Negative Returns:

How State Pensions Shortchange Teachers

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TeacherPensions.org
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Introduction

Teachers count on their pensions for a stable, secure retirement. They contribute to a plan during their time in the classroom, the state takes care of the investments, and the end result is a generous, guaranteed stream of income throughout their retirement years.

Or, at least, that's the story most often told about pensions. What's left unsaid is that most teachers either won't qualify for a pension at all, or will qualify for one so meager that it will be worth less than their own contributions.

Although the debate on public pensions concentrates on employees with 30 years of service, most public school teachers have much shorter careers. According to the latest national data, three in 10 new teachers leave within five years.[1] Other teachers cross state lines to teach elsewhere in subsequent years, splitting their careers across multiple state pension plans. Those who leave subsidize benefits for teachers who stay in one state or school district for an entire career.

State pension plans provide little retirement income security to most teachers, even many who spend as long as 20 or 25 years teaching in one state.

State pension plans provide little retirement income security to most teachers with shorter tenures, even many who spend as long as 20 or 25 years teaching in one state. Virtually every plan requires participants to contribute toward the cost of their retirement benefits, and employees must work many years before their future benefits exceed the value of their required contributions. Those who leave before reaching that milestone do not receive any employer-financed retirement benefits, despite their often-lengthy careers.

This brief calculates, for each state, how long teachers hired at age 25 must remain teaching in the same state to earn any employer-financed pension benefits from their state's pension plan.[2] The analysis identifies the break-even point in each state plan, the time when teachers could leave public employment with promised future pension payments worth more than their own contributions. Our findings identify two problems that systematically disadvantage teachers:

» **First**, in the median state, teachers must serve at least 25 years to receive a pension worth more than their own contributions. Teachers with shorter careers get no school-financed retirement benefit despite their many years of service. They may be better off taking back their own contributions when they quit rather than waiting to collect a pension.

» **Second**, we estimate that more than three-quarters of new teachers will earn less in pension benefits than they contributed to the plan. Instead of benefiting from their pension plans, most teachers are net contributors. Recent pension reforms, focused mainly on cutting costs, generally make this situation worse and force new teachers to work even longer before they benefit from their pension plans.

How Do Benefits Accumulate in Traditional Pensions?

Although traditional defined benefit (DB) pension plans are becoming much less common in the private sector, they still cover nearly nine in 10 public school teachers.[3] By offering lifetime retirement benefits based on service years and final average salaries, DB pensions generally provide secure retirement incomes to workers who devote their entire careers to government service.

Traditional DB pension plans pay annual retirement benefits equal to a specified percentage of final average salary—typically calculated over the last three or five years of employment—multiplied by the worker's completed years of service. Retirement eligibility is usually tied to age and years of service. For teachers hired at age 25, half of the plans offer full benefits at age 57 or younger. All but one plan, Oregon's, require teachers to contribute toward their pension plan, with an average employee contribution of 7 percent of salary.

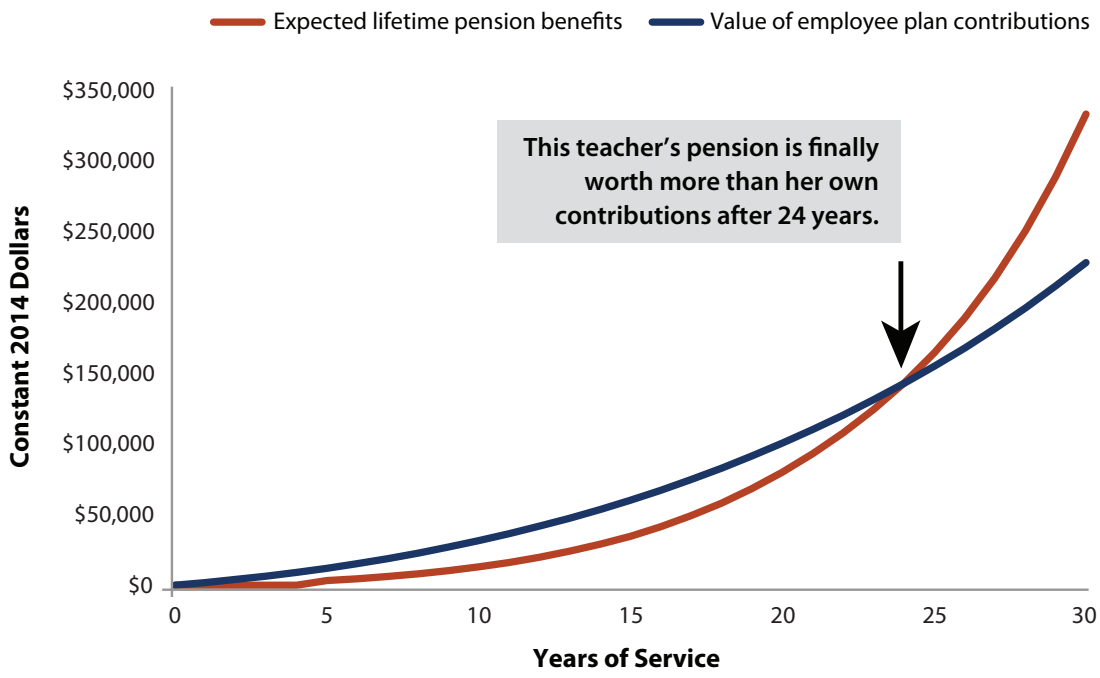
The value of a teacher's contributions often exceeds the value of her future pension benefit well into her career.

Teachers do not accumulate much in the way of retirement benefits early in their career. Benefits for teachers who move across state lines or exit the profession early are based on the relatively low salaries they received at younger ages, not the higher salaries typically received at older ages. Additionally, due to extra years of compound interest, employees' early-career contributions are worth more than the same amount contributed later. As a result, the value of an employee's contributions often exceeds future pension benefits well into a teacher's career.

Consider a teacher hired at age 25 enrolled in a typical plan. Say her annual pension benefits equal 2 percent of her final average salary (averaged over the last five years) multiplied by years of service, which she may begin collecting at age 60. Assume her benefits "vest" after five years, entitling her to at least some future pension benefit if she works that long. In this hypothetical (but typical) plan, a teacher must contribute 7 percent of her salary to the plan each year. Most states return teachers' own contributions when they separate before vesting, but pay little or no interest. Once she retires, the state will annually adjust her pension amount to keep up with inflation.

Lifetime pension benefits in this hypothetical plan grow slowly early in a career (see Figure 1). After 15 years of service, for example, our hypothetical teacher earning an average salary would accumulate $35,000 in future lifetime pension benefits (expressed in constant 2014 dollars). She would receive annual payments upon retirement replacing 30 percent of her current salary, but she would have to wait 20 years to begin collecting. Her pension benefit would not grow to keep up with inflation during this 20-year waiting period. By contrast, her own contributions would be worth $60,000 after the same 15 years of service, about three-quarters more than the value of her future pension benefits. Her future pension benefits grow rapidly if she continues to teach, but they wouldn't be worth more than her own contributions plus interest until she worked nearly 25 years.

Figure 1 Example of How Pension Benefits and Employee Contributions Grow Over Time



Source: Authors' calculations from the Urban Institute's State and Local Employee Pension Plan database.

Notes: The figure displays the value of lifetime pension benefits and required employee contributions for employees hired at age 25 earning average salaries and enrolled in a traditional plan that provides annual benefits equal to 2 percent of final average salary times years of service. Benefits vest after five years, and retirees may begin collecting at age 60. The required employee contribution rate is 7 percent. Calculations assume 8 percent nominal interest and 3 percent inflation.

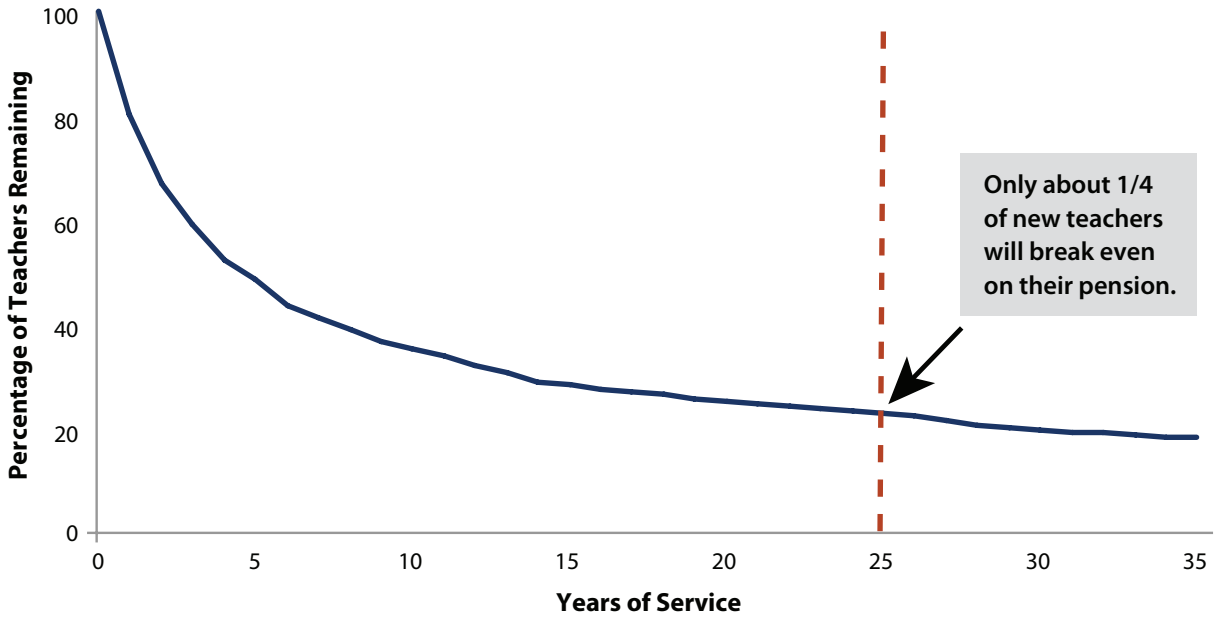
In half of state pension plans covering public school teachers, it takes at least 25 years of service to earn any employer-financed pension benefits. (Other public servants, by comparison, generally accumulate pension benefits more quickly.[4] The median break-even point of plans covering police officers and firefighters, for example, is 18 years of service.) Teachers who separate before reaching the break-even point may be better off collecting a refund on their plan contributions than waiting to collect a pension at their plan's retirement age; they effectively gain nothing from their retirement plan other than having access to a minimal-interest savings account.

Most Teachers Gain Nothing from Their Pension Plans

Data from the state teacher pension plans themselves illustrate the size of this problem. Every state publishes "withdrawal" tables that estimate how many teachers will leave after any given service year. These estimates are typically based on the state's actual turnover rates, and they are used to determine how well a pension plan is funded and how much money the state must contribute each year to cover future benefits. By combining the withdrawal rates and plan benefit rules, it's possible to estimate the share of new teachers who will earn a pension worth more than their own contributions plus interest. (See the Technical Appendix for an explanation of how we calculate these rates.)

The share of teachers who will at least break even in their state's pension plan varies widely depending on the length of the waiting period and the estimated turnover rate. Combining the break-even points with teacher turnover assumptions, we find that only 23 percent of teachers in the median state will ever reach the break-even point (Figure 2).

Figure 2 Few Teachers Break Even on Their Pension



Source: Authors' calculations from the Urban Institute's State and Local Employee Pension Plan database and state Comprehensive Annual Financial Reports.

Notes: The sample is restricted to 133 traditional public pension plans offered to public school teachers and administered at the state level. Calculations use the interest rates assumed by each state's plan. Break-even points are for teachers who begin their career at age 25.

How well teachers fare in their pension plan varies significantly across states (see the Appendix for full state data). New teachers will earn a retirement benefit worth more than their contributions after only four years of experience in Utah and five years of experience in Oregon. Another state—Indiana—offers new teachers a positive benefit after 10 years. No other state, however, has a break-even point for new teachers shorter than 20 years. Seven states—Kansas, Mississippi, New Jersey, New Mexico, North Dakota, Oklahoma, and West Virginia—plus the District of Columbia set their break-even point at 30 years. Ten states—California, Hawaii, Illinois, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, Ohio, and South Carolina—set the break-even point of their pension plan at more than 30 years. And at the most extreme, new teachers in Massachusetts hired after July 1, 2001, will *never* receive a pension worth more than their own contributions plus interest.

New teachers have a greater than 50-50 chance of breaking even on their pension in only two states.

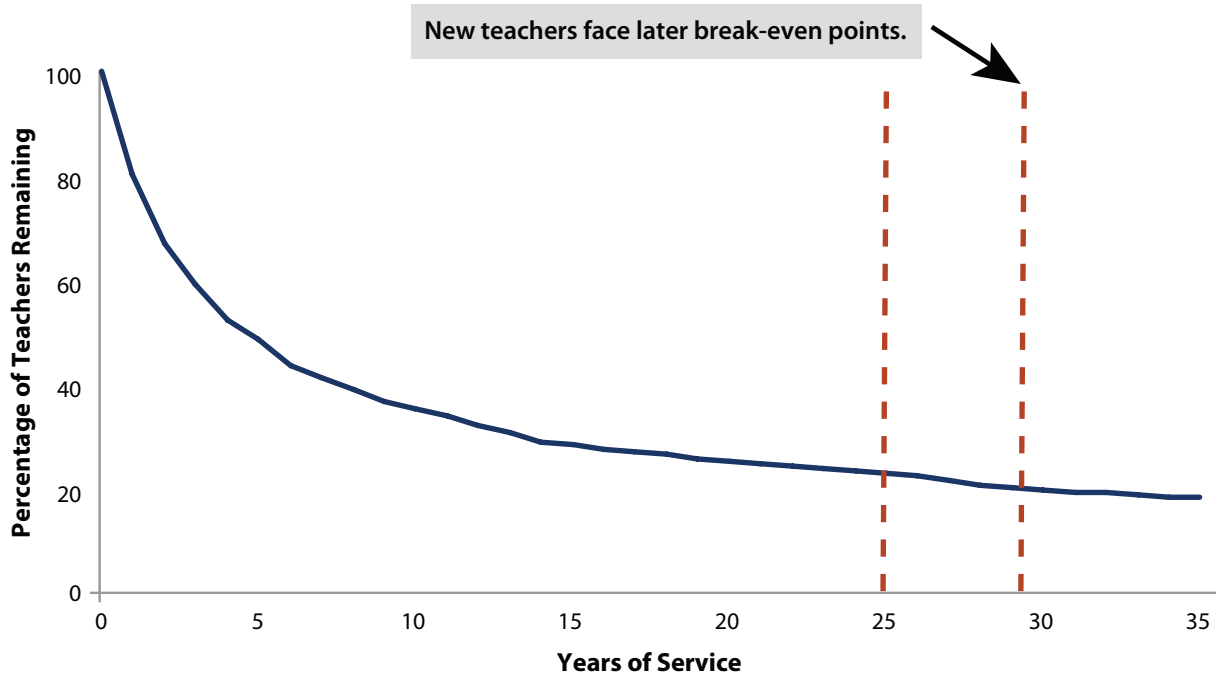
New teachers have a greater than 50-50 chance of breaking even on their pension in only two states—Oregon and Utah. At the other end, because of extremely back-loaded benefits and high turnover rate assumptions, new teachers in Delaware, Maine, Mississippi, New Hampshire, and Vermont have less than a one-in-10 chance of earning a pension worth more than their own contributions plus interest. In Massachusetts, due to high employee contribution rates and an insufficiently generous pension plan, all teachers hired after 2001 will be net contributors to their state pension plan, no matter how long they remain teaching.

States Are Increasing Their Break-Even Points

Faced with a $1 trillion shortfall between what they've saved and what they've promised in future benefits, states have made their retirement plans worse for new teachers. During the recent recession, states cut benefits by boosting required employee contributions, trimming cost-of-living adjustments, increasing retirement ages, and revising the benefit formula. These reforms generally mean that new teachers must work longer to accumulate any employer-financed pension benefits. Among the teacher plans that changed benefit rules between 2009 and 2013, the median break-even point climbed to 28 years (Figure 3). Because most turnover occurs in the early years of a teacher's career, the changes reduce the likelihood that new teachers will break even on their pension plan from 23 percent to 21 percent.

Recent reforms generally mean that new teachers must work longer to accumulate any employer-financed pension benefits.

Figure 3 It Will Be Harder for the Next Generation of Teachers to Break Even on Their Pensions



Source: Authors' calculations from the Urban Institute's State and Local Employee Pension Plan database and state Comprehensive Annual Financial Reports.

Notes: The sample is restricted to 133 traditional public pension plans offered to public school teachers and administered at the state level. Calculations use the interest rates assumed by each state's plan. Break-even points are for teachers who begin their career at age 25.

Another way to look at this issue is the distribution of where states set the break-even point. As shown in Table 1, only 13 percent of plans enable teachers hired at age 25 to accumulate any employer-financed pension benefits within the first 10 years of employment. The rules are much worse for newly hired teachers: Only 6 percent of plans covering *new* public school teachers offer a break-even point of 10 years or less. In 86 percent of plans offered to new teachers, they must complete more than 20 years of service before they'll get anything from their pension plans other than their own contributions.

Table 1 Number of Years Required Before Teachers Break Even on Their Pensions (as a percentage of plans)

Break-Even Point	All Teacher Plans	Plans for New Teachers
5 Years or Less	4	4
6-10 Years	7	2
11-15 Years	7	0
16-20 Years	12	6
21-25 Years	30	29
More Than 25 Years	41	58

Source: Authors' calculations from the Urban Institute's State and Local Employee Pension Plan database.

Notes: Columns may not add to 100 due to rounding. The sample is restricted to 133 traditional public pension plans offered to public school teachers and administered at the state level. Calculations use the interest rates assumed by each state's plan. Break-even points are for teachers who begin their career at age 25.

Although the break-even points are important, teachers who spend their entire career within one pension plan may lose out in other ways. Rather than treating all years of work equally and letting individual teachers decide when it makes sense to retire, the current rules penalize teachers who continue working after a certain age. After that point, each additional year that they spend in the classroom is a year they could have retired and drawn a pension, so the value of their lifetime pension benefit decreases. Even teachers who prefer to keep teaching and are enriching students' lives might leave the classroom to avoid the financial penalty on retirement benefits.

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Evidence from several states, including Arkansas, California, and Missouri suggests that teachers respond to these significant financial penalties.[5] Instead of helping to retain highly effective workers, back-loaded pension plans incentivize *all* late-career teachers to retire at the optimal moment financially, regardless of their desire to keep teaching or their effectiveness in the classroom.[6]

Conclusion

Contrary to popular perception, the vast majority of teachers are losing out under the current pension arrangement. In half of state pension plans, teachers must remain teaching in their current state at least 25 years to qualify for a pension worth more than their own contributions. Teachers who separate before reaching the break-even milestone lose money by participating in mandatory retirement plans; they would do better if they could invest their retirement savings outside the plan. They even lose if they forgo their pension when they separate and have their contributions refunded, because most plans pay interest that falls well below average investment returns.

A secure retirement is more often a mirage than a reality for incoming teachers.

Recent pension reforms have made matters worse, further cutting benefits for shorter-term participants. Instead of simply trimming existing teacher pensions, policymakers should consider alternative benefit designs that allow employees to accumulate future retirement benefits gradually throughout their career rather than restricting benefits to those with the longest tenures. Alternative benefit designs like 401(k)-style defined contributions plans or cash balance plans would enable *all* public school teachers to accumulate savings toward a secure retirement, including those with shorter careers. Such reforms would distribute benefits more equally and attract talented young teachers, for whom a secure retirement is now more often a mirage than a reality.

Technical Appendix

Results are based on two data sets. Details on each state's pension plan structures come from the Urban Institute's State and Local Employee Pension Plan (SLEPP) database, which provides benefit rules for state-administered retirement plans covering teachers in all 50 states and the District of Columbia.[7] Teacher turnover rates are derived from each state's "withdrawal" rate assumptions for women who began service at age 25 on or after Jan. 1, 2013.

The SLEPP database compiles information on employee contribution rates, vesting requirements, benefit eligibility rules, benefit formulas, early-retirement reductions, cost-of-living adjustments, and actuarial assumptions for retirement plans covering state and local government employees. Because states frequently change their plans for new hires but exempt incumbent employees, plan rules often vary by hire date. The database collects information for each of these variants, often called plan tiers, so it represents plan rules for nearly all participants employed in 2014. SLEPP includes 687 plan tiers covering teachers, police officers and firefighters, and general state and local government employees in all 50 states and the District of Columbia. Only state-administered plans are included; plans administered by municipalities are excluded. See www.urban.org/features/public-pension-project for more information.

For each service year, we compare employees' accumulated plan contributions to the present discounted value of the stream of expected future pension benefits if they left the plan. Plan participants who separate before future benefits exceed accumulated plan contributions do not earn anything from their plan; instead, their pension is fully financed by their own contributions. Future pension benefits are discounted by the probability that separating employees might die before they can collect their payments and by the interest they forgo while waiting. Employees' plan contributions are augmented by what could have been earned if they had been invested instead of paid to the plan. Calculations use the interest rates assumed by each plan (generally about 8 percent).[8] We also assume 3 percent inflation and average salary growth.

We restrict our analysis to plans that provide traditional DB pensions without also providing employer contributions to a 401(k)-style defined contribution plan. Cash balance and hybrid plans are excluded. We carry out the analysis at the plan-tier level for all plans offered to teachers as of Dec. 31, 2013. For states that offer teachers a choice between a DB plan or other retirement plans, our analysis focuses on the DB option.

To calculate teacher retention rates, we used withdrawal rate assumptions from each state's Comprehensive Annual Financial Report. These estimates are based on the actual teacher turnover rates observed in each state pension plan, which relies on those assumptions to determine how well a pension plan is funded and how much money the state needs to contribute each year. Although these turnover rates are assumptions about future behavior, pension plans conduct occasional "experience surveys" to compare their assumptions to actual historical turnover rates. Our calculations understate the rate of total turnover because they do not include teachers who leave the profession because of early retirement, death, or disability.

Table A1 Break-Even Point for State Teacher Pension Plans

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Alabama	Teachers' Retirement System (TRS) - Tier 1	Hired before Jan. 1, 2013	25	30	70
Alabama	Teachers' Retirement System (TRS) - Tier 2	Teachers Hired on or after Jan. 1, 2013	29	29	71
Alaska	Alaska Teachers Retirement System	Teachers Hired on or after July 1, 1990, and before July 1, 2006	20	23	77
Arizona	Arizona State Retirement System	Teachers Hired before Jan. 1, 1984	23	12	88
Arizona	Arizona State Retirement System	Teachers Hired on or after Jan. 1, 1984, and before July 1, 2011	23	12	88
Arizona	Arizona State Retirement System	Teachers Hired on or after July 1, 2011	28	16	84
Arkansas	Arkansas Teacher Retirement System	All teachers	20	37	63
California	California State Teachers' Retirement System (CalSTRS)	Teachers Hired before Jan. 1, 2012	24	50	50
California	California State Teachers' Retirement System (CalSTRS)	Teachers Hired on or after Jan. 1, 2013	32	49	51
Colorado	Public Employees' Retirement Association (PERA)	Teachers Hired before July 1, 2005; vested on Jan. 1, 2011	20	24	76
Colorado	Public Employees' Retirement Association (PERA)	Teachers Hired after June 30, 2005, and before Jan. 1, 2007; vested on Jan. 1, 2011	20	24	76
Colorado	Public Employees' Retirement Association (PERA)	Teachers Hired after Dec. 31, 2006, and before Jan. 1, 2011	22	22	78
Colorado	Public Employees' Retirement Association (PERA)	Teachers Hired after Dec. 31, 2010	23	21	79
Connecticut	Teachers' Retirement Board	All Teachers	25	40	60

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Delaware	Delaware State Employees' Pension Plan	Teachers Hired on or after Jan. 1, 1997, and before Jan. 1, 2012	12	9	91
Delaware	Delaware State Employees' Pension Plan	Teachers Hired on or after Jan. 1, 2012	25	22	78
District of Columbia	District of Columbia Teachers' Retirement Plan	Teachers Hired before Nov. 1, 1996	29	22	78
District of Columbia	District of Columbia Teachers' Retirement Plan	Teachers Hired on or after Nov. 1, 1996	30	22	78
Florida	Florida Retirement System Pension Plan: Regular Class	Teachers Hired before July 1, 2011	13	22	78
Florida	Florida Retirement System Pension Plan: Regular Class	Teachers Hired on or after July 1, 2011	24	15	85
Georgia	Teachers Retirement System of Georgia (TRS)	All teachers	22	25	75
Hawaii	Employees' Retirement System of the State of Hawaii (ERS) - Contributory Plan for General Employees	Teachers Hired before July 1, 1984	18	19	81
Hawaii	Employees' Retirement System of the State of Hawaii (ERS) - Noncontributory Plan	Teachers Hired on or after July 1, 1984, and before July 1, 2006	10	27	73
Hawaii	Employees' Retirement System of the State of Hawaii (ERS) - Hybrid Plan	Teachers Hired on or after July 1, 2006, and before July 1, 2012	25	15	85
Hawaii	Employees' Retirement System of the State of Hawaii (ERS) - Hybrid Plan	Teachers Hired on or after July 1, 2012	35	12	88
Idaho	Public Employee Retirement System of Idaho (PERSI)	All teachers	23	38	62

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Illinois	Teachers' Retirement System of the State of Illinois	Teachers Hired before Jan. 1, 2011 (Tier 1)	28	23	77
Illinois	Teachers' Retirement System of the State of Illinois	Teachers Hired after Jan. 1, 2011 (Tier 2)	35	20	80
Indiana	Indiana State Teachers Retirement Fund	All teachers	10	33	67
Iowa	Iowa Public Employees Retirement System (IPERS)	Teachers Retired before July 1, 2012	23	28	72
Iowa	Iowa Public Employees Retirement System (IPERS)	Teachers Hired after June 30, 2012	28	26	74
Kansas	Kansas Public Employees Retirement System: School Tier 1	Teachers Hired before July 1, 2009	20	26	74
Kansas	Kansas Public Employees Retirement System: School Tier 2	Teachers Hired on or after July 1, 2009, and before Jan. 1, 2015	30	24	76
Kentucky	Kentucky Teachers' Retirement System	Teachers Hired on or after July 1, 1983, and before July 1, 2002	27	44	56
Kentucky	Kentucky Teachers' Retirement System	Teachers Hired on or after July 1, 2002, and before July 1, 2008	27	44	56
Kentucky	Kentucky Teachers' Retirement System	Teachers Hired on or after July 1, 2008	27	44	56
Louisiana	Teachers' Retirement System of Louisiana	Teachers Hired before July 1, 1999	20	30	70
Louisiana	Teachers' Retirement System of Louisiana	Teachers Hired on or after July 1, 1999, and before Jan. 1, 2011	20	30	70
Louisiana	Teachers' Retirement System of Louisiana	Teachers Hired on or after Jan. 1, 2011	20	30	70

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Maine	Maine Public Employees Retirement System: State and Teacher's Retirement Program	Teachers Hired before July 1, 1983	25	3	97
Maine	Maine Public Employees Retirement System: State and Teacher's Retirement Program	Teachers Hired on or after July 1, 1983, and before Oct. 1, 1989	29	3	97
Maine	Maine Public Employees Retirement System: State and Teacher's Retirement Program	Teachers Hired on or after Oct. 1, 1994, and before July 1, 2006	29	3	97
Maine	Maine Public Employees Retirement System: State and Teacher's Retirement Program	Teachers Hired on or after July 1, 2006	34	2	98
Maryland	Maryland State Retirement and Pension System: Teachers' Pension System	Teachers Hired between Jan. 1, 1980, and June 30, 2011	30	28	72
Maryland	Maryland State Retirement and Pension System: Teachers' Pension System	Teachers Hired on or after July 1, 2011	33	27	73
Massachusetts	Massachusetts Teachers' Retirement System	Teachers Hired on or after Jan. 1, 1979, and before Jan. 1, 1984	25	37	63
Massachusetts	Massachusetts Teachers' Retirement System	Teachers Hired on or after Jan. 1, 1984. and before July 1, 1996	27	37	63
Massachusetts	Massachusetts Teachers' Retirement System	Teachers Hired on or after July 1, 1996, and before July 1, 2001	30	37	63
Massachusetts	Massachusetts Teachers' Retirement System	Teachers Hired on or after July 1, 2001, and before April 1, 2012	Never	0	100
Massachusetts	Massachusetts Teachers' Retirement System	Teachers Hired on or after April 1, 2012	Never	0	100

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Michigan	Public School Employees' Retirement System - Basic	Teachers Hired before January 1, 1990, and retired before Feb. 1, 2013	10	45	55
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Fixed - Option 1	Teachers Hired before Jan. 1, 1990, elected MIP plan - 25 YOS on Feb. 1, 2013 (Option 1)	11	43	57
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Fixed - Option 2	Teachers Hired before Jan. 1, 1990, elected MIP plan - 25 YOS on Feb. 1, 2013 (Option 2)	11	43	57
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Fixed - Option 3	Teachers Hired before Jan. 1, 1990, elected MIP plan - 25 YOS on Feb. 1, 2013 (Option 3)	11	43	57
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Fixed - Option 4	Teachers Hired before Jan. 1, 1990, elected MIP plan - 25 YOS on Feb. 1, 2013 (Option 4)	11	43	57
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Graded - Option 1	Teachers Hired after Dec. 31, 1989, and before July 1, 2008 - 20 YOS on Feb. 1, 2013 (Option 1)	10	45	55
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Graded - Option 2	Teachers Hired after Dec. 31, 1989, and before July 1, 2008 - 20 YOS on Feb. 1, 2013 (Option 2)	10	45	55
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Graded - Option 3	Teachers Hired after Dec. 31, 1989, and before July 1, 2008 - 20 YOS on Feb. 1, 2013 (Option 3)	10	45	55
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Graded - Option 4	Teachers Hired after Dec. 31, 1989, and before July 1, 2008 - 20 YOS on Feb. 1, 2013 (Option 4)	10	45	55
Michigan	Public School Employees' Retirement System - Member Investment Plan (MIP) Plus	Teachers Hired after June 30, 2008, and before July 1, 2010 (MIP Plus)	14	40	60

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Minnesota	Minnesota Teachers Retirement Association	Teachers Hired on or before June 30, 1989	22	26	74
Minnesota	Minnesota Teachers Retirement Association	Teachers Hired after June 30, 1989	34	22	78
Mississippi	Mississippi Public Employees' Retirement System	Teachers Hired before July 1, 2007	25	8	92
Mississippi	Mississippi Public Employees' Retirement System	Teachers Hired on or after July 1, 2007, but before July 1, 2011	25	8	92
Mississippi	Mississippi Public Employees' Retirement System	Teachers Hired on or after July 1, 2011	30	6	94
Missouri	Public School Retirement System of Missouri	Teachers Retired on or before July 1, 2013	28	38	62
Missouri	Public School Retirement System of Missouri	Teachers Retire after July 1, 2013	28	38	62
Montana	Montana Teacher's Retirement System (TRS)	All teachers	21	19	81
Nebraska	Nebraska School Employees' Retirement System	All teachers	29	12	88
Nevada	Nevada Public Employees' Retirement System	Teachers Hired on or after July 1, 2001, and before Jan. 1, 2010	21	35	65
Nevada	Nevada Public Employees' Retirement System	Teachers Hired on or after Jan. 1, 2010	26	32	68

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
New Hampshire	New Hampshire Retirement System	Teachers Hired before Jan. 1, 2002	28	10	90
New Hampshire	New Hampshire Retirement System	Teachers Hired on or after Jan. 1, 2002, and before July 1, 2009	29	9	91
New Hampshire	New Hampshire Retirement System	Teachers Hired on or after July 1, 2009, and before July 1, 2011	29	9	91
New Hampshire	New Hampshire Retirement System	Teachers Hired on or after July 1, 2011	32	8	92
New Jersey	New Jersey Teachers' Pension and Annuity Fund	Teachers Hired before July 1, 2007 (Tier 1)	25	45	55
New Jersey	New Jersey Teachers' Pension and Annuity Fund	Teachers Hired on or after July 1, 2007, and before Nov. 2, 2008 (Tier 2)	25	45	55
New Jersey	New Jersey Teachers' Pension and Annuity Fund	Teachers Hired on or after Nov. 2, 2008, and before May 22, 2010 (Tier 3)	25	45	55
New Jersey	New Jersey Teachers' Pension and Annuity Fund	Teachers Hired on or after May 22, 2010, and before June 28, 2011 (Tier 4)	25	45	55
New Jersey	New Jersey Teachers' Pension and Annuity Fund	Teachers Hired on or after June 28, 2011 (Tier 5)	30	44	56
New Mexico	New Mexico Educational Retirement Board	Teachers Hired before July 1, 2010	22	16	84
New Mexico	New Mexico Educational Retirement Board	Teachers Hired on or after July 1, 2010, and before July 1, 2013	24	16	84
New Mexico	New Mexico Educational Retirement Board	Teachers Hired on or after July 1, 2013	30	16	84

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
New York	New York State Teachers' Retirement System	Teachers Hired on or after July 27, 1976, and before Jan. 1, 2010 (Tiers 3 & 4)	12	39	61
New York	New York State Teachers' Retirement System	Teachers Hired on or after Jan. 1, 2010, and before April 1, 2012 (Tier 5)	19	35	65
New York	New York State Teachers' Retirement System	Teachers Hired on or after April 1, 2012 (Tier 6)	24	33	67
North Carolina	Teachers' and State Employees' Retirement System (TSERS)	Teachers Hired before Aug. 1, 2011	20	25	75
North Carolina	Teachers' and State Employees' Retirement System (TSERS)	Teachers Hired after July 31, 2011	20	25	75
North Dakota	North Dakota Teachers' Fund for Retirement	Teachers Hired before July 1, 2008, and age 55 by July 1, 2013	26	24	76
North Dakota	North Dakota Teachers' Fund for Retirement	Teachers Hired before July 1, 2008, and younger than 55 on July 1, 2013	29	19	81
North Dakota	North Dakota Teachers' Fund for Retirement	Teachers Hired on or after July 1, 2008, and retire after July 1, 2013	30	18	82
Ohio	State Teachers Retirement System of Ohio	Teachers Retiring before Aug. 1, 2015	26	21	79
Ohio	State Teachers Retirement System of Ohio	Teachers Retiring on or after Aug. 1, 2015, and before Aug. 1, 2017	31	19	81
Ohio	State Teachers Retirement System of Ohio	Teachers Retiring on or after Aug. 1, 2019, and before Aug. 1, 2021	33	18	82
Ohio	State Teachers Retirement System of Ohio	Teachers Retiring on or after Aug. 1, 2026	35	17	83

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Oklahoma	Oklahoma Teachers Retirement System (TRS) - Low Base	Teachers Hired after June 30, 1979, and before July 1, 1992	28	26	74
Oklahoma	Oklahoma Teachers Retirement System (TRS) - High Base	Teachers Hired after June 30, 1979, and before July 1, 1992	28	26	74
Oklahoma	Oklahoma Teachers Retirement System (TRS) - Low Base	Teachers Hired after June 30, 1995, and before Nov. 1, 2011	30	26	74
Oklahoma	Oklahoma Teachers Retirement System (TRS) - Low Base	Teachers Hired on or after Nov. 1, 2011	30	26	74
Oregon	Oregon Public Employees Retirement System: Tier One	Teachers Hired before July 14, 1995	5	63	37
Oregon	Oregon Public Employees Retirement System: Tier Two	Teachers Hired on or after Jan. 1, 1996, and before Aug. 29, 2003	5	63	37
Oregon	Oregon Public Employees Retirement System: OPSRP	Teachers Hired on or after Aug. 28, 2003	5	63	37
Pennsylvania	Pennsylvania Public School Employees' Retirement System (PSERS) - Class T-C	Teachers Hired before July 1, 2001	23	19	81
Pennsylvania	Pennsylvania Public School Employees' Retirement System (PSERS) - Class T-D	Teachers Hired after June 30, 2001, and before July 1, 2011	23	19	81
Pennsylvania	Pennsylvania Public School Employees' Retirement System (PSERS) - Class T-E	Teachers Hired on or after July 1, 2011, Class T-E	25	19	81
Pennsylvania	Pennsylvania Public School Employees' Retirement System (PSERS) - Class T-F (Optional)	Teachers Hired on or after July 1, 2011, Class T-F	25	19	81

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Rhode Island	Employees' Retirement System of Rhode Island (ERSRI) - Schedule B2	Teachers Hired after Sept. 30, 2009, and before July 1, 2012	37	50	50
South Carolina	South Carolina Retirement System	Teachers Hired before July 1, 2012 (Class 2)	28	20	80
South Carolina	South Carolina Retirement System	Teachers Hired on or after July 1, 2012 (Class 3)	31	19	81
South Dakota	South Dakota Retirement System (Class A)	Teachers Retired before July 1, 2008	21	11	89
South Dakota	South Dakota Retirement System (Class A)	Teachers Hired on or after July 1, 2008	22	11	89
Tennessee	Tennessee Consolidated Retirement System	Teachers Hired on or after July 1, 1976	24	22	78
Texas	Teacher Retirement System of Texas	Teachers Tier 1: Hired on or before Sept. 1, 1980, or hired on or before Sept. 1, 2005, and at least age 50 at that time or age + YOS = 70 that year	20	28	72
Texas	Teacher Retirement System of Texas	Teachers Tier 2: hired after Sept. 1, 1980, and on or before Sept. 1, 2007, and not in Tier 1	21	24	76
Texas	Teacher Retirement System of Texas	Teachers Tier 3: Hired after Sept. 1, 2007	21	18	82
Utah	Tier 1 Contributory	Teachers Hired before July 1, 1975	30	26	74
Utah	Tier 1 Contributory	Teachers Hired after June 30, 1975, and before July 1, 1986	30	26	74
Utah	Tier 1 Noncontributory	Teachers Hired after June 30, 1986, and before July 1, 2011	4	60	40
Utah	Tier 2 Public Employees Contributory Retirement System	Teachers Hired after June 30, 2011	4	60	40

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Table A1 Break-Even Point for State Teacher Pension Plans (continued)

	Plan	Hire Date	Years to Break Even	Percent of New Teachers Who Will Break Even	Percent of New Teachers Who Will Not Break Even
Vermont	State Teachers' Retirement System of Vermont	Teachers Hired before July 1, 1981	24	5	95
Vermont	State Teachers' Retirement System of Vermont	Teachers Hired on or after July 1, 1981, and before July 1, 1985 (or at least age 57 on July 1, 2010)	25	5	95
Vermont	State Teachers' Retirement System of Vermont	Teachers Hired on or after July 1, 1985 (and younger than age 57 on July 1, 2010)	28	4	96
Virginia	Virginia Retirement System (VRS) - Plan 1	Teachers Hired before July 1, 2010, and vested on Jan. 1, 2013	12	27	73
Virginia	Virginia Retirement System (VRS) - Plan 2	Teachers Hired after June 30, 2010	27	17	83
Washington	Washington Teachers' Retirement System (TRS) - Plan 2	Teachers Hired after Sept. 30, 1977, and before July 1, 1996	28	45	55
Washington	Washington Teachers' Retirement System (TRS) - Plan 3	Teachers Hired after June 30, 1996, and before May 1, 2013	10	57	43
Washington	Washington Teachers' Retirement System (TRS) - Plan 3	Teachers Hired on or after May 1, 2013	10	57	43
West Virginia	Teachers Retirement System (TRS)	All teachers	30	37	63
Wisconsin	Wisconsin Retirement System (WRS)	Teachers Hired after June 30, 2011	21	49	51
Wisconsin	Wisconsin Retirement System (WRS)	Teachers Retired before Jan. 1, 2000	19	50	50
Wisconsin	Wisconsin Retirement System (WRS)	Teachers 20 YOS on Jan. 1, 2000	19	50	50
Wyoming	Wyoming Public Employee Pension Plan	Teachers Hired before Sept. 1, 2012	19	14	86
Wyoming	Wyoming Public Employee Pension Plan	Teachers Hired on or after Sept. 1, 2012	22	12	88

Endnotes

[1] Robert Hanna and Kaitlin Pennington, "Despite Reports to the Contrary, New Teachers Are Staying in Their Jobs Longer," *Center for American Progress*, January 2015, https://www.americanprogress.org/issues/education/news/2015/01/08/103421/despite-reports-to-the-contrary-new-teachers-are-staying-in-their-jobs-longer/.

[2] This brief relies on similar methods, and builds upon, an earlier piece: Richard W. Johnson, Barbara A. Butrica, Owen Haaga, and Benjamin G. Southgate, "How Long Must State and Local Employees Work to Accumulate Pension Benefits?," *Urban Institute*, 2014, http://www.urban.org/UploadedPDF/413107-How-Long-Must-State-and-Local-Employees-Work-to-Accumulate-Pension-Benefits.pdf.

[3] Bureau of Labor Statistics, "Employee Benefits Survey," *bls.gov*, 2015, accessed June 12, 2015, http://www.bls.gov/ncs/ebs/benefits/2013/ownership/govt/table02a.htm.

[4] Richard W. Johnson, Barbara A. Butrica, Owen Haaga, and Benjamin G. Southgate, "How Long Must State and Local Employees Work to Accumulate Pension Benefits?".

[5] See, for example, Kristine Brown, "The Link between Pensions and Retirement Timing: Lessons from California Teachers" (paper presented at the conference, "Rethinking Teacher Retirement Benefit Systems," Nashville, TN, February 19–20, 2009); and Robert Costrell and Josh McGee, "Teacher Pension Incentives, Retirement Behavior, and Potential for Reform in Arkansas," *Education Finance and Policy* 5, no.4 (2010).

[6] See Maria D. Fitzpatrick and Michael F. Lovenheim, "Early Retirement Incentives and Student Achievement" (NBER Working Paper No. 19281, August 2013); and Cory Koedel, Michael Podgursky, and Shishan Shi, "Teacher Pension Systems, the Composition of the Teaching Workforce, and Teacher Quality," *Journal of Policy Analysis and Management* 32, no. 3 (2013): 574–96.

[7] Although this brief focuses on the pension plan offered to public school teachers, the Urban Institute's State and Local Employee Pension Plan database also includes the state-provided pension plans for police officers, firefighters, and general state and local government employees. "The State of Retirement: Grading America's Public Pension Plans," *Urban Institute RetirementPolicy.org*, accessed June 12, 2015, http://datatools.urban.org/features/SLEPP/.

[8] The authors ran similar calculations with lower assumed rates of return and still placed the break-even point at about 15 years. Because teachers have such high attrition rates in the early years of their career, the median state assumes that more than 70 percent of teachers would be gone before even this lower break-even point.