The Big Squeeze:
Retirement Costs and School-District Budgets

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Foreword by Chester E. Finn, Jr. and Michael J. Petrilli

Foreword and Summary Report

(Updated May 31, 2013 at 10:56 AM, EST)

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Foreword

by Chester E. Finn, Jr. and Michael J. Petrilli

There's no shortage of bad news in education these days, nor any dearth of stasis, but at least education *reform* is a lively, forward-looking enterprise that gets positive juices flowing in many people and that is leading to promising changes across many parts of the K–12 system. We are focused on making things better—via stronger standards (Common Core), greater parental choice (vouchers, charters, and more), and more effective teachers (by upgrading preparation programs and struggling to devise new evaluation regimens).

When it comes to *pension* reform in the education realm, however, it's hard to stay positive. Here, we're saddled with a bona fide fiscal calamity (up to a *trillion dollars* in unfunded liabilities by some counts), and no consensus about how to rectify the situation. No matter how one slices and dices this problem, somebody ends up paying in ways they won't like and perhaps shouldn't have to bear. All we can say is that some options are less bad than others.

This analysis does not pull any cheery surprise rabbits out of a dark hat, but it definitely illustrates the nature and scale of the pension-funding problem and describes a couple of painful yet, in their ways, promising solutions (or partial solutions) to it. As you will see in the present report and several technical papers to follow, economist and pension expert Robert Costrell and education finance expert Larry Maloney parsed the budgets of the Milwaukee, Cleveland, and Philadelphia school districts to estimate just how big an impact their pension and retiree health care obligations will have on their bottom line in coming years.

This is hardly an academic exercise. As our title indicates, these obligations are putting "a big squeeze" on district budgets. In Philadelphia—today the most threatened of the three districts—our analysts estimate that the school system could be spending as much $2,361 *per pupil* by 2020 on retiree costs alone. That represents a staggering increase of $1,923 from its current level. It's a huge price tag that can only mean fewer resources for teacher salaries, individualized instruction, new instructional technologies—and pretty much everything else that schools need and do.

Yet it's not inevitable. Since we launched this study almost three years ago, both Wisconsin and Ohio passed pension reform legislation that significantly brightened the economic outlook for the public school systems of Milwaukee and Cleveland. (Pennsylvania is battling over pensions as we write.) These reforms lowered the projections for 2020 retiree spending from $3,512 (without Wisconsin's Act 10) to $1,924 per pupil in Milwaukee. Act 10 will save the district an estimated $1,588 per pupil in retirement costs in 2020 alone. Ohio's SB 341 and SB 342 could save Cleveland $1,219 per pupil in 2020; not only do they lower projections from $2,476 to $1,257, but in 2020 the district will actually be spending *less* on retirement than it did in 2011.

The numbers are good for district budgets, but they came at a price. Yes, much of the debt burden was taken off the shoulders of school districts (and students), but placed instead on the shoulders of new, current, and retired teachers. This is especially vivid on Ohio, where cuts to pension benefits for new teachers may significantly reduce the desirability of a Buckeye teaching job. Wisconsin law does not disproportionately affect new teachers, but it now obligates current teachers to pay their fair share by making it illegal for districts to cover teachers' annual pension contributions, as Milwaukee had been doing for years.[1]This is obviously short-sighted. Some might call it "eating our young," making teaching notably less alluring for bright-eyed young instructors (and possible future teachers) while maintaining relatively generous benefits for veteran teachers and current retirees—some of whom will spend more years in retirement than they did in the classroom. Yet because of a legal environment that typically considers all public-sector pension promises, once made, to be "constitutionally protected," policymakers have few other choices. (The exception is retiree health care, a benefit that in many states does not enjoy the same protections, and thus could be a candidate for belt-tightening.) Never mind that yesterday's "pension giveaway" becomes today's "constitutionally protected obligation." How bizarre that lawmakers in one year can tie the hands of lawmakers for decades to come.

It seems to us inevitable that one day public-sector employees across the United States—including but definitely not limited to educators—will find their pensions and other retirement benefits fundamentally transformed into something much more like what's now commonplace in the private sector: 401(k)-style plans that provide some assistance from employers but put much of the retirement-savings onus on employees themselves. At the very least, we'll see a transition to cash-balance plans, which keep the government on the hook for a guaranteed payout, but allow teachers to "cash out" at any time without losing their pension wealth. (Such plans also allow for greater portability than traditional state-managed retirement systems.)

But for now we're stuck with the consequences and costs of a giant Ponzi scheme: Lawmakers have promised teachers retirement benefits that the system cannot afford, because the promises were based on short-term political considerations and willfully bad (or thoroughly incompetent) math. (For instance: assumptions about market returns that were wildly optimistic, and assumptions about longevity that were overly pessimistic.) The bill is coming due and someone's going to get soaked.

As we said above, there's no solution that spares everybody. The best option is probably to share the pain: among retirees, current teachers, new teachers, school districts, and state taxpayers.

Regarding the first two groups, without running afoul of constitutional protections, states can curtail retiree health care, as Wisconsin and Ohio did, which frees up some resources to apply to unchangeable pension obligations.[2] In some states and districts (no one knows how many), governments have been picking up the tab for retirees' health insurance between the ages of 55 and 65, when Medicare kicks in. This benefit is practically nonexistent in the private sector, and for good reason: people in their mid-50s to mid-60s are plenty capable of paying for their own health insurance. Most of them are still working and participate in group plans operated by their employers.

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[1] Milwaukee chose to curb its retiree health plan, which will affect current retirees (and all active employees, new and veteran alike, once they retire).

[2] To be clear, states can curtail retiree health care only if it is outside of collective bargaining, which was always the case in Ohio and is now the case in Wisconsin. Note also that Wisconsin and Ohio only curtailed future benefits for current teachers, not for those already retired.

As for filling the hole of unfunded liabilities, there's little choice but to raise contribution rates for teachers, or else to increase districts' contribution rates (which decreases funds for students) or to seek bailouts from states or the federal government (otherwise known as "charge it to taxpayers"). But this is akin to putting water in a leaky bucket. Raising more revenue is necessary but unless you attend to the leak (also known as currently-accruing costs!), you're going to have to put more and more water in. Perhaps the plug is reducing benefits, increasing age and years-of-service requirements, or decreasing retirement income via lower salary multipliers. All reasonable fixes.

A better idea? Buy a new bucket.

The unions, naturally, will scream bloody murder. It's their job to try to hold all of their members—including both current teachers and retirees—harmless. So this won't be an easy fight.

But what should be clear from this study is that doing nothing is not an option. Without immediate action, the problem will grow worse and districts will eventually get crushed—meaning tomorrow's children will pay the price for yesterday's adult irresponsibility. State lawmakers need to step up to the plate. Wisconsin and Ohio, in their ways, have at least begun to move.

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What follows is a summary report by Fordham's Amber Winkler and Dara Zeehandelaar, based upon the technical analyses performed by Robert Costrell and Larry Maloney. The three detailed "technical papers," one per city, will be released on our website by the end of Summer 2013.

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Many people and organizations helped make this report possible. Our sincere thanks go to the Joyce Foundation for their financial support, and their patience in seeing this report—and upcoming technical reports—to the finish line. Thanks also to our sister organization, the Thomas B. Fordham Foundation, for its support.

We very much appreciate the hard work and persistence of experts Robert Costrell and Larry Maloney. Their precision and attention to detail are reflected in this work. Each was indispensable in helping us to translate their research into this summary for lay readers.

Finally, kudos to the Fordham team: Matt Richmond oversaw production and hatched the cover concept; Michelle Gininger and Joe Portnoy managed dissemination; Daniela Fairchild handled funder communications; Gregory Hutko, Andrew Saraf, and Brandon Wright provided additional research support. Shannon Last served as copyeditor and Alton Creative, Inc. designed our cover and layout.

Introduction

by Dara Zeehandelaar and Amber M. Winkler

Retired schoolteachers deserve pensions—and in almost every case they get them. How much and on what terms differs from place to place and individual to individual, due to varying requirements pertaining to age and length of service. But every state in the land ensures that eligible teachers receive compensation in their golden years, most of them through a pension system. Though the specifics of pension plans vary, the logic behind them is the same: collect dollars and invest them during an employee's working years, and use them to pay the employee a promised amount later. That's how pensions work in public education as in other sectors.

In addition to cash pensions, many retired teachers also receive financial help with health care (sometimes extending to family members, too), although these benefits vary considerably by state and often district.

The reason teacher retirement benefits have been much in the news in recent years, and a topic of close attention by lawmakers and budget-watchers, is not because their existence is in dispute but because their financial underpinnings are often shaky and sometimes truly precarious. If a state or district doesn't set aside enough money *now* to cover what it will owe beneficiaries in the future, it creates a gap between assets and liabilities (the "unfunded liability"). Recent estimates put the total unfunded liability of U.S. teacher pensions anywhere from $390 billion to an almost unimaginable trillion dollars—about twice the total annual budget of all American public education.[3]

Many factors are to blame, including financial mismanagement, shortsighted decision making, artificially rosy investment projections, and declining asset values due to market downturns. Skyrocketing costs and more-generous benefits, along with relatively meager contributions from employees, have also placed a monumental financial burden on many retiree health care systems.

States are now scrambling to address this burden by rethinking the ways they will structure and fund their retirement systems going forward. But in many places the fiscal challenge exceeds the capacity—or political will—of state leaders to make substantive changes. In the meantime, much of the cost is passed on to school districts (including their current and future teachers and students) and to local taxpayers.

This puts districts in a situation analogous to the luckless diner who finds himself sitting at the table after his companions duck out of the restaurant without paying their share of the bill. Local jurisdictions are, in essence, being forced to pay for many past decisions they did not make. Districts generally cannot alter the state's rules regarding pensions and how they are financed. With rare exceptions, the state is where the retirement system was designed, where the rules for how it would be funded and governed were established, where actuarial projections of fiscal stability were made honestly or shaded for short-

[3] Barro and Buck, 2010; Doherty, Jacobs, and Madden, 2012. See also Pew Center, 2012 and Novy-Marx and Rauh, 2009, for similar reported and adjusted estimates on the liability of public plans in general.

term advantage, where employer and employee contribution rates were set, and where benefit levels were established and retirement eligibility policies fashioned.[4,5]

Because districts can seldom alter the state's pension rules and financing arrangements, they face painful choices.

If they're able, they might compensate for rising pension costs by slashing retiree health benefits or increasing eligibility requirements, both politically unappealing options.[6] But district hands are tied tightly. Collective bargaining agreements often prevent reducing health benefits (if indeed these are locally determined in the first place). And even if districts *can* limit health-care costs, it is not enough to fill the pension hole. So during periods of static or declining revenues (such as today), districts are forced to curb other expenditures instead. That could mean cutting salaries, eliminating instructional or extracurricular programs, raising class sizes, reducing services such as transportation and counseling, or leaving administrative and staff vacancies unfilled. None of these changes is easy or popular and most directly impact students.

A number of states have cushioned the blow to district budgets by proposing legislation that raises additional revenues for pension liabilities through taxes (although voters have lately rejected many such measures) or by requiring teachers to shoulder more of the costs by increasing contributions and/or cutting benefits. Others have made fundamental changes in the basic structure of their retirement systems. Many, however, have done little or nothing. So districts are in the position of having to divert dollars away from the classroom and toward retirement costs. But just how heavily will this weigh on the classroom? And what might be the impact of legislation designed to lighten the load?

To address these questions and more, we turned to Robert Costrell, Professor of Education Reform and Economics at the University of Arkansas, and Larry Maloney, President of Aspire Consulting, both experts in education finance. Specifically, we asked them to examine two key questions: If the status quo continues over the next decade, i.e., if state and/or district do not make significant changes in the structure, benefits, or financing of their pension plans for teachers, how big a bill will districts be saddled with? And what kinds of cuts would they need to make to cover it?

Messrs. Costrell and Maloney examined these questions for three major school systems located in states that have taken sharply differing approaches to addressing (or ignoring) retirement costs. In the Milwaukee Public Schools (MPS), shrewd (and politically bold) state and district leaders may have averted budgetary catastrophe, at least for the time being, by removing retiree health benefits from collective bargaining and forcing employees to pay their share of pension contributions. In the Cleveland Metropolitan School District (CMSD), state lawmakers have temporarily relieved some, but far from all,

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[4] Brainard and Brown, 2013.

[5] This is not to say that districts bear no responsibility for reining in retirement costs. Depending on collective bargaining or other state laws, districts may have some latitude in whether employees pay the full amount of their required contribution, or the district pays some or all of it on their behalf. Districts also have varying degrees of say regarding retiree health care, again depending on law and whether benefits are provided by the state or not.

[6] Who provides retiree health benefits varies by location. In Milwaukee, it's the district; in Cleveland and Philadelphia, it's the state. See *A Crash Course in Public-Sector Retirement Benefits,* below, for more.

of the financial pressure that is gradually building on the district's future budget. (This was done largely by pushing the burden onto new Cleveland teachers.) And in the School District of Philadelphia (SDP), weak state-level decision making appears all but certain to put the district into dire straits in the near future.

Before reviewing the findings for these three districts, however, it's useful to understand how and why school systems in general face the retirement challenges that they do.

Background

State and district obligations for teacher retirement costs take two forms: pensions and health benefits. Regarding the former, many states now carry crippling unfunded liabilities. A 2010 report calculated that teacher pensions across the United States were carrying a *reported* liability of $332 billion, but that their *true* liability was much higher—at least $933 billion—and would inevitably increase in the future.[7] (Another study found that, between 2009 and 2012, funding shortfalls grew in forty-three states and the District of Columbia.)[8]

In addition to retirement income, states and/or districts also provide health benefits to retirees and sometimes to their families. Many fund these plans on a pay-as-you-go basis, which means they haven't set aside money for future liabilities. Yet with baby-boomer teachers retiring en masse, and health-care costs much higher than a decade or two ago, this balloon payment is also now coming due.[9]

How did this storm arise? The answer is a combination of historical precedent, politics, questionable financial practices, and declining investment value.

- Generous public-sector pensions that link benefits to years of service and age are a long-standing American tradition. Many states maintained traditional pension structures and habits despite changing labor conditions—people are living longer while years-of-service requirements have not risen (and, in some places, have actually fallen) and educators are less apt to spend their entire careers teaching in the same state.[10]

- Rather than reining in benefits, states were actually increasing them until recently. More than half of them enhanced educator pension benefits from 1999 to 2001.[11] For example, in the late 1990s, Mississippi enhanced benefits without setting up a funding mechanism; in 2000, both Ohio and South Dakota altered their formulas so that retired teachers would receive more generous pensions; and in 2001, Pennsylvania reduced the vesting period, Nebraska boosted its cost-of-living increases, and a number of states raised their benefit multipliers.[12,13]

- While it's easy for lawmakers to increase benefits, it's exceptionally difficult for them to reduce them. State constitutions almost universally protect public pensions from complete

[7] Barro and Buck.
[8] Doherty, Jacobs, and Madden.
[9] To date, no research calculates the total liability of health care plans serving retired teachers. This would require that the cost of teachers be disaggregated from other state employees in those locations where the benefit plan covers both. (This would be equivalent to the work conducted by Barro and Buck regarding teacher pensions, but complicated by the fact that many districts provide their own health benefits.)
[10] Hansen, 2010; Costrell and Podgursky, 2010.
[11] Koedel, Ni, and Podgursky, 2012.
[12] The enhancements were not limited to pensions; in 2001 alone, Alaska improved retiree health benefits, Maine and Vermont increased the state's share of retiree health insurance payments, and Pennsylvania raised its monthly assistance level. See National Council of State Legislatures, 1999, 2000, and 2001 reports, http://www.ncsl.org/issues-research/labor/pension-and-retirement-legislative-summaries-and-r.aspx.
[13] Augustine et al., 2010; Koedel et al., 2012.

restructuring, and many shield benefits against reductions unless legislators can prove that their alterations are both reasonable and necessary—historically, a high evidentiary bar.[14,15] Organized labor filed suit against recent attempts to alter teacher pensions in New Jersey, Rhode Island, Louisiana, Michigan, Arizona, Maine, and New Hampshire, among others. Between 2009 and 2012, a total of fifty-one suits were filed to stop pension reforms in twenty-two states. Of these, seven were successful, ten failed, and thirty-four are still pending.[16]

- Public pensions are not subject to the same accounting standards as private funds. This has led to a variety of dubious practices, such as underestimating the present value of future liabilities and allocating single-year returns over a multi-year period ("smoothing").[17] As a result, public pensions assume substantial investment risk and are prone to underfunding.

- State officials tend not to be forward-thinking when it comes to pensions. In 2000, with markets booming and most public pension systems fully funded, states such as Kentucky, New Jersey, and Oklahoma began to renege on their contributions to pension funds. This is equivalent to a so-called "pension holiday," where states skip contributions due to flush economic times, believing that their pension funds already have sufficient assets.[18]

Put it all together and one can understand the sources of today's pension crisis, a crisis that policymakers, editorialists, analysts, and much of American public are awakening to (and, in many places, attempting to do something about). The National Conference of State Legislatures reports that forty-three states enacted some degree of pension reform from 2009 through 2011 (generally by increasing employee contributions or raising age and/or service requirements, although some adjusted benefits where they could).[19] Since 2008, twenty-five states increased the retirement age, twenty-seven raised teacher contributions, and thirteen reduced the percentage of salary replacement ("multiplier") that a teacher will receive for each year of service. Some states are cutting benefits for new hires. In others, employers or employees are being asked to contribute more: districts contributed an average of

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[14] Fifteen states have constitutional clauses that protect the benefits of current enrollees, and nearly every state has some sort of non-impairment clause that limits restructuring for current employees. See 120 Yale L. J. 2199, 2203 n. 20 (2011) and Hansen, 2008.

[15] See, e.g., Energy Reserves Grp. v. Kan. Power & Light Co., 459 U.S. 400, 411-12 (1983); Allied Structural Steel Co. v. Spannaus, 438 U.S. 324, 244-45, 249 (1978); U.S. Trust co. v. New Jersey, 431 U.S. 1, 22 (1977). See also 120 Yale L. J. 2199, 2204-05, 2208 (2011).

[16] Mistler, 2012; Bradford. 2012; The Associated Press, 2012. In addition, the Laura and John Arnold Foundation provides quarterly updates on pension litigation; see http://www.arnoldfoundation.org/resources/pension-litigation-summary.

[17] Public pensions are allowed to use an artificially high discount rate of 7.5 to 8.5 percent, twice the rate of 3 or 4 percent estimated by many economists, which leads to enormous underestimates of a fund's liabilities. Biggs (2012) provides an excellent overview. For a detailed explanation, as well as more accurate liability calculations, see Novy-Marx and Rauh.

[18] Pension holidays are not always the result of excess assets. In New Jersey, the state actually took out $3.4 billion in pension obligation bonds in 1997 rather than paying its share directly, a decision which resulted in disastrous future debt. And in Chicago in 1995, the district directed revenue from a property tax levy intended to fund pensions into the district's general operating budget instead. See Hess and Squire, 2009; Grotto, 2010.

[19] Snell, 2012.

$1,200 more per teacher in 2012 than in 2008, and teachers contributed an average of $481 more per year.[20] There have also been a limited number of structural changes as a few states turned away from traditional-style "defined-benefit" pensions in favor of plans similar to 401(k)s, where the post-retirement payoff is not guaranteed but instead depends on the actual value of an individual's investments (see *A Crash Course in Public-Sector Retirement Benefits*, below). And since 2009, at least a dozen states lowered earnings expectations for their pension funds to reflect more realistic market performance—a move that more accurately represents a state's unfunded liability. Prior to the recent difficulties, such moves were rare. And although retiree health plans have received less attention, some states have made cuts here, too, by increasing the premiums paid by retirees or changing plan features such as deductibles.[21]

All of this, of course, is exacerbated by flattening public-sector revenues (both state and local) and by increasing competition for state and federal dollars from other categories of spending that range from Medicaid to bridge repairs.

Still, despite all the furor around retirement costs for public employees in general and teachers in particular, there has been distressingly little discussion about what impact future retirement costs will have on future district budgets—and on the well-being of their schools, teachers, and students.

Pension costs already comprise a non-trivial portion of district budgets; in Chicago, for example, contributions to the pension represent over 10 percent of the *entire* district budget.[22] In 2009, the district's chief executive officer responded with this clear warning: "CPS' pension costs also continue to grow exponentially: in FY2010, we will be required to pay over $300 million towards the teachers' pension fund. This represents a 70% increase over FY 2009 …Without cost containment on the pension or wage fronts, we cannot continue to protect school budgets in FY2010: the classroom will be affected."[23] But such warnings typically come without any sense of magnitude: by *how much* might a district have to increase class sizes or lay off teachers, for example, in order to cover its retirement costs? If it is forced to reduce salaries to cover the expense, how big would these cuts need to be? In short, what is the impact on teachers and students when districts need to make good on their retirement obligations?

These questions aren't easy to answer. Projecting a district's future burden must combine an analysis of past and future decisions at the state level with those made locally. We must then speculate on how districts might tackle that burden.

[20] Barro and Buck; Doherty, Jacobs, and Madden.
[21] Depending on the state, statute may prohibit some or all of these activities. See Augustine et al.
[22] Barro and Buck.
[23] Huberman, 2009. The chief financial officer of Chicago projects that the impact of that city's pension burden could raise class sizes to fifty or fifty-five students. See the video on Mayor Rahm Emmanuel's website recently created to educate the public on the dimensions of Chicago's pension crisis: [www.cityofchicago.org/retirementsecurity.](http://www.cityofchicago.org/retirementsecurity)

Sidebar: A Crash Course in Public-Sector Retirement Benefits

Pensions

Every state save Alaska has a defined-benefit (DB) pension system for public school teachers, and 89 percent of all public school teachers participate in them. Thirty-eight states and the District of Columbia offer *only* DB plans, while eleven have plans that incorporate a DB component.[24] Just a handful of local districts offer their own pensions, and these are all DB plans as well. [25] Such plans, ordinarily funded by annual contributions from both employee and employer, guarantee a certain level of income each year after the employee retires. Under a DB plan, the amount that a teacher receives does *not* depend on what she and her employer contributed in the past, nor does it hinge on the current value of the plan's assets. Rather, post-retirement income is generally determined by a formula: an employee's years of service multiplied by her final salary, times a "percentage multiplier" between 1.1 percent and 2.67 percent.[26] For example, in a state with a 2 percent multiplier, a teacher who retires with 25 years of service would receive half of her final salary as her yearly pension payment.[27]

A DB pension also comes with a "vesting period" and a minimum retirement age. The vesting period is the number of years that a teacher must be employed (five in most states) before becoming eligible for any pension benefits. Retirement age establishes a minimum at which an employee can begin drawing pension benefits. In all but seventeen states, however, minimum retirement ages can be superseded by rules that allow teachers with a certain number of years of service to retire regardless of age.[28]

Some states are turning away from DB plans to alternative systems. Alaska, however, is the only one to confine participation to a 401(k)-style "defined-contribution" (DC) plan. Six states offer employees a choice between the traditional DB plan and a DC or cash-balance plan (the latter being a type of DB plan where the eventual payoff depends on the value of the investment over time), while five states have a hybrid plan that offers employees a small defined benefit with an added defined-contribution component.[29] Oregon, for example, successfully instituted a hybrid DB/DC plan in 2002 that reduced the assured benefit to new *and* current public employees, teachers included. In 2003, Nebraska switched to a cash-balance plan, but only for state employees *other* than teachers; teachers remain in a DB system. Other state leaders, including those in Maryland and Louisiana, recently considered transitioning to

[24] As of January 1, 2015, Kansas will close its *DB* plan to all new state employees. Doherty, Jacobs, and Madden; Miller, 2011.

[25] Chicago, New York City, St. Louis, St. Paul, Duluth, Austin, San Francisco, Omaha, Kansas City, and Fairfax County, VA have their own pensions. NEA, 2010.

[26] Miller.

[27] One way to reduce benefits, and thereby reduce costs, is to average the last several years of a teacher's salary rather than using final salary when calculating post-retirement income. Since 2008, twenty states have increased the number of years used to calculate final compensation. Doherty, Jacobs, and Madden.

[28] Loeb, Miller, and Strunk, 2009.

[29] Doherty, Jacobs, and Madden.

cash-balance plans but ultimately chose not to switch, citing a variety of legal and financial obstacles or remaining unconvinced of the necessity to do so.[30]

Retiree Health Benefits

While pension plans are state-managed, who provides retiree health benefits—and how these are paid for—varies by location. Nearly every state offers a state-operated retiree health plan (some of which are only for teachers while others are open to all state employees), and the decision to use a locally managed health care option or participate in the state plan is determined by the district.[31] Where they are locally provided, retiree health benefits are further complicated by the fact that, in thirty-eight states, such benefits fall within the scope of collective bargaining. (In three, they *must* be negotiated; in one, they are explicitly allowed; and in thirty-four, the state takes no position.)[32] In Milwaukee, the district offers retiree health benefits, which were recently removed from the scope of bargaining, while school system employees in Cleveland and Philadelphia receive these benefits from the state.

Note that a state plan does not necessarily guarantee subsidized care and it may be the case that retired teachers pay the full cost of health care premiums. Where retiree health is within the scope of local collective bargaining, however, benefits are more likely to be subsidized, regardless of whether they are provided by the state or district.

[30] Costrell, 2012; McGee, 2013.
[31] Clark, 2010.
[32] National Council on Teacher Quality, 2013.

Case Study Findings in Brief

The outlook for retirement costs in the three districts that our experts examined range from cautiously optimistic (Milwaukee) to problematic (Cleveland) to bleak (Philadelphia).

- A few years ago, the Milwaukee Public Schools (MPS) budget was crippled by already-huge benefit costs, and retiree health costs were slated to escalate into near-certain fiscal catastrophe. Under Governor Scott Walker's controversial Act 10 of 2011, MPS is now poised to avert that outcome, at least for the near term, although the district still faces high costs for retiree health care in the future.
- The outlook for the Cleveland Metropolitan School District (CMSD) looks somewhat like that of Milwaukee, thanks to the Ohio legislature's recent pension legislation and a series of cutbacks on retiree health. Cleveland's pension changes, however (unlike those in Milwaukee), fall so heavily on new employees that they are effectively taxed to pay for the benefits of current and past employees. In other words, their contributions will likely exceed the value of what they'll eventually receive in benefits—a state of affairs that would jeopardize federal tax-favored status in the private, but not the public, sector.
- The School District of Philadelphia (SDP) will soon be forced to own up to the state's past poor choices. The district has until now faced very modest retirement costs, but only because these were artificially depressed as a consequence of the legislature's irresponsible history of deferring pension funding. Those costs are now coming due, and (as of this writing) the legislature remains paralyzed by inaction.

Below, we summarize the future retirement costs that experts Costrell and Maloney estimate for these three school systems. In the cases of Milwaukee and Cleveland, the authors calculated both the current trajectory of pension costs and the trajectory that was averted by recent state and district actions. For Philadelphia, we present best- and worst-case scenarios, due to uncertainty regarding the extent of district versus state obligations.

For each district, Costrell and Maloney calculated the increase (in constant 2011 dollars) in per-pupil retirement costs between FY11 and FY20. They also estimated the magnitude of certain cuts that districts might be forced to make in order to offset the retirement costs: reducing expenditures across the board or targeting cuts to instructional spending, and how that might affect class sizes and teacher compensation.[33]

Keep in mind that pension and health benefit systems differ among the three jurisdictions. Ohio has two parallel systems, one for retired teachers and one for other staff. Each provides *both* a pension and health benefits. This is structurally different from both Milwaukee and Philadelphia. In Milwaukee, the state pension system covers teachers while other non-teaching staff receive their pension from the

[33] We present estimated cuts *for fiscal 2020 alone*. These numbers do not include the cumulative effects of retirement costs in the intervening years, which would, of course, be far more dire.

district. All retired MPS employees (both teaching and non-teaching) receive health benefits from a locally managed plan. In Pennsylvania, a single state system provides a pension and a modest (and largely unsubsidized) retiree health benefit to both teachers and other district employees.

Milwaukee Public Schools

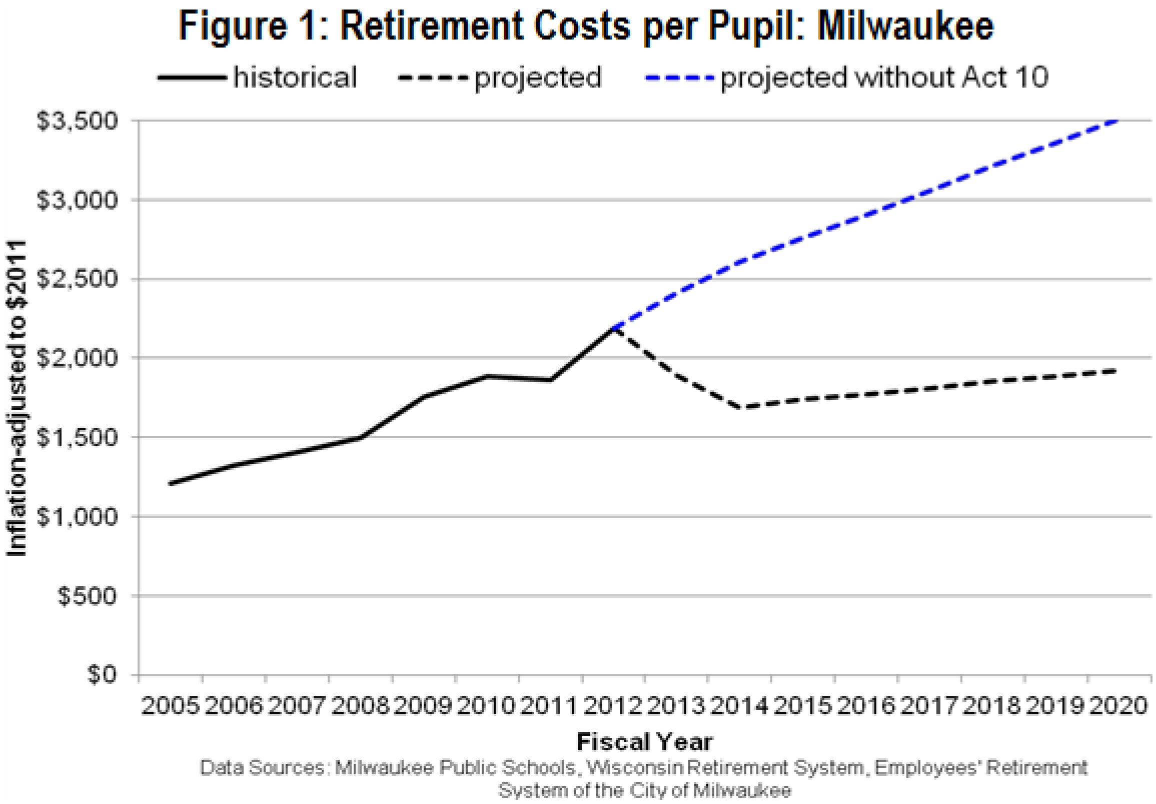
In 2011, MPS faced a grim prospect: a projected increase of $1,652 per student—the bulk of which was attributable to retiree health benefits—that would swell retirement costs to $3,512 per pupil in FY20.[34] That year, Wisconsin staged perhaps the most talked-about public-sector retirement showdown in American history. The 2011 Wisconsin Budget Repair Bill, also known as Act 10, required that teachers and other public employees pay half of the annual pension contribution, with employers paying the other half; in the past, employers traditionally covered the employees' share. It also removed retiree health benefits from the scope of collective bargaining, which freed school districts to change benefits, eligibility requirements, and contribution rates. Thanks to Act 10, Milwaukee will essentially eliminate the rise in its retirement costs, holding steady at its current (albeit high) level.[35]

How did the legislation make that possible? Because Act 10 removed retiree health (and other) benefits from collective bargaining, districts can now modify those benefits once their current union contracts expire. MPS took advantage of the opportunity and will increase retiree health care eligibility requirements, end or reduce subsidies for health care premiums, and close a district-sponsored supplemental pension to new teachers when the current contract expires at the end of June. Act 10 also changed the way that teacher pensions are funded by requiring that employees actually pay the "employee portion" of their retirement fund contributions, which was previously picked up by MPS.

With these changes, the experts project MPS *pension* costs actually *dropping* $184, from $1,029 per pupil in FY11 to $845 in FY20 (Figure 1). (Without the modifications, those costs would have risen $349 over the same period.) Act 10 will also give the district substantial cost reductions on retiree health benefits. Without it, those costs would rise from $831 per pupil to $2,135 in FY20 (an increase of $1,304 per pupil); with it, the projection is a more modest rise of $248 per pupil to $1,079. Taking pension costs and retiree health together, Act 10 will save MPS a projected $1,588 per pupil in FY20. Instead of total retiree costs rising by $1,652 per pupil, we anticipate a meager rise of $64 per pupil.

The difference is dramatic. Without Act 10, MPS would eventually have found itself spending an additional $105 million in FY20 due to the growth of retirement expenses, or 9.2 percent of its entire budget. Act 10 will save the district $101 million of that sum.

[34] For other dimensions of Milwaukee's benefit costs at the time, see Costrell, 2011.
[35] In September 2012, a Dane County judge struck down provisions of Act 10, but in March 2013 the Wisconsin Court of Appeals clarified that the ruling applied to Dane County *only*. (Dane County includes Madison, but not Milwaukee.) Further, all provisions of Act 10 were declared constitutional by federal courts in January 2013. Therefore, Act 10 is presently in full effect in seventy of Wisconsin's seventy-one counties, and the Dane County decision is currently under appeal.



What might have been the impact on the district's budget without Act 10? It would depend on how MPS opted to distribute the costs. If it did this proportionally across its major expenditure areas, in FY20 it would have to cut $57.9 million from classroom instruction, $18.9 million from instructional support, and $21.0 million from operations.[36] With Act 10, however, it would only have to trim $2.3 million from instruction, $700,000 from instructional support, and $800,000 from operations.[37]

What if the district chose to cut costs solely by reducing expenditures on instruction rather than distributing cuts proportionally? Without Act 10, the budget shortfall might claim 404 teachers in 2013 (out of 4,829). But by FY20 the district would need to eliminate 1,014 teaching positions out of a projected 4,192. If MPS decided instead to reduce teacher compensation, without Act 10, a teacher

[36] Classroom instruction includes teacher salaries and benefits (including substitutes), paraprofessionals, and classroom materials; instructional support includes salary, benefits, and associated costs for pupil and program supports such as librarians, guidance counselors, and health services, plus extracurricular activities and teacher and staff professional development; operations includes non-instructional services such as transportation, food services, safety, facility operations and maintenance, and business management; leadership includes costs associated with site-based leadership (salaries and benefits of principals and assistant principals, plus staffing and operational costs of school offices) plus central office operations (superintendents and staff, school board costs, and legal fees).

[37] These estimates are based on a distribution of costs across the district's major expenditure areas, which rely on current and past spending patterns. Projections also use district data and make assumptions regarding revenue, enrollment, and staffing. Future revenue is projected by increasing the FY13 base with the Consumer Price Index. Enrollment is estimated at a conservative 2 percent decline annually (MPS does not provide enrollment projections). Class size ratios are assumed to remain at MPS's current level.

employed in 2020 would see her salary and benefits reduced an average of 24.2 percent—that is, she would see $24,127 taken away from the 2020 projected average total compensation of $99,762 ($2011).

Act 10 obviously makes an enormous difference—but more may need to happen to ensure the effects are more than just a short-term stopgap. As Costrell and Maloney explain in their technical report, Milwaukee follows a pay-as-you-go policy for retiree health care, meaning that current-year contributions from the district are used entirely to pay for the current-year benefits for retirees. The district is not pre-funding the obligation during the work-life of those who will later become the beneficiaries. In short, MPS is not banking money for the health care costs associated with the approaching wave of retirements. Such a policy might have made sense in an era of growing enrollments, payroll, and revenues, as modest contributions from a large current payroll could support the much smaller number of retirees from previous cohorts. But in districts like MPS that have declining enrollments, the current payroll available to support those expenses under a pay-as-you-go policy is shrinking, and, at the same time, more baby boomers are retiring. That bill is eventually going to come due.

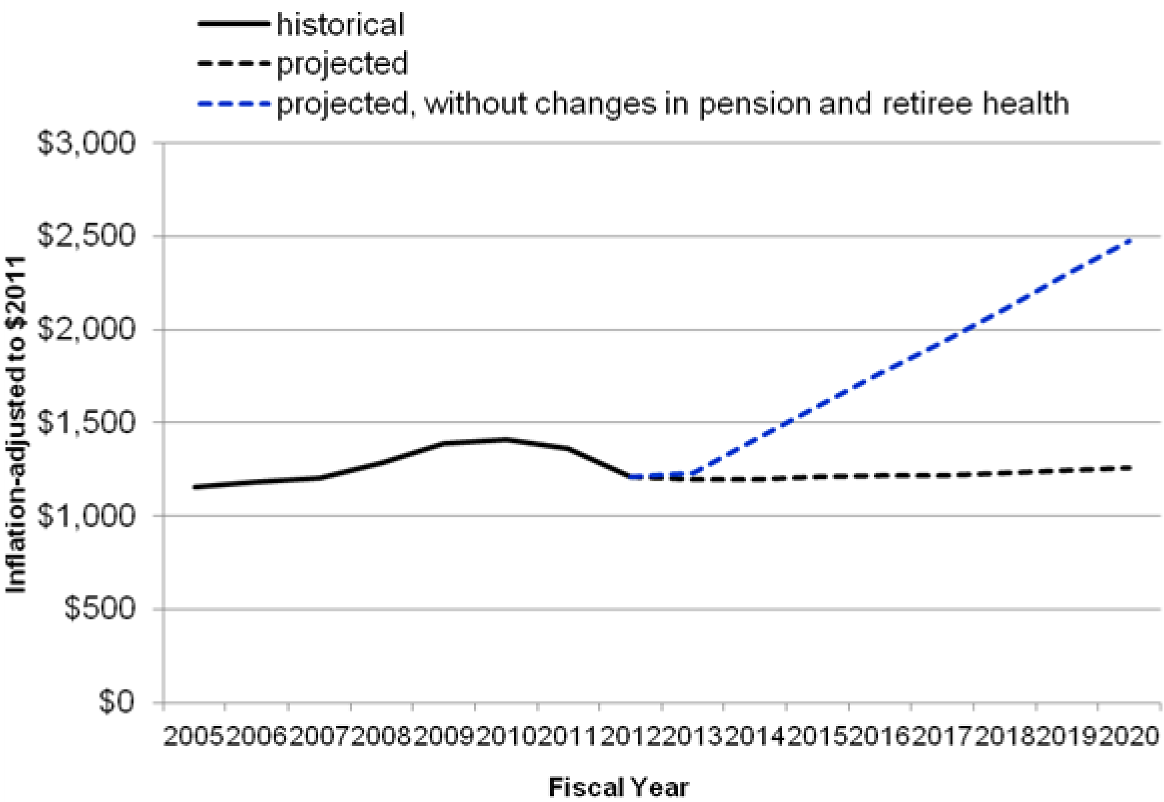
Cleveland Metropolitan School District

At first blush, the Ohio legislature seems to have performed a rescue operation for Cleveland akin to what Governor Walker and his legislative allies enabled for MPS. But there's more to it than meets the eye.

Prior to 2012, Ohio's statutory limitations on employer and employee contribution rates, together with decades of enhanced pension benefits and growing retiree health care costs, guaranteed that its retirement systems would be in debt. (While the teachers' retirement system modified its health plan in 2004, raising eligibility requirements and requiring retirees to pay insurance premiums for their spouses and dependents, it could not increase contribution rates without legislative action.)

The pension plan began to fall short of the state's own statutory requirement for thirty-year funding and, by 2010, the retiree health piece of the teachers' retirement system faced the prospect of insolvency in just over a decade. After several years of considering various plans, the legislature finally took action, passing SB 341 and SB 342 in September 2012. The latter measure, affecting teacher retirement, raised employee (but not employer) contributions—a move that the state system did not yet have the legal authority to take on its own. It also reduced benefits by increasing age and service eligibility requirements, eliminating an enhanced multiplier for teachers with more than thirty years of service, and freezing cost-of-living adjustments. Finally, and critically, it gave the teachers' retirement board new authority to further adjust the employee contribution rate, retirement age and service requirements, and cost-of-living adjustments. (SB 341 made similar changes affecting non-teaching staff.) Meanwhile, retirement costs in the Cleveland Metropolitan School District (CMSD) also fell because, starting in 2011, the district reduced personnel in the wake of declining enrollments.

Figure 3. Retirement Costs per Pupil: Cleveland



Data Sources: Cleveland Municipal School District, State Teachers Retirement System of Ohio, School Employees Retirement System of Ohio

Changes under SB 341 and SB 342, combined with earlier modifications to the retiree health system and the reduction in staffing costs, will yield substantial savings for CMSD. Had the state continued its pre-2012 path, per-pupil retirement costs in Cleveland would have risen $1,112 (from $1,364 to $2,476) between FY11 and FY20 (see Figure 2). With the changes, however, we project them to *drop* $107 by FY20, to a total of $1,257. The combined legislative and board actions will save CMSD $1,219 per pupil in FY20.[38]

The Cleveland story needs two caveats, however. First, the legislative changes and system modifications still do not ensure that the pension funds will meet the state's requirement that they be fully funded over a thirty-year period. Second, CMSD is in serious financial trouble; the district anticipates a deficit of over $100 million by FY17, far greater than the $27 million it will save on retirement costs that year.[39]

[38] As for assumptions, revenue forecasts through FY17 are the district's own and are thereafter scaled with the Consumer Price Index. Enrollment projections are taken from the district's long-range facilities plan. Staffing is assumed to stabilize at the district's pre-financial-crisis level. All assumptions are conservative. For full discussion of assumptions and projections, see forthcoming technical chapters on Cleveland (and Milwaukee) by Robert Costrell and Larry Maloney, to be released by the Fordham Institute this summer.

[39] Cleveland voters passed a levy in 2012, which is estimated to bring the district an additional $63 million annually between 2013 and 2016. District leaders have begun using the funds to restore previously-decreased student

Thus, it is difficult to project how the district might use its retirement savings. Unlike Milwaukee or Philadelphia, where we can reasonably assume that the district might downsize its teaching workforce or decrease compensation to recoup retirement costs, it's not at all clear that Cleveland will use its retirement savings to reduce class size by hiring more teachers, or supplement teacher pay. More than likely, it will direct those savings to the district's looming deficit—so we avoid making classroom-based projections that are unlikely to happen.[40]

The School District of Philadelphia

The Pennsylvania story is one of deferred pension funding and the lack of political will to take any corrective action other than pushing costs further into the future. That said, Governor Tom Corbett has recently proposed a number of pension reforms that *could* impact the dire financial situation in the Keystone State (see *Governor Corbett's Proposals*). Time will tell.

Teachers and other employees of the School District of Philadelphia (SDP) receive their retirement benefits from the Pennsylvania state retirement plan for schools, PSERS (Public School Employees' Retirement System), which includes both a defined-benefit pension plan and a modest retiree health benefit. The pension is the predominant source of the district's retirement cost, which is expected to rise quite substantially and, as shown below, presents a daunting burden for the district in the near future. (District contributions to the retiree health plan are relatively low and not expected to rise.)

As Costrell and Maloney explain in *Paying the Pensions Price in Philadelphia,* Pennsylvania mitigates the cost of district contributions to PSERS by reimbursing districts for half or more of their contributions (varying by district). This provides budget relief to Philadelphia and other districts, but it also represents a source of uncertainty. As pension costs rise over the coming decade, the cost to the Commonwealth for these reimbursements will also grow, putting pressure on the state budget, including other forms of state education aid. Philadelphia and other Keystone State districts have reason to worry that the state will not deliver on the rise in reimbursements, or (perhaps more likely) that these increases will be offset by other education aid cuts.

As shown in Figure 3, the impact on SDP will be profound, as retirement costs rise $1,923 per pupil between FY11 and FY20, from $438 per pupil in 2011 to $2,361 in 2020 (in constant dollars). Assuming that the state continues to partially reimburse districts for their rising contributions without subtracting the money from general education aid, SDP will need to come up with $752 of that increase. The total impact would amount to $111.0 million. That's the best-case scenario. If the state fails to increase reimbursements in line with current formulas or decreases general education aid to the district to compensate for rising reimbursements, then SDP could be responsible for up to the full $1,923.

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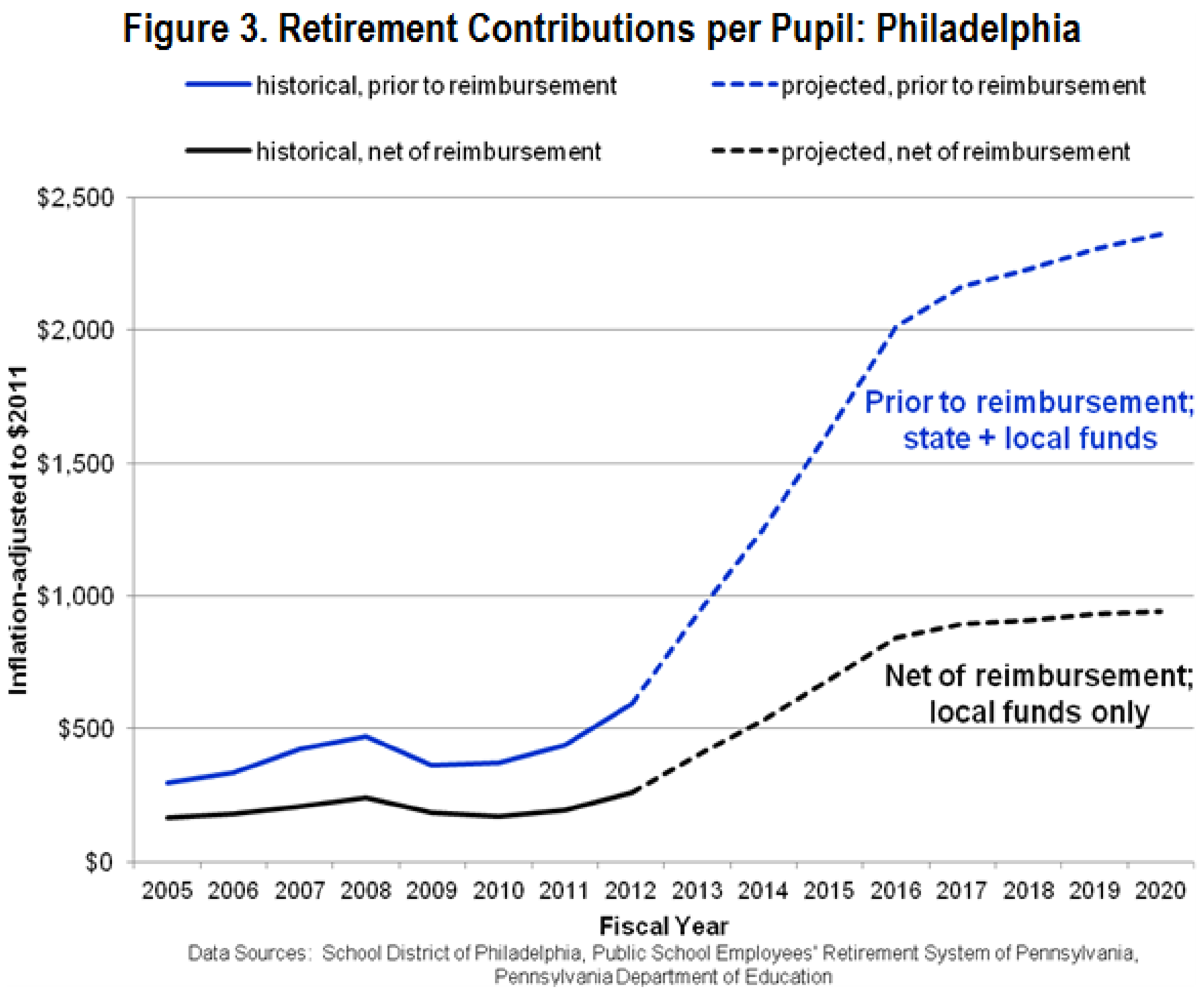
instructional minutes and hope to avoid teacher layoffs and program cuts. This report cannot speculate as to exactly how much the levy will reduce debt (rather than allow CMSD to increase spending), but regardless the district will still face a shortfall in the future—especially since it expires after four years. See O'Donnell, 2012.

[40] To be clear, Milwaukee and Philadelphia also face future deficits. The difference is that Cleveland will see *savings* while Milwaukee (without Act 10) and Philadelphia will see *increased costs*. (Costrell and Maloney did not calculate the impact on Cleveland classrooms without S.B. 341 and S.B. 342.)



In this worst-case scenario, by FY20 Philadelphia would have to pay out an astounding $283.9 million, or 13.0 percent of its total budget, to fund the rise in its pension obligations.[41]

The impact on the district's budget will naturally depend on how SDP distributes the additional retirement cost. It might opt to cut proportionally across its expenditures.[42] That would mean, under the best-case scenario, cutting classroom instruction by $62.4 million, instructional support by $14.7 million,

[41] In FY11, Pennsylvania reimbursed SDP for $246 per pupil (56.1 percent of the district's total cost). In 2010, the Pennsylvania Public School Employees' Retirement system projected that the effective reimbursement rate for the state as a whole would rise by 3.9 points between FY11 and FY20. The best-case scenario for SDP applies that increase to the district, constantly raising SDP's rate to a projected 60.0 percent. The worst-case scenario is *equivalent to* freezing reimbursements at the FY11 amount of $246 per pupil. What is actually anticipated in this scenario is that the state increases reimbursements but compensates by reducing general aid. It is unknown, of course, how much the state would reduce general aid, so technically the worst-case scenario has no floor. But this report puts a floor on it: general funds are decreased in FY20 equivalent to the state only reimbursing $246 per student (the same amount it paid in 2011). The reality is likely somewhere in between the two scenarios.

[42] Projections use expenditure percentages from a database that includes 2.2 million students in districts in Nevada, South Carolina, and Rhode Island, plus the cities of Washington, DC, Denver, Milwaukee, Los Angeles, Newark and New Orleans. The database includes analysis on $32.3 billion in education spending in which the analysis for all states and municipalities has been conducted in a comparable fashion.

and operations by $22.9 million. (The corresponding worst-case costs would be $159.5 million, $37.5 million, and $58.5 million.)[43] If SDP recouped the necessary savings exclusively by cutting classroom expenditures, under the worst-case scenario it would need to eliminate almost one-third of its teaching positions (3,077 of a projected 9,227). In the best case, that would mean cutting 1,203 teacher jobs. Eliminating 1,203 teachers would increase the student-teacher ratio from 16.2:1 (in 2011) to 18.4:1 (in 2020). Alternatively, the district could cut compensation, in which case the average teacher would need to sacrifice $12,071 in compensation (best-case) or $30,869 (worst-case) to make up for the increase in retirement costs.

Sidebar: Governor Corbett's Proposals

by Robert Costrell

Pennsylvania enacted significant pension reforms in 2010, cutting benefit accruals for new hires by 25 percent. However, unlike the reforms in Ohio and Wisconsin, those cuts did not make a dent in Pennsylvania's rising retirement costs. This is because that rise—coming over the next few years—is due to the deferred funding of benefits previously earned, not the cost of benefits for new hires (which take many years to phase in). By contrast, the reforms in both Ohio and Wisconsin brought more immediate relief to their pension systems by raising employee contributions, among other measures.

As we go to press, the Pennsylvania legislature is considering a new round of reforms, proposed by Governor Corbett. These include enrolling new teachers (and state employees) in defined-contribution plans. This step, like the 2010 reforms, is aimed at preventing future shortfalls, but does not directly address the past shortfalls that drive Pennsylvania's rising costs in the near term. But the governor's proposal also cuts future benefits yet to be earned by current employees. This is an important and controversial step. Although it does not directly affect the unfunded liability, it immediately cuts the cost of current accruals. This opens up options for using previously scheduled contributions to help pay down the unfunded liability or, alternatively, slowing the rise in employer contributions. The governor's proposal does the latter, rescheduling some of the immediately looming hikes to later years (similar to past actions by Pennsylvania). As a result of that rescheduling, PSERS projects modest net savings for SDP, peaking in FY16 and then dropping off sharply by FY18 to a small percentage of projected contributions. [44] Thus, although Governor Corbett's proposal to address future accruals for current employees is an important step, the overall package still leaves SDP (and other Pennsylvania districts) with very daunting prospects.

Summing Up

Table 1 summarizes the current and projected per-pupil costs of retirement benefits for all three districts. For Milwaukee and Cleveland, the table shows changes in costs under recently passed

[43] See Appendix A in *Paying the Pension Price in Philadelphia* for full discussion of the various assumptions of costs and revenues upon which these figures are based.

[44] PSERS' projections for district net savings are dated May 9, 2013, http://www.portal.state.pa.us/portal/server.pt/document/1335091/school_district_savings_pdf.

legislation, and how costs would have changed without those new laws (the rows shaded green and red, respectively). For Philadelphia, it provides the best- and worst-case scenarios (neither case reflects the proposed legislation). As shown, costs in Cleveland will drop by $107 per pupil by FY 2020 due to SB 341 and SB 342; without the legislation and retirement plan changes, costs would rise $1,112. The changes saved the district $1,219. Act 10 similarly saved Milwaukee a substantial sum: per-pupil costs of retirement will increase a mere $64. Without it, they would go up $1,652.

In Philadelphia, however, where there have been no changes in law to stanch costs, the bottom line is downright bleak. Without legislative action soon, the district's costs will increase anywhere from $752 (nearly quintupling what the district paid in 2011) to $1,923 per pupil.

Table 1. Current and Projected Per-Pupil Costs of Retirement Benefits

	FY11	**Scenario**	FY20	Change from FY11	Net result of pension reform, FY20
Milwaukee Public Schools	$1,860	With Act 10	$1,924	+$64	$1,588 savings
		Without Act 10	$3,512	+$1,652	
Cleveland Metropolitan School District	$1,364	With SB 341 and 342	$1,257	-$107	$1,219 savings
		Without SB 341 and 342	$2,476	+$1,112	
School District of Philadelphia	$192[a]	Reimbursement rate rises as projected	$944	+$752	N/A
		Compensatory reduction in general aid equivalent to a freeze in reimbursement	$2,361	+$1,923[b]	

Note: Positive changes mean that retirement costs will *rise* between FY11 and FY20; negative changes indicate the opposite. For example, with SB 341 and SB 342, retirement costs in Cleveland will *fall* $107 dollars from FY11 to FY20. Without the legislation, they would *rise* $1,112.

[a] Net of state reimbursement; prior to state reimbursement, FY11 cost is $438.

[b] Change from FY11 cost prior to state reimbursement, $438.

Table 2 summarizes the impact of retirement expenditures from 2011 to 2020 if the costs are distributed across major spending categories.[45] Under the same scenarios as in Table 1, the impact on classroom instruction ranges from a loss of $1,077 per pupil in Philadelphia (worst-case scenario) to a rise of $60 in Cleveland with the legislative changes. In Milwaukee, Act 10 will save the district a projected $873 per pupil on classroom instruction in 2020. Turning to operations, under its worst-case scenario, SDP will have nearly $400 fewer dollars per pupil to spend on transportation, food services, safety, and facilities in FY20 as compared to what it spent in FY11. (Unfortunately, it will have $154 less to spend on operations even under the best-case scenario). And recent legislation saved Cleveland $250 per pupil on operations in FY20.

[45] Expenditures in Milwaukee are distributed across major spending categories per the district's historic spending patterns. Expenditures in Cleveland and Philadelphia are estimated using an extensive database, as explained in footnote 42.

Table 2. Distributed Impact of Change in Retirement Expenditures, FY11 to FY20

	Scenario	Classroom Instruction	Instructional Support	Operations	Leadership	Other	Total
Milwaukee Public Schools	With Act 10	⇩$35	⇩$12	⇩$13	⇩$3	⇩$1	⇩$64
	Without Act 10	⇩$909	⇩$297	⇩$330	⇩$83	⇩$33	⇩$1,652
	Act 10 savings	$873	$286	$318	$79	$32	**$1,588**
Cleveland Metropolitan School District	With SB 341 and 342	⇧$60	⇧$14	⇧$22	⇧$9	⇧$3	⇧$107
	Without SB 341 and 342	⇩$623	⇩$146	⇩$228	⇩$87	⇩$27	⇩$1,112
	SB 341 and 342 savings	⇧$683	⇧$160	⇧$250	⇧$96	⇧$30	**$1,219**
School District of Philadelphia[a]	Reimbursement rate rises as projected	⇩$421	⇩$99	⇩$154	⇩$59	⇩$18	⇩$752
	Compensatory reduction in general aid equivalent to a freeze in reimbursement	⇩$1,077	⇩$253	⇩$395	⇩$151	⇩$47	⇩$1,923

Notes: Down arrow indicates a cut/reduction in expenditures. For example, if the state reimbursement rises as projected in Philadelphia, the district will have $421 fewer dollars to spend on classroom instruction in FY20 as compared to what it spent in FY11. Numbers may not add up to the total due to rounding.

[a] There are no projected “savings” for Philadelphia because the state and district took no action.

Conclusion

In the end, the costs borne by school districts for employee pensions—and, sometimes, health care costs—are largely determined by action (or lethargy) in the statehouse. Leaders in two of the three states examined here (Wisconsin and Ohio) passed impactful legislation that will place their school districts on firmer financial footing, although districts still face long-term uncertainty. In Pennsylvania, the governor is trying, but nothing has gotten into the legislative end zone as yet (see *Governor Corbett's Proposals*).

The reforms in both Wisconsin and Ohio had essentially the same flavor: in both cases, employee pension contributions were raised and health benefits reduced. Yet the details are vastly different. In Wisconsin, the primary source of Milwaukee's savings was retiree health benefits, which were crippling the system. Formerly, these were bargained locally, but Act 10 took them off the table: MPS was freed to cut retiree health costs without union assent. The district welcomed the flexibility and used it to increase eligibility requirements and reduce subsidies, among other actions. Act 10 also required that employees pay their share of pension contributions rather than having the district cover it. Yet, for all of these financial fixes, Milwaukee's pay-as-you-go structure means that that no almost contributions to retiree health care are put aside to fund the wave of retirements soon to come.

Ohio also implemented a number of legislative changes, mostly affecting the teacher pension system, that will make a big difference for its districts. It raised employee contributions, reduced benefits by increasing age and service eligibility requirements, eliminated an enhanced multiplier for teachers with more than thirty years of service, and froze cost-of-living adjustments. It also gave the teachers' retirement board new authority to further adjust these areas, if need be. The bulk of these changes, however, fall disproportionately on new employees, such that they are effectively taxed to pay for the benefits of current and past employees. As a cohort, their average benefits will be less than their contributions.

Finally, there's Pennsylvania. The Keystone State's long history of deferring pension funding has gotten it into a colossal mess. The bill collector is now knocking on the statehouse door. Will Governor Corbett and the legislature turn the lights out and hide or greet him at the entrance? Stay tuned.

Glossary

Amortization Payments*.** This is a series of payments over time designed to pay down the ***Unfunded Accrued Liability—the benefits previously earned but not covered by existing assets. These are similar to mortgage payments, designed to pay off the money owed on a home purchase over and above the down payment.

Annual Required Contributions (ARC)*.** These are the annual contributions that would be required to eventually reach full funding. This includes both the contributions required to cover newly earned benefits as they are earned, as well as the annual payments required to pay off the unfunded liability over a period of time. These two pieces of the ARC are, respectively, ***Normal Costs and ***Amortization Payments***.

Assets*.** The amount of money that has been set aside and invested in a trust fund to pay for future benefits. The ***Market Value of Assets reflects the year-to-year investment performance. The ***Actuarial Value of Assets*** is a calculation designed to smooth out market fluctuations over a period of years. After a market downturn, such as that of 2008, the Actuarial Value of Assets exceeds the Market Value, because the losses have not yet been fully recognized.

Funded Ratio*.** The ratio of ***Actuarial Value of Assets to ***Accrued Liability***. If the ratio is 100 percent, the system is said to be fully funded.

Liabilities. The current dollar value of retirement benefits to be paid in the future. This is the sum of the future benefits, adjusted downward for the time value of money (i.e., reduced to “present value”). That adjustment is based on the “discount rate.” For pre-funded systems, current practice is to set the discount rate equal to the expected rate of return on investments; for pay-as-you-go systems (such as retiree health), the discount rate is the return on fixed-income investments. The ***Accrued Liability*** is the dollar value of the future benefits that have already been earned by current employees and retirees.

***Normal Costs*.** These are the annual contributions required to cover newly earned benefits that will be paid in the future. If contributions cover normal costs for an entering cohort of teachers, and all actuarial assumptions prove correct over time, the amount of money set aside for that cohort will cover their retirement benefits.

***Pay-As-You-Go Systems*.** Instead of setting aside funds to cover the current cohort’s future benefits, pay-as-you-go systems require contributions each year, from the employer and/or current employees, in order to pay for previous cohorts’ benefits. Most retiree health systems are pay-as-you-go.

Pre-Funded Systems*.** Retirement benefit plans that are funded by Annual Required Contributions—Normal Costs plus Amortization Payments—are pre-funded systems, either partially or fully funded. When the system is fully pre-funded, all ***Accrued Liabilities (future benefits that have already been earned) are covered by assets that have previously been set aside. Most pension systems are pre-funded to varying degrees.

Unfunded Accrued Liability (UAL). The difference between ***Accrued Liability*** and ***Actuarial Value of Assets***. This is the amount that is already “owed,” but not yet funded.

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