the contributions (usually among stock, bond and money market accounts). In contrast to the defined benefit plan, in a defined contribution plan benefits vary depending on the amount contributed and the return on investments. In addition to being employee controlled, defined contribution plans are portable.

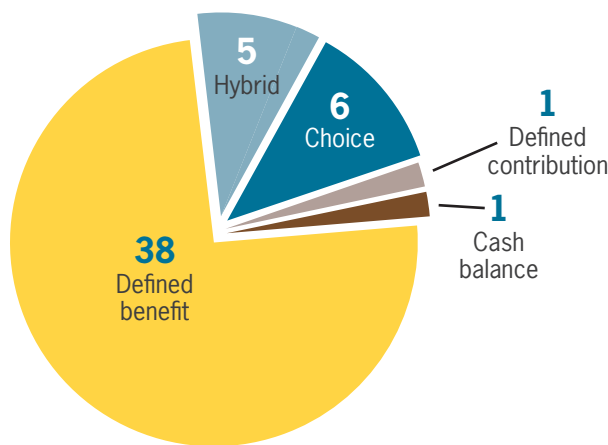
The retirement funds that accrue stay with the employee, regardless of whether s/he moves to a new state or leaves the profession. Because it does not provide a guaranteed benefit for life, the defined contribution plan involves more risk. Together, contributions, investment returns and a teacher’s investment decisions over time determine a retiree’s pension income.

Cash-balance pension plan

The cash-balance pension plan is a new type of pension option for teachers—one that has been around for a while but is new to the K-12 education sector. *In a cash-balance plan, teachers have individual retirement accounts (similar to 401k plans) funded by contributions from states/districts and teachers, but unlike typical individual accounts, members are guaranteed a minimum rate of return by the state rather than being subject to market fluctuations.*

This model resembles defined contribution pensions because benefits accrue fairly and are portable, but with a kind of safety net. Asset management is shared by teachers and fund managers, transferring investment risk away from individual teachers. The Teachers Insurance and Annuity Association of America (TIAA) plans that are common in higher education are similar in operation. **Kansas** has recently adopted a cash-balance plan; **Louisiana** will soon offer teachers the choice of a cash-balance plan.

Figure 5. What kinds of pension plans do states offer teachers?



Hybrid pension plan

Several states—including **Indiana, Michigan, Oregon, Rhode Island,** and **Virginia**—operate a relatively new pension structure that has come to be known as the “hybrid” pension plan because it includes elements of both a defined benefit plan and a defined contribution plan.

While these systems vary, generally most or all of districts’ retirement contributions go toward the defined benefit plan component while some or all of the teachers’ contributions go to the defined contribution plan component. In this “traditional hybrid,” teachers’ benefits result from the two components—essentially a smaller version of a traditional defined benefit plan with a small, portable savings account added.

In a traditional hybrid pension plan, only some of the benefits are portable. The defined benefit component has the same retirement eligibility rules and vesting as traditional defined benefit plans. The defined contribution component is solely

funded by the teacher, so if a teacher leaves before she qualifies for retirement and withdraws her funds, she may only take with her the defined contribution component. The newest hybrids are experimenting with teachers and employers funding both components and adding portability options.

Hybrid highlights

A closer look at Indiana's hybrid system

Indiana teachers are members of the Teachers' Retirement Fund, a hybrid that operates much like a traditional defined benefit plan. Mandatory teacher contributions are placed into a personal Annuity Savings Account (ASA), in which teachers immediately vest. Teachers may make additional contributions of up to 10 percent of their salaries once they have five years of service if their district allows it, and teachers may allocate their investment funds among options predetermined by the state, including one fund that guarantees a minimum rate of return. In some ways, this is a laudable structure. However, in practice, there is no guaranteed employer contribution to the defined contribution component, the ASAs may still only amount to teachers' own contributions plus simple interest, and the state does not provide any employer contribution for teachers who leave the system and withdraw their accounts. Indiana's late vesting at ten years of service for the defined benefit portion of the plan greatly decreases portability and may counteract any good that its "hybrid" approach creates.

Choice of plans

What we refer to in this paper as "choice" states are those that allow teachers to choose one plan or another—that is, depending on the choices offered, teachers have the *option of enrolling in a defined benefit plan, a defined contribution plan, a hybrid plan or, as of late, a cash-balance plan*. Across the United States, six states—**Florida, Louisiana, Ohio, South Carolina, Utah** and **Washington**—provide teachers with a choice of plans.

Figure 6. Type of pension plan offered by states to new teachers

	Defined benefit plan only	Hybrid plan	Choice of plans	Cash balance plan only	Defined contribution plan only
Alabama	■				
Alaska					■
Arizona	■				
Arkansas	■				
California	■				
Colorado	■				
Connecticut	■				
Delaware	■				
District of Columbia	■				
Florida			■		
Georgia	■				
Hawaii	■				
Idaho	■				
Illinois	■				
Indiana		■			
Iowa	■				
Kansas				■ ¹	
Kentucky	■				
Louisiana			■ ²		
Maine	■				
Maryland	■				
Massachusetts	■				
Michigan		■			
Minnesota	■				
Mississippi	■				
Missouri	■				
Montana	■				
Nebraska	■				
Nevada	■				
New Hampshire	■				
New Jersey	■				
New Mexico	■				
New York	■				
North Carolina	■				
North Dakota	■				
Ohio			■		
Oklahoma	■				
Oregon		■			
Pennsylvania	■				
Rhode Island		■			
South Carolina			■		
South Dakota	■				
Tennessee	■				
Texas	■				
Utah			■		
Vermont	■				
Virginia		■ ³			
Washington			■		
West Virginia	■				
Wisconsin	■				
Wyoming	■				
TOTAL	38	5	6	1	1

Figure 6.

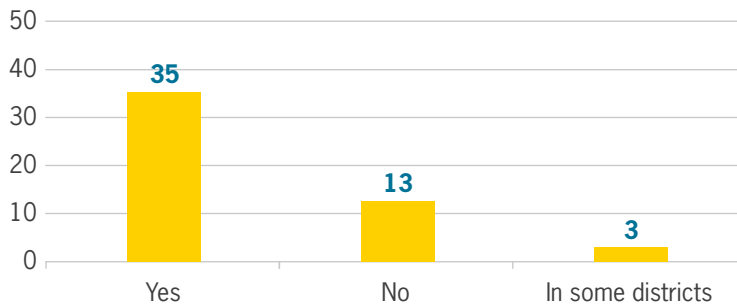
- 1 Kansas will offer a cash balance pension plan as the only type of plan available to new teachers as of January 1, 2015.
- 2 Louisiana will offer a cash balance plan as an option in addition to its existing defined benefit plan effective July 1, 2013.
- 3 Virginia will offer a hybrid plan as the only type of pension plan available to new teachers effective January 1, 2014.

Social Security

In addition to participating in teacher pension systems, teachers in 35 states participate in Social Security.³

Estimates suggest Social Security coverage for teachers nationwide is somewhere between 61-73 percent⁴ but, since participation in some states is decided at the district level, no one appears to have a handle on how many teachers participate.⁵

Figure 7. Do states' teachers participate in Social Security?



For the purposes of this analysis, the important takeaways about teacher participation in Social Security are the following:

- Participation in Social Security is an important context for examining teachers and state/district contribution rates into teacher pension systems. Teachers who do not participate in Social Security have an added level of dependency on their pension plans.
- Most teachers participate in two inflexible retirement plans. Having two defined benefit sources has a low risk, but teachers end up with two plans from which they are excluded from making decisions that impact the benefits they receive.

There are many specific features of pension systems—some of them very technical—that contribute to how costs and benefits are defined. For those already well familiar with concepts such as vesting, final average salary, benefit multipliers, amortization periods and normal costs, please read on. For others in need of more explanation about how pension systems work, see **Appendix A** for a reference guide to the terms and concepts discussed throughout this analysis.

³ See Appendix E for more details on which states participate in Social Security.

⁴ The U.S. Department of Labor estimates 73 percent of public school teachers are covered by Social Security (2008, Table 5). Teacher employment weights from the Common Core of Data and information on teacher coverage from the NASRA public fund survey and other sources suggest a coverage rate of 61 percent. See Robert Costrell and Michael Podgursky, “Teacher Retirement Benefits: Are Employer Contributions Higher Than for Private Sector Professionals?” (February, 2009).

⁵ When NCTQ called several states in which not all districts participate in Social Security, pension system staff did not know which or how many districts in their states participated and suggested calling each district individually. Inquiries to the Social Security Administration were similarly fruitless.



PART I:

The Pension Funding Crisis

In this section we provide the lay of the land of the basic costs and funding levels of teacher pension systems across the United States. The bottom line is clear, however you cut it, or spin it, or justify it: States don't have the funds to meet the promises they have made to teachers.

► Finding: Pension systems are underfunded.

According to the most recent data available, NCTQ estimates that teacher pensions in the United States have almost \$390 billion in unfunded liabilities. State funding for pensions has fallen in all but 6 states between 2009 and 2012.⁶

Most teacher pension systems across the nation are underfunded, many severely so. State and local governments have knowingly contributed less than their required portion to fund promised benefits, and lower than expected investment returns have exacerbated those actions. Also contributing to the crisis are enhancements made to pension systems during better economic times, including the bull market in the 1990's. Rather than accumulating surpluses during the years of above average returns, most pension plans significantly enhanced benefits. The result was windfall gains for teachers who were close to retirement but a less attractive profession for new teachers and prospective teachers who had not yet entered the labor force. And when the stock market declined, these enhancements helped contribute to what are now large and growing liabilities.⁷

Ideally, pension systems should be 100 percent funded.⁸ Any system far below this mark carries a significant liability, because sufficient resources have not been set aside for the purposes committed. Most states aren't even close.

Figure 8 provides a state-by-state overview of unfunded liabilities compiled in 2012 from the most recent publicly available Comprehensive Annual Fiscal Report (CAFR) or actuarial valuations for the pension plans in which teachers participate. Some of these plans are for teachers (educators/school professionals) only while others are larger state plans that include many different classes of public employees including teachers.

6 There is reason to look critically at the states whose funding levels have not dropped as well. Missouri, for example, lowered the assumed rate of inflation while maintaining the nominal rate of return. Wisconsin's funding level was shored up by a bond issue, offsetting debt of one kind with another.

7 Cory Koedel, Shawn Ni and Michael Podgursky, "Who Benefits from Pension Enhancements?" (June 2012), <http://www.caldercenter.org/publications/calder-working-paper-76.cfm>.

8 According to the American Academy of Actuaries, 100 percent should be the minimum funding goal of a pension system. While it is understandable that a system would fluctuate, the variance should be slight, and it should not only be downward. Ideally, systems should be more than 100 percent funded during flush times in order to save for times when they hit investment hardships. http://www.actuary.org/files/80_Percent_Funding_IB_071912.pdf.

Figure 8. Teacher pension funding liabilities in the states⁹

	Unfunded pension liability (\$)
Alabama	\$8,167,000,000
Alaska ¹	\$2,747,113,000
Arizona	\$3,626,000
Arkansas	\$4,375,000,000
California	\$57,084,000,000
Colorado	\$12,720,089,000
Connecticut	\$9,065,729,000
Delaware	\$119,841,000
District of Columbia ²	None
Florida	\$9,258,000
Georgia	\$9,062,621,000
Hawaii	\$2,297,854,000
Idaho	\$539,129,000
Illinois	\$43,529,992,000
Indiana	\$11,091,661,000
Iowa	\$3,630,652,000
Kansas	\$8,264,125,000
Kentucky	\$11,060,600,000
Louisiana	\$10,810,459,000
Maine	\$1,381,159,000
Maryland	\$9,401,092,000
Massachusetts	\$11,773,000
Michigan	\$17,633,000,000
Minnesota	\$5,039,110,000
Mississippi	\$4,849,294,000
Missouri	\$4,995,944,000
Montana	\$1,792,100,000
Nebraska	\$1,772,248,000
Nevada	\$3,892,647,000
New Hampshire	\$2,192,308,000
New Jersey	\$16,278,021,000
New Mexico	\$5,650,800,000
New York	None
North Carolina	\$1,581,105,000
North Dakota	\$927,200,000
Ohio	\$40,655,709,000
Oklahoma	\$7,600,200,000
Oregon	\$3,221,019,000
Pennsylvania	\$19,698,600,000
Rhode Island	\$1,386,013,000
South Carolina	\$8,214,125,000
South Dakota	\$77,368,000
Tennessee	\$361,877,000
Texas	\$24,062,000,000
Utah	\$3,756,036,000
Vermont	\$845,108,000
Virginia	\$8,610,888,000
Washington	\$1,800,000,000
West Virginia	\$4,760,772,000
Wisconsin	\$50,641,000
Wyoming	\$625,223,000
TOTAL	\$390,257,718,000

Figure 8.

- 1 Alaska has no unfunded liability for its current defined contribution plan. The state has a closed defined benefit plan that still has a shortfall.
- 2 While included in this analysis, the District of Columbia's pension system is unique. The federal government is responsible for paying benefits attributable to service performed by District of Columbia Public School teachers on or before June 30, 1997. The District of Columbia Retirement Board (DCRB) is responsible for paying benefits attributable to teacher service performed after that date.

⁹ Figures are from the most recent actuarial valuations included in annual financial reports. For systems that include members other than teachers, the total reported unfunded liability was adjusted to reflect the percentage of teachers in the system (see Appendix D). In some cases, the percentage of teachers was not published by the system and other approximations were used. Several states, including Alaska, Indiana, Utah and Washington, have closed systems and opened new ones. Where applicable and reported, the unfunded liabilities for those closed systems are included.

► Finding: Underfunding is even worse than meets the eye.

Unrealistic assumptions and projections make the problem of underfunding even worse than it appears and is contributing to states and districts digging into deeper holes of debt. Even with states almost certainly overestimating how well funded their state pension systems are, NCTQ finds that pension systems in just 10 states are, by industry standards, well-funded.

The pension system funding levels reported here are based on each state's individual *actuarial valuation*—that is a set of mathematical procedures used to calculate the value of benefits to be paid, the funds available, and the annual contributions required. These valuations use a series of assumptions—inflation rate, investment rate of return, salary increases, cost of living adjustments, mortality rate—some of which range from too optimistic to downright unrealistic. There are several reasons why, as bad as these numbers are, they will get worse:

- Recent bad years for the economy (FY 2012 for example) are not yet reflected in most reported pension numbers because there is a data lag regarding investment returns.
- Pension funds typically “smooth” data over several years (often 5 or more years)—proportionally spreading gains or losses over a set period of time in an averaging procedure. While it is a commonly accepted accounting practice, this process means the full impact of the recent economic downturn hasn't even been fully accounted for yet.

“There is less than a 50% chance that the net return will be 7.5% or more over the next 50 year period.”

- Cavanaugh McDonald Consulting LLC
on Mississippi's 8 percent assumed
rate of return on pension investments

One of the assumptions with a big impact on a pension system's funding level—and one that is coming under increased public scrutiny—is the assumed rate of return, or discount rate. If investment returns fall short of assumptions for a given year, funding for that year will show a deficit; if returns are greater than expected, the fund will have a surplus for that year. Higher assumed rates involve more risk, while rates closer to inflation (typically in the 3-5 percent range) are less risky because they are more likely to be achieved.

Most state pension funds assume a rate of return between 7.5 percent and 8.25 percent. While many states still report that they do meet or exceed an eight percent rate of return over the life of the plan, no pension plans are meeting those rates of return in today's economy. California's teacher pension fund, for example, earned just a 1.8 percent return from investments for 2012 and Maryland's earned only 0.36 percent.¹⁰

10 Mary Williams Walsh, “Public pensions faulted for rosy bets on returns,” *New York Times* (May 27, 2012).

Figure 9. Trends in state pension systems funding levels (percent funded)¹¹

	2009	2011	2012	Funding level changes 2009-2012
Alabama	79.5	74.7	71.1	▼
Alaska	N/A	N/A	N/A	N/A
Arizona	83.3	79	76.4	▼
Arkansas	85.3	73	71.8	▼
California	87.6	78	71	▼
Colorado	70.1	64.8	60.2	▼
Connecticut	63	61.4	61.4	▼
Delaware	103.7	96	94	▼
District of Columbia	102.4	118.3	101.9	▼
Florida	105.3	86.6	86.9	▼
Georgia	91.9	87.2	85.7	▼
Hawaii	67.5	61.4	59.4	▼
Idaho	92.8	78.9	90.2	▼
Illinois	63.8	48.4	46.5	▼
Indiana	45.1	44.3	44.3	▼
Iowa	89.1	80.8	79.9	▼
Kansas	52.1	56	54.9	▼
Kentucky	68.2	61	57.4	▼
Louisiana	70.2	54.4	55.1	▼
Maine	73.9	65.9	80.2	▲
Maryland	79.6	65.4	64.7	▼
Massachusetts	78.6	63	66.3	▼
Michigan	88.7	78.9	71.1	▼
Minnesota	82	78.5	77.3	▼
Mississippi	72.9	64.2	62.2	▼
Missouri	83.4	77.7	85.3	▲
Montana	79.9	65.4	61.5	▼
Nebraska	90.6	82.4	80.4	▼
Nevada	76.2	71.2	70.6	▼
New Hampshire	67.8	58.5	57.4	▼
New Jersey	74.4	63.8	67.1	▼
New Mexico	70.5	65.7	63	▼
New York	106.6	103.2	100.3	▼
North Carolina	104.7	95.9	95.4	▼
North Dakota	81.9	69.8	66.3	▼
Ohio	79.1	59.1	58.8	▼
Oklahoma	50.5	56.7	56.7	▲
Oregon	112.2	83.2	86.9	▼
Pennsylvania	86	75.1	75.1	▼
Rhode Island	53.4	48.4	59.4	▲
South Carolina	69.7	67.8	65.5	▼
South Dakota	97.2	96.3	96.4	▼
Tennessee	96.2	90.6	94.7	▼
Texas	90.5	82.9	82.7	▼
Utah	86.5	85.7	78.4	▼
Vermont	84.9	66.5	63.8	▼
Virginia	82.3	80.2	72.4	▼
Washington	130	116	99	▼
West Virginia	50	46.5	46.5	▼
Wisconsin	99.7	99.8	99.9	▲
Wyoming	79	87.5	81.9	▲
AVERAGE	81.6	74.3	73.1	▼

11 If the 2011 and 2012 rates are unchanged, it may mean that no recent actuarial valuation has been published. It does not necessarily indicate that the state held the same funding level. The 2009 and 2011 levels were reported in those editions of the *State Teacher Policy Yearbook*.

The obvious fix is to adjust expectations. But here's the rub. If states did the responsible thing and lowered their expected rates of return, the gap between the funds they need and the funds they have for retirement benefits would look even worse. The already worrisome numbers in Figure 9 are bolstered by the rosy expectations of a 7-8 percent return on investments. If states were more realistic about expected returns on investment, the pension crisis would be even harder to ignore.

Here is one example of how state assumptions about earnings matter a lot:

Assumed rate of return in Colorado

A recent report by Colorado's pension system¹² illustrates this conundrum, showing the impact of lowering the rate of return. The current assumed rate of return is 8 percent and the system is 60.2 percent funded, with an annual required contribution by the state for a 30 year amortization of 19.76 percent of salaries, which Colorado is not meeting.

Assumed rate of return	Resulting funding ratio	Resulting unfunded liability (in dollars)	Annual percent of payroll employers must contribute to maintain a 30 year amortization period (in addition to the employee contribution)	Annual required employer contribution using 2011 payroll (in dollars)
8.5%	63.8%	\$10,996,138,000	17.2	\$657 million
8.0%	60.2%	\$12,720,089,000	19.8	\$756 million
7.5%	56.8%	\$14,600,224,000	22.5	\$861 million
6.5%	50.2%	\$18,908,890,000	28.6	\$1.1 billion

As the assumed rate of return is lowered, so too is the extent to which the system is fully funded, and the annual required contribution to fully fund the system within the *amortization period*—the *timeframe over which the liability is gradually eliminated in regular payments over a specified period of time*—goes up.

Since 2009, at least a dozen states have lowered expected rates of return, including, most recently California, Ohio, South Carolina and Washington. But no state approaches the rates economists suggest. The District of Columbia and Indiana have the lowest expected return rate at 7 percent. Connecticut, Illinois and Minnesota have the highest at 8.5 percent. It may seem like a small difference, but as Colorado's numbers show, the rate can greatly affect reported liabilities and the actuarially-determined contributions. When Virginia's system lowered its assumed rate to 7 percent for its actuarial valuation, the projected increase in contributions that would have resulted was flatly rejected by the legislature, which instead used an 8 percent rate to determine employer contributions.

12 <https://www.copera.org/pdf/5/5-20-11.pdf#page=114>, Colorado PERA (Public Employees Retirement System) Comprehensive Annual Financial Report 2011.

Figure 10. States meeting pension funding benchmarks

	At least 90% funded	Maximum 30 year amortization period
Alabama		■
ALASKA	■	■
Arizona		■
Arkansas		
California		
Colorado		
Connecticut		■
DELAWARE	■	■
DISTRICT OF COLUMBIA	■	■
Florida		
Georgia		■
Hawaii		
Idaho	■	
Illinois		
Indiana		■
Iowa		
Kansas		
Kentucky		■
Louisiana		
Maine		■
Maryland		
Massachusetts		
Michigan		
Minnesota		
Mississippi		■
Missouri		
Montana		
Nebraska		
Nevada		
New Hampshire		■
New Jersey		
New Mexico		
NEW YORK	■	■
NORTH CAROLINA	■	■
North Dakota		
Ohio		
Oklahoma		■
Oregon		■
Pennsylvania		
Rhode Island		■
South Carolina		
SOUTH DAKOTA	■	■
TENNESSEE	■	■
Texas		
Utah		■
Vermont		■
Virginia		
WASHINGTON	■	■
West Virginia		■
WISCONSIN	■	■
Wyoming		■
TOTAL	10	25

► **Finding: The bleak landscape of pension funding doesn't even include the costs of retiree health care benefits.**

According to the Pew Center on the States, the total liability states bore for retiree health care and other benefits in 2010 was almost \$660 billion. With just \$33.1 billion in assets across the states to pay for these benefits, that leaves a \$627 billion hole.

While individual states have experienced increases and decreases in their unfunded retiree health care liabilities over time, the overall total went up by about \$22 billion from 2009 to 2010. Overall, states should have set aside nearly \$51 billion to pay for these promises in fiscal year 2010, but they contributed just over \$17 billion—about 34 percent of what was annually required. Like pension systems, states are not putting aside the money they need for retiree health care costs. What is different is that states set aside pension dollars in advance, but most pay health care costs or premiums as retirees incur those expenses.¹³

Pew's health care numbers represent the total unfunded liability and percent funded for all employees in state public health care systems. Therefore the total liability does not only belong to teachers; it is shared among all public servants of the state. Across the states, the extent to which liabilities associated with teachers: account for the costs vary, even though there is very little state-by-state information about how much of these costs are associated with teachers in particular.¹⁴

13 It is important to note that retiree health care plans are different than pension benefits. First, they are not viewed legally as contractually guaranteed, thus they can be removed or decreased for current employees who have already accrued the benefits.

14 Robert Clark, "Retiree Health Plans for Public School Teachers After GASB 43 and 45," *Education Finance and Policy* (Fall 2010), 438-462.

Figure 11. Retiree health care liabilities by state (all public employees)

	Liability	Percent Funded
Alabama	\$15,746,241,000	5
Alaska	\$12,419,995,000	50
Arizona	\$2,284,190,000	69
Arkansas	\$1,866,079,000	0
California	\$77,371,000,000	0.1
Colorado	\$2,162,506,000	14
Connecticut	\$26,697,800,000	0
Delaware	\$5,884,000,000	2
District of Columbia	NA	NA
Florida	\$4,545,845,000	0
Georgia	\$19,804,096,000	3
Hawaii	\$14,007,480,000	0
Idaho	\$155,332,000	12
Illinois	\$43,949,729,000	0.1
Indiana	\$402,466,000	5
Iowa	\$538,200,000	0
Kansas	\$562,152,000	2
Kentucky	\$8,754,555,000	15
Louisiana	\$10,030,052,000	0
Maine	\$2,625,963,000	6
Maryland	\$16,530,102,000	1
Massachusetts	\$16,568,600,000	2
Michigan	\$45,476,000,000	2
Minnesota	\$1,172,129,000	0
Mississippi	\$727,711,000	0
Missouri	\$3,180,260,000	3
Montana	\$540,894,000	0
Nebraska	NA	NA
Nevada	\$1,706,543,000	2
New Hampshire	\$3,291,683,000	2
New Jersey	\$71,371,700,000	0
New Mexico	\$3,523,665,000	5
New York	\$56,826,000,000	0
North Carolina	\$33,993,147,000	3
North Dakota	\$161,982,000	30
Ohio	\$43,200,585,000	32
Oklahoma	\$2,918,000	0
Oregon	\$767,586,000	31
Pennsylvania	\$17,465,836,000	1
Rhode Island	\$774,665,000	0
South Carolina	\$9,657,947,000	5
South Dakota	\$70,548,000	0
Tennessee	\$1,713,394,000	0
Texas	\$55,949,044,000	1
Utah	\$510,391,000	22
Vermont	\$1,628,934,000	0.05
Virginia	\$5,910,000,000	26
Washington	\$6,935,749,000	0
West Virginia	\$7,410,241,000	6
Wisconsin	\$2,506,683,000	38
Wyoming	\$261,545,000	0
TOTAL	\$659,644,163,000	8.0% (average)

Source: Pew Center on the States, The Widening Gap Update (June 2012).

► **Finding: States are shifting the burden—as much as they can—to school districts.**

Employer contributions to teacher pensions, generally funded by school districts, are on the rise. Since 2008, NCTQ finds that 40 states have raised employer pension contribution rates. This amounts, on average, to \$1,200 more per teacher.

The relationship between states and districts when it comes to pension costs is tricky. Districts recruit teachers but have little control over retirement benefits. On the other hand, states own the pension systems but have little control over hiring. Typically, the state is in charge of setting the parameters of a benefit that can become a large portion of a teacher's compensation—for some equaling more over their lifetime than their salaries will provide—yet in most systems, the districts foot the bill.

Given the massive unfunded pension liabilities across the states, it is no surprise that an increasing number of states are raising the amounts districts are required to pay in to teacher pension systems. As Figure 12 shows, with just a few exceptions, employer contribution rates to pensions are rising.

Among other concerns, the rise in contribution rates for districts means already strapped school systems are required to commit increasing shares of their current funds to pay for retired teachers' benefits.

Figure 12. Employer contribution trends (2008-2012)

	Employer contribution (%) 2008	Employer contribution (%) 2012	Additional amount districts spend per teacher ¹
Alabama	8.2	12.5	\$1,900
Alaska	7.0	12.6	\$3,060
Arizona	9.5	10.1	\$260
Arkansas	14.0	14.0	\$0
California	10.3	10.8	\$320
Colorado	10.2	14.1	\$1,800
Connecticut	15.3	19.2	\$2,430
Delaware	6.1	17.2	\$5,894
District of Columbia	0.0	0.0	\$0
Florida ²	6.3	3.8	-\$1,110
Georgia	9.3	11.4	\$1,030
Hawaii	15.0	15.0	\$0
Idaho	10.4	10.4	\$0
Illinois	7.6	12.7	\$2,700
Indiana	7.3	7.5	\$120
Iowa	6.4	8.7	\$910
Kansas	7.4	8.2	\$330
Kentucky	13.1	14.1	\$450
Louisiana	15.9	20.2	\$1,770
Maine	17.2	17.3	\$20
Maryland	11.7	15.5	\$2,090
Massachusetts	22.6	22.6	\$0
Michigan	7.6	14.3	\$3,820
Minnesota	5.5	13.2	\$3,830
Mississippi	11.3	12.9	\$650
Missouri	13.0	14.5	\$610
Montana	7.6	10.0	\$940
Nebraska	7.4	9.9	\$940
Nevada	10.3	11.9	\$740
New Hampshire	8.9	9.4	\$210
New Jersey	1.0	1.0	\$0
New Mexico	10.9	9.4	-\$650
New York	8.7	8.6	-\$70
North Carolina	7.8	13.1	\$2,100
North Dakota	8.3	10.8	\$940
Ohio	14.0	14.0	\$0
Oklahoma	8.4	16.6	\$3,080
Oregon	14.1	13.9	-\$80
Pennsylvania	12.1	12.4	\$170
Rhode Island	14.8	21.7	\$4,190
South Carolina	9.2	10.6	\$580
South Dakota	6.0	6.2	\$70
Tennessee	6.1	8.9	\$1,130
Texas	6.6	6.6	\$30
Utah	13.4	12.7	-\$270
Vermont	4.8	7.4	\$1,240
Virginia	3.4	8.8	\$2,540
Washington	8.6	9.2	\$280
West Virginia ³	7.5	29.2	\$8,570
Wisconsin	4.6	5.9	\$614
Wyoming	5.6	7.1	\$750
AVERAGE			\$1,194

Figure 12.

- 1 The figures in this column are calculated based on the average base salary reported by state in the National Center for Education Statistics School and Staffing Survey for 2007-8.
- 2 In this time frame, Florida required teachers to start contributing for the first time.
- 3 In West Virginia, 7.5 is the statutory employer contribution rate in both 2008 and 2012. The higher rate in 2012 reflects additional contributions toward the unfunded liability. Similar contributions may have been made in 2008, but it is not reflected in current reports.



PART II: The Costly (and Sometimes Hidden) Features of Teacher Pensions

Teacher pension systems have some important and costly features that greatly impact the costs to states and taxpayers, as well as the relative benefits to teachers.

► **Finding: Most retirement eligibility rules are burdensome and unfair.**

In 38 states, retirement eligibility rules for teachers are based on years of service, rather than age, which is costly to states and taxpayers because teachers can retire relatively young with full lifetime benefits. Of these, 18 states have an option of retirement based solely on years of service, regardless of teachers' age.

Pension systems have numerous options for determining when a teacher is eligible for retirement. Retirement eligibility can be based on:

- **Age** — A plan may set a particular age at which any teacher may retire. This is similar to how Social Security works. To retire at this age, the teacher must have been working the prior year or must be vested. *While the teacher's annual benefit will, rightfully, be based on her years of service and final salary, the number of years the teacher receives benefits will be roughly the same for most teachers.* This is the only approach that is fair to all teachers, an issue we will return to later in our policy recommendations.
- **Years of service** — The eligibility rules for a pension plan may deem that teachers can retire, regardless of age, once they attain a minimum number of years of service. This allows teachers who start teaching at different ages, or who took differing amounts of leave (such as maternity leave) over the course of their careers, to be eligible to retire with full benefits at different points. When retirement ages vary widely, teachers with the same amount of service end up with vastly different total pension compensation because they receive benefits for a different number of years.
- **Age and years of service**—Some states do both, setting minimum years of service, such as 30, but also a minimum retirement age, such as 55. If a teacher does not meet the service requirements, she must wait until she reaches the normal retirement age for someone without as many years of service. Some states set a minimum combination of age

and service, such as a “rule of 85” where the combined years of service and age of a teacher must be at least 85 for retirement eligibility (for example, age 54 with 31 years of service). Recently, a few states have added a minimum age to such rules, but these minimums are rare. These combination examples still greatly benefit some teachers over others: namely, those who start their career in the system earlier.

Figure 13. Are states’ retirement eligibility rules fair?

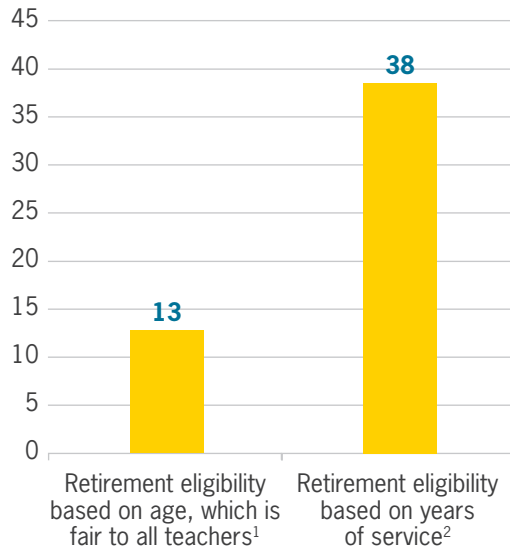


Figure 13.

1 Alaska, California, Illinois, Kansas, Louisiana, Maine, Massachusetts, Michigan, Minnesota, New Hampshire, New Jersey, Rhode Island, Washington.

2 Alabama, Arizona, Arkansas, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Indiana, Iowa, Kentucky, Maryland, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, Wisconsin, Wyoming.

Figure 14. State retirement eligibility rules

Retirement Eligibility Rules	
Alabama	25/any, 10/60
Alaska	Any age
Arizona	30/55, 25/60, 10/62, any/65
Arkansas	28/any, 5/60
California ¹	5/65
Colorado	35/any, 30/58, 5/65
Connecticut	35/any, 20/60
Delaware	30/any, 20/60, 10/62
District of Columbia	30/any, 20/60, 5/62
Florida	33/any, 8/65
Georgia	30/any, 10/60,
Hawaii	30/60, 10/65
Idaho	Rule of 90, 5/65
Illinois	10/67
Indiana	Rule of 85 @ 55, 15/60, 10/65
Iowa	Rule of 88, 20/62, 7/65
Kansas	30/60, 5/65
Kentucky	27/any, 5/60
Louisiana	5/60
Maine	5/65
Maryland	Rule of 90, 10/65
Massachusetts	10/60
Michigan	10/60
Minnesota	66
Mississippi	30/any, 8/65
Missouri	Rule of 80, 30/any, 5/60
Montana	any/25, 5/60
Nebraska	Rule of 85 @ 55, 5/65
Nevada	30/any, 10/62, 5/65
New Hampshire	65
New Jersey	65
New Mexico	30/any, rule of 80 @ 65, 5/67
New York	30/57, 10/62
North Carolina	30/any, 25/60, 10/65
North Dakota	Rule of 90, 5/65
Ohio ²	DB: 35/60; 5/65; DC: age 50 Combined: age 50 for DC, age 65 for DB
Oklahoma	Rule of 90 @ 60, 5/65
Oregon	30/58, 5/65
Pennsylvania	10/65, rule of 92 w/ minimum of 35 years of service
Rhode Island	66 (Social Security age)
South Carolina	28/any, 8/65
South Dakota	Rule of 85 @ 55, 3/65
Tennessee	30/any, 5/60
Texas	Rule of 80 @ 60, 5/65
Utah	35/any, 4/65
Vermont	Rule of 90, 5/65
Virginia	Rule of 90, or 66 (Social Security age)
Washington	Plan 2=5/65; Plan 3=10/65
West Virginia	35/any, 30/55, 20/60, 5/62
Wisconsin	30/57, 5/65
Wyoming	Rule of 85, 4/60

Read: Retirement with 25 years of service at any age or with 10 years of service at age 60.

Read: Eligible for retirement when combined total of age and years of service = 90 or with 5 years of service at age 65.

Figure 14.

- 1 Retirement also allowed at 30/50 and 5/55 but the multiplier is lower making it similar to taking a reduced retirement.
- 2 Age and service increases are phased in over the next decade becoming fully effective in 2023.

Figure 15. How much states pay per teacher who retires with unreduced benefits at an early age

State	Total amount in benefits paid per teacher from the time of retirement until age 65	Earliest retirement age that a teacher who started teaching at age 22 may receive unreduced benefits
Alaska ¹	\$0	N/A
California	\$0	65
Illinois	\$ 0	67
Kansas ²	\$0	N/A
Maine	\$0	65
Minnesota ³	\$0	66
New Hampshire	\$0	65
New Jersey	\$0	65
Rhode Island	\$0	67
Washington	\$0	65
Alabama	\$213,145	62
Tennessee	\$238,654	52
New York	\$256,129	63
Virginia ⁴	\$275,872	56
Michigan	\$289,187	62
Indiana	\$317,728	55
Hawaii	\$337,385	60
Oregon	\$361,536	58
North Dakota	\$385,583	60
Oklahoma	\$385,583	60
Massachusetts	\$405,877	60
Maryland	\$413,808	56
Wisconsin	\$416,007	57
Ohio	\$424,142	60
Texas	\$443,421	60
South Dakota	\$447,707	55
Louisiana	\$481,979	60
Florida	\$485,257	55
Vermont	\$486,832	56
South Carolina	\$510,363	56
Montana	\$518,228	47
Connecticut	\$520,009	57
Utah	\$520,009	57
Iowa	\$551,428	55
Idaho	\$551,743	56
North Carolina	\$568,555	52
Nebraska	\$577,687	55
West Virginia	\$577,687	55
Delaware	\$577,927	52
District of Columbia	\$585,737	52
Wyoming	\$598,252	54
Georgia	\$624,786	52
Mississippi	\$624,786	52
Colorado	\$650,011	57
Pennsylvania	\$650,011	57
Arizona	\$664,340	55
Arkansas	\$681,789	50
New Mexico	\$734,124	52
Nevada	\$780,983	52
Missouri	\$789,343	51
Kentucky	\$791,679	49

Figure 28.

- 1 Does not apply to Alaska's defined contribution plan.
- 2 Does not apply to Kansas's cash balance plan effective January 1, 2015.
- 3 Minnesota provides unreduced retirement benefits at the age of full Social Security benefits or age 66, whichever comes first.
- 4 Based on new hybrid plan for new teachers (current teachers can opt-in) effective Jan 1, 2014.

► Finding: Setting fair retirement rules matters.

The 10 states—Alaska, California, Illinois, Kansas, Maine, Minnesota, New Hampshire, New Jersey, Rhode Island and Washington—that no longer allow teachers to begin collecting a defined benefit pension well before traditional retirement age save about \$450,000 per teacher, on average.

The numbers in Figure 15 roughly¹⁵ calculate for each state how much a teacher who started at age 22 would be paid by the state’s retirement plan if she retires the first year she is eligible for unreduced benefits compared to a more conventional retirement age of 65. In Kentucky, for example, where one can retire with unreduced benefits after 27 years of service regardless of age, a teacher who began her career at age 22 can begin collecting full retirement benefits at age 49—at a cost of more than \$791,000 per teacher for benefits before the retiree reaches age 65.¹⁶

With life expectancy continuing to rise, a teacher retiring from the profession in her mid-50s may draw a retirement out of the pension system for 30 odd years, greatly surpassing the contributions (and the earnings of those contributions) she made into the system and perhaps receiving retirement benefits for more years than she was a teacher.

Figure 16. Cost savings to states that base unreduced retirement benefits on age

State	Former cost paid per teacher until age 65	Former age retirement allowed
Alaska	\$548,343	42
California	\$310,028	62
Illinois	\$557,153	57
Kansas	\$356,665	60
Maine	\$258,357	62
Minnesota	\$496,569	56
New Hampshire	\$321,384	60
New Jersey	\$215,341	62
Rhode Island	\$430,013	59
Washington	\$624,786	52

► Finding: Pension benefits typically accrue in an unfair way, which may be increasingly unattractive to the next generation of teachers.

The point is not that all teachers should receive the same benefits regardless of years of service, merely that each year of service should be worth the same in terms of the benefits received, so that rules around eligibility and the accrual of pension wealth treat all teachers equitably.¹⁷

15 Our calculations are based on a three year FAS calculation, do not include COLA or inflation, and assume a standard salary scale with a starting salary of \$35,000 that increases annually. Having a generous COLA could greatly inflate these numbers, while using five year FAS calculations could lower them slightly.

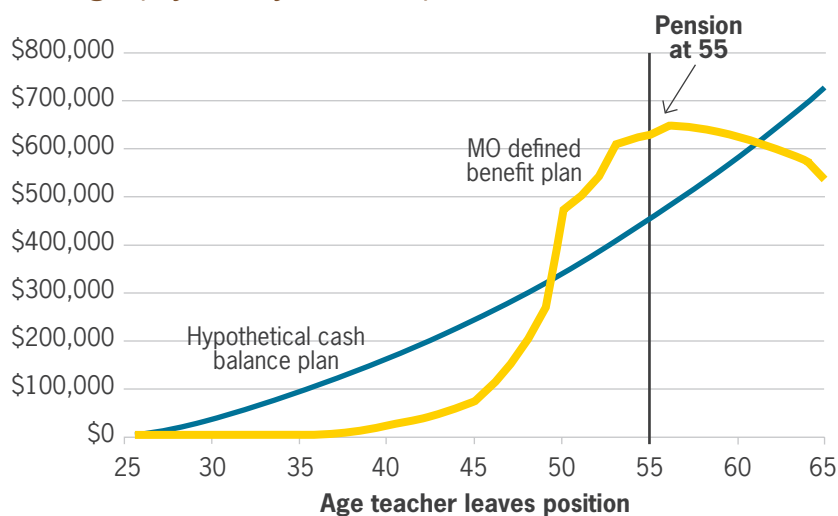
16 We calculate a teacher’s benefit the first year of retirement and multiply that by the number of years benefits will be received until age 65. For example, if a teacher were allowed to retire with unreduced benefits with 30 years of service, we assume retirement at age 52 and 13 years of benefits until age 65 is reached. The chart does not take into account COLA or additional costs associated with early retirement—the costs of replacing the retiring teacher.

17 For a detailed treatment of these issues and how they affect teacher incentives, see Robert Costrell and Michael Podgursky “Peaks, Cliffs & Valleys,” *Education Next* (Winter 2008).

Originally published in *Education Next*, Figure 17 illustrates how pension wealth accrues over time in Missouri (most traditional defined benefit plans would follow a similar trajectory) for teachers under several of the pension system types.¹⁸ The graph compares how pension wealth accrues over time in cash balance pension plans (assuming level employer contributions over time that do not vary based on years of service) and defined benefit plans. In a nutshell, defined benefit plans do not treat each year the same and benefits do not accrue fairly. In fact, the concept of *back loaded benefits* is demonstrated clearly. Teachers who are relatively early in their careers, who change jobs, take teaching jobs in states other than where they started their careers—even if they work the same number of years as other veteran teacher—lose out, sometimes by a lot.

Allowing teachers to retire based on years of service without regard for age means that teachers who started at a younger age may receive drastically different total compensation over a lifetime than teachers that taught the same number of years but were older when they were able to retire.

Figure 17. Making it pay to stay: An example from Missouri



Source: Robert Costrell and Michael Podgursky, *Education Next* (Winter 2010)

- **Finding: States and districts may want to keep effective teachers in schools, but the financial reality of the compensation structure for veteran teachers makes retirement hard to pass up.**

Figure 17 also provides a vivid illustration of how defined benefit plans incentivize teachers to retire at their retirement eligibility age and stay no longer. When a teacher reaches retirement eligibility in a defined benefit system, her pension wealth peaks and, after that, wealth accrual slows or even decreases because every year a teacher delays retirement, she loses a year of pension benefits.

18 Robert Costrell and Michael Podgursky, “Golden Handcuffs,” *Education Next* (Winter 2010).

For example, if a teacher could retire with 60 percent of her salary at age 56, then every year she teaches past that point she is, in effect, working for only 40 percent of her pay because she is not receiving her pension and she can never have that year of pension payment back. This pattern potentially puts teachers who reach retirement age but are still relatively young—including very effective teachers and the districts that wish to retain them—in a difficult position.

According to one recent analysis¹⁹ of the 2003-2004 Schools and Staffing Survey (SASS) and 2004-2005 Teacher Follow-Up Survey (TFS), a nationally representative sample:

- 76 percent of teachers who are newly eligible for regular retirement chose to retire.
- 54 percent of teachers in their first year of eligibility for early retirement took that option.
- 39 percent of retired teachers report being reemployed immediately after retiring from teaching, evidence that they still want (or need) to work and may have remained in teaching if not for the incentive to retire.

This might not have mattered when states and districts were doing little to identify effective teachers. Unloading higher paid veteran teachers might even have seemed smart. But it doesn't seem to make so much sense anymore—especially to the extent that some of these teachers may be our most effective, or as in the case of secondary math teachers, hard to replace.

While other employers need to allocate approximately \$0.92 per hour to a white collar worker's retirement benefit, pension plans for teachers cost about \$2.40 per hour of a teacher's wage.

Another study shows how teacher turnover is aggravated by the generous pensions that teachers receive relative to other professions. While other employers need to allocate approximately \$0.92 per hour to a white collar worker's retirement benefit, pension plans for teachers cost about \$2.40 per hour of a teacher's wage. Given the generosity of these plans, older teachers are inclined to leave at a younger age than most workers leave their jobs in other professions. These results “strongly suggest that the primary difference between teacher turnover and the other professions is in early retirement.”²⁰

► Finding: When it comes to hidden expenses, teacher pensions have some pricey features.

For example, cost of living adjustments, or COLAs, may seem innocuous. But in many states, COLA increases come automatically for teachers or are given whenever the pension fund returns are healthy—without any policy decision or link to real world costs of living.

Cost of living increases are quite appropriate when the cost of living is actually increasing. But when they are automatic and compounded over time, they can add significant cost to state pension systems without consideration of whether the increase is necessary to maintain the value of the benefit. This practice is both a financial and a political problem. On the

19 Elizabeth Ettema, Doctoral Dissertation, Vanderbilt University (2011). http://etd.library.vanderbilt.edu/available/etd-10042011-152701/unrestricted/EE_Dissertation_1004.pdf.

20 Douglas Harris and Scott Adams, “Understanding the level and causes of teacher turnover,” *Economics of Education Review* (2007).

pension cost side, in some years teachers are receiving pension COLA increases when there is no actual cost of living increase in that year. On the political side, COLA increases are an innocent sounding item—rather than more controversial salary increases or other costs subject to more public scrutiny—that can have huge price tags but are often below the radar.

If you think COLA costs don't add up, think again. Mississippi reports that COLA accounts for 25 percent of its pension costs. From 2008-2011, Mississippi retirees received more than nine percent compounded COLA but inflation was only half that for the period. Retired Illinois teachers received a collective \$900 million bump above their original pension benefits in 2011 due to COLA adjustments, which represented an 18 percent increase over the total teacher pension payout five years earlier.²¹ A more sensible way to approach providing cost of living increases in pensions would be to, at a minimum, tie commitments to the Consumer Price Index so that increases are given only when warranted.

21 Jake Griffin, "How Illinois teachers get \$900 million more in benefits," *Daily Herald* (June 6, 2012).

Figure 18. How do states determine cost of living increases for pension systems?

	Automatic	Automatic linked to Consumer Price Index	Tied to funding/returns	Ad hoc policy
Alabama				■
Alaska ¹				
Arizona			■	
Arkansas	■			
California	■			
Colorado		■		
Connecticut			■	
Delaware				■
District of Columbia		■		
Florida ²				■
Georgia		■		
Hawaii	■			
Idaho		■		
Illinois		■		
Indiana				■
Iowa			■	
Kansas	■			
Kentucky	■			
Louisiana			■	
Maine ²		■		
Maryland		■		
Massachusetts		■		
Michigan ³	■			
Minnesota	■			
Mississippi	■			
Missouri		■		
Montana	■			
Nebraska		■		
Nevada	■			
New Hampshire				■
New Jersey ²				■
New Mexico		■		
New York		■		
North Carolina				■
North Dakota				■
Ohio	■			
Oklahoma				■
Oregon		■		
Pennsylvania				■
Rhode Island ²			■	
South Carolina		■		
South Dakota		■		
Tennessee		■		
Texas				■
Utah		■		
Vermont		■		
Virginia		■		
Washington		■		
West Virginia ⁴				■
Wisconsin			■	
Wyoming ²			■	
TOTAL	11	20	7	12

Figure 18.

- 1 Cost of living adjustments do not apply to defined contribution plan.
- 2 Indicates that the state has frozen COLA for a set number of years or until the system reaches a minimum funding ratio.
- 3 Michigan does not provide COLA to the defined benefit component of its hybrid plan. The state froze COLA for its closed defined benefit plan.
- 4 West Virginia's defined benefit plan does not offer COLA.



PART III:

How Most Pension Systems are Inflexible and Unfair to Teachers

Now let's look at pensions from the teacher perspective. Many assume that costly and inflexible pension plans, while perhaps a burden to states and districts, are a clear win for teachers. Most defenders of the status quo, including teacher unions, fight tooth and nail to preserve traditional defined benefit pension plans. However, the reality is that these costly and inflexible models are out of sync with the realities of the modern workforce. Current pension systems are built on a model that assumes low mobility and career stability and helps to put public education at a competitive disadvantage with other professions.

Vesting and tenure are not related

In its policy recommendations for the teaching profession, NCTQ advocates for a tenure period of four to five years as the minimum needed to allow sufficient information to be accumulated about teacher performance and effectiveness. Some pension administrators have complained: NCTQ also advocates that teachers should vest no later than three years in their pension systems. Those policy stances are at odds.

Contradiction? Not at all.

Tenure and pension policies have nothing to do with each other. Pension vesting periods should not have any relationship to the probationary period before teachers earn tenure. The fact that a teacher may be found to be ineffective and denied tenure has no bearing on her right to retirement savings.

Today's young, educated and mobile workers have more freedom than ever to choose and change workplaces and careers. According to the Bureau of Labor Statistics, the average American ages 18 to 42 in the United States holds 11 jobs.²²

Americans are more mobile—both in terms of relocating but also in terms of ease of commuting to work across state lines in areas such as in the Tri-State region of New York, New Jersey and Connecticut in the northeast, or the D.C. metro

22 Bureau of Labor Statistics, see: <http://www.bls.gov/news.release/nlsoy.nr0.htm>. Also see: <http://online.wsj.com/article/SB10001424052748704206804575468162805877990.html>.

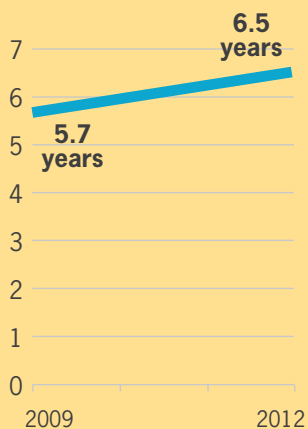
area, for example. By some estimates about 17 percent of teachers move across state lines during their careers, and it seems likely that this number will only continue to grow in the 21st century.

Although it is certain that many teachers prize the stability of defined benefit pension systems, there are numerous ways that these traditional systems give teachers less than a good deal.²³

► Finding: It takes too long for teachers to vest in defined benefit plans—and it is getting longer across the states.

All but three states make teachers wait more than three years; 15 states (up from nine in 2009) now make teachers wait for 10 years.

Average vesting period is on the rise.



Since 2009, 13 states have changed their vesting requirements; in 11 of these cases states made their vesting period longer and in all but one case the changes were to teachers' detriment. Overall, the average vesting period is on the rise—from an average of 5.7 years in 2009 to 6.5 years in 2012.

Teachers should vest in their pension systems quickly; their retirement savings depend on it. But most states make teachers wait for a considerable period before they are vested in the retirement system. While making teachers wait for a couple of years is not unreasonable, when the vesting period stretches to five or seven or even ten years, it becomes primarily a way for states and districts to save money on the backs of teachers, and not a fiscally responsible way at that. Furthermore, putting off vesting is not a smart or attractive approach to teacher retention.

States and districts may argue that a longer vesting period is a retention strategy, making it in teachers' best interest not to leave. But even if this were an effective strategy—and the attrition rate for teachers early in their careers suggests otherwise—it is dependent upon holding teachers' future retirement security hostage. Teachers who leave the system before vesting do not receive benefits upon retiring; they can only withdraw their own contributions, only sometimes with credited interest. In three states—**Connecticut, Kentucky, and Illinois**—teachers are not even entitled to withdraw the full amount they contributed to the system.

23 Robert M. Costrell and Michael Podgursky, "Distribution of Benefits in Teacher Retirement Systems and Their Implications for Mobility," American Education Finance Association (2010).

Figure 19. What are the trends in teacher vesting in their pension system?

	2008 (years)	2012 (years)	Vesting period getting longer
Alabama	10	10	
Alaska	5	5	
Arizona ¹	5	0	
Arkansas	5	5	
California	5	5	
Colorado	5	5	
Connecticut	10	10	
Delaware	5	10	▲
District of Columbia	6	6	
Florida	6	8	▲
Georgia	10	10	
Hawaii	5	10	▲
Idaho	5	5	
Illinois	5	10	▲
Indiana	10	10	
Iowa	4	7	▲
Kansas	5	5	
Kentucky	5	5	
Louisiana	5	5	
Maine	5	5	
Maryland	5	10	▲
Massachusetts	10	10	
Michigan	10	10	
Minnesota	3	3	
Mississippi	8	8	
Missouri	5	5	
Montana	5	5	
Nebraska	5	5	
Nevada	5	5	
New Hampshire	10	10	
New Jersey	10	10	
New Mexico	5	5	
New York	5	10	▲
North Carolina	5	10	▲
North Dakota	5	5	
Ohio	5	5	
Oklahoma	5	5	
Oregon	5	5	
Pennsylvania	5	10	▲
Rhode Island	10	5	
South Carolina	5	8	▲
South Dakota	3	3	
Tennessee	5	5	
Texas	5	5	
Utah	4	4	
Vermont	5	4	
Virginia	5	5	
Washington	5	5	
West Virginia	5	5	
Wisconsin	0	5	▲
Wyoming	4	4	
AVERAGE	5.7 years	6.5 years	

Figure 19.

1 Arizona moved to immediate vesting, but removed any employer match, so vesting is not worth the same as it used to be.

Figure 20. Funds states permit teachers to withdraw from their defined benefit plan if they leave after five years²⁴

State	Less than or only their own contribution	Their own contribution plus interest	Their own contribution and part or full employer contribution plus interest
Alabama		■	
Alaska			
Arizona		■	
Arkansas		■	
California		■	
Colorado			■
Connecticut	■		
Delaware		■	
District of Columbia	■		
Florida	■		
Georgia		■	
Hawaii			■
Idaho		■	
Illinois	■		
Indiana		■	
Iowa		■	
Kansas		■	
Kentucky	■		
Louisiana	■		
Maine		■	
Maryland		■	
Massachusetts		■	
Michigan			■
Minnesota		■	
Mississippi		■	
Missouri		■	
Montana		■	
Nebraska		■	
Nevada		■	
New Hampshire		■	
New Jersey		■	
New Mexico		■	
New York		■	
North Carolina		■	
North Dakota		■	
Ohio			■
Oklahoma		■	
Oregon			■
Pennsylvania		■	
Rhode Island	■		
South Carolina		■	
South Dakota			■
Tennessee		■	
Texas		■	
Utah			■
Vermont	■		
Virginia		■	
Washington		■	
West Virginia		■	
Wisconsin		■	
Wyoming		■	
TOTAL	8	35	7

34 24 This reflects only defined benefit plans and the defined benefit component of hybrid plans.

► Finding: Benefits accrue unfairly in defined benefit teacher pensions.

For example, many states vary the multipliers used to calculate benefits based on teachers' years of service.

The basic benefit formula for calculating teacher pensions—the amount of money teachers will receive each month after retirement—is the following:

$$\text{A teacher's final average salary (FAS) } \times \text{ years of service } \times \text{ the multiplier} = \text{annual benefit (divided by 12} = \text{monthly benefit)}$$

Veteran teachers are most advantaged in plans that allow unreduced retirement based on years of service, plans that increase their multipliers based on years of service, and plans that change the final average salary calculation based on years of service. Being able to retire based on years of service without consideration of age allows a veteran teacher that started teaching at a younger age to collect more total years of benefits, on average, than a veteran teacher who started later or took time off during her career. California used to offer veterans a trio of advantages—using their highest salary rather than average multiple years together, adding a monthly flat bonus on top of the calculated benefit, and adding a “career factor” which is a two-tenths addition to the multiplier.

Multipliers affect the pension bottom line in ways that add up.

Constant multiplier:

A constant multiplier might be 2 percent. For a teacher with 30 years of service and a final three years of salaries \$59,000, \$60,000, and \$61,000, the final average salary = \$60,000. The retirement benefit is \$36,000 or 60 percent of final average salary.

Decreasing or increasing the multiplier has an obvious effect on the pension benefit. What is less obvious is how multipliers are sometimes embedded in pension systems that make benefits accrue in a less fair way over time to teachers.

Changing multiplier:

In New York, multipliers change based on years of service. A teacher with less than 20 years of service has a benefit multiplier of 1.67 and a teacher with 20 years of service has a multiplier of 1.75. This means a teacher with 19 years on the job receives about 32 percent of final average salary. With just one additional year on the job the teacher earns 35 percent of his/her final average salary.

In states like Kentucky, the multiplier changes five times throughout a teacher's career. The resulting inequities that are built into formulas for calculating pension benefits are generally unfair and illogical.

► Finding: Lack of portability hurts teachers.

To newer and younger teachers in particular, a defined benefit plan that cannot move across state lines and requires a long-time commitment may not seem like much of a benefit at all.

There are several ways teachers who move across state lines but continue teaching lose:

- Their final average salary is frozen, perhaps at a point relatively early in their career;
- The effect of varying multipliers; and
- Loss of time towards retirement age.

To illustrate:

If a teacher teaches for 15 years in one state and then moves to another state and teaches for an additional 15 years, there are many ways she will lose pension wealth.

Colorado: Some Rare Portability for Defined Benefit Pensions

One of the big disadvantages of defined benefit pension systems is their lack of portability. Colorado lets vested teachers who leave withdraw their own funds and also withdraw 50 percent of the employer contribution. If they leave their money in the Colorado system until they retire, teachers can withdraw the full employer contribution. Up until recently, Colorado let non-vested teachers also withdraw 50 percent of the employer contribution, but this is being phased out. While it would be preferable for the state to offer a 100 percent match earlier in a teacher's career, Colorado's match is rare among states' defined benefit plans.

First, she will have a lower annual pension amount because her final average salary is frozen in the system based on when she moves, even if she continues teaching. The first state in which she worked will multiply her final average salary *earned in that state* by 15 (for 15 years of service) and the second state would multiply her final average salary *earned in that state* by 15. At first glance, one may think this would be the same as teaching for 30 years in one state. But, due to teacher salary scales, which often backload significant salary increases late in a teacher's career, it is typically not even close.

Another potential loss in the annual pension amount is due to a lower multiplier. In states where the multiplier varies, it almost always varies based on years of service credited in the state, where teachers with greater experience receive a higher multiplier. So the teacher would lose out on a higher multiplier because her retirement benefit would be based on the multiplier of someone who only taught 15 years, rather than the multiplier of someone who taught 30 years.

There is also a loss to the length of time a teacher receives pension benefits. Often in states, a teacher can retire early with unreduced benefits if she teaches for a minimum number of years—for example retire at age 55 with 30 years of service, while all other teachers retire at age 65. Because this teacher's 30 years of teaching are divided between two states, she would lose 10 years of pension wealth because she would have to wait until age 65 to draw her pension in both states.

How lack of portability can hurt teachers

Let's look at Mrs. Jones and Mrs. Smith.



Mrs. Jones

- Taught for 30 years in Washington, DC
- Qualifies for unreduced retirement benefits at 52
- Final average salary \$80,000

Annual benefit formula =
 $2\% \times 30 \text{ years of service} \times \$80,000 = \$48,000$

Annual benefit beginning at age 52 = **\$48,000**

Total pension compensation received at age 62 = \$555,200

Total compensation at age 85 = \$1,932,000



Mrs. Smith

- Taught for 30 years—15 years in Maryland and 15 years in Washington, DC
- Qualifies for unreduced retirement benefits at 62 in DC and at 65 in MD
- Final average salary \$50,000 in MD and \$80,000 in DC

Annual benefit formula (MD) =
 $1.8\% \times 15 \text{ years of service} \times \$50,000 = \$13,500$

Annual benefit formula (DC) =
 $2\% \times 15 \text{ years of service} \times \$80,000 = \$24,000$

Annual benefit = **\$24,000 from age 62-65 and \$37,500 thereafter**

Total pension compensation received at age 62 = \$24,000

Total compensation at age 85 = \$996,000²⁵

Mrs. Jones worked as a teacher in the District of Columbia Public Schools for 30 years starting fresh out of college at age 22. Mrs. Smith worked in neighboring Maryland, also beginning her career at age 22. After 15 years, Mrs. Smith decided to take on the challenge of teaching at a high-needs school in Washington, DC and worked there for an additional 15 years. Both teachers taught for 30 years, yet pension rules and formula make their total pension compensation drastically different.

Mrs. Smith is not eligible to receive retirement benefits until age 65 in Maryland and until age 62 in the District of Columbia, because neither state considers her teaching service in the other when determining retirement eligibility. Mrs. Jones, on the other hand, is permitted early, unreduced retirement at age 52 for the same total years of service. As a result, Mrs. Smith will receive at least 10 fewer years of retirement benefits, and by age 85, Mrs. Smith receives just a little more than half the total Mrs. Jones receives in pension benefits for the same amount of teaching time.²⁶

25 As noted in the graphic, Maryland has a lower benefit multiplier than the District of Columbia. To isolate the difference in compensation due to mobility rather than formula generosity between states, the total compensation at age 85 is calculated using the DC multiplier of 2 percent, which increases Mrs. Smith's Maryland pension to \$15,000 and her total annual benefit to \$39,000. The age 62 and 85 totals also include a modest 1 percent compounded cost of living adjustment. As discussed in Figure 18, COLA adjustments may be significantly larger. If COLA were 2 percent, the total difference in their benefits by age 85 would grow by over \$250,000.

26 In this example, over half of the differential at age 85 was already accumulated in the first ten years Mrs. Jones was retired and is due to Mrs. Smith's "delay draw" (the fact that she could not draw from her pension until age 62). The point is to show the overall inequity, not to suggest that Mrs. Smith should be allowed to retire at the earlier age. As we discuss in detail elsewhere in this paper, retirement at relatively young ages based on years of service not only fails to treat teachers equitably, but adds tremendously to the overall costs of defined benefit systems (see Figure 15).

► **Finding: In many states with defined benefit pension systems, teachers are effectively punished for going back to work after retirement.**

Because so many teachers can retire at a relatively early age, there is heightened scrutiny about “double-dipping,” when individuals are in a position to receive a pension and salary at the same time. This can occur when teachers reach retirement eligibility yet wish to keep working without losing pension wealth. Teachers can retire, start receiving their monthly benefits and then return to teaching.

Restrictions on a teacher’s ability to return to work vary from state to state. Policies can include waiting periods, limitations on earnings or restrictions to working in difficult-to-fill positions. This issue puts an additional burden on state funding. Besides paying out long retirement periods for capable (and often still working) teachers, contributions are not being made to the pension system by retirees. Some states such as **Arizona** now require districts to make the employer contribution on at least the portion required to cover the unfunded liability for the retired teaching returning to work.

Some states offer “DROP” plans (deferred retirement option plan) in which at retirement age a teacher’s retirement benefit is placed into an individual retirement account while the teacher continues to work. When the teacher retires, she receives her monthly benefit plus the lump sum that accumulated in her individual account while she worked after retirement age. It is a work around, but the bottom line is that teachers returning to work would not be a large policy issue if systems did not allow teachers to retire with unreduced benefits at such relatively young ages and if pension wealth accrual were more neutral.

► **Finding: In many states, teachers are required to make excessive pension contributions.**

Since 2008, 27 states have increased their teacher contribution and in 35 states, teachers and/or districts are making excessive contributions.

Financial analysts generally agree that workers in their twenties with no previous retirement savings should save, in addition to Social Security contributions, about 10-15 percent of their gross income in order to be able to live during retirement on 80 percent of the salary they were earning when they retired. In states where teachers do not participate in Social Security, the total recommended retirement savings is about 12 percent higher (in lieu of the combined amount teachers and districts would be contributing to Social Security) to compensate for the fact that these teachers will not have Social Security income when they retire.

In a defined benefit system, contribution rates are not based on individual decision making about retirement savings, but on the amount of money needed to pay out what has been promised. Thus, with the huge funding gaps that exist in most systems, teachers have been required to pay more and more into the system, without any increase (and in some cases clear decreases) in their own retirement benefits.

Figure 21. Teacher contribution rates (2008-2012)

	Teacher contribution (%) 2008	Teacher contribution (%) 2012	Additional amount teacher pay per year ¹
Alabama	5	7.5	\$1,100
Alaska	8	8	\$0
Arizona	9.5	11.1	\$680
Arkansas	6	6	\$0
California	8	8	\$0
Colorado	8	8	\$0
Connecticut	7.3	7.3	\$0
Delaware	3	5	\$1,060
District of Columbia	8	8	\$0
Florida	0	3	\$1,330
Georgia	5	6	\$480
Hawaii	6	8	\$970
Idaho	6.2	6.2	\$0
Illinois	9.4	9.4	\$0
Indiana	3	3	\$0
Iowa	4.1	5.8	\$660
Kansas	4	6	\$830
Kentucky	9.9	10.9	\$450
Louisiana	8	8	\$0
Maine	7.7	7.7	\$0
Maryland	2	7	\$2,780
Massachusetts	11	11	\$0
Michigan	6.4	11.4	\$2,870
Minnesota	5.5	6.5 ²	\$500
Mississippi	7.3	9	\$700
Missouri	13	14.5	\$610
Montana	7.2	7.2	\$0
Nebraska	7.3	9.8	\$930
Nevada	10.3	11.9	\$740
New Hampshire	6.7	7	\$160
New Jersey	5	6.6	\$950
New Mexico	7.9	10.9	\$1,300
New York	3	3.5 ²	\$950
North Carolina	6	6	\$0
North Dakota	7.8	9.8 ²	\$750
Ohio	10	10 ²	\$0
Oklahoma	7	7	\$0
Oregon	6	6	\$0
Pennsylvania	7.5	7.5	\$0
Rhode Island	9.5	10.8 ³	\$770
South Carolina	6.5	6.5 ²	\$0
South Dakota	6	6	\$0
Tennessee	5	5	\$0
Texas	6.4	6.4	\$0
Utah	0	0	\$0
Vermont	3.5	6.3	\$1,320
Virginia	4	5	\$470
Washington	4.3	4.8	\$270
West Virginia	6	6	\$0
Wisconsin	6	6.7 ²	\$310
Wyoming	5.7	7	\$650
AVERAGE			\$481

Figure 21.

- 1 The figures in this column are calculated based on the average base salary reported by state in the National Center for Education Statistics School and Staffing Survey for 2007-08.
- 2 Rate set to increase.
- 3 Rate is 8.8 for districts that participate in Social Security.

Figure 22. Do states require excessive contributions to their pension systems?

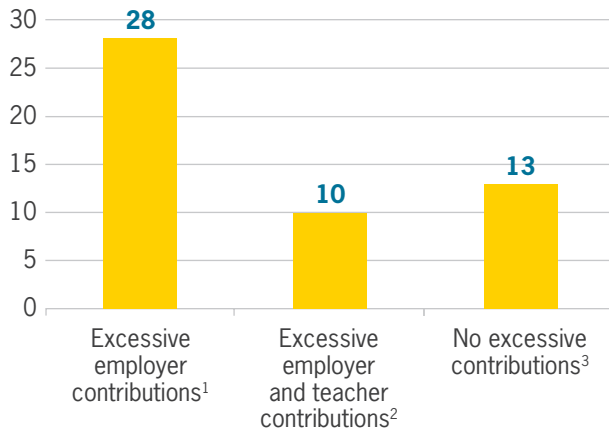


Figure 22.

- 1 Alabama, Arkansas, Colorado, Connecticut, Delaware, Georgia, Idaho, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Montana, New Hampshire, New York, North Carolina, Ohio, Oklahoma, Oregon, South Carolina, Tennessee, Utah, Virginia, Washington, West Virginia.
- 2 Arizona, Hawaii, Michigan, Mississippi, Missouri, Nebraska, New Mexico, North Dakota, Pennsylvania, Rhode Island.
- 3 Alaska, California, District of Columbia, Florida, Illinois, Indiana, Nevada, New Jersey, South Dakota, Texas, Vermont, Wisconsin, Wyoming.

While the recommended savings rate varies with age and existing retirement savings, NCTQ has used this 10-15 percent benchmark as a reasonable rate. The majority of states are requiring teachers to contribute in excess of these rates.²⁷

It is not necessarily the case that it is unfair that teachers’ contribution rates are on the rise. Pension costs are high and many states have overpromised benefits that they now need to pay for, and some states have required no teacher contributions or very low contributions in the past. The concern is that as pension costs rise and shortfalls continue to grow, the response will be to unload more of the costs on teachers.

For example, **North Dakota** has been phasing in increases to what teachers contribute that will be completed in 2014. At that point, the mandatory teacher contribution will be more than the total normal cost to cover that individual’s benefit. Not only will districts be contributing only to the system’s liabilities rather than to the new teacher’s benefit, but the new teacher will in effect be taxed by the state for its prior irresponsible behavior and accrued shortfall.

27 Sources: http://www.schwab.com/public/schwab/resource_center/expert_insight/retirement_strategies/planning/how_much_should_you_save_for_retirement_play_the_percentages.html and <https://personal.vanguard.com/us/insights/retirement/saving/set-retirement-goals>.

► **Finding: States are making up their pension shortfall on the backs of their teachers, especially new teachers.**

States are creating new pension tiers that starkly illustrate how teacher benefits are being scaled back for new teachers.

Pension tiers are a way that states can set new pension rules over time for new teachers in the system while preserving the benefit commitments made to veteran teachers. In almost all cases, new teachers in more recently created tiers pay more and get less. Take **New York**, for example.

Tier II teachers can retire at any age once they have 30 years of service, while Tier VI teachers must wait until age 63 to retire. Tier II teachers use only their three highest years of salary to compute their final average salary, while Tier VI use their highest five years, generally lowering the overall benefit. Further, COLA is not applied until a retiree either attains age 55 and 10 years of retirement or age 62 and five years of retirement. Since they retire at different ages, the Tier II teacher starts receiving COLA at age 57 and the Tier VI teacher at age 68. Tier II teachers are not required to make any contributions, while Tier VI will contribute 3-6 percent of their salary throughout their career depending on their salary level.

Bottom line? About \$675,000 in lower benefits to Tier VI teachers.

Figure 23. New York: An example of a tiered system

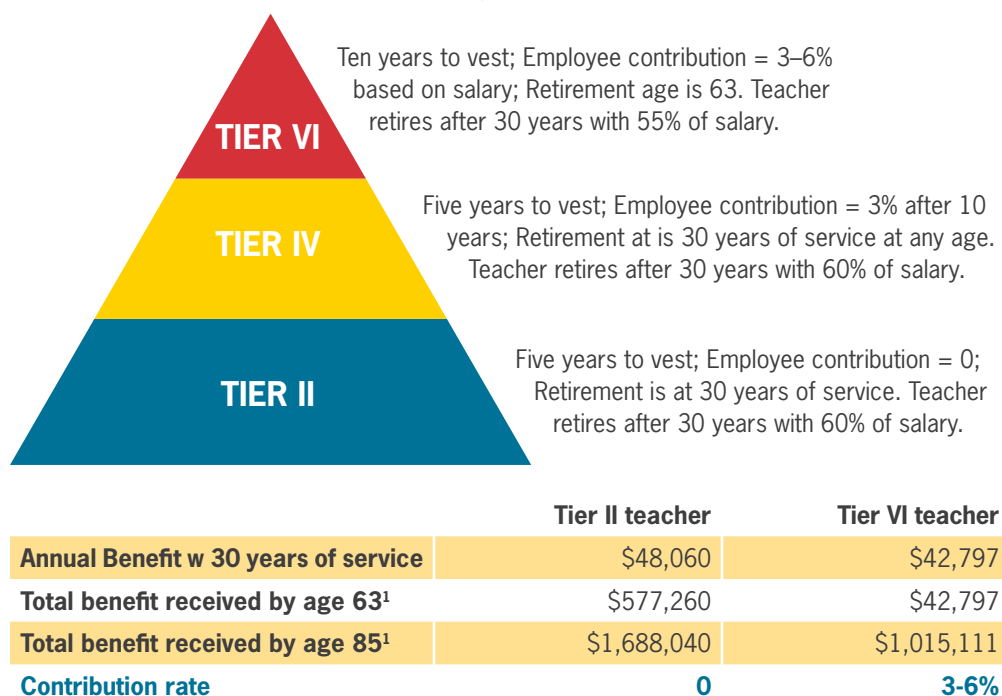


Figure 23.

¹ New York teachers' COLA is equal to one-half of the CPI with a minimum of 1 percent COLA applied and a maximum of three percent, and is only applied to the first \$18,000 of benefit. This example only applies the minimum 1 percent COLA.

Figure 24. Reductions in teacher benefits

	Changing COLA rules to be less generous ¹	Raising retirement eligibility age	Increasing the number of years used in computing final average compensation	Decreasing multiplier	Increased teacher contributions
Alabama		■	■	■	■
Alaska					
Arizona		■	■		■
Arkansas					
California		■	■	■	
Colorado	■	■			
Connecticut					
Delaware		■			■
District of Columbia					
Florida ²	■	■	■		■
Georgia					■
Hawaii	■	■	■	■	■
Idaho					
Illinois	■	■	■		
Indiana					
Iowa			■		■
Kansas	■				■
Kentucky					■
Louisiana	■	■	■		
Maine	■	■			
Maryland	■	■	■		■
Massachusetts		■	■	■	
Michigan	■	■	■	■	■
Minnesota	■				■
Mississippi	■	■		■	■
Missouri					■
Montana					
Nebraska					■
Nevada	■	■		■	■
New Hampshire		■	■		■
New Jersey	■	■	■	■	■
New Mexico					■
New York		■	■	■	■
North Carolina	■				
North Dakota		■			■
Ohio	■	■	■	■	
Oklahoma	■	■			
Oregon					
Pennsylvania					
Rhode Island	■	■	■	■	■
South Carolina	■	■	■		
South Dakota	■				
Tennessee					
Texas			■		
Utah					
Vermont		■			■
Virginia	■	■	■	■	■
Washington	■				■
West Virginia					
Wisconsin					■
Wyoming	■		■	■	■
TOTAL	22	25	20	13	27

Figure 24.

1 This category includes delaying the receipt of COLA until a certain age, lowering the COLA rate, tying COLA to an index rather than an automatic increase, freezing COLA, or eliminating COLA entirely.

► **Finding: In numerous other ways—including raising retirement ages and teacher contributions, adjusting formulas and lowering COLA benefits—teachers are being squeezed to make up ground for poorly funded pension systems.**

Because many states treat pension benefits as contracts, there are legal issues that limit what is on the table for pension reformers. As a result, in most cases, significant changes to plans can only affect new teachers, or sometimes non-vested teachers. Florida was sued when it tried to raise its teacher contribution from zero to three percent. However, other states have raised teacher contribution rates without legal issues as long as the teachers already had a mandatory contribution.

Given these legal limitations on promised benefits, states have found that one of the most legally acceptable ways to curb costs for existing members is to lower or freeze COLA formulas. Such moves have unsurprisingly triggered litigation in a number of states, but courts have allowed the COLA formula reductions.

Tracked by NCTQ since 2008, three quarters of all of these changes were made just in 2011 and 2012:

- 22 states lowering COLAs;
- 25 states have increased retirement age;
- 20 states are lengthening the number of years used as a base for computing final average compensation (which typically has the effect of lowering compensation);
- 13 states have changed multipliers in ways that reduce benefits; and
- 27 states have raised teacher contributions to pension plans.
- 21 states have reduced benefits while increasing teachers' contributions (squeezing in two directions)

In some cases, these changes are necessary corrections for past over-promising, but these small adjustments are no replacement for systemic reform, and they have a real impact on teachers' wallets.



PART IV: A Forward Looking Approach

A crisis no longer in the shadows

One obvious question is how the problems in these pension systems have been allowed to get to this point. There are many ways that the pension crisis has been kept off the radar.

One of the ways states have kept a lid on the crisis is by spreading the liability for pensions over a long period of time—in many cases thirty years or more. There are also lags in the data and accounting reports that allow policymakers to avoid reality for a while.

Pension math may also be impenetrable to the average policymaker, let alone the public. Very few people understand the complexities of these systems and how little increases in benefits or a small decrease in contributions can ripple throughout the system. This analysis offers just a surface review of the basics.

Importantly, there has been a lack of political will to face how bad things really are. Policymakers are kicking the can down the road, making short term fixes at the expense of responsible governing because changes to pension systems are unpopular with a portion of the electorate and the political and financial gains are deferred.

School and district administrators are also big winners in the status quo (with defined benefit plans) because they spend a sizable portion of their career contributing as a teacher with a lower salary, but then their entire benefit is based on their administrators' salary.

Unions have a big role—their job is to secure the best benefits at the lowest costs to teachers. But elected officials are not off the hook. Policymakers have an important role and have too often exacerbated the situation in the name of political

“The new standard will improve the way state and local governments report their pension liabilities and expenses, resulting in a more faithful representation of the full impact of these obligations.” Among other improvements, net pension liabilities will be reported on the balance sheet, providing citizens and other users of these financial reports with a clearer picture of the size and nature of the financial obligations to current and former employees.”

– GASB Chairman Robert H. Attmore

expediency. The costs of unfunded increases most often take effect long after the politicians who set the policy in motion have moved on. For years, states have passed along problems to the next legislature and costs to the next generation of taxpayers and teachers.

There is now a window of opportunity to look ahead and make retirement more portable and attractive to the next generation of teachers. The workforce is changing, and it will take a different strategy to get and keep teachers for promising and productive careers.

Some of the signs of change:

There are efforts to make pension liabilities more transparent.

The Governmental Accounting Standards Board (GASB), a nonprofit group that sets guidelines for how state and local governments report finances announced new guidelines in June 2012, which are set to take effect in the 2015 fiscal year. These new guidelines are designed to highlight how much state governments owe in defined benefit pension expenses and force policymakers to confront these costs.

Since GASB announced its changes, the headlines about the new standards have mostly highlighted how they will make state pension plans look significantly less healthy than they do currently. And since many pension plans are already looking unhealthy after years of underfunding and poor investment returns, that is a gloomy headline for lawmakers.

There are some indications that teachers, especially new ones, are open to change.

It is often seen as just a given that teachers should and will defend pension systems as is. This is certainly true for those long invested and promised certain benefits. But for new, younger teachers, this may not be the case. In a recent Ed Sector report teachers were asked how they would rate various ideas for attracting and retaining high-quality teachers to the teaching profession. Younger teachers, including future teachers, expressed doubt that state pension systems would actually be able to provide the benefits they were promised by the time they reach retirement age. One important finding: When asked what they thought of the idea of offering new teachers substantially higher starting salaries in exchange for smaller pensions when they retire—29 percent said it is an excellent or good idea. New teachers were even more likely to support it (33 percent compared to 21 percent for teachers with 20 years on the job).²⁸

Many myths about pension reform that have supported inaction have been debunked.

As the funding status of teacher retirement systems in many states reaches crisis levels, pension reform is increasingly on legislative agendas. Yet moving from on the agenda to actual reform is proving to be a slow go. A recent Arnold Foundation paper from pension expert Robert Costrell sheds some much needed daylight on a bogeyman that may be contributing to state inaction: fear of the ‘transition costs’ associated with structural reform. There is a common belief that reforms, however necessary and beneficial in the long run, will raise costs in the short term. It is not surprising that policymakers would find such increases unpalatable in the current economic climate. But this is largely an unnecessary worry. Nothing under Government Accounting Standards Board (GASB) rules requires the kinds of accelerated payments legislators (and system administrators) fear. The key takeaway: transition costs are a compelling, but not legitimate, argument for the pension status quo.²⁹

28 Sarah Rosenberg and Elena Silva, *Trending Toward Reform: Teachers Speak on Unions and the Future of the Profession, Education Sector* (July 2012).

29 The paper “GASB Won’t Let Me”—A False Objection to Public Pension Reform is available at: <http://www.arnoldfoundation.org/sites/default/files/pdf/A9R4D8C.pdf>

NCTQ Recommendations

For several years now, NCTQ has offered a set of recommendations for how states can take on teacher pension reform in a systematic way by providing:

- Flexible and portable teacher pension plan options;
- Responsible financing of pension systems to ensure that they are sustainable, without excessive unfunded liabilities or an inappropriately long timeline required to pay off such liabilities; and,
- Fair and transparent pension formulas where each year of work accrues pension wealth in a uniform way.

1. States should offer teachers the option of a flexible and portable defined contribution plan. All teachers should have the option of a fully portable pension system as their primary pension plan.

Defined benefit proponents often tout choice states as proving that the majority of teachers prefer defined benefit plans. Veteran teachers, with good reason, strongly prefer existing defined benefit plans. But it is not necessarily so for new generations of teachers.

In one recent study,³⁰ future teachers, alternatively certified teachers and traditionally certified urban public school teachers were asked what type of pension plan they would prefer when given a choice between defined benefit, defined contribution, cash balance, or a mix of plans. Teachers were evenly divided among the options. Future teachers tended to prefer cash balance plans and alternatively certified teachers preferring defined contribution plans. The analysis showed that the math teachers surveyed also preferred defined contribution plans.³¹

Alaska: Defined contribution in action

Alaska provides defined contribution pension plans for teachers. As of July 1, 2006, this is the only type of plan available to new teachers in Alaska. The plan is fully portable, flexible and fair to all workers. Teachers in Alaska vest immediately in their own contributions and the earnings from their contributions' investments. They are vested in employer contributions based on the following schedule: 25 percent after two years of service, 50 percent after three years, 75 percent after four years and 100 percent after five years.

As long as not all teachers prefer defined benefit plans, states do themselves and teachers a disservice by offering a defined contribution plan for teachers. In Florida, 25 percent of teachers choose the defined contribution plan. Switching to defined contribution plans does not solve the problem of already accumulated unfunded liabilities. But adopting defined contribution systems will help prevent future liabilities and will lower costs in the long run, creating systems that are more fair and portable to all teachers. States and districts may even spend money previously allocated to defined benefit plans in more dynamic ways to attract, retain and compensate effective teachers.

30 Eterna, 2011.

31 In another study *Decisions, Decisions: Retirement Plan Choices for Public Employees and Employers*, the National Institute on Retirement Security looked at seven plans offering the DB and DC choice; public school teachers participate in three of these plans—the Florida Retirement System, the Ohio Public Employees Retirement System, and the South Carolina Retirement System. Florida and South Carolina had the highest DC enrollments of 25 percent and 18 percent, respectively. These states have very good pension education systems for their teachers with modern websites, videos and brochures on how to choose a plan. In Florida from 2002-2011, 51,055 members switched from the DB plan to the DC plan, while only 1,919 switched from the DC plan to the DB plan.

Florida: A “choice” state

While Florida has recently tinkered with its defined benefit plan (increasing vesting from 6 to 8 years and changing contribution levels), it is one of the first states to offer teachers a choice between a defined benefit and defined contribution plan as their primary pension plan for all teachers. In 2002, Florida opened its defined contribution retirement plan, The Florida Retirement System Investment Plan, to all employees. Florida still makes its traditional defined benefit plan its default plan. Florida provides new teachers with very informative literature describing the advantages, disadvantages and estimated benefit payouts for each type of plan. New teachers have time to choose one plan at the time of employment and are allowed to change their plan once during their active employment. This ability to change plans once without restrictions is rare and greatly increases the pension system’s flexibility.

Florida’s defined contribution plan is fully portable, flexible and fair to all workers. Teachers vest immediately in their own contributions and after year one for employer contributions. Teachers with at least one year of service in the defined contribution plan who choose to leave employment are fully entitled to the employers’ 9 percent contribution and the applicable earnings (or losses) at the time of withdraw. Florida’s defined benefit plan, in contrast, is not fully portable, does not vest until year six (year eight for new teachers) and does not provide any employer contribution for teachers who withdraw their accounts. It also limits flexibility by restricting the ability to purchase years of service.

2. Cash balance pension plans may be the best new “hybrid” model as they provide greater flexibility and a safety net to teachers while also offering more financial stability to states and districts.

If states are going to maintain the option of a defined benefit plan, experts argue that they should consider restructuring their systems as cash balance plans. Pension experts Robert Costrell and Michael Podgursky explain:

“We favor cash-balance plans that generate notional individual retirement accounts, with contributions from employer and employee, and an investment return guaranteed by the employer. Such plans resemble the defined contribution design, but without transferring investment risk or asset management to the teacher. They are transparent, offer smooth wealth accrual, and are readily annuitized at retirement.”³²

There are other promising hybrid models.

In **Washington**, for example, the state and districts fund the defined benefit portion of the pension plan while teachers fund the defined contribution portion. Teacher can withdraw the defined contribution portion after termination without losing the rights to their defined monthly benefits at retirement age. At retirement the defined contribution funds can be dispersed in many ways. Investment options vary between plans with some offering access to investment in the state’s fund or offering a fund with a guaranteed rate of return.

32 Robert M. Costrell and Michael Podgursky, “A Modest Proposal for Reform,” *Education Next* (March 2011).

Hybrid “newbies”: Rhode Island, Utah, and Virginia

Rhode Island’s new pension plan is unique as it differentiates contribution requirements based on a teacher’s participation in Social Security. Rhode Island is one of a few states where some teachers participate in Social Security and some don’t. This difference can greatly affect a teacher’s retirement security as well as contribution burden. For teachers not covered by Social Security, the mandatory teacher and employer contributions are higher, offering non-covered teachers a slightly larger portable retirement option. Teachers contribute to the defined benefit component of the pension plan; this is the only state to mandate this. States and districts make a mandatory contribution to the defined contribution component.

Utah’s unique attribute: while the state does not mandate participation in a defined contribution plan and does not mandate that teachers contribute to the defined benefit component all of the time, teachers will have to contribute if costs to the defined benefit component exceed the mandatory (and maximum) employer contributions of 10 percent. Sharing the investment risk with the state allows teachers to reap the benefits of bull markets. When employer costs are below 10 percent, the difference between actual costs and the 10 percent employer contribution is deposited in the teachers defined contribution account.

Virginia’s plan, effective in 2014, has a detailed defined contribution component. Virginia joined Rhode Island and Michigan in creating a hybrid where there is a guaranteed district contribution to the defined contribution component. Districts match the first one percent teachers contribute, and then match 50 percent of teachers’ additional contributions up to a maximum district contribution of 2.5 percent. Teachers automatically contribute one percent and may contribute more. If they do not increase voluntary contributions to at least 4 percent by 2017, then their contributions will automatically increase half a percent per year until it reaches a total of four percent. Teachers vest in the district contributions at four years of service.

3. For states that insist on defined benefit pension plans for all teachers, they should ensure that pensions are as portable, flexible and fair to all teachers as possible.

Every state’s pension system should provide that:

- Teachers vest no later than the third year of employment.
- Defined benefit plans offer teachers the option of a lump-sum rollover to a personal retirement account upon termination of employment that includes, at minimum, the teacher’s contributions and accrued interest at a fair interest rate.
- Withdrawal options from either defined benefit or defined contribution plans should include funds contributed by the employer.

South Dakota: The gold standard for portability and flexibility

South Dakota is an exemplar for providing portability and flexibility among defined benefit plans, all while maintaining a respectable funding level. South Dakota's vesting at three years of service is better than most states, and allows flexibility for many of the teachers who leave the system. Teachers with fewer than three years of experience who choose to withdraw their contributions upon leaving receive their own contributions plus interest and a 50% employer match. Teachers with at least three years of experience may withdraw their contributions plus interest and an 85% employer match.

4. Defined benefit plans should allow teachers to purchase time for unlimited previous teaching experience at the time of employment. Teachers should also be allowed to purchase time for all official leaves of absence, such as maternity or paternity leave.

Figure 25. Do states permit teachers to purchase time for leaves of absence?

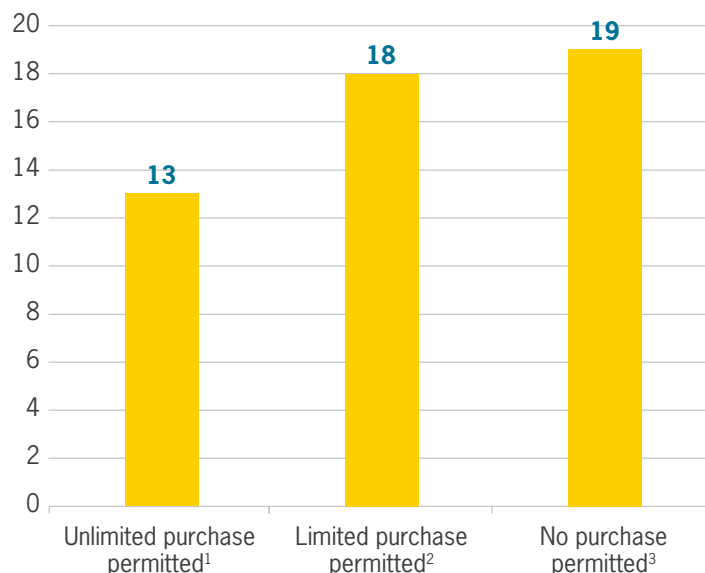


Figure 25.

- 1 Alabama, California, Delaware, Illinois, Iowa, Maryland, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Carolina, South Dakota.
- 2 Arizona, Connecticut, District of Columbia, Florida, Idaho, Indiana, Kentucky, Louisiana, Massachusetts, Montana, New Jersey, North Carolina, Oklahoma, Rhode Island, Vermont, Virginia, Washington, Wyoming.
- 3 Arkansas, Colorado, Georgia, Hawaii, Kansas, Maine, Michigan, Mississippi, Nevada, New Hampshire, New Mexico, New York, Oregon, Pennsylvania, Tennessee, Texas, Utah, West Virginia, Wisconsin.

This is a policy that provides flexibility and opportunities to teachers and that does not cost pension systems anything. When states allow teachers to purchase time at actuarial cost for previous teaching or to buy time for any leave of absence, they help keep teachers on pace for retirement without losing time because of mobility or raising a family.³³

³³ For prior experience, teachers must pay the full cost to the system, which may be extremely expensive if the employee has to pay the full normal cost, plus inflation/interest, based on her current salary. In the case of leaves of absence for maternity leave, for example, teachers would just have to cover employer normal costs.

5. States should shore up pension funding for existing commitments, by taking action to secure the financial health of teacher pensions. As a start, states need to begin to adjust unrealistic assumed rates of return and make scheduled payments to their pension systems.

Systemic reform of teacher pensions requires states to make tough decisions that are right for the long term. Unfunded liabilities serve no one well. And stretching liabilities out over enormous time or maintaining assumptions of rates of return that are unsustainable is a house of cards that is bound to collapse, hurting teachers and taxpayers alike. As long as states promise benefits without the requisite funds, teachers and taxpayers will be at risk.

6. States should institute safeguards that prevent politically expedient decisions. States need strategies to prevent the raiding of pension funds and to stop policymakers from making politically expedient commitments now that will not have to be paid for until much later.

Pension enhancements have been an effective way to negotiate increased teacher compensation while deferring the costs to future years. Many of the costly features discussed in this analysis—increasing COLAs, changing calculations for teacher's average salary, introducing early retirement options, benefit multipliers—have long been off the public radar but have huge public consequences.

Some states have adopted measures that help keep them from making irresponsible pension policies. For example:

- **Kansas** now requires that bills that would provide new or increased retirement benefits, including post-retirement benefit increases, must include an actuarial valuation, appraisal of liability and estimated contribution changes. The actuary of the Kansas Public Employee Retirement System (KPERS) must provide the information.
- **Louisiana** has enacted some meaningful measures, including: requiring retirement systems to be actuarially sound, implementing anti-spiking provisions to prevent enhancement of benefits at end of career; requiring retirement provisions that have a cost to identify a funding source that will cover the cost within 10 years; applying excess investment earnings to the unfunded liabilities; and requiring 2/3 legislative approval for retirement provisions with costs attached.
- **Hawaii** prohibits any retirement benefit enhancements, including any reduction of retirement age, until the actuarial value of the system's assets is 100% liability.
- **New Jersey** provides that members of various state pension funds have a contractual right to the annual required contribution made by the employer or by any other public entity. The contractual right to the annual required contribution means that the employer or other public entity must make the annual required contribution on a timely basis and that the retirement benefits to which the members are entitled by statute will be paid upon retirement. The failure of the state or any other public employer to make the annually required contribution will be deemed to be an impairment of the contractual right of each employee.
- **South Carolina** does not allow any contribution rate decreases until the system is 90 percent funded.

7. States should ensure that pension systems are neutral, uniformly increasing pension wealth with each additional year of work.

The formula that determines pension benefits should be neutral to the number of years worked. It should not have a multiplier that increases with years of service or longevity bonuses. As we have shown in this analysis, pension systems that set up teachers to earn vastly different benefits for the same number of years worked are costly and unfair. The formula for determining benefits should preserve incentives for teachers to continue working until conventional retirement ages. Eligibility for retirement benefits should be based on age and not years of service.

8. Consider the Social Security factor.

Teachers who participate in Social Security also pay into Medicare and have a guaranteed, inflation-adjusted retirement income as well as death and disability benefits. With such a safety net in place, these states have an opportunity to rethink their defined benefit pension plans. Maine, for example, is investigating converting all its teachers to Social Security (which it is at least portable between states and jobs) and only offering a supplemental defined contribution plan.

Some scholars have argued that many states that do not offer Social Security coverage fail to meet a fundamental requirement of not doing so: their current funding levels make their systems unfit to replace Social Security. Others suggest part of the solution is for all teachers to join Social Security. Setting the merits of the current state of Social Security aside, this would solve many issues—portability, fairness, back loading, and in some ways, funding. And as Social Security already represents a mandated, defined benefit program, there may be good reason to argue that if teachers already participate in Social Security, they do not need a second mandated inflexible, defined benefit plan. The security risks of moving towards a defined contribution pension in these states would seem to be low, and having a diversified retirement portfolio attractive to retired teachers.

Looking ahead

Teacher pension systems in the vast majority of states are not set up for the modern professional. Our society is more mobile. Today's teachers are much more likely to move during their careers than teachers a generation or two ago. Student loan debt is on the rise—the average college graduate has over \$20,000 in debt for each degree earned—making cash in pocket at the start of employment even more valued than money backloaded at the end of a teaching career.

The teaching field used to be able to ignore larger trends in employment because it had a lock on smart, educated females. But this simply is not the case anymore. Employment opportunities for academically high achieving women are wide open. And not just women. Talented people all have more options now. We live in a different world.

There are myriad policy proposals for helping to make the teaching profession more lucrative and attractive to prospective teachers—and how we compensate teachers is an important part of the formula. But with much conversation about career ladders, differentiate salaries and performance pay, the full compensation picture must be on the table for discussion. We cannot afford to rethink strategies for attracting and retaining highly-effective teachers unless we understand the full range of compensation offered to teachers, and that includes retirement benefits. Reform must address how pensions can be shaped for the good of teachers, taxpayers and, ultimately, students alike.

Appendices

Appendix A: Pensions 101

The types of pension systems—defined benefit, defined contribution, hybrid and cash balance—are the jumping off point for a variety of concepts and terms that define the costs and benefits associated with these retirement benefit plans. Below are some of the basics.

Accrued liability: The value of a pension plan's promised benefits calculated by an actuary (actuarial valuation), taking into account a set of investment and benefit assumptions to a certain date.

Actuarial valuation: In a pension plan, this is the total amount needed to meet promised benefits. A set of mathematical procedures is used to calculate the value of benefits to be paid, the funds available and the annual contribution required.

Amortization period: A pension plan's amortization period is the time over which it pays off its unfunded liability, like a mortgage. However, unlike a mortgage, the majority of states use an “open” period, which means clock on the mortgage (ex 30 years) restarts every year rather than being due in full 30 years from the date the loan started (“closed” period). Amortization periods can be as high as infinite, such as New Mexico, North Dakota and Ohio at their current contribution rates. Other states have rates over 30 years and still rising if benefits are not reduced or employee rates are not changed, such as Arkansas and California. A few states have no amortization period or a very short one.

Determining the contribution rates needed to meet specific amortization periods are contingent upon plans meeting other actuarial assumptions (rate of return, salary increases, etc.).

Backloading: The structure of accruing teacher benefits where teachers accumulate benefits slowly at first and then at a faster rate the longer they stay in a school system.

Benefit formula: There are a number of specific formulas and variables that are important for determining how pension benefits accrue for teachers. They represent one of the very technical pieces of pensions that can make big differences in actual teacher compensation. In defined benefit plans and components of hybrid plans, the benefit formula is the basis for calculating the amount of money teachers will receive each month after retirement. *The most common formula used is (years of service x final average salary x benefit multiplier).* This amount is divided by 12 to calculate monthly benefits.³⁴

34 Typically, final average salary (FAS) is computed based on three years but many states have raised that to 5 or 10 within the past couple years. In California and Kentucky FAS can vary depending on years of service. In California teachers with longer years of service can use their final salary—not having to average it with any previous years.

Benefit multipliers: The benefit multiplier in the formula above for defined benefit plans can be a constant or vary by retirement age or years of service. Varying multipliers can either decrease or increase how fairly pension wealth accrues. If a multiplier decrease when teachers retire at a younger age, this creates a fairer, more neutral accrual of benefits because it means a younger teacher will receive a smaller month benefit but that is because the younger teacher is expected to receive that benefit for a longer period of time (like Social Security does.) However, if a multiplier increases based on years of service, it gives teachers an unfair bump in benefits only because they reached an arbitrary number of service years. The multiplier has a huge impact on both the cost of pension systems for states and the benefits individual teachers receive.

Defined benefit pension plan: A defined benefit plan is a pension that *promises to pay a guaranteed specified amount per month for life to each person who retires after a set number of years of service or upon reaching a set age.*

Teachers usually contribute to these plans with states and districts responsible for the remainder of the costs; in a few cases, they do not contribute and all payments into the system are made by states and school districts. The pension system is responsible for the investment of payments in order to generate enough revenue to support the level of promised benefit and bears the risk of lower than expected investment returns. The defined benefit pension is rarely portable. That is, as the saying goes, “you can’t take it with you.” If a teacher moves across state lines and continues to work as a teacher, she starts again from square one in a new system.

Defined contribution pension plan: Pension plan in which the level of contributions is fixed at a certain level, while benefits vary depending on the return from investments. Teachers make contributions into a tax deferred account, and employers may or may not make contributions. Defined contribution pension plans, unlike defined benefit pension plans, give the teacher options of where to invest the account, usually among stock, bond and money market accounts.

Changing multipliers=unfair benefits

	Multiplier changes based on years of service	Constant
Alabama		■
Alaska		NA
Arizona		■
Arkansas		■
California	■	
Colorado		■
Connecticut	■	
Delaware		■
District of Columbia		■
Florida	■	
Georgia		■
Hawaii		■
Idaho		■
Illinois		■
Indiana		■
Iowa	■	
Kansas	■	
Kentucky	■	
Louisiana		■
Maine		■
Maryland		■
Massachusetts	■	
Michigan		■
Minnesota		■
Mississippi	■	
Missouri	■	
Montana		■
Nebraska		■
Nevada		■
New Hampshire	■	
New Jersey		■
New Mexico		■
New York	■	
North Carolina		■
North Dakota		■
Ohio		■
Oklahoma		■
Oregon		■
Pennsylvania		■
Rhode Island	■	
South Carolina		■
South Dakota		■
Tennessee		■
Texas		■
Utah		■
Vermont	■	
Virginia		■
Washington		■
West Virginia		■
Wisconsin		■
Wyoming		■
Total	13	37

Lump-sum withdrawal: Large payment of money received at one time instead of in periodic payments. Teachers leaving a pension plan may receive a lump-sum distribution of the value of their pension.

Normal costs: In a defined benefit system, normal cost is the cost to fund one year of the current benefits being accrued by a teacher. Employer normal cost is the amount of total normal cost that exceeds the teacher's mandatory contribution rate. For example if the normal cost for a system is 10 percent of payroll and teachers pay 7 percent, then the state/district normal cost is 3 percent.

Pension wealth: The net present value of a teacher's expected lifetime retirement benefits.

Purchasing time: A teacher may make additional contributions to a pension system to increase service credit. Time may be purchased for a number of reasons, such as professional development leave, previous out-of-state teaching experience, medical leaves of absence or military service.

Service credit/years of service: Accumulated period of time in years or partial years for which a teacher earned compensation subject to contributions.

Supplemental retirement plan: Some states with defined benefit plans also provide for supplemental contribution plans—usually a 403(b) or 457, which are similar to private sector 401(k) plans or IRAs, to which teachers can voluntarily contribute in addition to their pension plans. While an added opportunity for individual teachers to have a retirement savings account, the state's obligations are unaffected. States do not typically contribute to these accounts nor require districts to do so, and these supplemental options are available to teachers regardless of the pension systems in which they participate.

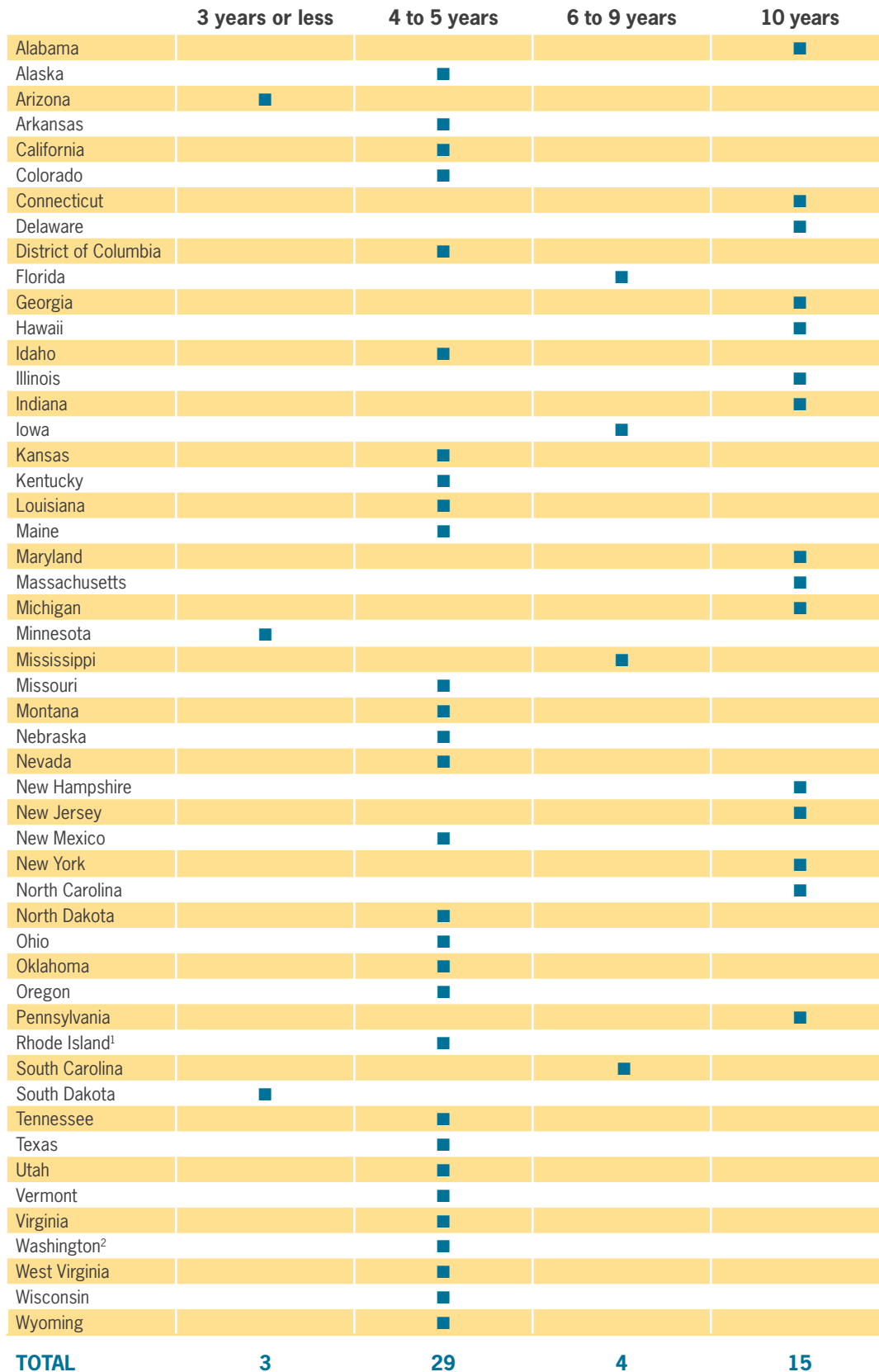
Vesting: Any kind of pension plan has a vesting period, which is the length of service needed for teachers to acquire the employer contributed benefits, such as payment from a pension fund. The vesting period rules determine how long a teacher must work in a school system to be entitled to pension benefits. Vesting periods are also an important factor in determining whether and how much of their and employer contributions teachers may withdraw or keep if they move out of a school system or leave the profession. Additionally, in some states vesting status affects the ability of the legislature or pension system to alter a current teacher's pension benefits (ex. vested teachers benefits cannot be diminished, while non-vested teachers' can.) While some argue that longer vesting periods act as incentives to retaining teachers, research doesn't particularly back that up.³⁵

What is certainly the case regardless of system type is that the longer the vesting period of a pension system, the more inflexible it is to teachers—particularly those teachers who are early in their careers and those who are mobile. Why? Because if these teacher change careers or move before they vest in their pension systems they lose pension wealth, both in losing future rights to benefit payments and losing accrued funds saved—not only contributions made by states and districts, but sometimes even some of their own contributions.

Sources: Barron's Dictionary of Finance and Investment Terms, Seventh Edition; California State Teachers' Retirement System

35 Proponents argue that long vesting periods are a strength of defined benefit plans—they incentivize and encourage teacher retention by delaying teacher rights to pension contributions. But in reality, teacher turnover is high and there is no indication, that, at least early in their careers, pension promises are a factor in teacher retention.

How many years does it take teachers to vest in their pension systems?



1 Rhode Island—Vesting is 3 years for the employer contributions to the defined contribution component.

2 Washington—Vesting is 10 years for Washington's Plan 3.

Appendix B: The Players

State legislatures: Set overall pension policies including type of system provided, who is covered, benefit rates, as well as state/district an employer contribution levels in many cases. Different states have different constitutional requirements for changing pension benefits.

Districts: Set all decisions related to personal that impact pension costs. Districts determine the size of the teacher payroll, in some cases salaries and pay raises as well.

Retirement boards: Oversee the retirement fund and manage system retirees and members. Members are chosen by a combination of gubernatorial appointments and member elections depending on the system. In some states the board sets the contribution rates, the expected rate of return, and makes other policy decisions. In other states the boards make recommendations to the state legislatures. Retirement boards also participate in or oversee the pension investments.

Taxpayers: Taxpayers fund pension systems. State and local taxes pay for both the employee contribution via teachers' salaries and the employer contribution through general tax revenue.

Actuaries: Actuaries and accounting firms are hired to review the financials of pension systems. Every system has a CAFR—a Comprehensive Annual Financial Report—and most systems have an actuarial valuation every year or every other year. These valuations calculate the annual required contribution to maintain a 30-year or less amortization period, report the normal cost of the plan, actuarial liabilities, funding percentage and other important data on the health of the pension system.

Teachers: Pension system members and future recipients who may or may not contribute to the pension system.

Academics: Experts who apply economic and accounting theories to pension systems and teacher's retirement decisions. Report on the monetary effects of retirement systems, their sustainability, benefits and weaknesses. In the teacher pension field Michael Podgursky, Robert Costrell and Robert Clark are some of the most well known and respected.

Unions: Advocates for teachers and generally very much supporters of defined benefit plans—the status quo in teacher pensions.

Independent interest groups: Advocates who track financials and legislative changes in pension policy, promote the “rights” of pension holders, and lobby on their behalf. Some well know groups include the National Institute on Retirement Security, the National Council on Teacher Retirement and the National Conference on Public Employee Retirement Systems.

Appendix C: Pension Legislation Summary 2012

Alabama	Reduced benefits for new teachers, increased the retirement eligibility age, changed the final average salary calculation to 5 years and lowered the multiplier for determining pension benefits.
Arizona	Contributions return to a 50/50 split between employer and teacher. Beginning in 2011 transfer of burden to teachers must be retroactively refunded.
California	Decreased the benefit multiplier, increased the age of normal retirement eligibility, increased the final average salary calculation, eliminated a “career factor” bonus given to veteran teachers, and prohibited any enhancements to the defined benefit plan that apply to prior service. Also mandated that the employee must contribute at least 50 percent of the normal cost, and forbid the employer from making the employee’s contributions. Lowered assumed rate of return from 7.75 to 7.5 percent.
Florida	Employer contribution to defined contribution plan down from 6 to 3.3 percent. Employer contribution to defined benefit plan up from 3.77 to 4.04 percent.
Indiana	Excess revenue from general fund will be used to increase the “pre-1996” pension fund until it reaches 80 percent funded.
Kansas	Approved a cash balance plan for new hires as of 2014. Also instituted changes to defined benefit plan. For Tier I: the option of keeping the current 4 percent contribution rate and decreasing the multiplier from 1.75 to 1.4 percent on all future service. Or teachers can choose to increase their contribution for the next two years to 6 percent in exchange for a higher multiplier of 1.85. For Tier II: keep current 6 percent contribute rate and increase multiplier from 1.75 to 1.85 in exchange for ending COLA as of July 1, 2012.
Louisiana	Approved a cash balance plan as mandatory for certain classes of new state employees and as an option for current and new K-12 teachers to opt in.
Michigan	Changes to the closed defined benefit plan include: increased teacher contribution rates, a cap imposed on employer contribution rates, and major changes to the retiree health care system.
Minnesota	Lowered assumed rate of return from 8.5 to 8 percent.
Mississippi	Teacher and employer contribution rates were increased.
New York	Instituted a new tier effective April 1, 2012 which has a higher contribution rate, higher retirement age, an increased final average salary, a different multiplier calculation and an increase in vesting to 10 years.
Ohio	Lowered rate of return to 7.75 percent and decreased COLA, increased member contributions, increased the final average salary calculation, instituted a constant multiplier and raised the retirement eligibility age.
South Carolina	Created a new tier which has an increased final average salary, increased vesting, increased retirement and eligibility age, and ended DROP program. For both new and current members, teacher and employer contributions increased, COLA decreased and interest credited to teachers’ accounts ended. Also lowered assumed rate of return to 7.5 percent.

Virginia	Districts may no longer pay the teacher contribution. This can be phased in by 1 percent a year. The state instituted a new hybrid plan effective 2013 in which teachers and employers contribute to both the defined benefit and defined contribution components.
Washington	New members have the option of early retirement at age 55 or 30 yrs of service with 5 percent reduction for each year below the normal retirement age of 65. Assumed rate of return will be gradually lowered by 0.1 percent each next 3 biennia, currently 7.7 percent.
Wyoming	Created a new tier with a lower multiplier (returned to 2001 level), an increased final average salary calculation, increased retirement eligibility, and ties COLA to the plan being 100 percent funded.

Appendix D: Overview of State Pension Systems

	Title	Teacher membership³⁶
Alabama	The Retirement Systems of Alabama, Teachers' Retirement System http://www.rsa-al.gov/TRS/trs.html	100%
Alaska	The PERS/TRS Defined Contribution Retirement Plan, Teachers' Retirement System http://doa.alaska.gov/drb/dcrp/index.html	100%
Arizona	Arizona State Retirement System https://www.azasrs.gov/web/Home.do	43%
Arkansas	Arkansas Teacher Retirement System http://artrs.gov/index.php?option=com_content&task=view&id=12&Itemid=27	100%
California	California State Teachers' Retirement System http://www.calstrs.com/index.aspx	100%
Colorado	Colorado PERA School Division https://www.copera.org/	100%
Connecticut	The Connecticut Teachers' Retirement System http://www.ct.gov/trb/site/default.asp	100%
Delaware	Delaware Public Employees' Retirement System http://www.delawarepensions.com/default.shtml	26%
District of Columbia	District of Columbia Teachers' Retirement Plan http://dcrb.dc.gov/publication/teachers-summary-plan-description	100%
Florida	Florida Retirement System Pension Plan and Investment Plan http://www.myfrs.com/portal/server.pt/community/myfrs/257;jsessionid=rGn2QKSH43ZxWKVYDVHhvpZ1bxQMTxgNVYhmP2WOR2mlwjsjgNP7G!1895215529	49%
Georgia	The Teachers Retirement System of Georgia http://www.trsga.com/	100%
Hawaii	State of Hawaii Employees' Retirement System, Hybrid Plan http://ers.ehawaii.gov/	28%
Idaho	Public Employee Retirement System of Idaho http://www.persi.state.id.us/	44%
Illinois	Teachers' Retirement System of the State of Illinois http://trs.illinois.gov/	100%
Indiana	Indiana State Teachers' Retirement Fund http://www.in.gov/inprs/	100%
Iowa	Iowa Public Employees' Retirement System http://www.ipers.org/publications/members/pdf/memberhandbook.pdf	64%
Kansas	Kansas Public Employees Retirement System School Division http://www.kpers.org/	100%
Kentucky	Kentucky Teachers' Retirement System http://ktrs.ky.gov	100%
Louisiana	Teachers' Retirement System of Louisiana http://trsl.org	100% (includes post-secondary)
Maine	Maine Public Employees Retirement System http://www.maineipers.org	51%
Maryland	Employees' and Teachers' Pension System http://www.sra.state.md.us/Participants/Members/Downloads/Handbooks/BenefitHandbook-Emp-Pen.pdf	48%
Massachusetts	Massachusetts Teachers' Retirement System http://www.mass.gov/mtrs/	100%

36 Teacher membership percentages are rough estimates based on available data from the pension systems or other relevant sources.

	Title	Teacher membership
Michigan	Pension Plus, Michigan Public School Employees Retirement System http://www.mipensionplus.org/	100% (includes post-secondary)
Minnesota	Minnesota Teachers Retirement Association https://www.minnesotatra.org/	100%
Mississippi	Public Employees' Retirement System of Mississippi http://www.pers.state.ms.us/pdf/memberservices/handbooks/member/PERSMemberHandbookJanuary2008.pdf	39%
Missouri	Public School Retirement System of Missouri http://www.psrps-peers.org/PSRS/handbook.htm	100%
Montana	Montana Teachers' Retirement System http://www.tr.s.mt.gov/	100%
Nebraska	Nebraska Public Employees Retirement Systems, School Retirement System https://npers.ne.gov/whalecomfb0318c98356c576f7c4/whalecom0/SelfService/	100% (and school employees)
Nevada	Nevada Public Employees' Retirement System http://www.nvpers.org/public/members/	46%
New Hampshire	New Hampshire Retirement System http://www.nhrs.org/Members/PlanDetails.aspx	52%
New Jersey	State of New Jersey Teachers' Pension and Annuity Fund http://www.nj.gov/treasury/pensions/	100%
New Mexico	New Mexico Educational Retirement Board http://www.nmerb.org/pdfs/erbhandbook.pdf	100% (includes post-secondary & other education personnel)
New York	New York State Teachers' Retirement System http://www.nystrs.org/	100%
North Carolina	Teachers' and State Employees' Retirement System https://www.nctreasurer.com/ret/Benefits%20Handbooks/NCTeaState.pdf	57%
North Dakota	North Dakota Teachers' Fund for Retirement http://www.nd.gov/rio/TFFR/Publications/Handbook.pdf	100%
Ohio	State Teachers Retirement System of Ohio https://www.strsoh.org/active/index.html	100%
Oklahoma	Oklahoma Teachers Retirement System http://www.ok.gov/TRS/	100%
Oregon	Oregon Public Employees' Retirement System http://oregon.gov/PERS/	42%
Pennsylvania	Public School Employees' Retirement System http://www.psers.state.pa.us/Publications/pubs.htm	100% (and school personnel)
Rhode Island	Employees' Retirement System of Rhode Island https://www.ersri.org/	54%
South Carolina	South Carolina Retirement Systems http://www.retirement.sc.gov/orp/orplandocument.pdf http://www.retirement.sc.gov/publications/scrshandbookjuly2010.pdf	61%
South Dakota	South Dakota Retirement System http://www.sdrs.sd.gov/publications/documents/ClassA2010_000.pdf	28%
Tennessee	Tennessee Consolidated Retirement System http://www.treasury.state.tn.us/tcrs/PDFs/Con-Teachers.pdf	35%

	Title	Teacher membership
Texas	Teacher Retirement System of Texas http://www.trs.state.tx.us/benefits/documents/benefits_handbook.pdf#Home	100%
Utah	Utah Retirement Systems http://www.urs.org/general/sb63.shtml , http://le.utah.gov/~2010/bills/sbillenr/sb0063.htm	81%
Vermont	Vermont State Teachers' Retirement System http://www.vermonttreasurer.gov/retirement/teachers-group-c#intro http://www.vermonttreasurer.gov/sites/treasurer/files/pdf/retireTeacher/misc/010_-_Act_74_-_Informational_Mailing_-_final.pdf	100%
Virginia	Virginia Retirement System http://www.varetire.org/Pdf/Publications/handbook-plan-2.pdf	43%
Washington	Washington Teachers' Retirement System http://www.drs.wa.gov	100%
West Virginia	West Virginia Teachers' Retirement System http://www.wvretirement.com	100%
Wisconsin	Wisconsin Retirement System http://etf.wi.gov	38%
Wyoming	Public Employee Pension System http://retirement.state.wy.us/pension/public.html	49%

Appendix E: Participation in Social Security

Social Security coverage depends on individual state, and in some cases individual district, decisions. Employees enrolled in public pension plans were originally excluded from participation because their plans pre-dated Social Security's creation, but legislation in the 1950s allowed states and/or cities to join Social Security in addition to or instead of their existing plan. In the 13 nonparticipating states (and the 3 states where only some districts participate), teachers' pension plans need to meet the full retirement needs that are elsewhere met in part by Social Security, and, as a result, contributions and benefits, are usually higher in those states. The poor financial state of some pension systems and the diminishing benefit provided to newly hired teachers has caused many experts to question whether these states are actually meeting minimum "safe harbor" requirements to replace Social Security.³⁷

	Teachers do not participate in Social Security	Teachers do participate in Social Security	Some teachers/districts participate in Social Security
Alabama		■	
Alaska	■		
Arizona		■	
Arkansas		■	
California	■		
Colorado	■		
Connecticut	■		
Delaware		■	
District of Columbia	■		
Florida		■	
Georgia			■
Hawaii		■	
Idaho		■	
Illinois	■		
Indiana		■	
Iowa		■	
Kansas		■	
Kentucky	■		
Louisiana	■		
Maine	■		
Maryland		■	
Massachusetts	■		
Michigan		■	
Minnesota		■	
Mississippi		■	
Missouri			■ ³⁸
Montana		■	
Nebraska		■	
Nevada	■		
New Hampshire		■	
New Jersey		■	
New Mexico		■	
New York		■	
North Carolina		■	

37 In order for state or local government employment to qualify for the exception from employment under section 3121(b)(7), the employee must be a member of a retirement system that provides certain minimum retirement benefits. To meet this minimum retirement benefit, Social Security regulations generally require that a retirement system provide benefits to the employee that are comparable to those provided in the Old-Age portion of the Old Age, Survivor, Disability Insurance program under Social Security.

38 Teachers in St Louis participate, but the district has its own pension system. Teachers in Missouri's statewide system do not participate in Social Security.

State	Teachers do not participate in Social Security	Teachers do participate in Social Security	Some teachers/districts participate in Social Security
North Dakota		■	
Ohio	■		
Oklahoma		■	
Oregon		■	
Pennsylvania		■	
Rhode Island			■
South Carolina		■	
South Dakota		■	
Tennessee		■	
Texas	■		
Utah		■	
Vermont		■	
Virginia		■	
Washington		■	
West Virginia		■	
Wisconsin		■	
Wyoming		■	
TOTAL	13	35	3

Appendix F: District and Teacher Contribution Rates

State	Employer contribution rate (%)	Teacher contribution rate (%)	Social Security
Alabama	12.5	7.5	■
Alaska	12.6	8	
Arizona	10.1	11.1	■
Arkansas	14	6	■
California	10.8	8	
Colorado	14.1	8	
Connecticut	19.2	7.3	
Delaware	17.2	5	■
District of Columbia		8	
Florida	3.8 ¹	3	■
Georgia	11.4	6	■
Hawaii	15	8	■
Idaho	10.4	6.2	■
Illinois	12.7	9.4	
Indiana	7.5	3	■
Iowa	8.7	5.8	■
Kansas ²	8.2	6	■
Kentucky	14.1	10.9	
Louisiana ³	20.2	8	
Maine	17.3	7.7	
Maryland	15.5	7	■
Massachusetts	22.6	11	
Michigan ⁴	14.3	11.4	■
Minnesota	13.2	6.5	■
Mississippi	12.9	9	■
Missouri	14.5	14.5	
Montana	10	7.2	■
Nebraska ⁵	9.9	9.8	■
Nevada ⁶	11.9	11.9	
New Hampshire	9.4	7	■
New Jersey ⁷	<1	6.6	■
New Mexico	9.4	10.9	■
New York	8.6	3.5 for 2012-13, after 3-6 depending on salary	■
North Carolina	13.1	6	■
North Dakota	10.8	9.75	■
Ohio	14	10	
Oklahoma	16.6	7	■
Oregon	13.9	6	■
Pennsylvania ⁸	12.4	7.5-12.3	■
Rhode Island ⁹	21.7	8.8 or 10.8 (3.8 to DB, 5 or 7 to DC depending on SS)	■
South Carolina	10.6	6.5	■
South Dakota	6.2	6	■
Tennessee	8.9	5	■
Texas	6.6	6.4	
Utah ¹⁰	12.7	0	■
Vermont	7.4	6.3	■
Virginia ¹¹	8.8	5	■
Washington ¹²	9.2	4.8	■
West Virginia	29.2	6	■
Wisconsin	5.9	6.7	■
Wyoming	7.1	7	■

- 1 In Florida, 3.8 percent is to DB plan. 3.3 percent paid to DC plan.
- 2 Kansas's employer contribution to the cash balance system will range from 3 percent to 6 percent based on a teacher's years of service, plus the employer will have to contribute to cover the current UAAL and any costs incurred by the CB system.
- 3 In Louisiana's new hybrid optional system, the employer will pay 4% into each teacher's account and additionally have to contribute to cover the current UAAL and any costs incurred by the CB system.
- 4 Teachers contribute 9.4 percent to the defined benefit component and are automatically enrolled to contribute 2 percent to the defined contribution component. Teachers may change the amount of the latter contribution.
- 5 The contribution rate is set to increase in 2012 and decrease in 2014.
- 6 Teachers share in the employer contribution through salary reductions or foregoing equivalent pay raises.
- 7 The total employer contribution was less than one percent of payroll and only 1.4 percent of the actuarial required amount. The state's required contribution is 1/7 of the actuarial required employer contribution with the districts responsible for the remaining 6/7. The state did not make any contributions in 2010 and 2011. It is now required to make its full contribution for 2012. The teacher rate is set to increase 1 percent total phased in over the next seven years.
- 8 For teachers hired after July 1, 2011, the contribution ranges from 7.5 to 12.3 percent based on a variety of factors.
- 9 Plus an additional 2 percent from both employees and employers for teachers that aren't in Social Security.
- 10 Teachers in the hybrid plan must make a mandatory contribution if the employer contribution does not cover system costs.
- 11 In the hybrid plan, 4 percent of the teacher contribution goes to the DB component and 1 goes to the DC component. Teachers may make additional contributions. Employer contribution to the DC component is 1 percent plus a match up to 2.5 percent.
- 12 For the defined benefit plan, the rate varies for the defined contribution plan from a minimum of 5 percent.



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