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FEELING THE SQUEEZE

Pension Costs Are Crowding Out Education Spending

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About the Author

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Executive Summary

While taxpayer contributions for government-worker retirement plans have nearly tripled since 2001, the plans are underfunded by at least $1.7 trillion for benefits already promised—and underfunded costs are continuing to rise.[1] The pressure on state and local budgets translates into fewer resources available for other public services.

Education is the largest and potentially the most important public service to suffer. Almost every state increased retirement benefits for teachers in the booming 1990s, but the additional promises were not accompanied by responsible funding plans. By 2003, the funding for teacher pension plans overall was short by $235 billion; and by 2009, pension debt had more than doubled, to $584 billion. The strong bull market since the Great Recession has barely put a dent in the shortfall, which still totals approximately $500 billion.

Another way of understanding the scale of the problem is by looking at pension debt per pupil—which increased by an inflation-adjusted $9,588 between 2000 and 2013.[2] Over this period, the growth of pension debt per pupil was more than nine times larger than the increase in total annual education expenditures per pupil. Almost every state has experienced large pension cost increases, but eight states—Arizona, Colorado, Indiana, Michigan, North Carolina, Nevada, Texas, and Wisconsin—experienced the double whammy of *declining* per-pupil expenditures and *growing* pension contributions.

Per-pupil spending on equipment, facilities, and property fell by 26% between 2000 and 2013, likely resulting in a growing backlog of expensive repairs and replacements that will need to be made sometime down the road. Spending on instructional supplies (e.g., textbooks) declined by 10% per pupil. More than half of states (29) spent less per pupil on instructional supplies in 2013 than in 2000; in several states, the decline was substantial: Arizona (37%), California (30%), Michigan (39%), and Oklahoma (30%). Teachers' salaries overall were basically flat between 2000 and 2013, and retirement benefits were reduced in almost every state, sometimes by very large amounts.

Taxpayer contributions to teachers' retirement plans are expected to grow substantially over the next decade. But the underfunding shortfall is so large that aggregate pension debt will also continue to grow.

To be sure, there is no immediate national "crisis," insofar as most teacher pension plans are not on the brink of failure.[3] Nevertheless, retirement costs per pupil are already approaching 10% of all education expenditures. Without meaningful reform, these costs, as well as the aggregate pension debt owed to teachers' plans, will continue to rise and continue to crowd out education spending on the state and local levels.

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I. Introduction

Since the 1970s, inflation-adjusted spending on public education has more than doubled, with no equivalent rise in student performance.[4] High school students' scores on the National Assessment of Educational Progress (NAEP) mathematics and reading exams have remained essentially flat. U.S. 15-year-olds ranked 27th in math, 20th in science, and 17th in reading out of 34 countries on the most recent (2012) administration of the Programme for International Student Assessment (PISA).[5] Understanding why increased spending has not necessarily led to better learning outcomes—and how we might allocate dollars to achieve better results—is one of the biggest challenges facing the education-policy community today.

Since the majority of spending on public education is devoted to labor cost, any effort to improve student performance by allocating dollars more effectively must involve this budgetary line item. U.S. public schools have added large numbers of instructional, administrative, and support staff over the past four decades. Teacher-student ratios have decreased from 22:1 in 1970 to about 16:1 today,[6] and the number of public school administrators has increased more than twice as fast as student enrollment over the past 20 years.[7] Rising benefits costs for these staff are also squeezing school budgets. While average inflation-adjusted teacher salaries have declined slightly since 1990,[8] benefits costs have risen from about 17% of current expenditures in 1990 to more than 22% of today's much larger expenditure base.[9]

More recently, the growth of retirement costs—in particular, payments to cover unfunded benefits earned by workers for past service—has placed pressure on school budgets. Taxpayer contributions for teacher retirement benefits have risen from about 12% of payroll in 2004 to 20% today.[10]

Growing retirement costs for these legacy-benefit promises pose a challenge for many school districts to maintain their current level of services, much less to hire new teachers or give high-quality teachers a pay raise. This paper examines, nationally and for each of the 50 states, the extent to which teachers' retirement costs are rising faster than total education expenditures. It also investigates which budgetary categories have been the hardest hit by pension cost crowd-out. The paper concludes by projecting pension costs into the future to see what might be in store over the next 10 years.

II. Teacher Retirement-Benefit Trends

State- and local-worker retirement plans had more than enough assets to cover their estimated liabilities at the dawn of the 21st century. But pension assets have been buffeted by the dot-com bust and the Great Recession, while the value of promised benefits has continued a steady climb. A gap of at least $1.7 trillion has opened up between the value of the pension benefits that public workers have earned and the assets set aside to pay for them. The cost to taxpayers to finance these benefits rose from 6.7% of payrolls in 2001 to 18.6% in 2015.[11]

Rising retirement costs have contributed to several local governments' recent decisions to declare bankruptcy, and they have exerted severe pressure on the budgets of many state and local governments. At a Brookings Institution conference a few years ago, San Jose mayor Chuck Reed noted that "we coped with those rising [pension] costs by reducing our workforce," adding that "we cut services in every part of the city. There's no department that escaped the cuts.... [W]e laid off librarians. We cut, cut, cut for a decade."[12]

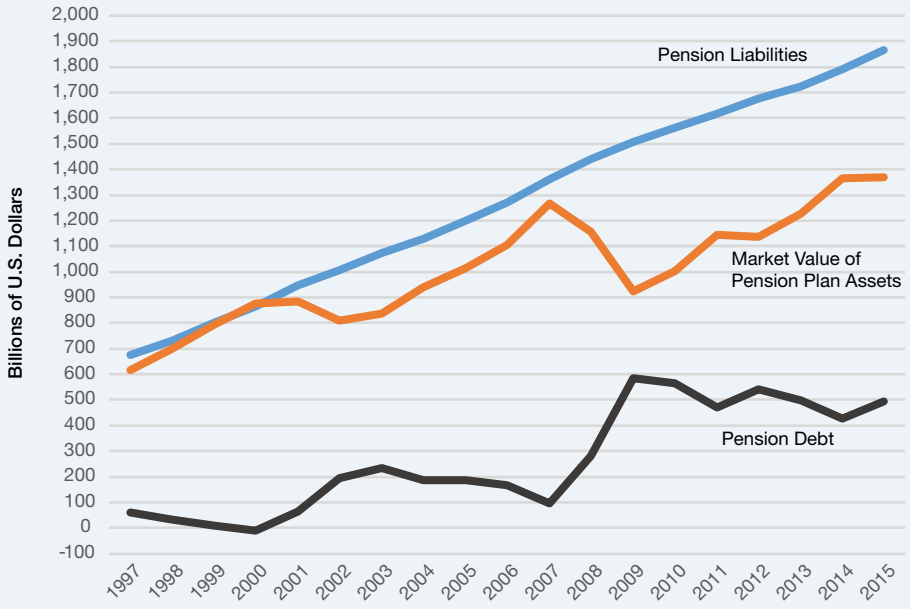
The rising cost of retirement benefits has already affected spending on public services, including education. Teachers' pension plans cover more workers than all other state and local pension plans combined, and these plans represent about half of both total pension promises and debt. At the same time, education is roughly one-third of all state and local spending. Both the size of teachers' retirement plans and the high priority that public education represents raise the stakes for creating a system that is sustainable across multiple generations of teachers, students, and taxpayers.

Unfortunately, the retirement system in force for the vast majority of public school teachers has not proved to be sustainable as currently managed. Teachers earn benefits under a Final-Average-Salary defined benefit (FAS DB) pension plan in which employees earn an annuity that is payable once they reach the plan's retirement eligibility thresholds. The annual payment that a retired worker receives is based on a formula that includes years of service and final average salary, which is usually calculated using the salaries earned during the final three to five years on the job. Public school employees and their employers are expected to contribute enough to fully cover the cost of the benefits as they are earned. However, the managers of these plans must make a number of predictions about demographic and market trends to determine the amount of money that governments must save now to cover the cost of providing benefits to future retirees. If their predictions are wrong, the cost of providing promised benefits can rise substantially.

FIGURE 1.

Teachers' Pension Plan Assets, Liabilities, and Debt

The Gap Between Pension Promises and Pension Assets Remains Large



Source: Author's calculations using PEW Charitable Trusts, the Fiscal Health of State Pension Plans Data; Center for Retirement Research at Boston College, Public Plans Data; State Plans' Comprehensive Annual Financial Reports; State Plans' Actuarial Valuation Reports; and data from the National Council on Teacher Quality (NCTQ).

Note: The data include all 50 statewide teachers' pension plans. In cases where a pension plan covers teachers and other noneducation public employees, retirement data are prorated on the share of teacher participation according to NCTQ (2015) percentage membership.

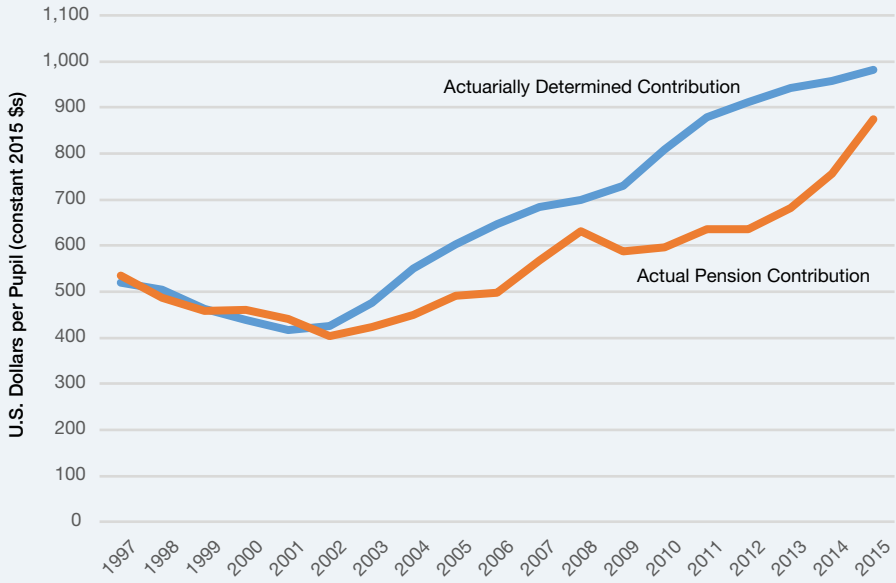
Like other public pension plans, teachers' pensions began the millennium fully funded. However, by 2003, the plans were short by $235 billion; by 2009, in the immediate aftermath of the Great Recession, aggregate pension debt had more than doubled, to $584 billion (**Figure 1**). The strong bull market since the bottom of the recession has done little to close the gap between the value of teachers' pension benefits and the assets held by their plans. Governments still owe teachers nearly $500 billion for pension benefits that educators have already earned.

In 2000, the taxpayer contribution necessary to fully fund teachers' benefits, known as the actuarially determined contribution, or ADC, was $438 per pupil. By 2015, it had increased to $977 per pupil (**Figure 2**). In 2005, more than two-thirds of taxpayer contributions paid for *new* benefits earned by teachers in that year, also known as *normal cost*. But by 2015, almost 70% of taxpayer contributions were used to pay down *already accrued* pension debt (**Figure 3**).

FIGURE 2.

Pension Cost per Pupil

Pension Contributions per Pupil Have Grown Dramatically

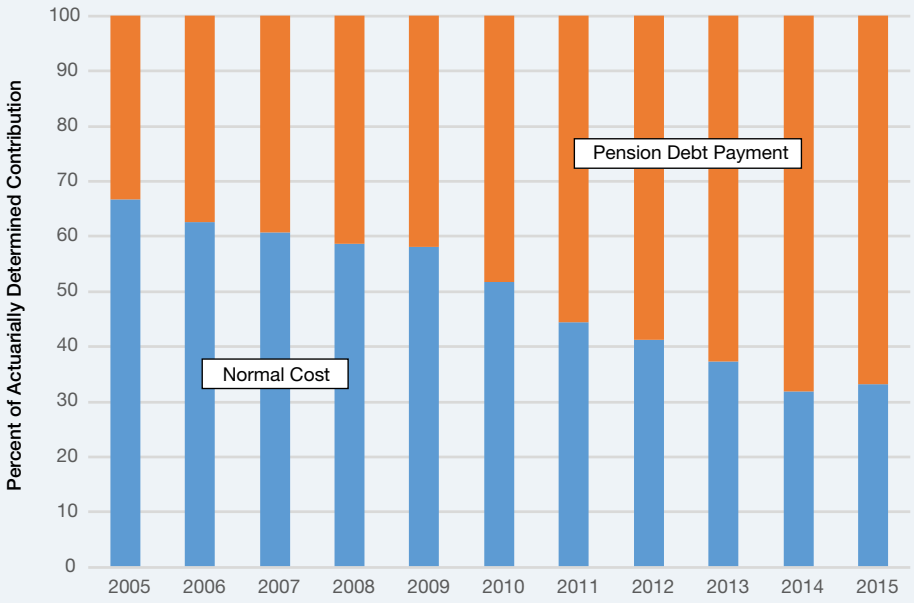


Source: Author's calculations using the Public Elementary/Secondary School Universe Survey Data collected by the National Center for Education Statistics; PEW Charitable Trusts, the Fiscal Health of State Pension Plans Data; Center for Retirement Research at Boston College, Public Plans Data; State Plans' Comprehensive Annual Financial Reports; State Plans' Actuarial Valuation Reports; data from the National Council on Teacher Quality (NCTQ); and Bureau of Economic Analysis

FIGURE 3.

Normal Cost and Pension Debt Payment as a Share of ADC*

Most of the Contributions to Teachers' Pensions Pay for Debt, Not New Benefits



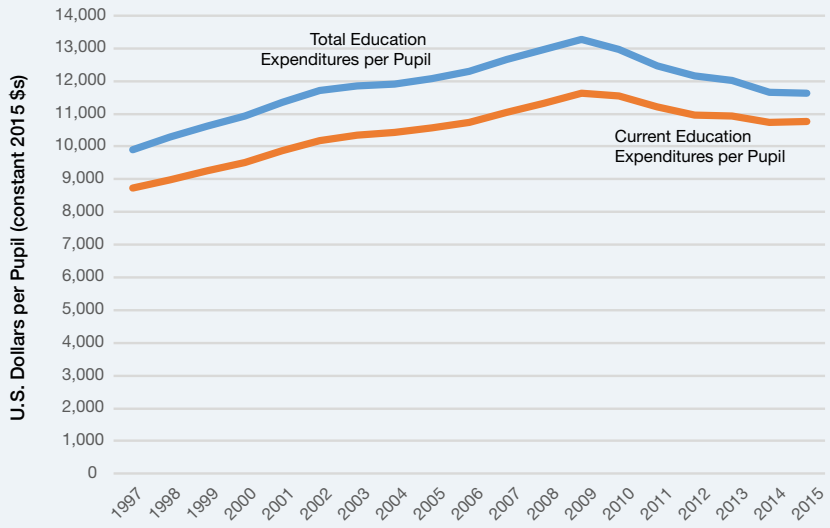
Source: See Figure 1.

*Note: Pension data do not include Hawaii, Ohio, and Washington because of missing data on normal and amortization cost for those plans. In cases where a pension plan covers teachers and other noneducation public employees, data are prorated on the share of teacher participation according to NCTQ (2015) percentage membership for actuarially determined contribution (ADC). For those cases, normal cost as percentage of payroll was assumed to be the same across teachers and other noneducation public employees. "Normal cost" is the total value of the benefits earned in a given year.

FIGURE 4.

Education Expenditures per Pupil

Education Expenditures per Pupil Have Declined Since the 2008 Financial Crisis



Source: Author's calculations using data from the National Public Education Financial Survey Data and the Public Elementary/Secondary School Universe Survey Data collected by the National Center for Education Statistics; and Bureau of Economic Analysis

Note: The figures for 2014 and 2015 involve projections for total and current education expenditure, and 2015 also denotes projections for total students. Total education expenditures include current spending (TE5), facilities acquisition and community service nonproperty (E61) and (E81), direct cost programs (STE9), and property (TE10). Current expenditures include school personal salaries, student transportation, schoolbooks and materials, and energy costs. However, they exclude capital outlays, interest on school debt, and payments to private schools and public charter schools. For further detail, see, e.g., "Documentation for the NCES Common Core of Data National Public Education Financial Survey (NPEFS), School Year 2012–13 (Fiscal Year 2013)," U.S. Department of Education, NCES 2015-302, 2015.

Between 2000 and 2015, education expenditures per pupil increased by an estimated 6%; but annual expenditures per pupil have declined by approximately 12% since 2009 (**Figure 4**). As a result, school districts and state governments have struggled to keep pace with the necessary pension contributions, paying less than the ADC amount in each year since 2004. The cumulative gap between what state and local governments should have contributed to teacher pensions since 2000 and what they actually did contribute is approximately $99 billion (in real terms); and that amount does not consider the missed investment earnings on those underpayments.[13]

III. Pension Cost Crowd-Out in Education

When ballooning pension debt squeezes public school budgets, retirement costs can be said to "crowd out" other education spending. For this paper, pension cost crowd-out is defined as the situation in which retirement costs are growing faster than the overall budget and thus are consuming a larger share of education spending over time. And all too often, this means reductions in other public education services. The following analysis shows this crowd-out, state by state.

Tables 1–3 (all the tables are on pp. 12-25 below) compare the growth in retirement costs with the growth of state education budgets from 2000 to 2013, the last year for which education spending data are available.[14] Over these years, total education expenditures per pupil increased by $1,050 (**Table 1** and **Table 2**). Over the same time frame, taxpayers' actual pension contributions per pupil increased by $226. Increased taxpayer contributions to teacher pensions were equivalent to roughly one-fifth of the total increase in per-pupil education expenditures. By 2013, pensions consumed nearly 7% of per-pupil expenditures, up from a little more than 4% in 2000. But this does not tell the full story.

The increased taxpayer contributions to teacher pension plans were not sufficient to keep aggregate pension debt from growing dramatically. Pension debt per pupil increased by $9,588 from 2000 to 2013, and the growth of pension debt per pupil was more than nine times larger than the increase of total annual expenditures per pupil. As a result of this huge increase in pension debt, the ADC per pupil—i.e., the amount that governments *should* be paying—increased by $501.

Governments didn't make these payments, and over time the debts owed to teacher pension plans have grown substantially. This means that the costs of paying down these debts will require substantially

larger pension contributions in the future. Had governments in the aggregate actually made the ADC in 2013, these payments would have consumed over 8% (not 7%) of total state and local education spending.

Almost every state experienced pension cost increases between 2000 and 2013. The ADC per pupil (**Table 2**, column 4) increased for all but five states; in all but four states, the growth rate of actual pension contributions (**Table 2**, column 5) exceeded the growth rate of education expenditures (**Table 2**, column 2).

In dollar terms, actual pension contributions per pupil grew by more than expenditures in Arizona, Colorado, Indiana, Michigan, North Carolina, Nevada, Texas, and Wisconsin. Each of these eight states experienced the double whammy of declining per-pupil expenditures and growing (actual) pension contributions. Pension contributions in these states grew by an average of $866 per pupil more than total education expenditures.

Which budgetary categories lost budget share or actually declined to make room for higher pension contributions? In the aggregate, the budgetary categories that experienced slower growth than total expenditures were noninstructional expenditures, instructional supplies, and instructional salaries.

Noninstructional expenditures (total expenditures minus instructional expenditures) grew by 6%, or 4 percentage points less than total expenditures. The slower growth of noninstructional spending was primarily driven by a significant decline in expenditures on equipment, facilities, and property, which together fell by $345 per pupil, or 27%, between 2000 and 2013.[15]

While some of this reduction may reflect more efficient operations or be a consequence of heavier investment in the mid-2000s, local evidence from places such as Chicago, Detroit, and Philadelphia suggest that a healthy portion of the decline can be explained by deferred maintenance and delayed replacement of aging facilities and equipment.[16] Aggregate data on school facility condition are very difficult to come by, but a 1995 report by the U.S. General Accountability Office (GAO) estimated that districts were carrying $113 billion in deferred repairs and maintenance, and a 2013 report produced by a coalition of school facilities advocacy groups estimated that districts were carrying $271 billion in deferred maintenance and repairs.[17] Students, of course, need a safe place to attend school. And there is some evidence to suggest an association between the quality of school buildings/facilities and student performance.[18]

Potentially more troubling is the slow growth of spending on instructional supplies and salaries, which may impinge more directly on student learning. Per-pupil expenditures on instructional supplies (e.g., textbooks) shrank by 10% between 2000 and 2013 (**Table 3**, column 6). More than half of states (29) spent less per pupil on instructional supplies in 2013 than in 2000, and the decline exceeded 25% in nine states, including Arizona (37%), California (30%), Michigan (39%), and Oklahoma (30%).

While instructional supplies are important, expenditures on these items are relatively small, accounting for $254 per pupil in 2013. Instructional salaries are much larger, accounting for $4,340 per pupil, and arguably more important. And they were essentially flat over this 13-year period. A portion of the stagnation of instructional salaries can be explained by demographic trends in the teaching workforce—teachers were somewhat less experienced in 2013 than they were in 2000.[19] However, a larger proportion of the teaching workforce was over the age of 50, and the number of teachers per pupil remained unchanged.[20] It could be problematic that states are spending less of their budgets on instructional salaries, given the outsize impact that teachers have on student learning.

Many teachers experienced significant retirement-benefit reductions over this period. **Table 4** provides data on changes to normal cost (i.e., the value of benefits that teachers earn each year) and employee pension contributions between 2005 and 2015. Overall, normal cost shrank by 1.26% of payroll, and employee contributions were reduced by 0.26% of payroll. Put together, this means that teachers earned retirement benefits worth about 1.01% of payroll less in 2015 than in 2005. But this aggregate figure hides large differences among the states. There are 33 states where normal cost declined and employee contributions increased. Benefit reductions ranged as high as 14 percentage points in Nevada, and teachers in 11 states saw reductions greater than 5% of payroll.

Somewhat ironically, it appears that teacher salaries and retirement benefits have been two of the areas most affected by rising retirement costs. The retirement plans put in place to protect teachers are now resulting in significant downward pressure on their future compensation. In the 1990s, when retirement plans were consistently earning investment returns well above their expectations and coffers were flush, most states increased teachers' retirement benefits—often retroactively, for past service.[21] These benefit enhancements represented a significant increase in compensation for the generation of teachers who happened to be in the workforce at that moment. However, states did not have responsible plans to pay for the increased benefits, and when the market corrected in the early 2000s, governments began running up huge debts owed to the older generation of teachers through their retirement plans. Now the cost of paying for legacy-benefit promises owed to teachers for work in yesterday's classrooms is crowding out the salaries and benefits of teachers entering classrooms today, with potentially negative implications for students.[22]

IV. What Does the Future Hold?

Although the education expenditure data currently only extend through 2013, the retirement plan data are available through 2015. These data show that ADC and actual pension contributions have continued to increase (see **Table 5**).[23] Nationally, ADC per pupil increased by an additional 4% between 2013 and 2015, while actual contributions per pupil increased by 28%.

As **Table 6** shows, the ADC to the teachers' pensions of nine states—including Connecticut, Missouri, and New York—increased by more than 20% over the two years between 2013 and 2015 (column 1). In 2015, the ADC exceeded $1,000 per pupil (column 2) in 16 states, led by Alaska ($2,458), Illinois ($2,002), Pennsylvania ($1,883), Connecticut ($1,819), and New Jersey ($1,671). Pension debt exceeded $10,000 per pupil (column 4) in 23 states, led by Illinois ($29,985), Pennsylvania ($24,605), Massachusetts ($21,075), New Mexico ($19,227), Connecticut ($19,018), and South Carolina ($15,346). These states, and many others, will continue struggling to get ahead of ever-increasing pension costs.

In order to understand how pension costs might grow over the next 10 years, I constructed a simple model that uses 2015 plan data and the plans' own assumptions about variables such as investment returns and payroll growth to project pension cost and pension debt from 2015 through 2025. The model assumes that pension debt is amortized over a closed 30-year period and that payments are a level percentage of payroll. **Table 7** includes the results from the model for the aggregate national data and each state where the requisite data were available. The values in the table are the expected average annual growth rates for pension debt and employer (i.e., taxpayer) contributions.[24]

Over this 10-year period—and even if plans achieved their assumed returns—14 states are expected to see their pension contributions rise by more than 5% per year, including California, Colorado, Illinois, Massachusetts, New Jersey, and Texas.

If the plans' investment returns fall short of their expectations, both pension debt and cost (i.e., ADC) would grow at faster annual rates. For example, if plans realize a 7% investment return, pension debt would be expected to increase at an annual rate of 3.7%, while cost would increase at a rate of 4.6%. If investment returns are only 6% over the next 10 years, pension debt would increase at a rate of 5.5% per year and cost would increase at a rate of 5.8% per year. Nearly half of states (22) would see taxpayer contributions increase at a rate greater than 5% per year if returns were 7%, and nearly two-thirds of states (32) would see contributions rise by at least 5% per year if returns were only 6%.

By 2025, aggregate pension debt owed to these plans is expected to grow from its 2015 level by a total of 25%–70%, while taxpayer contributions to educator pensions are expected to grow by 45%–75%. Without additional reform, pension costs will, in all likelihood, continue to gobble up more and more resources, leaving less available for future students and teachers.

V. Conclusion

The defenders of the currently configured defined benefit pension systems for public school teachers and other government workers—which include pension plan administrators and teachers' unions—are quick to exclaim that there is no pension crisis. While it may be true that most teachers' pension plans are not on the verge of running out of money, leaving retirees in the lurch, retirement costs have increased dramatically relative to government resources. Even now, they are having an impact on public services, including education. Retirement costs per pupil have more than doubled since 2000 and are approaching 10% of all education expenditures. The vast majority of taxpayer contributions into teachers' pension plans are now used to pay down pension debt owed for *past service* rather than to pay for new benefits earned by *today's teachers*.

As the value of this debt has increased, most current teachers have experienced stagnant salaries and reduced retirement benefits, while spending on classroom supplies, equipment, and building upkeep has declined relatively or even absolutely. Without reform, this trend will continue. It is not too radical to suggest that retirement systems be overhauled instead of waiting idly until a real crisis develops.

TABLE 1.

Change in per-Pupil Spending and Pension Debt Between 2000 and 2013*

State	Total Education Expenditures	Current Education Expenditures	Actuarially Determined Contribution	Actual Contribution	Pension Debt
National	$1,050	$1,392	$501	$226	$9,588
Alaska	$6,846	$6,396	$1,512	$1,287	$24,679
Alabama	$1,011	$1,253	$412	$412	$11,530
Arkansas	$2,941	$2,449	$423	$306	$6,865
Arizona	($411)	$638	$254	$254	$6,175
California	$324	$653	$735	$16	$9,527
Colorado	($200)	$254	$457	$265	$14,237
Connecticut	$3,910	$4,210	$862	$951	$14,091
Delaware	$2,742	$2,427	$206	$206	$3,864
Florida	($419)	$599	($275)	($444)	$8,187
Georgia	($158)	$346	($59)	($59)	$8,857
Hawaii	$2,724	$3,124	$310	$356	$5,477
Iowa	$1,997	$1,406	$355	$331	$7,107
Idaho	($816)	($517)	$67	($8)	$4,483
Illinois	$2,123	$2,771	$1,071	$935	$17,900
Indiana	($552)	($331)	$283	$261	($558)
Kansas	$2,029	$1,350	$550	$404	$8,498
Kentucky	$2,043	$1,333	$519	$171	$16,800
Louisiana	$2,944	$2,735	$857	$772	$8,629
Massachusetts	$4,052	$3,383	$606	$292	$13,776
Maryland	$3,450	$3,624	$791	$454	$10,750
Maine	$2,068	$2,291	($67)	($67)	($1,053)
Michigan	($1,206)	($241)	$797	$364	$14,162
Minnesota	$1,101	$1,316	$422	$132	$7,327
Missouri	$1,220	$1,286	$101	$242	$7,554
Mississippi	$940	$1,484	$316	$316	$7,764
Montana	$2,357	$2,117	$506	$229	$6,072
Nebraska	$2,537	$2,691	$332	$172	$9,708
New Hampshire	$4,405	$4,845	$321	$321	$9,483
New Jersey	$3,599	$4,272	1,388	$160	$21,548

State	Total Education Expenditures	Current Education Expenditures	Actuarially Determined Contribution	Actual Contribution	Pension Debt
New Mexico	$1,243	$1,254	$794	$250	$14,306
Nevada	($1,259)	$282	$380	$195	$13,761
New York	$6,156	$6,139	$604	$604	$8,060
North Carolina	($915)	$202	$15	$55	$5,821
North Dakota	$5,273	$3,903	$216	$286	$10,451
Ohio	$1,832	$1,727	$1,290	$366	$12,601
Oklahoma	$633	$376	($65)	$438	($162)
Oregon	($919)	($534)	($91)	($22)	$2,500
Pennsylvania	$2,447	$2,917	$1,523	$556	$27,918
Rhode Island	$3,882	$2,973	$532	$532	($4,027)
South Carolina	$743	$1,154	$228	$228	$13,555
South Dakota	$913	$940	$63	$63	($676)
Tennessee	$729	$1,300	$135	$135	$1,226
Texas	($550)	($94)	$242	$39	$7,031
Utah	$628	$453	$163	$163	$4,447
Virginia	$1,367	$1,752	$394	$236	$8,385
Vermont	$6,195	$6,108	$411	$492	$9,777
Washington	$990	$1,049	$205	($29)	$5,792
Wisconsin	($247)	$551	$152	$155	($3,081)
West Virginia	$1,122	$1,643	$693	$681	($4,732)
Wyoming	$7,254	$5,848	$720	$502	$10,573

*Note: Values for the year 2000 used in this table are the average of values from 1999 to 2001 so as to avoid anomalous expenditure values in any particular year. Figures in red mean that the amounts have declined. Total education expenditures include current spending (TE5), facilities acquisition and community service nonproperty (E61) and (E81), direct cost programs (STE9), and property (TE10). Current expenditures include school personal salaries, student transportation, schoolbooks and materials, and energy costs. However, they exclude capital outlays, interest on school debt, and payments to private schools and public charter schools. For further detail, see, e.g., "Documentation for the NCES Common Core of Data National Public Education Financial Survey (NPEFS), School Year 2012–13 (Fiscal Year 2013)," U.S. Department of Education, NCES 2015-302, 2015.

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Pension data include all 50 statewide teachers' pension plans. In cases where a pension plan covers teachers and other noneducation public employees, retirement data are prorated on the share of teacher participation according to NCTQ (2015) percentage membership.

TABLE 2.

Percentage Change in per-Pupil Spending Between 2000 and 2013*

State	Total Education Expenditures	Current Education Expenditures	Actuarially Determined Contribution	Actual Contribution
National	10%	15%	114%	50%
Alaska	50%	53%	304%	245%
Alabama	11%	16%	92%	92%
Arkansas	37%	34%	81%	57%
Arizona	(5%)	9%	228%	228%
California	3%	7%	219%	4%
Colorado	(2%)	3%	99%	57%
Connecticut	26%	31%	145%	189%
Delaware	21%	21%	166%	166%
Florida	(4%)	7%	(42%)	(63%)
Georgia	(2%)	4%	(8%)	(8%)
Hawaii	27%	35%	185%	589%
Iowa	20%	16%	80%	73%
Idaho	(10%)	(7%)	17%	(2%)
Illinois	18%	28%	156%	200%
Indiana	(5%)	(3%)	39%	29%
Kansas	21%	15%	153%	145%
Kentucky	24%	16%	77%	25%
Louisiana	34%	34%	109%	90%
Massachusetts	32%	28%	96%	41%
Maryland	29%	34%	112%	64%
Maine	18%	22%	(8%)	(8%)
Michigan	(9%)	(2%)	171%	69%
Minnesota	9%	13%	309%	61%
Missouri	12%	15%	22%	52%
Mississippi	12%	22%	81%	81%
Montana	25%	24%	120%	54%
Nebraska	24%	29%	77%	40%

State	Total Education Expenditures	Current Education Expenditures	Actuarially Determined Contribution	Actual Contribution
New Hampshire	43%	51%	179%	179%
New Jersey	22%	29%	407%	50%
New Mexico	13%	16%	122%	38%
Nevada	(13%)	4%	31%	16%
New York	40%	45%	1,295%	1,295%
North Carolina	(9%)	2%	4%	15%
North Dakota	60%	49%	69%	92%
Ohio	16%	18%	306%	87%
Oklahoma	8%	5%	(6%)	70%
Oregon	(8%)	(5%)	(14%)	(3%)
Pennsylvania	20%	27%	560%	205%
Rhode Island	31%	24%	71%	71%
South Carolina	7%	14%	40%	40%
South Dakota	10%	12%	41%	41%
Tennessee	8%	17%	105%	105%
Texas	(5%)	(1%)	66%	10%
Utah	9%	7%	21%	21%
Virginia	13%	19%	105%	68%
Vermont	51%	53%	151%	199%
Washington	10%	12%	72%	(8%)
Wisconsin	(2%)	5%	60%	62%
West Virginia	10%	17%	66%	64%
Wyoming	65%	58%	512%	256%

*Note: Values for the year 2000 used in the creation of this table are actually the average of values from 1999 to 2001 so as to avoid anomalous expenditure values in any particular year. Total education expenditures include current spending (TE5), facilities acquisition and community service nonproperty (E61) and (E81), direct cost programs (STE9), and property (TE10). Current expenditures include school personal salaries, student transportation, schoolbooks and materials, and energy costs. However, they exclude capital outlays, interest on school debt, and payments to private schools and public charter schools. For further detail, see, e.g., "Documentation for the NCES Common Core of Data National Public Education Financial Survey (NPEFS), School Year 2012–13 (Fiscal Year 2013)," U.S. Department of Education, NCES 2015-302, 2015.

Source: Table 1

TABLE 3.

Percentage Change in per-Pupil Spending and Student/Teacher Ratios Between 2000 and 2013*

State	Total Education Expenditures	Noninstruction-al Expenditures	Instructional Expenditures	Instructional Salaries	Instructional Supplies	Students/ Teacher
National	10%	6%	13%	2%	(10%)	(1%)
Alaska	50%	50%	49%	14%	22%	1%
Alabama	11%	15%	8%	(4%)	22%	(7%)
Arkansas	37%	57%	21%	12%	74%	(4%)
Arizona	(5%)	(9%)	1%	(2%)	(37%)	13%
California	3%	3%	4%	(5%)	(30%)	13%
Colorado	(2%)	(7%)	3%	(2%)	(1%)	1%
Connecticut	26%	19%	31%	12%	(20%)	(10%)
Delaware	21%	20%	23%	8%	(16%)	(11%)
Florida	(4%)	(20%)	13%	2%	(10%)	(17%)
Georgia	(2%)	(6%)	3%	(5%)	14%	(1%)
Hawaii	27%	25%	29%	13%	49%	(8%)
Iowa	20%	19%	21%	13%	1%	(4%)
Idaho	(10%)	(11%)	(9%)	(11%)	(48%)	9%
Illinois	18%	7%	29%	9%	(23%)	(6%)
Indiana	(5%)	1%	(10%)	(16%)	(20%)	3%
Kansas	21%	23%	20%	8%	15%	(18%)
Kentucky	24%	44%	9%	3%	(35%)	(1%)
Louisiana	34%	43%	26%	9%	20%	0%
Massachusetts	32%	48%	24%	12%	(3%)	(1%)
Maryland	29%	20%	35%	24%	12%	(10%)
Maine	18%	34%	8%	8%	(28%)	(5%)
Michigan	(9%)	(16%)	(3%)	(19%)	(39%)	0%
Minnesota	9%	(1%)	18%	9%	3%	1%
Missouri	12%	14%	11%	3%	(9%)	(3%)
Mississippi	12%	9%	14%	8%	(5%)	(6%)
Montana	25%	33%	19%	12%	19%	(8%)
Nebraska	24%	16%	31%	20%	47%	(2%)

State	Total Education Expenditures	Noninstruction-al Expenditures	Instructional Expenditures	Instructional Salaries	Instructional Supplies	Students/ Teacher
New Hampshire	43%	33%	49%	30%	(7%)	(15%)
New Jersey	22%	13%	31%	13%	5%	(8%)
New Mexico	13%	9%	18%	10%	18%	(5%)
Nevada	(13%)	(23%)	(2%)	(11%)	36%	15%
New York	40%	29%	48%	20%	(12%)	(8%)
North Carolina	(9%)	(20%)	0%	(10%)	8%	(1%)
North Dakota	60%	78%	44%	38%	13%	(16%)
Ohio	16%	19%	14%	3%	(14%)	3%
Oklahoma	8%	18%	(1%)	(5%)	(30%)	6%
Oregon	(8%)	(10%)	(7%)	(16%)	(26%)	13%
Pennsylvania	20%	14%	24%	6%	8%	(10%)
Rhode Island	31%	55%	17%	5%	(28%)	1%
South Carolina	7%	7%	7%	0%	(4%)	3%
South Dakota	10%	10%	9%	2%	15%	(0%)
Tennessee	8%	5%	11%	4%	(13%)	(3%)
Texas	(5%)	(7%)	(4%)	(4%)	(23%)	4%
Utah	9%	14%	4%	(4%)	42%	4%
Virginia	13%	7%	17%	9%	7%	4%
Vermont	51%	53%	49%	32%	(8%)	(14%)
Washington	10%	10%	9%	5%	(18%)	(2%)
Wisconsin	(2%)	(6%)	1%	(6%)	(8%)	5%
West Virginia	10%	11%	10%	(0%)	50%	1%
Wyoming	65%	78%	54%	44%	20%	(8%)

*Note: Values for the year 2000 used in the creation of this table are the average of values from 1999 to 2001 so as to avoid anomalous expenditure values in any particular year. Column 7 shows the percentage growth or decline in the ratio of students to teachers. Positive numbers mean that class size has increased.

Source: Table 1

TABLE 4.

Change in Retirement Benefits Between 2005 and 2015

State	Normal Cost (% of payroll)	Employee Contribution (% of payroll)	Total Change for Employees (% of payroll)
National	(1.26%)	(0.26%)	(1.01%)
Alaska	(8.77%)	(2.23%)	(6.54%)
Alabama	(4.38%)	2.50%	(6.88%)
Arkansas	(2.17%)	0.96%	(3.13%)
Arizona	(3.52%)	4.52%	(8.04%)
California	(0.58%)	2.00%	(2.58%)
Colorado	(4.83%)	0.00%	(4.83%)
Connecticut	0.73%	0.00%	0.73%
Delaware	(0.79%)	0.61%	(1.40%)
Florida	(7.04%)	2.98%	(10.02%)
Georgia	(3.66%)	1.00%	(4.66%)
Hawaii			
Iowa	(1.18%)	2.25%	(3.43%)
Idaho	0.44%	(0.13%)	0.57%
Illinois	(0.60%)	0.34%	(0.94%)
Indiana	0.44%	0.00%	0.44%
Kansas	(1.61%)	1.46%	(3.07%)
Kentucky	(6.33%)		
Louisiana	(2.27%)	(0.37%)	(1.90%)
Massachusetts	0.84%	0.87%	(0.03%)
Maryland	(2.06%)	4.49%	(6.55%)
Maine	(2.27%)	(0.05%)	(2.22%)
Michigan	(2.40%)	0.70%	(3.10%)
Minnesota	(1.87%)	2.50%	(4.37%)
Missouri	(6.37%)	4.50%	(10.87%)
Mississippi	(2.47%)	1.70%	(4.17%)
Montana	(2.15%)	1.00%	(3.15%)
Nebraska	(2.06%)	2.53%	(4.59%)

State	Normal Cost (% of payroll)	Employee Contribution (% of payroll)	Total Change for Employees (% of payroll)
New Hampshire	2.30%	2.00%	(4.30%)
New Jersey	(4.45%)	2.00%	(6.45%)
New Mexico	(2.91%)	3.10%	(6.01%)
Nevada	(12.65%)	1.41%	(14.07%)
North Carolina	(1.58%)	0.00%	(1.58%)
North Dakota	(1.42%)	4.00%	(5.42%)
New York	13.72%	(0.23%)	13.95%
Ohio			
Oklahoma	(1.10%)	0.00%	(1.10%)
Oregon	5.53%	0.03%	5.50%
Pennsylvania	0.98%	0.34%	0.64%
Rhode Island	2.81%	(5.23%)	8.04%
South Carolina	(2.26%)	2.00%	(4.26%)
South Dakota	0.68%	(0.06%)	0.75%
Tennessee	(0.84%)	0.09%	(0.93%)
Texas	(2.59%)	1.30%	(3.89%)
Utah	(0.32%)	(0.32%)	(0.01%)
Virginia	(0.50%)	0.00%	(0.50%)
Vermont	(2.12%)	1.60%	(3.72%)
Washington		4.31%	
Wisconsin	(1.00%)	1.90%	(2.90%)
West Virginia	1.20%	0.00%	1.20%
Wyoming	(1.96%)	2.68%	(4.64%)

Note: Pension data include all 50 statewide teachers' pension plans except for Hawaii, Ohio, and Washington because of missing data on normal and amortization cost for those plans. In cases where a pension plan covers teachers and other noneducation public employees, normal cost and employee contribution as percentage of payroll was assumed to be the same across teachers and other noneducation public employees.

Source: Table 1

TABLE 5.

Change in Pension Spending, per Pupil, Between 2013 and 2015

State	Actuarially Determined Contribution (change in dollars)	Actual Contribution (change in dollars)	Actuarially Determined Contribution (percent change)	Actual Contribution (percent change)
National	$36	$191	4%	28%
Alaska	$448	$11,159	22%	615%
Alabama	($10)	($10)	(1%)	(1%)
Arkansas	$16	($12)	2%	(1%)
Arizona	$22	$22	6%	6%
California	$148	$175	14%	37%
Colorado	($6)	$69	(1%)	9%
Connecticut	$364	$364	25%	25%
Delaware	$20	$20	6%	6%
Florida	$48	$179	12%	70%
Georgia	$102	$102	14%	14%
Hawaii	$16	$78	3%	19%
Iowa	$13	$29	2%	4%
Idaho	$10	$16	2%	4%
Illinois	$243	$344	14%	25%
Indiana	($36)	($186)	(4%)	(16%)
Kansas	$51	$278	6%	41%
Kentucky	$157	$17	13%	2%
Louisiana	$47	$63	3%	4%
Massachusetts	$27	$127	2%	13%
Maryland	($134)	$203	(9%)	17%
Maine	$111	$111	15%	15%
Michigan	$160	$531	13%	59%
Minnesota	$7	$69	1%	20%
Missouri	$163	$22	29%	3%
Mississippi	$41	$41	6%	6%
Montana	($27)	$250	(3%)	38%
Nebraska	($277)	($117)	(36%)	(19%)

State	Actuarially Determined Contribution (change in dollars)	Actual Contribution (change in dollars)	Actuarially Determined Contribution (percent change)	Actual Contribution (percent change)
New Hampshire	$176	$176	35%	35%
New Jersey	($58)	($89)	(3%)	(18%)
New Mexico	($121)	$424	(8%)	47%
Nevada	($87)	$131	(5%)	10%
New York	$308	$308	47%	47%
North Carolina	$65	$49	16%	12%
North Dakota	$137	$67	26%	11%
Ohio	($914)	$10	(53%)	1%
Oklahoma	($138)	($260)	(15%)	(25%)
Oregon	$61	$22	11%	4%
Pennsylvania	$88	$1,055	5%	127%
Rhode Island	$7	$7	1%	1%
South Carolina	$27	$27	3%	3%
South Dakota	$182	$182	83%	83%
Tennessee	$23	$23	9%	9%
Texas	($1)	$157	(0%)	35%
Utah	$76	$76	8%	8%
Virginia	$71	$258	9%	44%
Vermont	$140	$158	21%	21%
Washington	($33)	$125	(7%)	37%
Wisconsin	$48	$38	12%	9%
West Virginia	($114)	$0	(7%)	0%
Wyoming	$16	$55	2%	8%

Source: Table 1

TABLE 6.

2015 ADC, Actual Contribution, and Pension Debt, per Pupil

State	Actuarially Determined Contribution	Actual Contribution	Pension Debt
National	$977	$872	$9,863
Alaska	$2,458	$12,972	$13,779
Alabama	$848	$848	$11,331
Arkansas	$962	$828	$6,285
Arizona	$388	$388	$3,602
California	$1,219	$647	$7,894
Colorado	$913	$794	$15,061
Connecticut	$1,819	$1,819	$19,018
Delaware	$350	$350	$1,258
Florida	$435	$435	$3,050
Georgia	$807	$807	$6,740
Hawaii	$494	$494	$6,010
Iowa	$814	$814	$6,241
Idaho	$474	$464	$2,109
Illinois	$2,002	$1,747	$29,985
Indiana	$981	$981	$16,713
Kansas	$961	$961	$9,834
Kentucky	$1,350	$827	$19,354
Louisiana	$1,691	$1,691	$14,999
Massachusetts	$1,262	$1,124	$21,075
Maryland	$1,364	$1,364	$12,810
Maine	$850	$850	$4,491
Michigan	$1,423	$1,423	$16,274
Minnesota	$565	$418	$5,972
Missouri	$725	$725	$6,280
Mississippi	$750	$750	$12,197
Montana	$902	$902	$11,338
Nebraska	$487	$487	$3,518

State	Actuarially Determined Contribution	Actual Contribution	Pension Debt
New Hampshire	$677	$677	$9,579
New Jersey	$1,671	$391	$18,820
New Mexico	$1,325	$1,325	$19,227
Nevada	$1,507	$1,507	$19,181
New York	$960	$960	($1,573)
North Carolina	$467	$467	$1,215
North Dakota	$664	$664	$12,358
Ohio	$798	$798	$16,662
Oklahoma	$799	$799	$8,772
Oregon	$629	$629	$5,899
Pennsylvania	$1,883	$1,883	$24,605
Rhode Island	$1,286	$1,286	$9,750
South Carolina	$826	$826	$15,346
South Dakota	$401	$401	($895)
Tennessee	$287	$287	$3,067
Texas	$606	$606	$7,249
Utah	$1,031	$1,031	$4,698
Virginia	$841	$841	$6,932
Vermont	$824	$897	$13,324
Washington	$458	$461	$2,385
Wisconsin	$452	$443	($3,526)
West Virginia	$1,622	$1,750	$13,291
Wyoming	$877	$753	$11,903

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TABLE 7.

Projected Average Annual Growth for Pension Debt and Government Contributions, 2015–2025*

State	Plans' Assumed Investment Rate of Return		7% Realized Return		6% Realized Return	
	Pension Debt	Contribution	Pension Debt	Contribution	Pension Debt	Contribution
National	2.5%	3.9%	3.7%	4.6%	5.5%	5.8%
Alaska[25]						
Alabama	2.4%	4.1%	4.3%	5.5%	5.7%	6.7%
Arkansas	3.4%	3.9%	6.7%	5.6%	9.1%	7.1%
Arizona	2.5%	0.9%	5.3%	2.9%	7.4%	4.6%
California	3.5%	8.9%	5.0%	9.6%	7.3%	10.8%
Colorado	2.3%	6.7%	3.0%	7.3%	4.2%	8.2%
Connecticut	1.7%	1.8%	3.6%	3.2%	4.6%	4.0%
Delaware	6.0%	3.6%	7.4%	4.1%	12.7%	5.9%
Florida	4.9%	4.1%	8.0%	5.7%	11.3%	7.6%
Georgia	3.9%	4.3%	5.9%	5.3%	8.9%	7.0%
Hawaii	1.7%	0.3%	2.5%	1.0%	3.6%	2.0%
Iowa	4.1%	4.0%	6.1%	4.9%	9.2%	6.6%
Idaho	5.5%	3.8%	8.4%	4.8%	12.6%	6.5%
Illinois	1.6%	5.5%	2.0%	5.8%	2.7%	6.3%
Indiana	0.2%	4.7%	(0.0%)	4.6%	0.8%	5.1%
Kansas	2.3%	1.9%	3.8%	3.0%	5.1%	3.8%
Kentucky	2.2%	8.9%	2.8%	9.3%	3.7%	10.1%
Louisiana	1.5%	(0.7%)	2.5%	0.0%	3.7%	0.8%
Massachusetts	2.1%	6.3%	2.8%	6.8%	3.7%	7.5%
Maryland	2.0%	2.3%	3.2%	3.0%	5.1%	4.2%
Maine[26]	3.1%	(2.2%)	3.7%	(1.9%)	7.4%	0.2%
Michigan	1.9%	2.2%	3.1%	3.1%	4.2%	3.9%
Minnesota	3.5%	5.2%	5.9%	7.2%	7.8%	8.8%
Missouri	4.2%	3.4%	7.9%	5.8%	10.6%	7.7%
Mississippi	2.1%	4.7%	3.1%	5.5%	4.3%	6.4%
Montana	2.4%	1.8%	3.7%	2.8%	5.2%	4.0%
Nebraska	5.6%	2.3%	10.6%	5.5%	13.9%	7.8%
New Hampshire	2.0%	4.6%	2.1%	4.7%	2.3%	4.9%
New Jersey	2.5%	18.6%	3.1%	19.1%	3.7%	19.6%
New Mexico	2.0%	3.9%	3.8%	5.3%	5.6%	6.8%
Nevada	2.7%	1.5%	4.0%	2.6%	5.1%	3.5%

State	Plans' Assumed Investment Rate of Return		7% Realized Return		6% Realized Return	
	Pension Debt	Contribution	Pension Debt	Contribution	Pension Debt	Contribution
New York[27]		2.4%		3.5%		5.2%
North Carolina	8.0%	1.7%	10.3%	2.3%	16.4%	4.6%
North Dakota	1.9%	5.9%	3.6%	7.3%	5.4%	8.9%
Ohio	2.6%	6.2%	3.4%	6.9%	4.6%	8.1%
Oklahoma	2.2%	2.9%	4.2%	4.3%	5.7%	5.4%
Oregon	5.3%	10.2%	7.5%	11.1%	10.7%	12.6%
Pennsylvania	1.6%	4.4%	2.1%	4.8%	3.1%	5.4%
Rhode Island	2.3%	0.4%	3.4%	1.0%	5.1%	2.1%
South Carolina	1.8%	5.9%	2.4%	6.4%	3.4%	7.3%
South Dakota		(2.0%)		(0.9%)		2.3%
Tennessee	3.1%	5.4%	4.5%	6.1%	6.7%	7.3%
Texas	3.1%	5.3%	5.7%	7.0%	7.7%	8.4%
Utah	3.3%	1.3%	5.5%	2.1%	8.9%	3.5%
Virginia	1.7%	0.7%	1.7%	0.7%	4.3%	2.2%
Vermont	2.3%	4.1%	3.5%	5.0%	4.5%	5.8%
Washington	3.2%	(6.9%)	5.4%	(5.1%)	8.8%	(2.4%)
Wisconsin		2.0%		2.4%		5.8%
West Virginia	1.5%	(2.2%)	2.2%	(1.7%)	3.5%	(0.9%)
Wyoming	3.3%	8.1%	5.0%	9.2%	6.8%	10.4%

*Projections are based on 2015 plan data for assets, liabilities, benefit payments, normal cost, employee contribution rate, assumed investment rate of return, and payroll growth. The projections use a closed 30-year level percent of payroll amortization schedule.

Source: Table 1

Endnotes

[1] Author's calculations, using data from Financial Accounts of the United States (Z.1) release, Federal Reserve Board of Governors, June 9, 2016.

[2] Values for the year 2000 used in this brief are the average of values from 1999 to 2001 so as to avoid anomalous expenditure values in any particular year.

[3] Many local governments have faced significant fiscal challenges in recent years, and a few jurisdictions, such as Detroit and Central Falls, Rhode Island, have filed for bankruptcy, with underfunded pensions being one contributing cause. A few school districts face similar challenges, the most notable being the Chicago Public Schools, which is currently struggling with a widening structural budget deficit and exploding pension costs. See Josh B. McGee, "Chicago Crowd-Out: How Rising Pensions Costs Harm Current Teachers-and Students," Manhattan Institute, May 25, 2016.

[4] A recent study suggests that increased education funding has resulted in some improvement in long-term outcomes, although the overall average trend remains flat. See C. Kirabo Jackson, Rucker C. Johnson, and Claudia Persico, "The Effects of School Spending on Educational and Economic Outcomes: Evidence from School Finance Reforms," NBER Working Paper no. 20847, Jan. 2015.

[5] For further information on key findings from PISA 2012, see "Country Note: United States—Programme for International Students Assessment (PISA) Results from PISA 2012," OECD.

[6] See "Digest of Education Statistics," National Center for Education Statistics, 2015, Table 208.20.

[7] Ibid., Tables 203.10 and 213.10.

[8] Ibid., Table 211.50.

[9] Ibid., Table 236.20.

[10] Robert Costrell, "Employer Contributions for Retirement Benefits and Social Security: Public School Teachers and Private-Sector Managers and Professionals," University of Arkansas, Department of Education Reform.

[11] Alicia H. Munnell and Jean-Pierre Aubry, "The Funding of State and Local Pensions: 2015–2020," *State and Local Pension Plans* 50 (June 2016), Center Retirement Research at Boston College.

[12] See "Public Pension Reform: Questions of Politics and Policy," Brookings Institution, Washington, D.C., Feb. 26, 2014.

[13] Author's calculations, using PEW Charitable Trusts, the Fiscal Health of State Pension Plans Data; Center for Retirement Research at Boston College, Public Plans Data; State Plans' Comprehensive Annual Financial Reports; State Plans' Actuarial Valuation Reports; data from the National Council on Teacher Quality (NCTQ); and Bureau of Economic Analysis.

[14] All expenditure and pension contribution values in Tables 1–6 are in constant 2015 dollars.

[15] These figures are composed of NCES categories for Facilities Acquisition, Nonproperty (E61), and Property (TE10). For further detail, see "Documentation for the NCES Common Core of Data National Public Education Financial Survey (NPEFS), School Year 2012–13 (Fiscal Year 2013)," U.S. Department of Education, NCES 2015-302, 2015.

[16] See McGee, "Chicago Crowd-Out." For Detroit, see David Shortel, "Students Stay Home as 'Sick-Outs' Continue in Detroit Public Schools," CNN, Jan. 13, 2016. For Philadelphia, see Kristen A. Graham, "Tab for Fixing Phila. School District Facilities: $5 billion," philly.com, Feb. 13, 2016.

[17] For further information addressing deferred maintenance, see "State of Our Schools: America's K–12 Facilities," 2016, a report by the 21st Century School Fund, Inc., U.S. Green Building Council, Inc., and National Council on School Facilities.

[18] See Matt Barnum, "The Detroit 'Sick-Out' Makes a Valid Point: Crumbling Schools Shown to Hurt Learning," The 74, Jan. 14, 2016.

[19] See Richard Ingersoll, Lisa Merrill, and Daniel Stuckey, "Seven Trends: The Transformation of the Teaching Force, Updated April 2014," University of Pennsylvania, Consortium for Policy Research in Education.

[20] Ibid.

[21] See Cory Koedel, Shawn Ni, and Michael Podgursky, "Who Benefits from Pension Enhancements?" *Education Finance and Policy* 9, no. 2 (Dec. 2012): 165–92.

[22] Recent research has shown that teachers' own contributions and employer contributions made on their behalf are expected to far exceed the value of the benefits that they will earn across their careers. See Ben Backes et al., "Benefit or Burden? On the Intergenerational Inequality of Teacher Pension Plans," *Educational Research* 4, no. 2 (Aug. 2016): 367–77.

The effect of pension cost growth on salaries was also investigated in a recent report by Bellwether Education Partners. The report calculated the salary increase that each state could give its teachers if did not have to pay down pension debt. See Chad Aldeman, "The Pension Pac-Man: How Pensions Debt Eats Away at Teacher Salaries," Bellwether Education Partners, May 2016.

[23] The number of students in 2015 was estimated using a best fit (least squares) linear regression based on data from 2010–14.

[24] The growth rates in Table 7 are not adjusted for inflation.

[25] Alaska began placing new employees in a defined contribution plan in 2006, and their funding policy for the legacy defined benefit plan makes accurate projections difficult.

[26] Maine and Washington use a more aggressive funding schedule than is modeled in this paper.

[27] New York, South Dakota, and Wisconsin were fully funded in 2015 according to their plan data, so calculating percentage growth for these states' pension debt was not possible.

October 2016

REPORT 22

Abstract

Almost every state increased retirement benefits for teachers in the booming 1990s, but the additional promises were not accompanied by responsible funding plans. By 2003, the funding for teacher pension plans overall was short by $235 billion; and by 2009, pension debt had more than doubled, to $584 billion. The strong bull market since the Great Recession has barely put a dent in the shortfall, which still totals approximately $500 billion.

Another way of understanding the scale of the problem is by looking at pension debt per pupil—which increased by an inflation-adjusted $9,588 between 2000 and 2013. Over this period, the growth of pension debt per pupil was more than nine times larger than the increase in total annual education expenditures per pupil. Almost every state has experienced large pension cost increases, but eight states—Arizona, Colorado, Indiana, Michigan, North Carolina, Nevada, Texas, and Wisconsin—experienced the double whammy of *declining* per-pupil expenditures and *growing* pension contributions.

Key Findings

1. Taxpayer contributions to teachers' retirement plans are expected to grow substantially over the next decade. But the underfunding shortfall is so large that aggregate pension debt will also continue to grow. Retirement costs per pupil are already approaching 10% of all education expenditures. Without meaningful reform, these costs, as well as the aggregate pension debt owed to teachers' plans, will continue to rise and continue to crowd out education spending on the state and local levels.

2. Per-pupil spending on equipment, facilities, and property fell by 26% between 2000 and 2013, likely resulting in a growing backlog of expensive repairs and replacements that will need to be made sometime down the road. Spending on instructional supplies (e.g., textbooks) declined by 10% per pupil. More than half of states (29) spent less per pupil on instructional supplies in 2013 than in 2000; in several states, the decline was substantial: Arizona (37%), California (30%), Michigan (39%), and Oklahoma (30%). Teachers' salaries overall were basically flat between 2000 and 2013, and retirement benefits were reduced in almost every state, sometimes by very large amounts.

3. The vast majority of taxpayer contributions into teachers' pension plans are now used to pay down pension debt owed for past service rather than to pay for new benefits earned by today's teachers. As the value of this debt has increased, most current teachers have experienced stagnant salaries and reduced retirement benefits, while spending on classroom supplies, equipment, and building upkeep has declined relatively or even absolutely.

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