

THE BIG SQUEEZE:

Retirement Costs and School District Budgets

PAYING THE PENSION PRICE IN PHILADELPHIA

by Robert Costrell
and Larry Maloney



TAXES



RETIREMENT COSTS



EDUCATION BUDGETS



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Paying the Pension Price in Philadelphia

SUMMARY

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.¹ The pension is the predominant source of the district's retirement cost. That cost is expected to rise quite substantially and, as we will show, 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.)

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 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. Indeed, Pennsylvania Governor Tom Corbett's budget chief recently stated that, absent strong pension reform, rising costs are "inextricably linked" to "deep cuts" in education funding.²

To determine the price SDP will pay for retirement benefits, and what impact that might have on district budgets, we first examine the contributions to PSERS: How much do districts contribute now? To what degree is it underfunded? And what is the system's schedule for ramping up district contributions?

We use future employer contribution rates—as projected by PSERS—to calculate the cost to SDP. We find that the total cost of the district's retirement benefits balloons from \$73 million in 2011 to \$349 million by 2020, an increase of \$276 million (measured in constant 2011 dollars).³ On a per-pupil basis, this represents a rise in retirement costs of \$1,923 per pupil, from \$438 in 2011 to \$2,361 in 2020 (in constant dollars). These costs represent the district's direct contributions to PSERS, prior to partial reimbursement by the state. In effect, these are joint contributions from state and local funds.

After netting out state reimbursements, we project the cost to SDP will grow from \$32 million in 2011 to \$139 million in 2020, from \$192 per pupil to \$944. This is the best-case scenario for SDP, as it assumes reimbursements will rise as scheduled, by \$1,171 per pupil. The worst-case scenario is that the state pays

for the increase in per-pupil reimbursements by diverting general education aid, in which case the district is paying for the increase of its own “reimbursement.”⁴

When the figures are compared to the district’s likely revenues in 2020, we find that supporting this rise in retirement costs could require SDP to cut as much as \$283.9 million—13.0 percent of its spending—on other items.⁵ If SDP chose to meet the burden of rising retirement costs by raising the student-to-teacher ratio, it would require eliminating 3,077 (out of 9,227) teacher positions, effectively adding eight students per teacher, from sixteen to twenty-four. If SDP chose, instead, to meet the rise in retirement costs by reducing other components of teachers’ compensation, that drop would need to exceed \$30,000 by 2020.⁶

That is the worst-case scenario, assuming that rising state reimbursements are not forthcoming, or are funded by cuts in state aid. If that does not happen, the required cuts reach \$111.0 million by 2020 (5.1 percent of SDP spending). No easy answers exist to solve this fiscal crisis. The local capacity to raise taxes is limited and Governor Corbett has taken state tax hikes off the table. This leads us to consider the prospects for pension reform.

Pennsylvania enacted significant pension reform in 2010, cutting benefit accruals for new hires by 25 percent. However, unlike the other two states we examine (Ohio and Wisconsin), the 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. (See forthcoming technical reports on Ohio and Wisconsin.)

As we go to press, the Pennsylvania legislature is considering a new round of reforms, proposed by Governor Tom Corbett. The reforms 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 are the source of Pennsylvania’s rising costs. However, the Governor’s proposal also cuts future benefits yet to be earned by current employees. This is an important and controversial step.⁷ 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.⁸ 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.

Tough choices are unavoidable and will ultimately impact SDP and its students and teachers. But with an enormous bill to pay for pension costs about to come due, it is important to be clear about the magnitude of the challenge faced by SDP and Pennsylvania’s other school districts.

THE PRESENT CONTEXT: SCHOOL EMPLOYEE PENSIONS IN PENNSYLVANIA

The School District of Philadelphia (SDP) faced dreadful financial news in the spring of 2011, announcing a funding shortfall of \$629 million for the 2012 school year—23 percent of its \$2.7 billion budget.⁹ Philadelphia's city council scrambled to find additional income, finally announcing in June a plan to raise property taxes by 4 percent after the state legislature provided little help. But the gap remained, and in June 2011 SDP responded with administrative furloughs, drastic cuts to central office and school budgets, and layoffs: More than 3,000 school employees received layoff notices, over 1,000 of them teachers.¹⁰

Yet these measures still left a budget shortfall for the 2012–13 school year of \$218 million.¹¹ And as this chapter will show, SDP faces a major additional challenge in years to come, from rapidly growing annual contributions to the Public School Employees' Retirement System (PSERS), the state's defined-benefit pension fund for school employees.

The background to these rising contributions is Pennsylvania's underfunded system. While pension underfunding is widespread, the situation in Pennsylvania is particularly dire. As of June 30, 2012, PSERS had funded only 66.4 percent of the obligations it had accrued. In dollar terms, PSERS' unfunded pension liability was \$29.5 billion and is projected by PSERS to rise to \$45.6 billion over the next six years.

As a result of this large and growing unfunded liability, we estimate that Philadelphia's annual contributions to PSERS (before the state reimbursement) will grow from \$438 per pupil in 2011 to \$2,361 in 2020 (adjusted for inflation). This rise of \$1,923 per pupil would require \$284 million per year in revenues beyond what is expected for the district that year, or in additional spending cuts.

Pennsylvania's imminent crisis derives from the state's complicated history in which it has failed to make actuarially-determined "annual required contributions" (see Appendix B: History and Consequences of Pennsylvania's Pension Woes). This history shows how defined-benefit plans and some loose rules for public accounting have left pensions susceptible to political shenanigans. In Pennsylvania, the bull market of the late 1990s was, perhaps ironically, a key enabler. It swelled asset values in the PSERS funds, temporarily raising their value beyond the amount required to fund previously accrued liabilities; that is, the plan's "funded ratio" (the ratio of assets to liabilities) exceeded 100 percent by FY97.¹² Due to a controversial accounting practice known as "smoothing," it remained over 100 percent through FY02, even though by then the market had already crashed.¹³ This illusion of over-full funding led PSERS to reduce district contribution rates to zero in 2002 and near-zero in 2003, while, at about the same time, provided sufficient excuse for lawmakers to substantially enhance pension benefits for current employees. By 2003, legislators realized that they could not foot the bill for those changes under standard funding schedules. That is, they could not meet the the annual required contributions, to pay down ("amortize") the unfunded liability on a timely basis and pre-fund newly earned benefits. So they adopted a funding plan that deferred annual required contributions, keeping them artificially depressed until a scheduled jump in 2013.¹⁴

While the deferral was meant to give the state breathing room as the economy recovered, the plan assumed that the situation would get better, not worse. The 2008 market crash proved these decisions were ill-

conceived. While legislation in 2010 restored a bit of fiscal sanity to PSERS by reducing retirement benefits for new hires, it again postponed the inevitable costs. The employer contribution rate was immediately capped at 5.00 percent of payroll in 2011 (one-third below the previously scheduled rate), and the spike that was slated to hit 28.50 percent in 2013 was postponed.¹⁵ The pension contribution rose to 11.50 percent in 2013—more than double the rate two years earlier, but well below 28.50 percent. However, the rate is now scheduled to ramp up to 25.00 percent by 2016 and to reach a plateau above 30 percent for 2020–35.

In the meantime, as a result of these deferrals, PSERS will become even more underfunded. Its funded ratio has already dropped from 86.0 percent in 2008 to its current level of 66.4 percent.¹⁶ PSERS projects it will decline further to 56.6 percent by 2018, making it one of the worst-funded pension plans in the country, before slowly climbing back above 80 percent by 2031. That is, even the enormous hikes in employer contributions over the next several years will fail to bring the plan back near 100 percent funding anytime soon.

As this report shows, Pennsylvania made some unwise decisions about a decade ago, sweetening benefits for its public school employees while simultaneously delaying funding for these inevitable payments. More recently, as the bill has started to come due, Pennsylvania enacted significant cuts in benefits for new hires in 2010. However, this only modestly mitigated the coming rise in contributions, because it had no effect on the unfunded liability. Consequently, the state delayed the bill again, and the coming shock will still be profound. In this report, we'll explain how retirement benefits work in Pennsylvania and show just how severe an impact the pension funding gap could have on Philadelphia's schools, teachers, and students in the coming years.

SUMMARY OF EMPLOYER CONTRIBUTIONS TO PENNSYLVANIA'S RETIREMENT BENEFIT PROGRAMS

The Pennsylvania Public School Employees' Retirement System (PSERS) provides Philadelphia and all other school districts a defined-benefit pension plan and a modest retiree health benefit.¹⁷ Philadelphia does not offer any significant district-specific retiree benefits (unlike, for example, Milwaukee), so we consider only the district's contributions to the state plan, PSERS, in this analysis.¹⁸

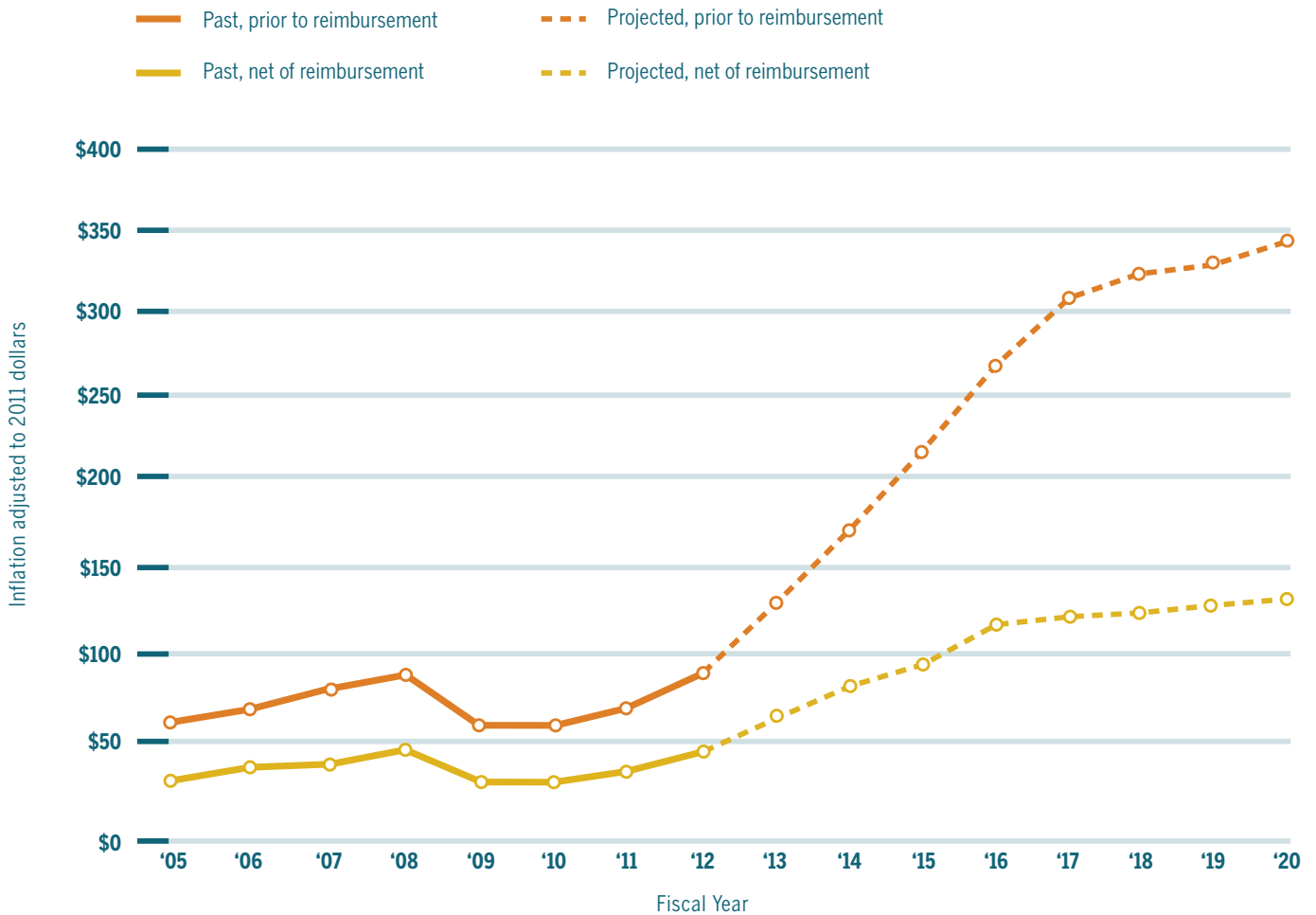
The contributions to the retiree health plan are small, adding less than 1 percent to the pension contribution rates discussed above.¹⁹ Thus, the total employer contribution rate to PSERS by SDP, and all other Pennsylvania school districts, was 5.64 percent in FY11, 8.65 percent in FY12, and 12.36 percent in FY13.²⁰ It is currently slated to rise to 16.93 percent in FY14, 21.31 percent in FY15, 25.80 percent in FY16, and to reach a plateau of about 31 percent from FY21 to FY35.

The State Reimbursement Rate

Under state law, the Commonwealth reimburses school districts for half or more of the employer contributions, varying by district. The formula that determines the reimbursement rate is based on the district's property values and personal income, as compared to the state as a whole. That formula applies to contributions pertaining to employees hired after June 30, 1994, and the reimbursement rate is one-half for those hired earlier. The actual reimbursement rate tends to be below this blended rate because there is a one-quarter lag in payments; that lag reduces the effective reimbursement rate during periods of rising contribution rates. The most recent available data, for FY11, indicates that SDP's effective reimbursement rate was 56.1 percent.²¹ The net contribution by school districts from local revenues has been relatively low in recent years, both as a percent of payroll and of total budgets. However, this is starting to change as the PSERS rates ramp up with the scheduled arrival of the repeatedly deferred payments.

THE DISTRICT'S BILL: SDP'S PROJECTED PSERS CONTRIBUTIONS

FIGURE 1 Philadelphia Retirement Costs, \$ Millions



DATA SOURCES: School District of Philadelphia, Public School Employees' Retirement System of Pennsylvania, Pennsylvania Department of Education

Figure 1. Projected SDP contributions to PSERS (inflation-adjusted to \$2011). The orange curve is the total employer contribution prior to reimbursement, which we project will increase from \$73 million in FY11 to \$349 million in FY20. However, Pennsylvania districts receive partial reimbursement from the state; the yellow curve would be the district's contribution net of the reimbursement, assuming its reimbursement rate rises from the FY11 rate of 56.1 percent to 60.0 percent by FY20.

To project the impact that looming retirement costs will have on the School District of Philadelphia, we must first calculate what the district will pay over our projection period. To do so, we apply the PSERS total employer contribution rate to SDP’s payroll. We have PSERS’ projections for the rates, but we need to project SDP’s PSERS-covered payroll. In general, payroll is closely linked to revenues, since it is the predominant expenditure. Thus, we assume that SDP’s PSERS-covered payroll grows at the same rate as revenue for the projection period (or, equivalently, that payroll is a constant share of revenues).²²

Figure 1 shows the projected SDP contributions to PSERS, in millions of dollars (adjusted for inflation). The orange curve shows these **contributions prior to state reimbursement; contributions are projected to rise from \$73 million in FY11 to \$349 million in FY20, nearly a five-fold increase**. This represents an extraordinary annual rate of growth—19 percent per year (above and beyond inflation) over this period.

Recall that Pennsylvania districts receive partial reimbursement from the Commonwealth to lessen the burden of the employer contribution. As discussed in the sidebar on page 6, the most recent available data, for FY11, shows an effective reimbursement rate of 56.1 percent for SDP. We would expect this rate to rise with a rising share of employees hired after June 30, 1994, since their reimbursement rate is higher. A 2010 PSERS projection indicated that the state-wide effective reimbursement rate (reflecting the one-quarter lag in payments) would rise by 3.9 percentage points from FY11 to FY20.²³ Applying that rise to SDP would imply an effective reimbursement rate of 60.0 percent by FY20. Our projection assumes a steady ramp-up to that rate.

FIGURE 2 Philadelphia Retirement Costs Per Pupil

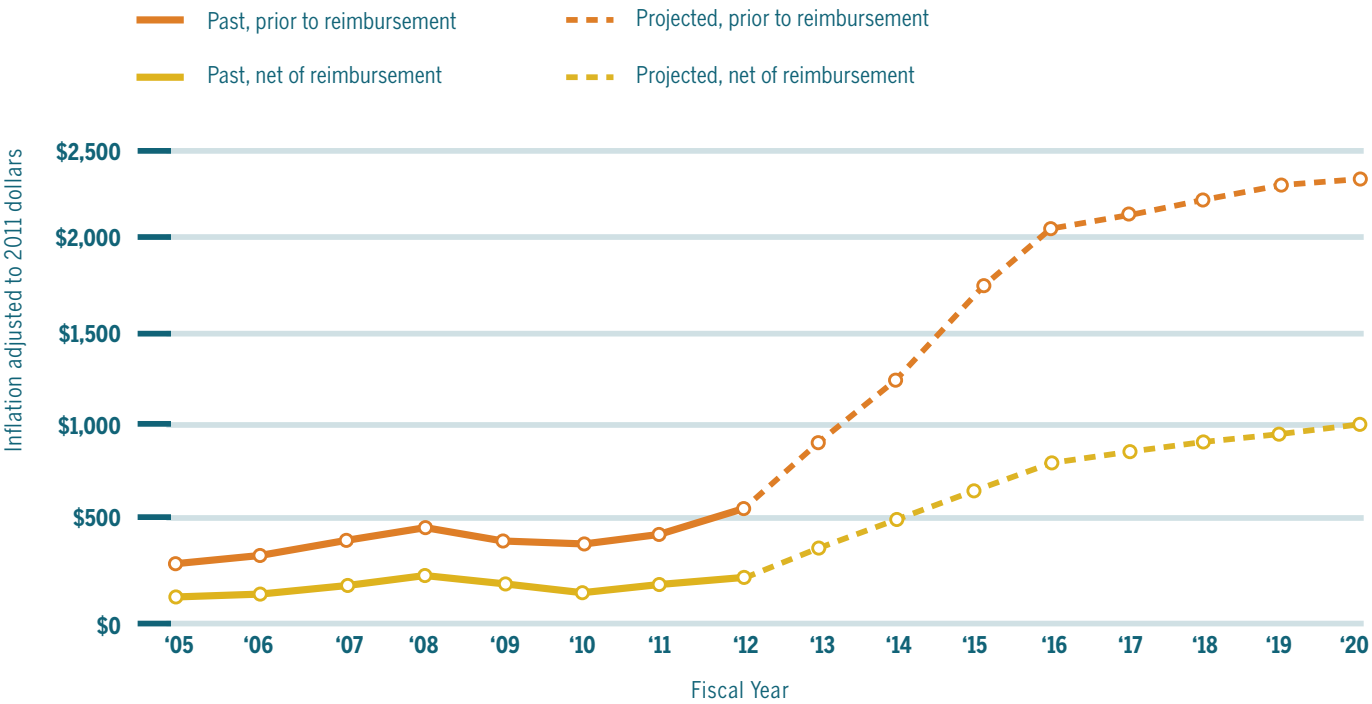


FIGURE 2. Projected SDP contributions to PSERS, per pupil (inflation-adjusted to \$2011). Prior to reimbursement, the total employer contribution (orange curve) rises from \$438 per pupil in FY11 to \$2,361 in FY20. SDP’s cost net of state reimbursements (yellow curve) increases from \$192 to \$944 per pupil over the same period, under assumptions explained in the note to Figure 1. The impact on SDP budgets will depend on if and how the projected rise in state reimbursements is funded.

Our projected post-reimbursement contribution by SDP to PSERS is indicated by the yellow curve in Figure 1. We project the **net SDP contribution to PSERS will rise from \$32 million in FY11 to \$139 million in FY20**. This is the best-case scenario. It requires the state reimbursements for SDP to rise from \$41 million to \$209 million over this period, a prospect that seems unlikely, as the governor has warned.

Figure 2 shows the profound impact of the coming rise in retirement costs by plotting SDP's projected *per-pupil* contributions to PSERS, with and without the state reimbursements. In FY11, the contribution before reimbursement was \$438 per pupil. By FY20, this is projected to rise to \$2,361 per pupil, adjusting for inflation (orange curve). The district's net contributions after state reimbursements will increase from \$192 per pupil in FY11 to \$944 in FY20 (yellow curve). Again, this is the best-case scenario, as it entails a rise in state reimbursements to SDP from \$246 to \$1,417 per pupil. We consider the worst-case scenario to be one where the state effectively freezes its reimbursements at \$246, or, equivalently, diverts education aid to fund the rise. (Freezing reimbursements at \$246 per pupil is equivalent to cutting the reimbursement rate from 56.1 percent in FY11 to 10.4 percent by FY20.) Under this scenario, SDP would be responsible for the full **rise in per-pupil employer contributions to PSERS from FY11 to FY20 of \$1,923** (orange curve). We detail these costs further, and project their potential impact, in the sections that follow.

THE BOTTOM LINE: HOW INCREASED PENSION COSTS IMPACT SDP'S BUDGET

In the coming years, the money for SDP's ballooning PSERS contributions must come from somewhere. Part of the \$1,923 is scheduled to come from state reimbursements. **The state's share is projected to increase by \$1,171, with the district's contributions net of state reimbursements set to go up by \$752** (yellow curve in Figure 2). In the best-case scenario, as SDP's contributions and the state's corresponding reimbursements both go up, the state will repay the district without any adverse impact on other forms of state aid. If so, then SDP will have to squeeze \$752 per pupil out of future budgets, compared to what was available in FY11, just for growth in retirement costs. However daunting this might be, Philadelphia might need to brace itself for worse. It is likely that the state will simply not have an extra \$1,171 per pupil to spare. The state may well have to carve out its increased reimbursement payments from Pennsylvania's general education aid to districts, as the governor's budget director recently warned. In that case, SDP would have to squeeze out more than the projected \$752, and even up to the full \$1,923 per pupil.

To calculate the effects of this per-pupil increase on SDP's future budgets, we multiply the per-pupil impact by the projected enrollments, which we project at about 148,000 by FY20 (Appendix A). **Thus, the total dollar impact is \$111.0 million by FY20 (using a \$752 per-pupil increase in PSERS contributions) and \$283.9 million (at \$1,923 per pupil).**²⁴

The per-pupil budget impact identified above rests on the tacit assumption that the per-pupil revenues available to SDP are constant (after inflation). This is an optimistic assumption. As discussed in Appendix A, SDP's per-pupil revenues dropped from FY11 to FY13 and are not expected to recover much, if at all, by FY20. Thus, the projected budget impact identified above may be on the low side.²⁵ Moreover, it is important to note that the SDP revenue projections, on which our projections are based, specifically include the assumed rise in state reimbursements for contributions to PSERS.

Next, let's examine how the budget impact of the rising cost of retiree benefits might impact staffing and operations in the School District of Philadelphia.

THE IMPACT: HOW WILL THE DISTRICT PAY FOR ITS PENSION?

What would be the impact of a \$111 million (inflation-adjusted) budget hit in 2020 on a district already facing severe fiscal challenges? Whether viewed as a portion of the budget, in terms of equivalent number of teachers, or in terms of teacher compensation, the consequences would be significant. (They would be even worse, of course, if SDP’s state reimbursements failed to rise in step with retirement costs or were offset by cuts in other forms of state education aid, in which case the hit could reach \$284 million by 2020, or \$1,923 per pupil, as previously noted.)

Impact on SDP spending

By 2020, the School District of Philadelphia will likely have about 148,000 students and a budget of \$2.19 billion (inflation-adjusted)—which represents a decline of over 10 percent from 2011’s enrollment of 166,000 and total budget of \$2.50 billion (see Appendix A for revenue and enrollment projections). The \$111 million burden of rising retirement costs would represent 5.1 percent of SDP’s total budget. (The worst-case \$284 million impact of rising retirement costs would represent a staggering 13.0 percent of the budget.)

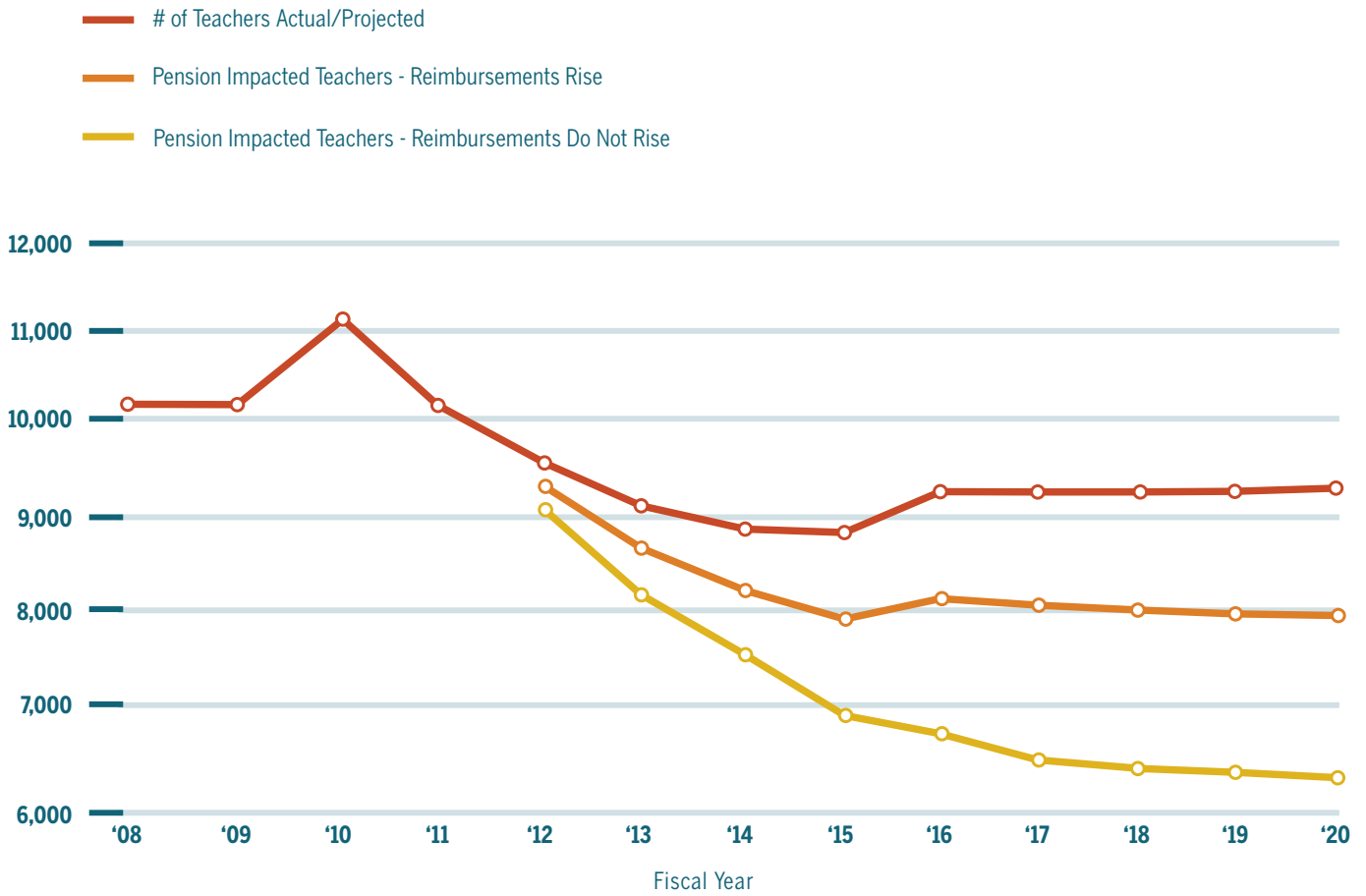
There’s no way to know for certain how SDP would distribute the impact of any budget cuts it might consider. But using historic expenditure patterns from school districts nationwide, we can evaluate how any budget cuts *might* ripple through the school system.²⁶ For example, if the district distributed its rising pension obligation based on a typical district’s spending pattern, 56.0 percent of any impact would fall on instructional costs and 13.2 percent on non-classroom instructional support activities (see Table 1). (Operations costs account for 20.5 percent of typical district spending, while 7.9 percent is absorbed by central and school leadership functions and 2.4 percent other expenditures.)

TABLE 1 Impact of increased PSERS contributions across expenditure categories

	AVERAGE SHARE OF DISTRICT EXPENDITURES	COST TO SDP (IN MILLIONS)	
		BEST-CASE	WORST-CASE
Classroom instruction	56.0%	\$62.2	\$159.0
Non-classroom instructional support	13.2%	\$14.7	\$37.5
Operations	20.5%	\$22.8	\$58.2
Leadership	7.9%	\$8.8	\$22.4
Other	2.4%	\$2.7	\$6.8
TOTAL	100%	\$111.0*	\$283.9

*Numbers do not add to total due to rounding

FIGURE 3 School District of Philadelphia Projected Number of Teachers, 2008-20, Under Increased Retirement Costs



	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
#Teachers Actual/Projected	10,158	10,131	11,041	10,277	9,470	8,938	8,833	8,739	9,240	9,211	9,193	9,209	9,227
Pension Impacted Teachers - Reimbursements Rise					9,337	8,604	8,301	7,985	8,197	8,092	8,051	8,030	8,023
Pension Impacted Teachers - Reimbursements Do Not Rise					9,157	8,148	7,564	6,924	6,706	6,457	6,347	6,232	6,149

FIGURE 3. Number of Teachers Actual/Projected represents actual past employment data and future estimates based on projected enrollment (Table B-1) and a return to a student-to-teacher ratio of 16:1 (red curve). The two projections for pension-impacted teachers assume the best-case scenario (orange curve) and the worst-case scenario (yellow curve). The impact is the total number of teachers the district could employ if it cut teaching positions in order to pay for the rise in the per-pupil cost of retirement. We calculate the impact by dividing the total impact of the rise in retirement costs by the estimated average teacher compensation in that year.

In Philadelphia, distributing costs proportionally means a \$62.2 million reduction in classroom spending (Table 1), or 2.8 percent of the district's projected inflation-adjusted spending in 2020, under the hopeful scenario in which its state reimbursement is untouched. If SDP were to lose the projected rise in reimbursements (or the equivalent from other state education-funding pipelines), a worst-case scenario, a reduction in \$159.0 million of classroom spending would loom, or 7.3 percent of total spending in 2020.

Impact on teachers

Rather than distributing cuts proportionally, the district might instead choose to target classroom instruction specifically since it accounts for such a large portion of district spending. As a result, these areas could see substantial (and likely unpopular) cuts. One option is to reduce the number of teachers. As shown in Figure 3, we project that SDP would need 9,227 teachers in 2020 to restore its 2011 student-to-teacher ratio of 16:1 (red line). (For calculations, see Appendix A, *Projecting Enrollment, Revenue, and Teacher Employment in 2020*.) Saving \$111 million in 2020 could require reducing that number by as many as 1,203 teachers (orange line), raising the student-to-teacher ratio from 16.2:1 in 2011 to roughly 18.4:1. The reduction would be on top of those already enacted in FY12. If Philadelphia were to lose aid equivalent to the rise in the state's retirement reimbursement, the resulting \$284 million cost could require eliminating 3,077 teaching positions (yellow line).

Note that we rely on an average teacher salary and benefits for this analysis, but in reality teachers are typically dismissed based on seniority, with the least experienced—and thus cheapest—teachers the first to be fired. Hence the true reduction in force could be considerably larger—perhaps 40 percent greater—than any estimate based on average compensation.²⁷

Alternatively, the district could preserve teacher positions but reduce teacher pay and (non-retirement) benefits. Total teacher compensation (salary and benefits) is projected to average \$111,031 per teacher by FY20, or \$92,546 in 2011 dollars. The average teacher would need to sacrifice \$12,071 in compensation (inflation-adjusted) to address a \$111 million shortfall in this way and \$30,869 to cover a \$284 million gap.²⁸

GOVERNOR CORBETT'S PROPOSALS

The root of the problem, of course, is pension promises made, but not funded. Pennsylvania has, belatedly, cut benefits significantly for new hires in 2010, but the underfunding of past promises remains. As this study goes to press, Governor Corbett has proposed a new round of reforms, including enrolling new teachers (and state employees) in defined-contribution plans, a step that is aimed at the important goal of preventing future shortfalls, but which does not directly address the past shortfalls that are the source of Pennsylvania's rising costs. However, the proposal also cuts future benefits yet to be earned by *current* employees.²⁹ This is an important and controversial step.³⁰ Although it does not directly affect the unfunded liability, it immediately cuts the employer's cost of current accruals—the “normal cost” component of employer contributions.³¹ 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 that net savings for SDP will peak at \$22.2 million for FY16.³² After that deferral ends, however, PSERS projects that SDP net savings will drop off to \$2.4 million by FY18. 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.

Regardless of what the governor is able to push through, closing the funding gap in teacher pensions will be bitter medicine. But the City of Brotherly Love will be less loving for years to come if it refuses to do so.

Acknowledgments

Dr. Costrell is a professor of education reform and economics, holds the endowed chair in education accountability at the University of Arkansas, and is a fellow in education reform at the George W. Bush Institute. Larry Maloney is president of Aspire Consulting, LLC.

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This report is one of three on retirement costs and its impact on school-district budgets. The other two, focused on Milwaukee and Cleveland, will be released during the Summer of 2012. The summary report of all three can be found at www.edexcellence.net.

APPENDIX A: PROJECTING ENROLLMENT, REVENUE, AND TEACHER EMPLOYMENT IN 2020

FIGURE A-1 School District of Philadelphia Projected Enrollment 2011-20



	'05	'06	'07	'08	'09	'10	'11	'12
Actual	187,547	184,560	177,431	172,704	167,752	165,694	166,272	154,262

	'13	'14	'15	'16	'17	'18	'19	'20
Projected	151,952	150,154	148,571	147,839	147,379	147,088	147,345	147,625

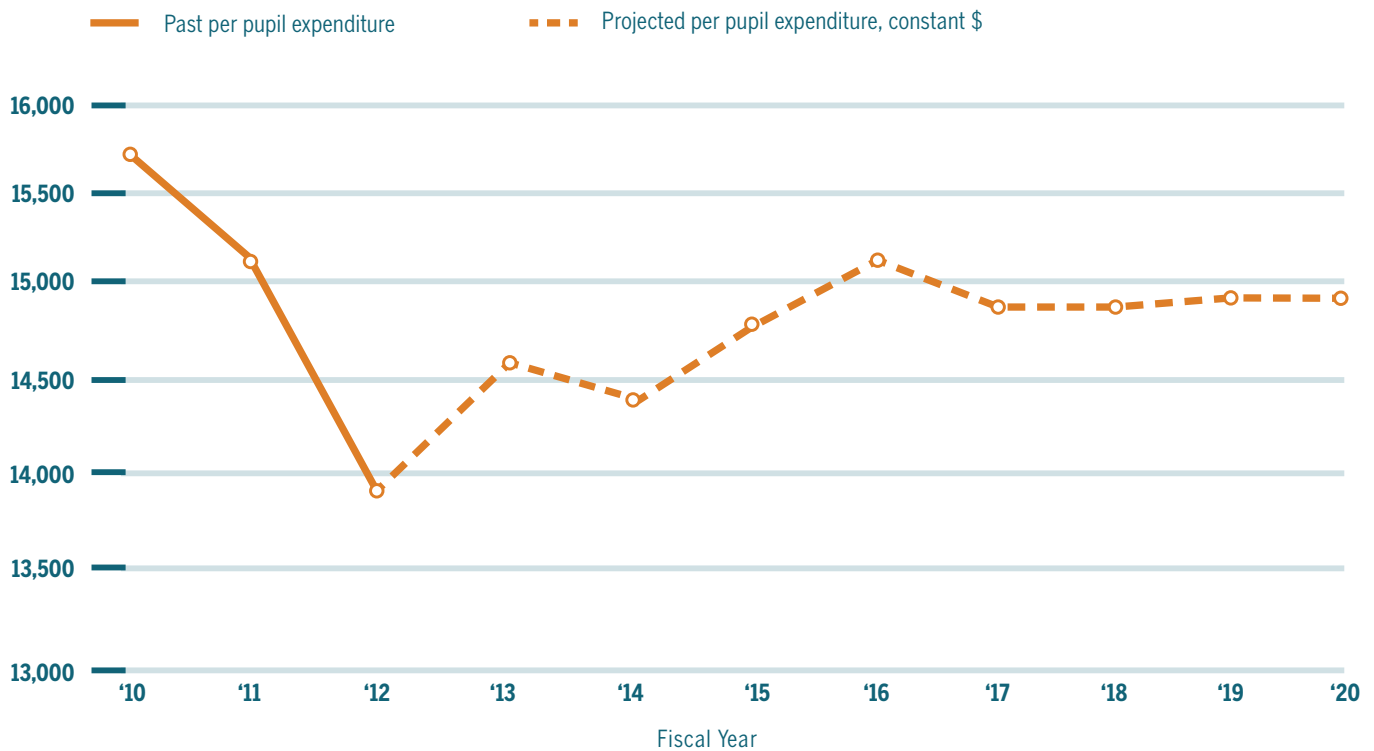
Figure A-1 shows both actual and projected enrollment for SDP (exclusive of charter enrollment), through 2020. Between 2005 and 2012, SDP’s enrollment declined by 17.7 percent. While neither Pennsylvania nor SDP produce projections for district enrollment, we used the state’s enrollment projection for statewide enrollment to project continued declines of one percent a year through 2015, after which the rate of decline is projected to stabilize before increasing modestly in 2019 and 2020.³³

Projecting future revenues and expenditures for any district is a complicated task, and it is especially difficult under Philadelphia’s current circumstances—SDP already faces an enormous budget deficit, and how it will address this problem is hard to predict. For the five-year period ending in FY17, SDP has projected its own revenue forecast; we use these general projections with adjustments for debt service revenue, which we have not included in this study, as well as pass-through payments to the charter schools

in the city. For the three years beyond FY17, we make the straightforward assumption that revenue growth will be tied to the projected Consumer Price Index (CPI).³⁴ This is a conservative assumption—it is quite possible that per-pupil funding will grow more slowly than the CPI, or even not grow at all, and so our calculations here of the pension burden as a portion of the budget thus err smaller rather than larger.

The result is that projected per-pupil funding declines from \$15,037 in 2011 to \$14,843 in 2020, as expressed in 2011 dollars. More specifically, although per-pupil revenues dropped over \$1100 (controlling for inflation) from FY11 to FY12, SDP projections imply they will regain their FY11 level by FY16, and we project they will decline modestly thereafter through FY20 (Figure A-2).

FIGURE A-2 School District of Philadelphia Past and Projected Per-Pupil Revenue 2010-20

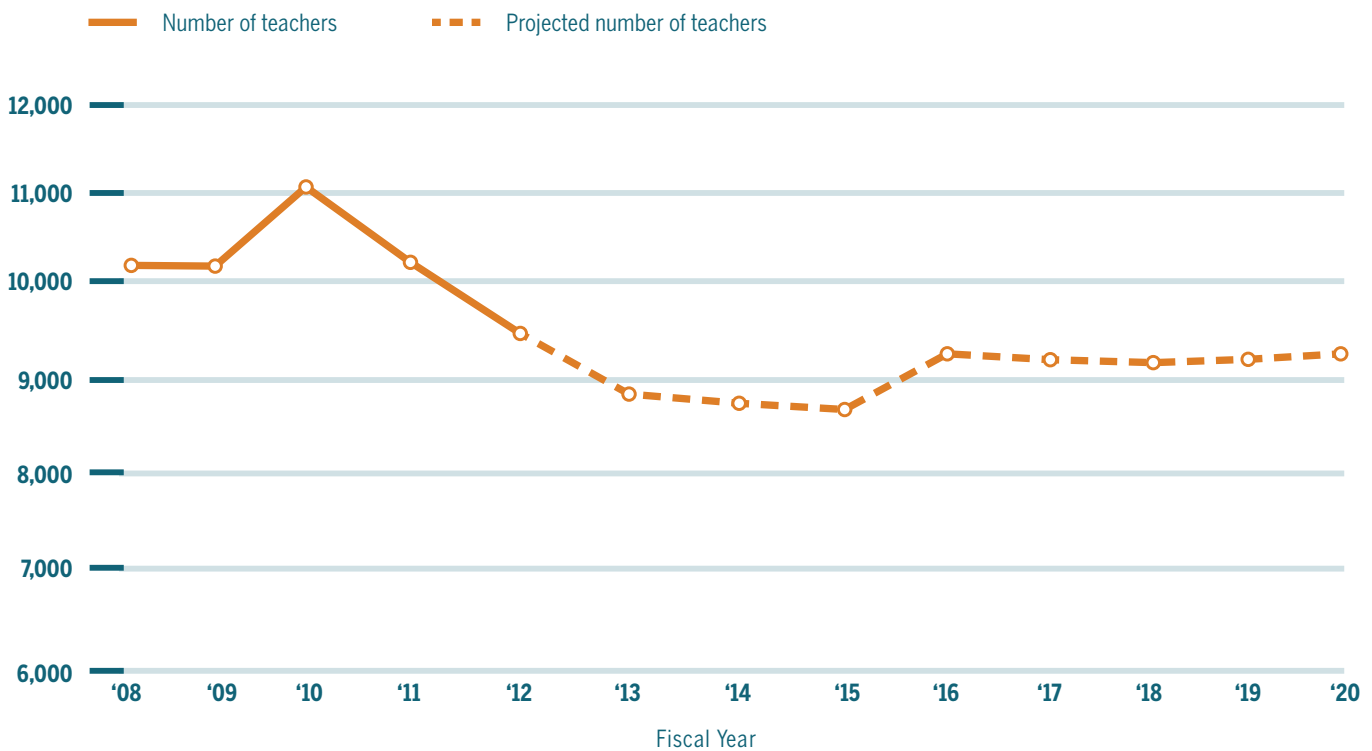


	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
Per Pupil Expenditure	15,750	15,037									
Projected Per Pupil Expenditure		15,037	13,895	14,635	14,334	14,812	15,171	14,797	14,768	14,843	14,843

Projecting teacher employment

Figure A-3 shows the historic and projected number of teachers within SDP. Teacher employment grew by 8.7 percent between 2008 and 2010, rising from 10,158 to 11,041 positions.³⁵ This growth was perhaps incongruent with a 4 percent enrollment decline, but federal stimulus funds enabled Philadelphia to maintain steady employment despite a dwindling number of students. Now these funds have expired, and recent layoffs mean that the student-to-teacher ratio will be 16.3:1 in 2012, up slightly from 16.2:1 in 2011. We assume that the district will reduce class sizes as the financial crisis lessens, and therefore project a 17:1 ratio through 2015, after which it will drop and stabilize at 16:1 in 2016 through 2020. As in other areas of our analysis, this is a deliberately conservative assumption—by erring toward a lower student-to-teacher ratio, we are erring higher on the number of teachers employed by the district and, ultimately, erring lower on the impact the pension shortfall will have on teachers.

FIGURE A-3 Number of Past and Projected SDP Teachers 2008–20



	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
# teachers	10,158	10,131	11,041	10,277	9,470	8,938	8,833	8,739	9,240	9,211	9,193	9,209	9,227

APPENDIX B: HISTORY AND CONSEQUENCES OF PENNSYLVANIA'S PENSION WOES

Our projection of Philadelphia's retirement costs depends on the schedule of contribution rates set by the state system, PSERS, under state law. As outlined in the text prior, a series of legislative actions in the early and late 2000s left PSERS with a substantial bill that, unfortunately for the state and its districts, will soon come due, in the form of dramatically rising annual contributions.³⁶

History of Employer Pension Contributions

FIGURE B-1 Employer Pension Contributions, PSERS, FY61-FY11
(Retiree health contribution not included)

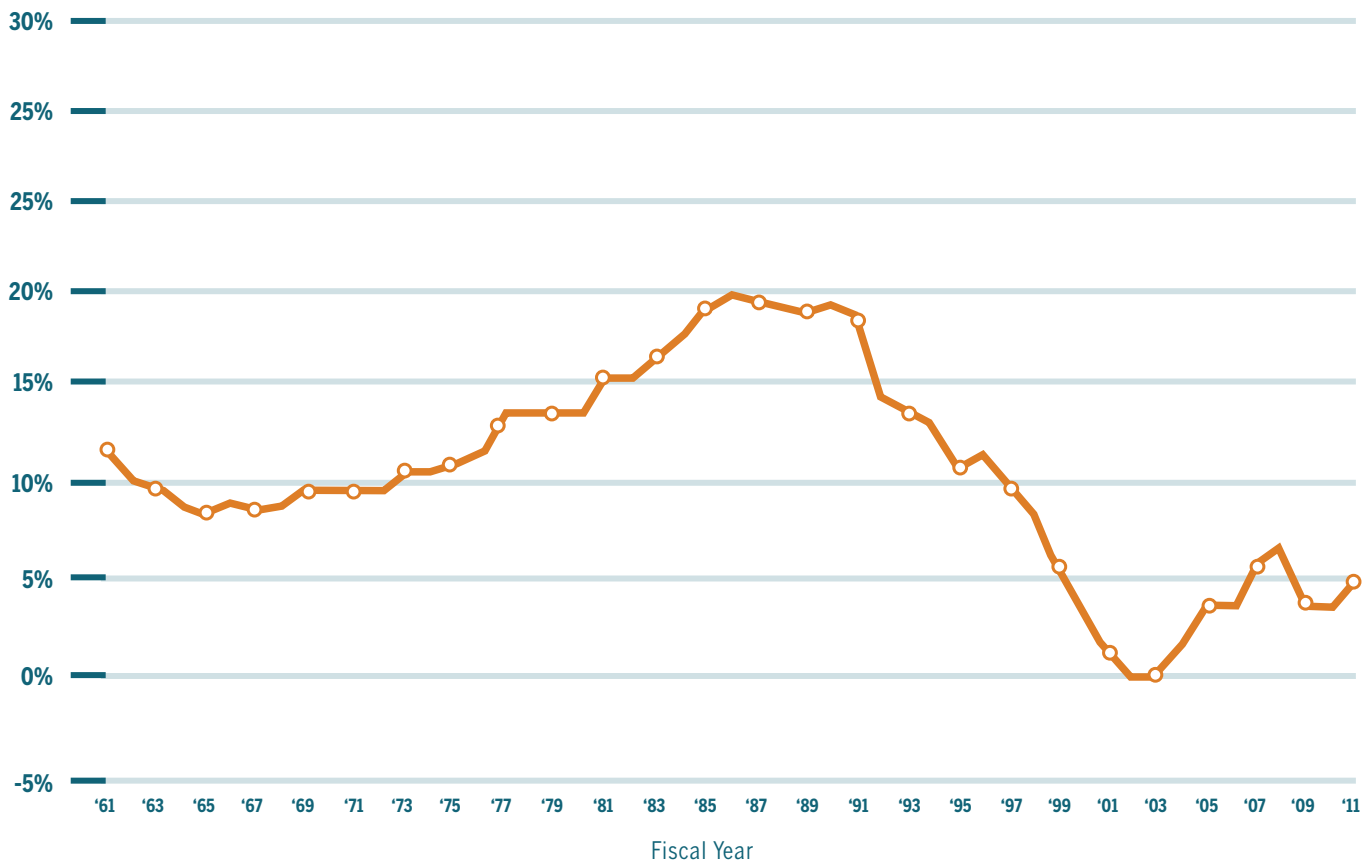
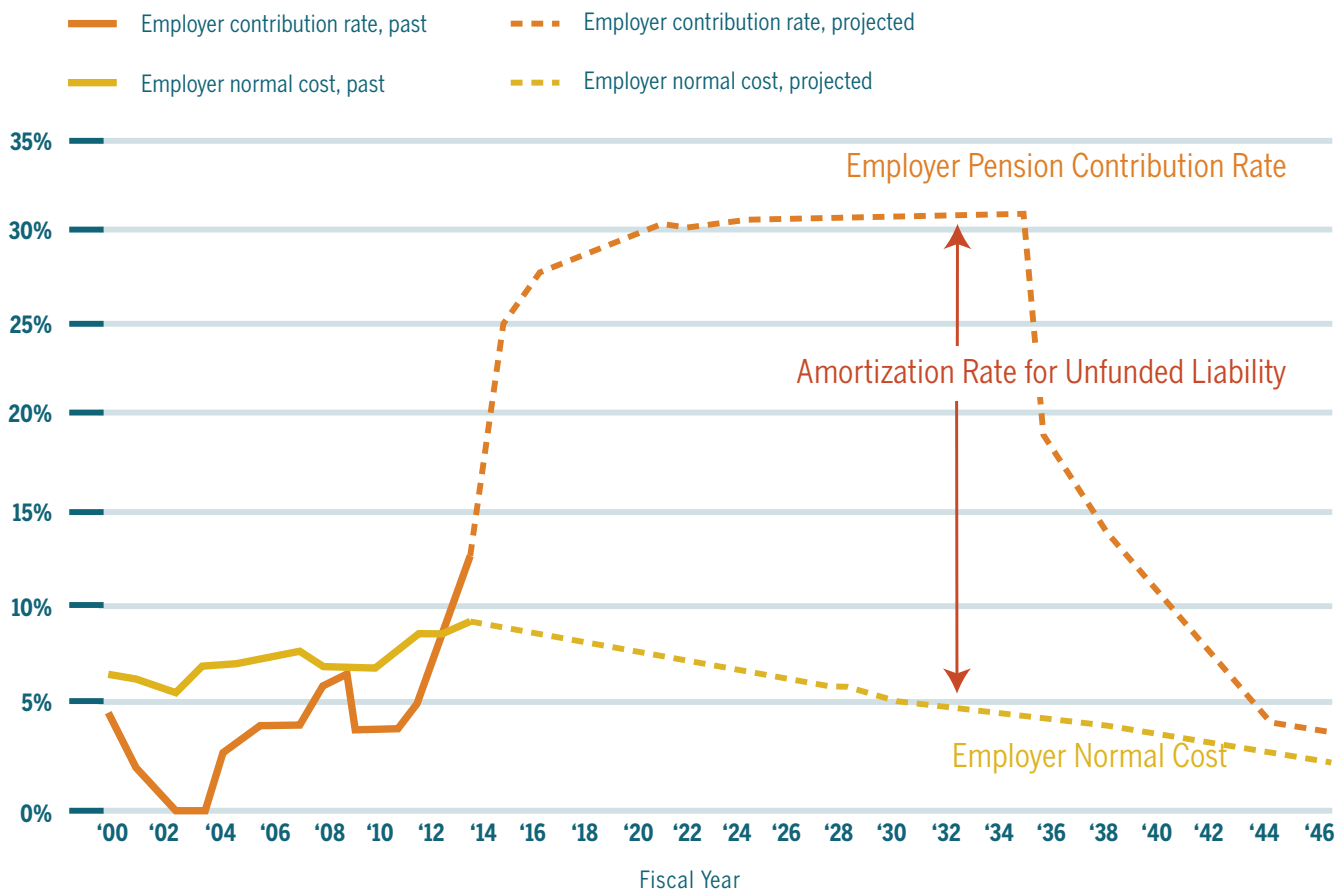


FIGURE B-1. Fifty-year history of the employer contribution rate for the PSERS pension benefit, FY61-FY11. After peaking at just over 20 percent in FY86, rates fell as asset values grew. The rate was further reduced to zero in FY02, despite fallen asset values, due to actuarial smoothing. The rate gradually increased to 5 percent by FY11, not nearly enough to fund the benefit enhancements enacted in 2001.

FIGURE B-2 Employer Pension Contribution & Normal Cost, FY00 - FY46
(Retiree health contribution not included)



DATA SOURCE: Public School Employees' Retirement System of Pennsylvania

FIGURE B-2. Recent and projected employer contribution rates for the PSERS pension benefit, FY00–FY46. The employer contribution rate (orange) is composed of the employer's contribution to the normal cost (yellow), and the amortization rate of the unfunded liability (difference between the curves). The employee's contribution rate (not shown) covers part of the normal cost while the employer portion generally covers the rest. However, through FY12, the employer contribution failed to cover normal costs (yellow curve was above the orange), so the unfunded liability grew. Rate caps and non-standard actuarial practices deferred payments to amortize the unfunded liability. The result of these deferrals is the abrupt rise in the employer contribution rate and the long plateau of enormous amortization payments.

Figure B-1 depicts a fifty-year history of the employer contribution rate for the PSERS pension benefit, from 1961 through 2011.³⁷ After rising from around 10 percent of payroll to a peak of just over 20 percent in FY86, PSERS reduced contribution rates to zero in FY02. This dramatic reduction illustrates the state's reaction to the bull market of the late 1990s; during this time, PSERS asset values swelled and the funded ratio was calculated to be above 100 percent. Because public pensions are allowed to spread single-year market gains and losses over several years—a practice known as smoothing—the funding ratio *remained* above 100 percent even after the subsequent plunge in market values would have otherwise driven it well below

that level.³⁸ Since the plan was considered actuarially *overfunded*, and since there was no floor in pension contributions at the time, the contribution was cut to zero in FY02.³⁹ At the same time, the Pennsylvania legislature used the smoothed market gains to justify an increase in pension benefits, implemented with Act 9 of 2001.⁴⁰ Since then, the employer contribution rate has gradually edged back up, but as discussed below, not nearly fast enough to avoid the record-high contribution rates that loom in the near future.

Figure B-2 shows both the recent employer contribution rate for pensions (FY00 through FY13) and PSERS's projection of that rate through FY46. In addition, this diagram shows how the employers' pension contribution (i.e., those from school districts, prior to any reimbursement) breaks down between the amortization of the unfunded liability and the employer's portion of the "normal cost"—the cost required to pre-fund currently accruing pension benefits for active employees. It is worth examining separately the normal cost and the amortization payments, both for the recent period of FY00 to FY13 and for the future.

Consider first the normal cost. The employee's contribution rate, which rose from 5.72 percent to 7.40 from FY00 to FY13, covers part of the normal cost while the employer portion, depicted by the red line of Figure B-2, covers the rest. The employer's normal cost is the contribution required to cover future retirement benefits currently accrued by active employees, over and above the employees' own contribution to the system.

Now consider the amortization payments on the unfunded liability. These payments are depicted in Figure B-2 as the difference between the two curves. When the liability is underfunded (the usual case) these payments are supposed to be positive, like monthly payments to reduce the principal on a mortgage. These amortization payments are tacked onto the employer's normal costs. When the system is funded at more than 100 percent, however, the amortization calculation turns negative, reducing contributions below the employer's normal costs.⁴¹ The funded ratio (based on actuarially smoothed assets) exceeded 100 percent from FY97 to FY02, so negative amortization was the result: the orange curve ran below the yellow curve in Figure B-2. More specifically, the contribution rate lags the corresponding valuation by two fiscal years, so the over-funding through FY02 helps explain the negative gap between the two curves up through FY04.

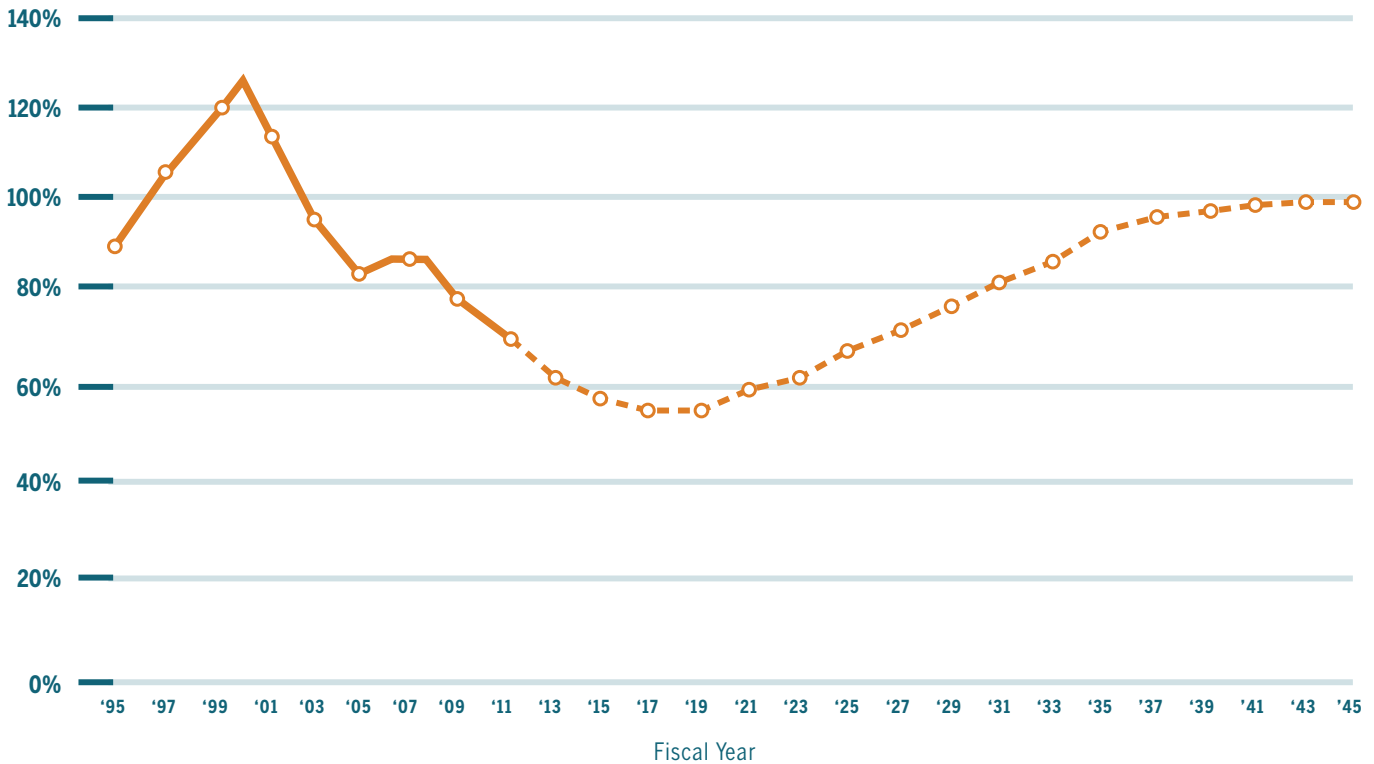
However, once the funded ratio fell back below 100 percent in FY03 (i.e., the unfunded liability returned to positive territory—see Figure B-3) the subsequent contribution rates remained below the normal cost for some years, as shown in Figure B-2—no effort was made to pay down the unfunded liability. Instead of making the actuarially required amortization payments, the portion of the contribution dedicated to "amortization" remained negative, thereby adding to the unfunded liability each year, a situation that continued through FY12. As a result, the funded ratio fell to 66.4 percent by the end of FY12 and is projected to fall further in the coming years.

Why did the contributions fail to provide for proper amortization during this period? The schedule of contributions starting in FY03 was based on legislation enacted in 2002 and 2003, and it departed significantly from standard actuarial methods. This legislation was known at the time to be underfunding the system—its intention was to defer required contributions for ten years, until 2013. As 2013 and the scheduled pension "spike" approached, however, the funding ratio further deteriorated following the market downturn of 2008, and new legislation was enacted in 2010. This legislation, Act 120, deferred the costs yet further (by cutting the FY11 contribution rate and revising the actuarial methods to determine future contributions), while also reducing benefits for new hires.⁴²

Projected Employer Pension Contributions

The projected employer contributions under Act 120 (annually updated by PSERS, most recently in December 2012) are depicted in Figure B-2 by the dashed orange line. This projection reflects developments in both the employer normal cost and the amortization payments.

FIGURE B-3 PSERS Funded Ratio, FY95 - FY46



DATA SOURCE: Public School Employees' Retirement System of Pennsylvania

FIGURE B-3. PSERS funded ratio, FY95–FY46. The reason for SDP’s extremely high retirement costs is that the pension is dramatically unfunded—and it will get worse before it gets better. As the funded ratio fell below 100 percent in FY03, the system failed to impose amortization payments (Figure B-2) and the unfunded liability grew. The funded ratio is currently 66.4 percent. It will fall even further in the coming years, before gradually recovering with the huge projected employer contributions.

Normal costs will gradually decline, due to Act 120’s cut in benefits for new hires.⁴³ However, this gradual decline will be swamped by the dramatic rise in amortization payments, deferred for more than a decade. The timing of these deferred payments was modified by Act 120, but not their general contours. Under previous law, deferred contributions to amortize the unfunded liability were scheduled to produce a huge, sudden, and much publicized “rate spike” in FY13, an increase in the employer contribution rate for pensions from 4.0 percent of payroll in FY10 to 28.5 percent in FY13.⁴⁴ It was scheduled to rise further to about 33 percent by FY15 and to remain over 20 percent until FY33. Act 120 capped yearly increases in the

employer contribution, such that the rate hike was postponed and made more gradual. It is now scheduled to rise from 11.5 percent in FY13 to 25.0 percent by FY16 and level off at over 30 percent from FY20 through FY35.

To round out the projection, Figure B-2 shows that the plateau ends abruptly in FY36, with employer pension contributions plummeting from 30.76 percent to 17.85 percent that year, and gradually declining thereafter. (This reverse spike in FY36 is an artifact of the twenty-four-year amortization period set by Act 120 for previously accrued liabilities.⁴⁵)

As Figure B-2 shows, the dramatic rise in projected employer contributions is shaped by these amortization payments. (See the widening gap between the orange curve for the employer contribution rate and the yellow curve for the employer normal cost.) For fourteen years (FY99–FY12), amortization payments were negative—that is, the state was effectively taking money out of the pension system, even though it was not fully funded for most of this period—and unfunded liabilities have piled up since 2003. Under current law, these bills are now, once again, coming due. The vast majority of the employer contribution in the coming years will serve to amortize the previously accrued unfunded liability, rather than to fund newly accruing benefits for current employees (the normal cost).

Even so, the funding ratio continues to decline for some time, from 66.4 percent at the end of FY12 to a projected 56.6 percent in FY18, before beginning a slow ascent toward full funding (see Figure B-3).⁴⁶ The funded ratio is not projected to reach 80 percent until FY31. Thus, employer contributions—from some combination of the district and the Commonwealth—will need to be extraordinarily elevated for decades to come to restore sound funding to PSERS.

ENDNOTES

1. Pennsylvania has a separate plan for state employees, SERS. Because it does not cover school district employees, it is outside the scope of this report.
2. Peter Jackson, "Pa. budget chief says pension reforms essential," Associated Press, January 28, 2013, http://www.ydr.com/ci_22469272/pa-budget-chief-says-pension-reforms-essential. See also Charles B. Zogby, *The Keystone Pension Report* (Office of the Budget, Fall 2012), http://www.budget.state.pa.us/portal/server.pt/community/pension_reform/21394 which repeatedly stresses the likely cuts to education aid and other core functions of state government, "absent meaningful pension reform."
3. This date provides a common measuring point with other districts in this series.
4. Equivalently, in this "worst-case" scenario (as we will call it) the state will continue to reimburse at the 2011 figure of \$246 per pupil.
5. Revenue projections essentially result in constant per-pupil expenditures, adjusting for inflation.
6. The impact on student-to-teacher ratios or teacher compensation would be reduced if the burden were spread among other components of education spending, including non-teaching staff.
7. The Administration has stated that *previously* "accrued retirement benefits of current employees [or retirees] cannot and will not be touched." Zogby, *The Keystone Pension Report*, 13. Even so, reform opponents have pledged to challenge the cuts to future accruals in court.
8. PSERS's 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.
9. School District of Philadelphia, "2011-2012 Budget Update," March 30, 2011, http://webgui.phila.k12.pa.us/uploads/1_/Ck/1_Ck6WBPR1UmPbz8gVSi8Q/Budget-3-30-11-FINAL.pdf.
10. Kristen A. Graham, "Philly teacher layoffs will move forward—for some," *Philadelphia Inquirer*, June 24, 2011, http://articles.philly.com/2011-06-24/news/29699462_1_potential-layoffs-teacher-layoffs-layoff-notices
11. \$218 million shortfall as reported by the School District of Philadelphia, "FY2012-13 Budget in Brief," April 24, 2012, <http://webgui.phila.k12.pa.us/uploads/OC/Ok/OC0ketiRz5bW-TwtDfHjNA/SDP-FY2012-13-Budget-in-Brief-2012-4-24.pdf>; SDP also estimated a five-year shortfall of \$1.35 billion in the "Five-Year Financial Plan: Fiscal Years 2013-2017," September 10, 2012, <http://webgui.phila.k12.pa.us/uploads/25/uf/25ufD1ggRSTPPj3EYkXNaw/SDPFYP.pdf>.
12. For a glossary of terms, including "annual required contribution" and "funded ratio," see Glossary in Dara Zeelandelaar, Amber M. Winkler, "The Big Squeeze: Retirement Costs and School-District Budgets," Thomas B. Fordham Institute, p. 20.
13. Ibid.
14. Commonwealth of Pennsylvania Governor's Budget Office, "Retiring Pennsylvania's Pension Challenge: Eliminating the 2012-13 Rate Spike," June 5, 2008, http://www.repaument.com/Display/SiteFiles/127/041_PensionReform_WhitePaper.pdf.

15. These rates are for pension only; the full contribution rate includes a small component (less than 1 percent) for retiree health.
16. This drop includes the effect of PSERS' most recent "experience review" in 2011 to update the system's actuarial assumptions. The key change was to reduce the assumed return on investment from 8.0 percent to 7.5 percent, which raised the present value of the system's liabilities.
17. Pennsylvania school districts also contribute to Social Security and Medicare. These costs are excluded from the analysis, since our focus is on state and local retirement programs.
18. The district offers a modest post-employment life insurance benefit, but the annual cost is under \$1 million. The district also converted termination pay of accrued leave from cash payments (typical practice of many school districts) to 403(b) contributions in 2005 for tax purposes, so this is considered a retirement contribution. (*Comprehensive Annual Financial Report of The School District of Philadelphia, Year Ended June 30, 2011*, pp. 81-85).
19. The reason the contribution rate for retiree health benefits is so low—and is projected to remain below 1 percent indefinitely—is that the PSERS subsidy is fixed at "the lesser of \$100 per month or the actual premium," (PSERS FY12 valuation, p. 29).
20. We follow PSERS usage in defining "employer contribution" as the district's contribution prior to any reimbursement. PSERS also collects an "employee contribution" of about 7.4 percent; unlike some other states (e.g., Wisconsin, until recently), the employer does not pay the employee contribution.
21. The pertinent state law is Title 24, section 8535. For SDP, the post-1994-employee reimbursement formula is currently 72.1 percent. Our estimate of the 56.1 percent effective reimbursement rate for FY11 is based on the Pennsylvania Department of Education's reported reimbursements (Pennsylvania Department of Education, "AFR Data," State Revenue, code 7820, http://www.portal.state.pa.us/portal/server.pt/community/summaries_of_annual_financial_report_data/7673/other_financial_information/509049) and SDP's reported total employer contributions to PSERS (*Comprehensive Annual Financial Report of The School District of Philadelphia, Year Ended June 30, 2011*, p. 84). The District's *Proposed Five Year Financial Plan, Fiscal Years 2013-2017* states that the reimbursement rate is 65 percent (p. 5). There are various reasons these estimates may differ, but our estimate is based on audited payments.
22. As discussed in Appendix A, for most of the projection period, our revenue projections are based on SDP's most recent five-year projection. To calculate payroll's share of revenues, we draw on SDP's recent Comprehensive Annual Financial Reports (CAFRs). These report the dollar value of the district's total PSERS contributions (prior to state reimbursement) and the contribution rates (which match the PSERS published rates), so one can infer the district's PSERS-covered payroll.
23. "An Update on PSERS: Rate Spike/Plateau Presentation," February 28, 2010, slide 30.
24. These impact figures are not quite the same as the rise in projected contributions, as depicted in Figure 1. The rise in contribution has two pieces: (the rise in per-pupil retirement costs x FY20 enrollment) - (the drop in enrollment x the FY11 per-pupil retirement costs). The budget impact, under the assumption of constant per-pupil revenues, is the first term. Thus, the rise in contributions is slightly less than the budget impact. For the orange curve in Figure 1, we have a rise of \$276 million, while the budget impact is \$284 million.

25. SDP will also face other pressures from past obligations. Annual debt service payments (net of state reimbursements) amount to \$1,551 per pupil in FY13 (inflation-adjusted to 2011 dollars) and are projected to rise to \$1,838 by FY17.
26. We used expenditure percentages from a database that includes 2.2 million students from the states of Nevada, South Carolina, and Rhode Island, and the cities of Washington, D.C., 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.
27. Marguerite Roza, "Seniority-Based Layoffs will Exacerbate Job Loss in Public Education," Center for Reinventing Public Education, 2009.
28. It may also be that Philadelphia's politicians have to turn to the tax base for additional revenue rather than force the district to make additional difficult budget tradeoffs. We estimate that increasing property taxes to close a \$111 million pension-funding gap would result in a per-household cost of \$197 by 2020 and \$503 if the shortfall reaches \$284 million. This is not impossible to imagine, but given an already tax-weary public, it is a step that would have adverse consequences on the city's competitiveness, as Chicago's Mayor Rahm Emanuel warned his residents upon facing a similar pension crisis.
29. Specifically, the proposal reduces the "multiplier" (the pension accrual for each year of service, as a percent of final average salary) from 2.5 percent to 2.0 percent, for service accrued after July 1, 2015.
30. The Administration has stated that *previously* "accrued retirement benefits of current employees [or retirees] cannot and will not be touched." Zogby, *The Keystone Pension Report*, 13. Even so, reform opponents have pledged to challenge the cuts to future accruals in court.
31. The employer's contribution to normal cost is the total normal cost, net of the employee contribution. The employee contribution rate is 7.4 percent and the proposal leaves that unchanged. The proposal also gives employees the option of continuing to receive accruals at the previous rate, if they are willing to pay higher contributions to fund it. Currently the employer's normal cost is 8.57 percent and is slated to decline to about 3 percent over the next thirty years, as the new hires, with lower benefits (under the 2010 reforms), are phased in. This projected decline of 5–6 percent provides some idea of the savings under the proposed reforms for current employees, since the 2010 reforms also reduced the multiplier from 2.5 percent to 2.0 percent for new hires. But even if the savings in normal cost were entirely devoted to amortizing the unfunded liability, the burden would still be high and rising, since the amortization costs are currently projected to exceed 25 percent.
32. We have converted PSERS's projections for district net savings as of May 9, 2013, to inflation-adjusted dollars, for comparison with other figures in this report.
33. Enrollment projections through 2020 based on the School District of Philadelphia's long-range facilities plan, April 2011.
34. Congressional Budget Office, "Current Economic Projections: Selected Tables From CBO's Budget and Economic Outlook," 2012, 56.
35. Counts provided by the Pennsylvania Department of Education.
36. Data for this section are drawn from the Actuarial Valuation for PSERS as of June 30, 2012 (submitted January 15, 2013), found at "Actuarial Valuation," *Public School Employees' Retirement System of Pennsylvania*, http://www.psers.state.pa.us/publications/general/actuarial_valuation.htm, as well as additional material posted

on the PSERS website, including the contribution projections at “Projection of Contribution Rates and Funded Ratios As of June 30, 2012,” *Public School Employees’ Retirement System of Pennsylvania*, updated December 6, 2012, <http://www.psers.state.pa.us/content/pfr/resources/contributions.pdf>. More generally, see the PSERS site for links to information regarding “the greatest challenge the System has faced in its history” at “Pension Funding Resources,” *Public School Employees’ Retirement System of Pennsylvania*, <http://www.psers.state.pa.us/pfr/pfr.htm>.

37. In addition, from FY92 on, there was a small contribution for retiree health insurance (1 percent or less, except in FY02 when it was 1.09 percent). These contributions are included in the text’s analysis of past and projected retirement costs, but to simplify the history of the problem, they are excluded from this Appendix.
38. Smoothing asset values entails phasing single-year market gains or losses into the actuarial value of assets over several years (usually four). This has been an approved practice under public sector actuarial standards, but remains controversial and is slated to end under newly issued standards. Using smoothed asset values, the PSERS funded ratio for FY02 was 104.8 percent (down from 123.8 percent two years earlier), but under market valuation, the ratio had actually fallen to 84.1 percent.
39. Since the actuarially smoothed funded ratio exceeded 100 percent, the amortization cost went negative and in this instance actually more than offset the cost of currently accruing liabilities (the “normal cost”). That is why the required contribution—the sum of the two—went negative and was thus satisfied by a payment of zero, under state law at that time.
40. For most employees, the “multiplier”—the pension payment’s percent of final average salary for each year of service—was raised from 2.0 percent to 2.5 percent. Since this increase applied (as in most states) not only prospectively, but also retrospectively to all years of service prior to enactment, this effectively provided a 25 percent benefit enhancement without a commensurate increase in employee contributions.
41. Statute could require contributions to cover normal cost, even when amortization is negative, but in the early 2000s the PSERS floor was simply zero. A floor of 1.0 percent was enacted in 2002, but other provisions resulted in a 0.18 percent contribution in FY03. The floor was raised further to 4.0 percent under 2003 legislation that governed the contributions starting in FY05.
42. The Public Employee Retirement Commission (PERC) provides an informative [Actuarial Note on Act 120](#). For most new employees, the “multiplier” was reduced from 2.5 percent to 2.0 percent. This is the rate that existed prior to passage of Act 9 of 2001, but of course the reversion to that rate only applied to new employees. (New employees also have the option of a 2.5 percent multiplier, but their contribution rate would be 10.3 percent, instead of 7.5 percent. The default option is the 2.0 percent multiplier, and that is the assumption of the actuarial valuation.) In addition, for new employees the age and service eligibility requirements for normal retirement were raised. Pensions are now capped at 100 percent of final average salary, and “purchase of service” is actuarially priced. Vesting was also raised from 5 years to 10. Finally, new employees’ contributions include a “shared risk” premium in the event that investment returns are low.
43. The total normal cost (employer- and employee-funded) is projected to drop from 16.06 percent in FY13 to 10.34 percent by FY46, as the share of “new” employees (hired after July 1, 2011, with reduced retirement benefits) rises. The average employee contribution rate also rises slightly from 7.40 percent to 7.50 percent, so the employer portion of normal cost drops from 8.66 percent in FY13 to 2.84 percent in FY46, as depicted in the dashed yellow line of Figure B-2. This trajectory of the normal cost rate was raised by about half a percent starting in FY13 (see the bump in Figure B-2) by PSERS’ recent revision of actuarial assumptions (see note 16).

44. The specific actuarial manipulation that produced much of this spike was embedded in Act 40 of 2003. At that time, there were actuarial gains from the stock market boom through 2000 and losses thereafter that had yet to be amortized. The 2003 legislation amortized the previous gains over ten years and the losses over thirty years. Thus, for ten years the more rapidly amortized gains outweighed the more slowly amortized losses. At the end of that period, FY13, the losses were unmasked and the rate spike was scheduled to materialize. (See the PERC Actuarial Note on Act 120, cited above, note 42.)
45. In addition to the changes mentioned in the text, Act 120 gave employers immediate relief by reducing the FY11 pension contribution rate to 5.0 percent, from the previously scheduled rate of 7.58 percent. Going forward, the method for determining the contribution rate was changed from “level dollar” to “level percent of payroll” methodology, a move that shifts some of the amortization payments to later years, since PSERS payroll is assumed to grow. All future increases in liabilities due to legislatively enacted enhancements are to be amortized over ten years. On the asset side, the smoothing period was increased from five years to ten—an unusually long period, criticized by PERC’s consulting actuary.
46. The reason for the U-shaped funded curve in Figure B-3 is related to the “level percent of payroll” amortization method mentioned in the previous note