THE BIG SQUEEZE:

Retirement Costs and School District Budgets

OHIO PENSION REFORM IN CLEVELAND:
NEW TEACHERS BEWARE

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TAXES

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Ohio Pension Reform in Cleveland: New Teachers Beware

SUMMARY

The state of Ohio recently took steps to rein in retirement costs, and the Cleveland Municipal School District (CMSD) will see substantial savings as a result. In addition, Cleveland's own recent (if perhaps belated) measures to pare back personnel in the face of declining enrollment have already reduced retirement costs independent of changes in the state plans.[1] In this report, we project the costs Cleveland would have faced prior to changes in the state plans, and determine how those changes might affect the district's bottom line in FY 2020.

In Cleveland, teachers and other district personnel receive all their retirement benefits—both pensions and retiree health care—from the state. For several years before the reforms of 2012, the state teacher retirement system was in trouble. Because state law limited the employer contribution rate, even as pension benefits were enhanced and market returns failed to meet the system's assumptions, it was virtually guaranteed that the pension system would be underfunded. In addition, the growing cost of retiree health insurance put strains on the system. While the board of the teachers' retirement system did take action in 2004 by raising health care eligibility requirements and mandating that retirees pay insurance premiums for their spouses and dependents, it could not increase contribution rates without legislative action.[2]

By 2011, the teachers' retiree health system faced insolvency in just over a decade and the pension plan failed to meet statutory funding guidelines. In September 2012, the legislature finally acted, passing SB 341 and SB 342. Senate Bill 342 addressed teacher retirement by increasing employee (but not employer) contributions, a critical measure that the retirement board could not do on its own. The law also reduced pension benefits by raising age and service eligibility requirements, eliminating enhanced multipliers for teachers with more than thirty years of service, and cutting cost-of-living adjustments.[3] Another important provision is that the law gave the teachers' retirement board the authority to adjust the employee contribution rate, retirement age and service requirements, and cost-of-living adjustments, if further funding shortfalls arise in the future. Senate Bill 341, which addressed pension and retiree health benefits for non-teaching personnel, made far fewer adjustments, since that fund was in better shape than the teachers' fund.

Our projections show that CMSD will see considerable savings under SB 341, SB 342, and board-initiated modifications to the retiree health plans. Had the state continued its pre-2012 path, we estimate per-pupil retirement costs would have increased $1,112 (from $1,364 to $2,476 per pupil) between FY11 and FY20. But *with* the changes, we project them to *drop* $107 by FY20, to a total of $1,257 per pupil. The legislative and retirement board actions will save CSMD $1,219 per pupil by FY20.[4] (All figures are adjusted for inflation.)

Most of the district's savings will come from the changes to benefits and employee contributions for the teachers' pension plan: these measures will reduce CMSD's costs by $972 per pupil by FY20 while the cost of pensions for non-teaching staff will remain stable. The remainder of the cost reduction is due to recent modifications to the retiree health care plans.

The timing couldn't be better: CMSD is in serious financial trouble. The district anticipates a deficit of $90.0 million (adjusted for inflation) by FY17. This is far greater than the $23.7 million that we project Ohio's reforms will save CMSD on retirement costs that year, but these savings are nonetheless helpful. The reforms' contribution to deficit reduction of $1,219 per pupil corresponds to $683 per pupil on classroom expenditures, $160 on instructional support and $250 on operations, if the impact were distributed proportionally across expenditure areas. That is, without Ohio's reforms, CMSD's prospective deficits would have been that much worse, possibly requiring cuts of these magnitudes on educational spending.

The story for Cleveland can be compared to that of Milwaukee (analyzed in a previous report in this series, *Milwaukee: Saved by Act 10...For Now*). Ohio enacted SB 341 and SB 342 to reduce retirement costs and Wisconsin famously adopted Governor Scott Walker's Act 10. In both cases the employee contribution was raised for teachers. Another similarity was the reduction in retiree health benefits. However, there are also some important differences. Unlike the Ohio legislation, the pension benefit itself was *not* cut by Act 10 in Wisconsin. Another important difference—perhaps the biggest—was the size of the net employee retirement benefit before the legislation. In Milwaukee, the employee paid nothing for either the pension or retiree health, so the full value of these benefits—over 30 percent of payroll—accrued to the employee. As a result, when employee pension contributions were raised and retiree health benefits cut, the employee still received a net benefit, just not as large. In Ohio, by contrast, the employee's pension contribution was already substantial, and most of the employer's contribution went to pay the unfunded liability, leaving a net employee benefit of about 5 percent of payroll. As teacher contributions are ratcheted up and benefits are reduced under SB 342, new hires in Ohio (taking the entry cohort as a whole) can expect to receive less than they pay for—a net negative pension benefit. Thus, in Ohio, the school districts were spared any increase in their burden to pay for previously promised benefits, but only by pushing that burden largely onto new employees. While fiscally advantageous, it remains to be seen what impact this approach will have on recruiting a high-quality workforce.

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This technical report is one of three on retirement costs and their impact on school-district budgets. The first, Paying the Pension Price in Philadelphia, *was released in June 2013; the second,* Milwaukee: Saved by Act 10...For Now, *was released in July 2013. A summary report of all three can be found at* http://www.edexcellence.net/publications/the-big-squeeze.html.

THE PRESENT CONTEXT: RETIREMENT COSTS IN OHIO

The Cleveland Municipal School District had 42,883 students and over six thousand permanent employees (including 3,170 teachers) as of the 2011–12 school year. District employees receive retirement benefits (pension and retiree health) through the state's retirement plans for teachers and other school employees—respectively, the State Teachers Retirement System of Ohio (STRS) and the School Employees Retirement System of Ohio (SERS).[5] Unlike Milwaukee (also profiled in this series), which features separate state- and district-provided retiree benefits, in Cleveland there are no district-specific benefits. Rather, like Philadelphia (the other district in this series, see *Paying the Pension Price in Philadelphia*), retiree pensions and health care are both provided by the state.[6] Nor does CMSD pay for the employee's contribution to STRS or SERS (unlike Milwaukee, prior to Act 10). Therefore, the STRS and SERS employer contribution rates, set by the state, and applied to CMSD's payroll, constitute CMSD's retirement costs. About three-quarters of CMSD's retirement costs are its contributions to STRS, so in the discussion that follows, we focus first on that system, and then add in SERS for the complete picture. For each, we project the total district retirement costs both pre- and post-legislative and plan changes, and then calculate the per-pupil burden.

Methodological Issues in Ohio

In calculating these projections, we face some methodological issues that differ from the other cases we examined. For pension costs, both Pennsylvania and Wisconsin specify in law how the employer contributions are to behave over time to cover actuarial costs (even if the contribution path is much deferred, as in the case of Pennsylvania). For Ohio, the law simply stipulates a flat numerical contribution rate: 14 percent for pension and retiree health together, of which STRS allocates 13 percent to pension and 1 percent to retiree health. The only actuarial requirement in law is that if the fixed contribution rate is insufficient to bring the pension system to full funding in thirty years, the boards of the retirement systems are required to develop proposals to address the shortfall, for legislative consideration. (This is the process that led to the recent changes.) Thus, for the purpose of projecting pension costs faced by the system before and after recent changes, the trajectory set by the system—a flat rate—is not illuminating. Thus, we will illustrate the pension costs the system faces, before and after the changes, with the alternative trajectories from the actual current contributions to the actuarially determined annual required contributions (ARC) by the end of the projection period (FY20).

Projecting retiree health costs poses a different issue. For Milwaukee, we focused on the pay-as-you-go, or "pay-go," path as chosen by that district, but also considered the ARC. Ohio, unlike Milwaukee, does not fund its retiree health on a pay-go basis. As mentioned above, STRS funds retiree health at a flat 1 percent contribution rate (SERS is different, as discussed later in this report). As with the pension costs, a projection based on the flat 1 percent is not very informative. Moreover, unlike Milwaukee, STRS does not provide projections for either a pay-go or actuarial funding path. Thus, to illustrate meaningful trajectories, before and after recent changes in retiree health, we shall have to estimate pay-go and actuarial paths, comparable to those we saw for Milwaukee.

Finally, this report relies on a five-year projection for revenues and expenditures updated twice per year by the Cleveland Municipal School District. We completed the Cleveland analysis using its October 2012 projection, which predicted FY17 revenues of $534.1 million ($2011). After our top-line findings were published in the series' Summary Report, CMSD released a new forecast indicating an improvement in the overall financial picture for the district; by May 2013, the district projected FY17 revenues of $565.0 million. However, expenditures are not expected to grow as quickly as the increase in revenues. The October 2012 forecast projected FY17 expenditures of $624.1 million ($2011); by May 2013, the district forecast expenditures of $639.4 million. The district's forecast results in a change in the deficit projections for the district, declining from $90 million ($2011) to $74.4 million in FY17. We used the new projections for enrollment and revenue to determine if the completed analysis remained valid. We found only a slight change in the impact of the new law based on the new projections, with the impact of the law rising from $1,219 to $1,262 per pupil.

THE DISTRICT'S BILL AND THE PER-PUPIL BOTTOM LINE, PART 1: STRS

All Cleveland teachers receive their retirement pension and health benefits through the State Teachers Retirement System of Ohio (STRS). As a backdrop to recent fiscal pressures and plan changes, it is useful to examine the historical record for contributions to STRS. Figure 1 depicts employer and employee contributions, as a percent of payroll, from FY46 through FY13.[7] The contribution rates rose rapidly up until the mid-1980s, followed by little or no increase thereafter. The rise in contribution rates reflects the impact of two factors: enhancements to benefits and the extent to which they have been appropriately funded. Pension benefits were steadily enhanced through 2000, even after contribution rates leveled off.[8] The system was apparently encouraged by the bull market of the 1990s to raise benefits without raising contributions, a gamble that proved faulty. As the market faltered, especially after 2008, funding proved insufficient. In addition, retiree health costs increased with medical inflation throughout this period, and contributions did not keep up, even though benefits were periodically pared back.

Figure 1 STRS Employer and Employee Contribution Rates, 1946-2013
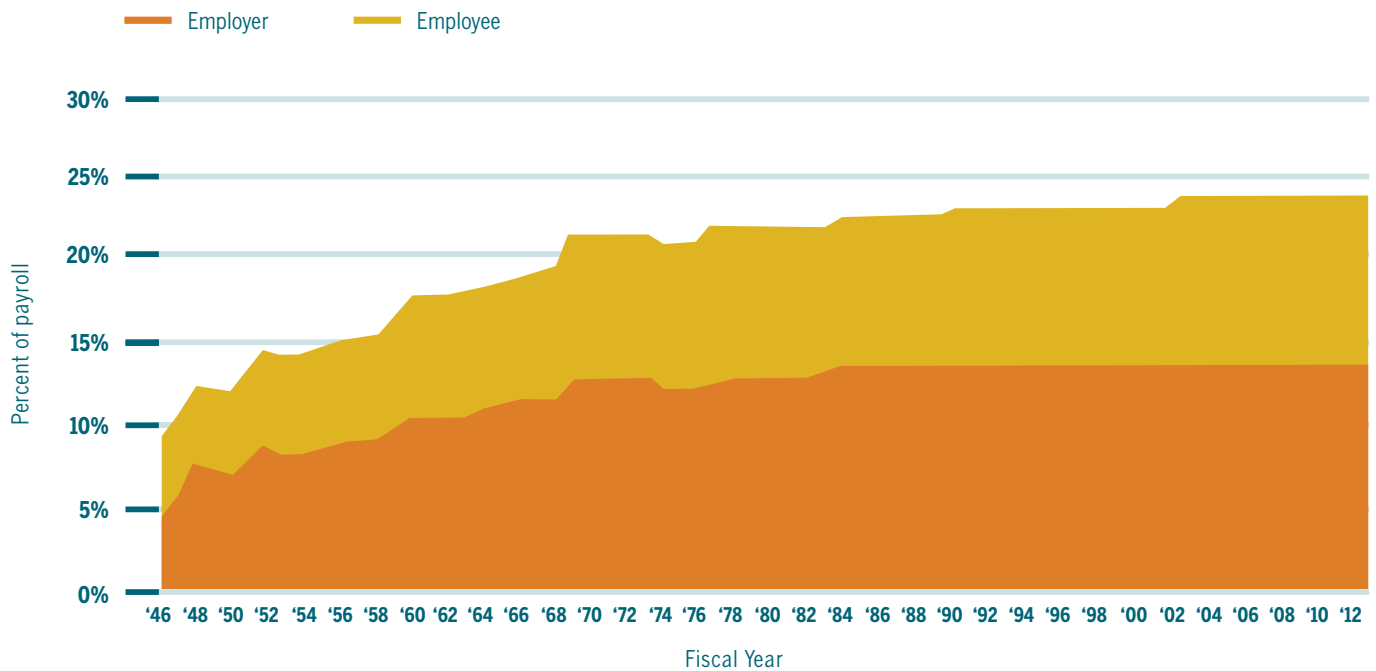
Note: Employer contribution includes a contribution to the retiree health care fund.

The employer's contribution rate (covering both pension and retiree health) has been fixed in law at 14.0 percent since 1984 and the employee's contribution has been capped at 10.0 percent since 2003. Since contributions were constant as costs have risen, for a number of years STRS has not been able to meet the state's requirement that contributions put the pension fund on track to full funding over a thirty-year period.

This situation occasioned regular warnings from the Ohio Retirement Study Commission (ORSC, the state's pension oversight authority), from before the market collapse of 2008. The STRS board sought to phase in contribution hikes of 5 percentage points (2.5 points each from employer and employee, to shore up both retiree health and the pension) starting back in 2006, but was unable to secure legislative approval. Thus, the slow (or zero) growth of contributions in recent decades depicted in Figure 1 represents artificially low contributions that masked a deferral of payments.

As the market collapse and rising costs led to further deterioration in the teachers' retirement fund, Ohio's legislature finally enacted reforms last fall (September 2012). Senate Bill 342 increases employee contributions, but not employer contributions, and also reduces some benefits by increasing age and service eligibility requirements, eliminating enhanced multipliers for teachers with more than thirty years of service, and basing the pension on the average of a teacher's five highest years of earnings rather than three. The bill also cuts cost-of-living adjustments for retirees. Finally, it gives the retirement board the authority to adjust the employee contribution rate, retirement age and service requirements, and cost-of-living adjustments in the future "as the need or opportunity arises, depending on the retirement system's funding progress."[9] In the analysis below, we will examine the impact of these reforms on the prior trajectory of required contributions.

STRS Pension

Figure 2 presents the employer contribution rate for pensions (13.0 percent) along with the pension ARC (depicted by the solid yellow curve) for the years FY03–FY13.[10,11] The ARC represents the sum of the employer normal cost and the amortization rate.[12] The employer normal cost (the currently accruing liability, after netting out the employee's 10 percent contribution) is 5.94 percent for FY13 (after previously hovering around the 4 to 5 percent range from FY04 to FY12), as depicted in Figure 2 with the dashed yellow curve. The amortization rate (calculated to pay off the unfunded liability over a specified number of years—currently thirty) has ballooned in recent years, first to about 20 percent in FY10, and then to about 25 percent in FY12, as represented by the difference between the dashed and solid yellow curves. The growth was due largely to a rise in the unfunded liability, but the FY12 increase also reflects changes in STRS' actuarial assumptions in March 2012 (including a reduction in the discount rate from 8.0 percent to 7.75 percent). The ARC has exceeded 25 percent for the last four years, and 30 percent for the last two years—well over double the actual employer contribution of 13 percent.

When the ARC exceeds the actual contribution, the funding period extends longer than thirty years, a violation of the state's legislated goal. This was the case for all years but one (FY08) during the period depicted in Figure 2.[13] In the last four years, FY10–FY13, the funding period was actually infinite; contributions were insufficient to ever pay down the unfunded liability. Under state law, STRS was required to submit a thirty-year plan to bring the system into line with the state goal. Several such plans were proposed and the legislature finally acted in September 2012 by passing SB 342, as discussed on page 9. To provide a baseline for comparison of the impact on CMSD, we first consider what employer contributions would have been needed to bring the system in line with the thirty-year funding period requirement, without any plan adjustments. We then compare this with the district's retirement costs under SB 342.

Figure 2 STRS Employer Pension Contribution Rate and ARC, 2003-13

In projecting required contribution rates for STRS without SB 342, we begin with the FY13 ARC (based on the FY12 valuation and March 2012 STRS assumptions), which we estimate at 30.25 percent; 5.94 percent is the normal cost and 24.31 is amortization.[14] Due to asset smoothing, there were still a few deferred gains left at the end of FY12, so the unfunded liability exceeds that which would be calculated using market value of assets. Factoring in the deferred gains, we estimate the resulting FY13 amortization at 23.69 percent for a total ARC of 29.63 percent. Starting in FY14, we project contribution rates to ramp up to this estimate by FY20 (the end of our projection period).[15]

For CMSD contributions, we apply the projected STRS contribution rates to the district's STRS-covered payroll, projected forward.[16] Figure 3 depicts the historical and projected CMSD pension contributions to STRS, on a per-pupil basis, adjusted for inflation. **For FY11, the per-pupil contributions were $945. By FY20, we project the cost would have to double to $1,846 to meet the ARC, as required to satisfy the state's goal of a thirty-year funding period.**

Figure 3 Projected CMSD Pension Contributions Per Pupil to STRS
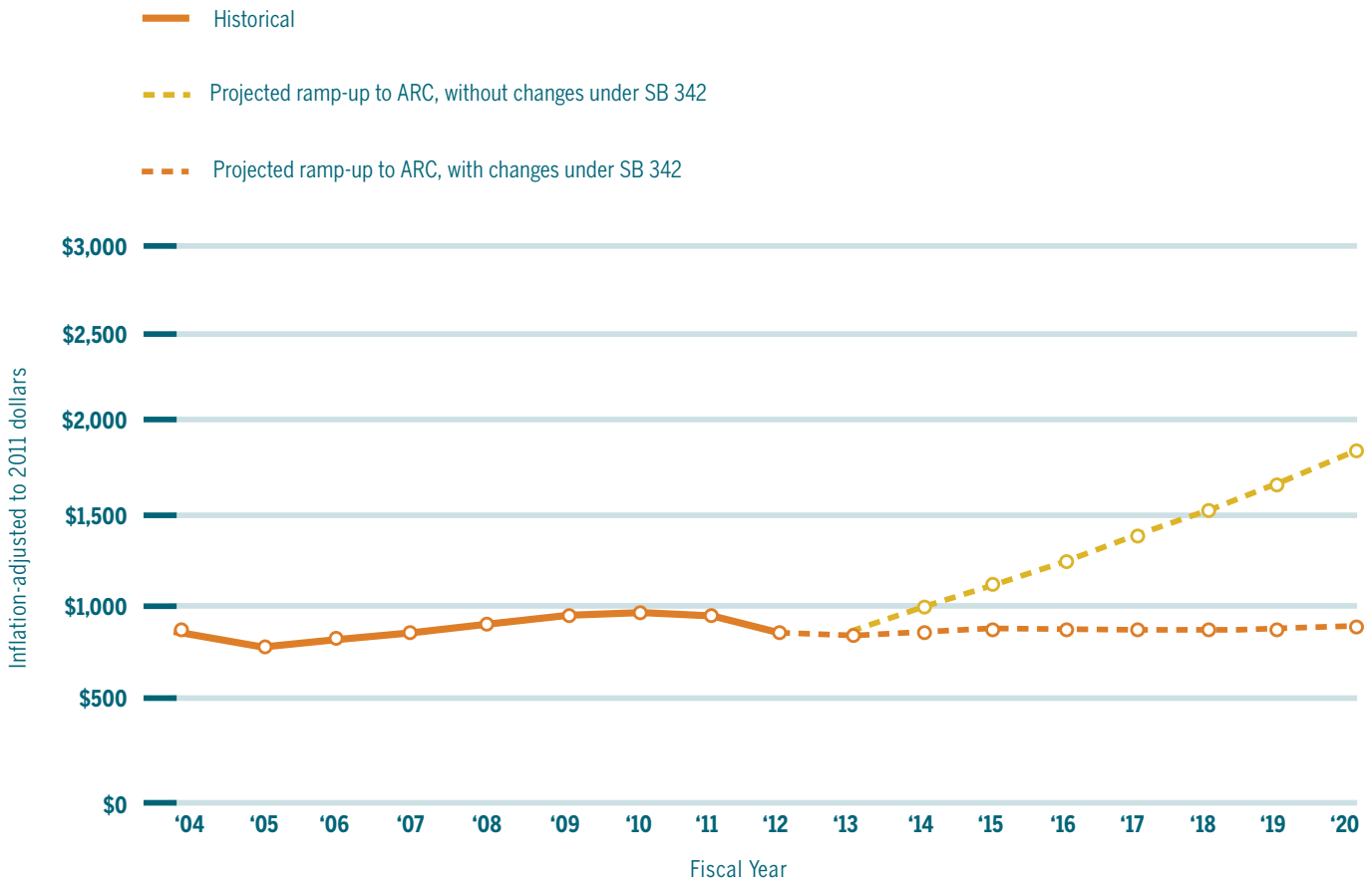
Instead of raising employer contributions (the default scenario just discussed), SB 342 raises employee contributions and cuts benefits, starting July 1, 2013 or later. Specifically, the employee contribution will rise from the current level of 10 percent up to 14 percent, thereby matching the employer's contribution rate of 14 percent (for pension and retiree health together). The employee rate will ramp up 1 percentage point per year, starting in FY14. The benefit cuts include a rise in the age and service requirements for normal retirement. The current requirement of thirty years of service (at any age) will gradually increase to thirty-five years for new retirees by 2023 and an age minimum of sixty will be imposed by 2026.[18] Other cuts, effective in 2015, include the elimination of enhanced multipliers for years of service beyond thirty and an increase in the look-back period for final-salary averaging (from three years to five years). In addition, the cost-of-living adjustment (COLA) is reduced from 3 percent to 2 percent, along with a four-year delay of first COLA (to fifth anniversary of retirement) for new retirees, and a one-year COLA holiday for past retirees. The legislation also gives STRS the authority to make future adjustments without further legislation.

These changes affect current employees (less so for those near retirement) and not just new hires. The COLA changes affect those already retired, too. Even with these changes, the pension plan may not fully meet the thirty-year funding goal (in the run-up to passage of SB 342, STRS estimated the changes will bring the funding period down to thirty-six years). That is, the employer contribution of 14 percent may still not quite

meet the ARC. Thus, to provide an apples-to-apples comparison with the baseline case discussed above, we project employer contributions will ramp up to the ARC by the end of the projection period (FY20).

The Impact of the Drop in Per-Pupil Revenues

We would project contributions to rise more rapidly, were it not for CMSD's sharp drop in actual and projected revenues per pupil. From FY11, we calculate revenues per pupil (in 2011 dollars) to drop 12 percent by FY13, and 14 percent by FY20. Assuming that this corresponds to a drop in payroll per pupil, this alone reduces pension contributions per pupil.[17] We calculate that if payroll had, instead, tracked inflation and enrollment, and continued doing so going forward, CMSD contributions to STRS pension would rise an additional $307 per pupil, reaching $2,153 by FY20. In the remainder of this report, we shall not consider this "what-if" scenario any further; we shall base our projections on the actual revenue figures published by CMSD, including the sharp drop in FY12 and FY13.

The Bottom Line

The new plan reduces the total normal cost from 15.94 percent (5.94 percent from employer and 10 percent from employee) to 10.86 percent by FY17.[19] In addition, the employee contribution rises from 10 to 14 percent by FY17. As a result, the employer normal cost actually goes negative: -3.14 percent. **In other words, the employees will be paying 3.14 percent of the amortization cost, over and above the cost of their currently accruing benefits. For new employees, who accrued none of the benefits that constitute the accrued liability, this is an extraordinary situation: Their cohort (taken as a whole) is receiving no net pension benefit from its employer and is being taxed to pay for the unfunded liability accrued for prior cohorts**.[20,21]

The new plan also reduces the accrued liability by $11.6 billion.[22] As a result, the amortization rate drops by 6.53 percent. Together with the 9.08 percent decrease in employer normal cost (from 5.94 to -3.14 percent), the ARC drops by over half, from 29.63 to 14.02 percent. This still exceeds the 13 percent pension contribution, which is why the amortization period does not yet meet the state's requirement for thirty-year funding.[23]

To provide an apples-to-apples comparison with the "no SB 342" scenario, our projection ramps up contributions to the ARC by the end of the projection period (FY20)—the same as under the old plan. As Figure 3 shows, **CMSD's STRS per-pupil pension costs drop, from $945 in FY11 to $873 in FY20**. This represents the offsetting effects of the rise in contributions from 13 percent to the ARC—a much smaller rise than under the old plan, but still a bit of a rise—and the drop in CMSD's payroll per pupil. **The net result is that the new plan cuts CMSD's pension contributions by half from the old plan, saving $972 per pupil by FY20.**

STRS Retiree Health Care

STRS offers a retiree health plan to teachers with fifteen or more years of service.[24] Retirees receive a subsidy on the monthly premium that depends on years of service, according to a formula similar in structure to that of a defined-benefit pension (years of service times a multiplier). The subsidy is only

available to the retiree; health coverage is available for the spouse and dependents, but with no subsidy. Eligibility, subsidy, and plan design have varied over the years. As the Ohio Retirement Study Council states, the boards of all state plans (including STRS) "are authorized to change the premiums, eligibility and level of health care benefits at any time," an authority that was upheld by the Ohio Supreme Court in 2005. This differs not only from states such as Wisconsin, where retiree health care was subject to local collective bargaining prior to Act 10, but also from states where the plan can only be changed legislatively. As we shall see, the STRS board has periodically exercised this authority to address plan solvency.

Figure 4 STRS Retiree Health: Contributions, ARC and Pay-Go, 2000-13
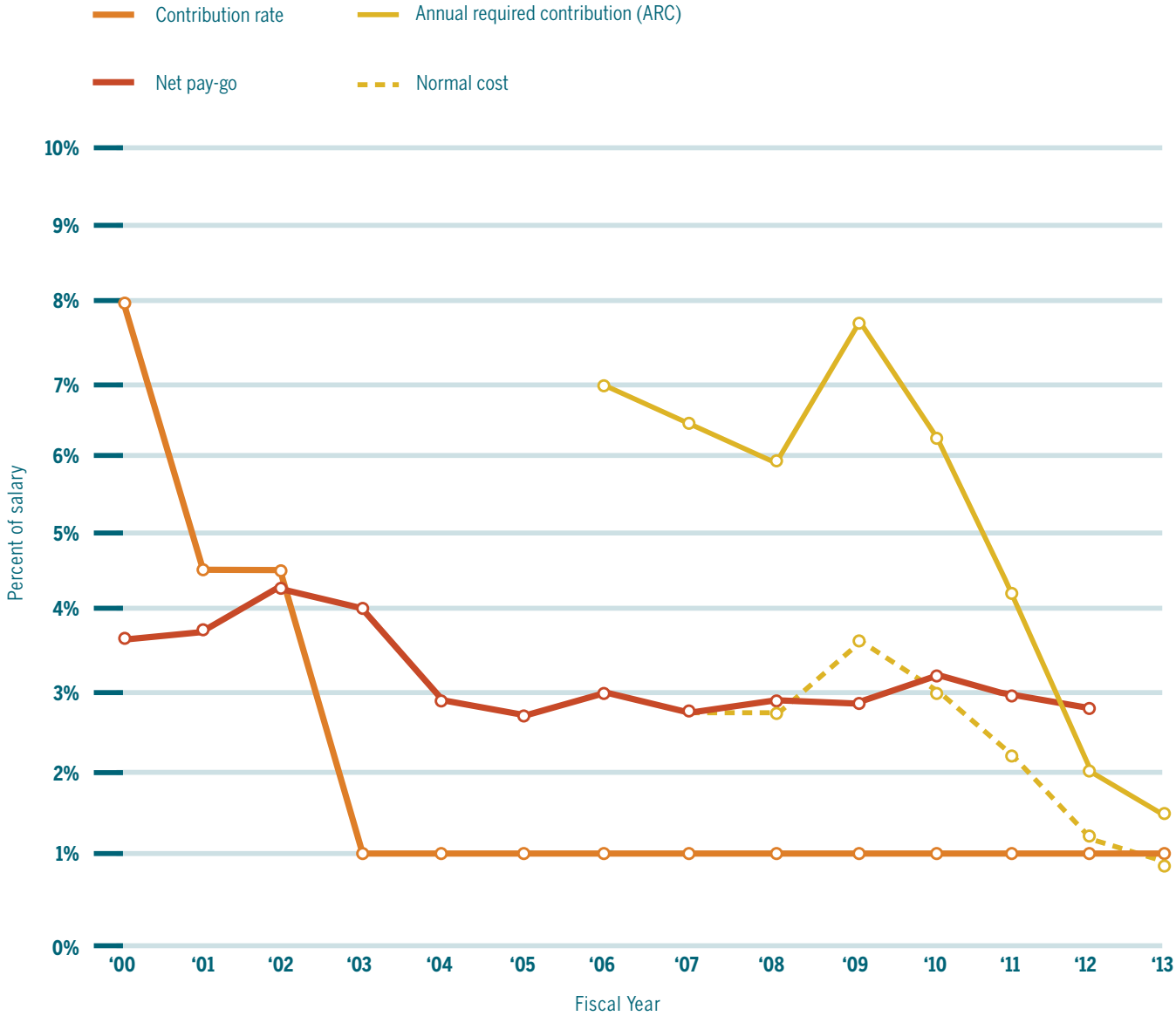
In measuring employer retiree health costs, we have four separate concepts to keep in mind: actual contributions, pay-go contributions, normal cost, and ARC. Figure 4 depicts these four magnitudes for STRS, as a percent of payroll, for the period FY00–FY13, to help guide the discussion that follows. The actual contributions are plotted with the solid orange line; pay-go with solid red, the normal cost with dashed yellow, and the ARC with solid yellow. We address each one separately.

For most public retiree health programs, actual contributions are pay-as-you-go (as they are in Milwaukee), i.e., contributions are set to cover current retiree benefits. This has not been the case for STRS; the contribution rate is set instead as a fixed percent of payroll. Prior to FY03, contribution rates, ranging from 2 percent to 8 percent, often exceeded net benefit payments, and assets accumulated as a result.[25] In FY03, STRS reduced the contribution rate for retiree health care to 1 percentage point of the employer's 14 percent total contribution. With rapidly escalating health care costs, this was not sufficient to cover the net pay-go expenditures, which were running around 4 percent of payroll at the time, as depicted in Figure 4.[26] Indeed, according to ORSC's 2003 annual report, the STRS Health Care Fund faced depletion by 2008.

Consequently, STRS undertook a series of major changes in 2004 to extend the fund's solvency to 2014. The eligibility condition for retiree health care was raised from five years of service to fifteen. Teachers who had already retired with fewer than fifteen years of service remained eligible for coverage, but were required to pay 100 percent of their premium. In addition, retirees with fifteen or more years of service were henceforth required to pay 100 percent of the premium for their spouses and dependents. The subsidy for the retirees themselves would be credited at 2.5 percent per year of service up to a maximum of 75 percent (further assistance was offered for low-income retirees).

As a result of these and other changes in the preceding years, the annual rates of increase in total premiums paid by retirees from FY02 through FY05 were 16.1 percent, 30.6 percent, 51.1 percent, and 20.3 percent, respectively, for a cumulative rise of 175 percent.[27,28] These premium hikes were partially offset by some reductions in out-of-pocket charges for teachers (deductibles and co-pays), but the net result of these plan changes was to reduce the net pay-go expenditures from about 4 percent of payroll to the vicinity of 3 percent, where it has hovered ever since. In this way, the solvency period was approximately tripled from four years in 2004 to between nine and fifteen years up through 2010.

During this period, additional measures were considered to further postpone the day of insolvency. In 2006, STRS sought legislative approval to raise contributions so that the portion dedicated to retiree health could rise from 1 percent to 4.4 percent.[29] The legislature, however, declined to adopt this plan, despite several attempts by STRS. By 2009 (following the market crash), circumstances forced STRS to turn its attention to the pension fund (as discussed above) and drop the proposal to raise contributions to retiree health.

Health care insolvency still loomed in the not-too-distant future, so other measures, such as changes in plan design, were required to restrain net health care costs.[30] These measures do not necessarily show up in reduced pay-go expenditures as a percent of payroll (the solid red line in Figure 4), if the underlying rate of health care inflation exceeds payroll growth. However, such cost-saving measures do show up in both components of the ARC—normal cost and amortization—by reducing liabilities for future payments, because these liabilities have already factored in expected health care inflation.

New standards from the Government Accounting Standards Board (GASB 43) required STRS to report the normal cost and ARC starting in FY07, and these are depicted in Figure 4 with the dashed and solid yellow lines, respectively.[31] After reaching a peak of 7.66 percent in FY09, the ARC fell to 4.33 percent by FY11, a 3.33 point drop, comprising a drop in normal cost of 1.40 percent and 1.93 percent in amortization. The latter reflects a sharp reduction in the accrued liability for current and retired members of 36 percent. These developments followed modifications to the retiree health plan, along with some changes in actuarial assumptions.[32]

As of January 2011, ORSC projected insolvency by 2024—a much better horizon than it faced in 2004, but still only thirteen years. Consequently, STRS reduced the subsidy for retiree premiums, effective January 1, 2012. Previously, the subsidy formula was 2.5 percent per year of service, up to a maximum of 75 percent. This will now ramp down to 2.1 percent per year by 2015, with a maximum of 63 percent. Using 2013 figures to illustrate, the total monthly premium for pre-Medicare coverage under the most commonly used plan is $518.[33] For those with thirty or more years of service, the retiree's share under the previous formula would have been $130 (25 percent); for 2013, the share is $161 (31 percent); and under the 2015 formula the retiree's share would be $192 (37 percent). The difference between the 2011 and 2015 formulas shifts almost $750 per year from STRS to the retiree.

The Bottom Line

As a result of these and other changes (including strong fund performance for three of the last four years), the health care plan is now projected to remain solvent until 2060.[34] The health care funded ratio stands at 73.4 percent (as of January 1, 2013), remarkably high for retiree health plans, and actually exceeds the funded ratio for the pension plan. The normal cost is now estimated at 0.93 percent, very close to the 1 percent actual contribution rate. Given the long solvency period, it seems unlikely that the system actuaries expect the pay-go percent to remain much above the 1 percent actual contribution rate for long (although such projections are not reported). Thus, although full funding would require a 1.45 percent contribution (to pay down the unfunded liability), the 1 percent contribution is unlikely to change over our projection period. Consequently, based on the 1 percent contribution, **we project that per-pupil contributions for STRS retiree health will not rise—they will actually drop by $10 per pupil**, due to the drop in payroll per pupil discussed above.

By contrast, absent the significant changes that have been made in recent years under STRS authority, we estimate that contributions would rise to at least the pay-go rate in order to fend off insolvency. Without the plan changes, the net pay-go rate would currently already exceed the actual 3 percent rate we observe in recent years and would likely rise further during our projection period. A reasonable (and possibly conservative) projection for the "what-if" pay-go rate is the normal cost rate of 3.57 percent that was reached in FY09, before changes in plan design and subsidies started to bring it down. Under the assumption that contributions would ramp up from 1 percent to 3.57 percent by FY20, Cleveland's per-pupil contributions to STRS retiree health would rise $150. That is, **the cuts in subsidies and changes in retiree health plan design that STRS enacted save CMSD $160 per pupil by FY20. Taken together, the changes in teacher pension and retiree health plans will reduce Cleveland's STRS contributions by $82 per pupil, instead of raising them by $1,050—a savings of $1,133.**

THE DISTRICT'S BILL AND THE PER-PUPIL BOTTOM LINE, PART 2: SERS

Cleveland's classified (non-teaching) school personnel receive their pension and retiree health benefits from SERS. CMSD's contributions to SERS are about one-third of the size of its contributions to STRS, commensurate with the smaller share of payroll that is covered by SERS instead of STRS. As with STRS, there are two streams of contributions, which correspond largely (but not exactly) with pensions and retiree health. District contributions have been fixed in law at 14 percent to cover both, as with STRS, but the allocation differs. We consider both types of benefits in turn.

SERS "Basic Benefits"

SERS "Basic Benefits" is the analogue to the STRS pension fund, with two differences: one small and one more significant.[35] The small difference is that in addition to pension benefits, "Basic Benefits" also includes small amounts for death benefits and Medicare Part B; together these account for about 6 percent of employer contributions. The larger difference is that the employer contribution rate for "Basic Benefits" is set actuarially, unlike the fixed rate dedicated to pensions under STRS (13 percent of the 14 percent total). The SERS rate is set by the board to cover normal costs and amortization for pension, death benefits, and Medicare Part B; the remainder of the 14 percent statutory rate is dedicated to retiree health, as a residual—unlike STRS, where retiree health is funded with a fixed rate of 1 percent.

The "Basic Benefits" contribution rate rose from 6.56 percent in FY02 to 13.45 percent in FY12, pushing perilously close to the statutory limit of 14 percent (and leaving little for retiree health). The employer normal cost for "Basic Benefits" (net of the 10 percent employee contribution) hovered around 4 percent from FY07 to FY11, but dropped to 1.72 percent in FY12.[36] At the same time, however, the amortization costs for the unfunded liability rose from 6.73 percent in FY07 to 8.78 percent in FY11 and then jumped to 11.73 percent in FY12, as prior investment losses were recognized.

For the FY13 contribution (calculated in the FY12 valuation), the employer normal cost was slated to be 1.78 percent and amortization was set to jump to 13.81 percent. This would have meant a total employer contribution of 15.59 percent, surpassing the statutory maximum of 14 percent (let alone funding retiree health). This contribution rate did not go into effect, for two reasons: (1) SB 341, legislation enacted in September 2012 (discussed further below), reduced the FY13 ARC; and (2) the amortization period was reset by the board from twenty-seven to thirty years.[37] We use this information in developing our projection for "Basic Benefits" under the old law.

To do this, first we assume the normal cost would remain constant at 1.78 percent. Second, we assume that the amortization period would have been reset to thirty years (the same as what actually happened), since the need to do so would have been even greater had SB 341 not come into effect. As a result, the FY13 amortization rate would have been reduced from 13.81 percent to 13.00 percent. We then project the amortization costs by rolling in the deferred investment losses and gains and assuming the investment return meets the actuarial assumption (7.75 percent) going forward. We also project the growth of payroll, liabilities, and benefits, using the actuarial assumptions and recent historical averages.

The Bottom Line

Under these assumptions, we project the ARC for "Basic Benefits" would rise from 13.45 percent in FY12 to 14.78 in FY13 and to 16.56 by FY20.[38] These rates, of course, exceed the statutory maximum of 14 percent, and by a substantial amount in the out-years. Thus, we anticipate that under the old law the amortization method would have been switched to "open" interval, which resets the amortization period at thirty years every year (the method used by STRS). This still gives a trajectory that exceeds the statutory maximum, but not by much, remaining fairly stable from 14.78 percent in FY13 to 14.69 by FY20. For purposes of comparison with the results under the new law, we assume that contributions would cover these actuarial costs. **For CMSD, with falling payroll per pupil, we project that without any plan changes, the per-pupil cost of "Basic Benefits" remains stable: $273 in FY12 and $274 by FY20.**

The new law (SB.341) enacted in September 2012 (along with SB 342, reforming STRS) made relatively minor changes. Since the actuarially required contributions for SERS "Basic Benefits" had (prior to FY13) always fallen within the statutory limit of 14 percent, the system had maintained a funding period of fewer than thirty years. Consequently, no amendments to the plan were necessary to meet the legislative goal for the pension. SERS did, however, take the opportunity to propose minor changes to the pension plan, in order to free up more funds for the health care fund (discussed below). Specifically, SERS added two years to the age requirements for retirement. SERS members are currently eligible for normal retirement at age sixty-five with ten years of service or fifty-five with thirty years; after August 1, 2017, the age requirements will rise to sixty-seven and fifty-seven, respectively.[39]

The ORSC Final Report estimated that the new law would reduce the FY12 normal cost from 1.72 to 1.18 percent and lower the amortization from 11.73 to 11.35 percent, for an ARC of 12.53 percent. However, after the law was enacted, the FY12 valuation reported a notably higher ARC for FY13. The normal cost was similar, at 1.23 percent, but the amortization rate was calculated at 13.40 percent, about two points higher than previously anticipated. This would have left the ARC at 14.63 percent, exceeding the statutory maximum. Consequently, the amortization period was reset from twenty-seven to thirty years (but remained closed, as stated previously), reducing the amortization rate to 12.61 percent and the ARC to 13.84 percent. Tracking the impact forward to FY20, however, we project that the ARC would continue to rise to 15.72 percent (the earlier estimate, in the ORSC Report, was about 11.5 percent). Since this well exceeds the statutory maximum, we assume that SERS will switch to "open" interval amortization (as we assumed under the old law, above). Under this projection, the ARC remains stable from 13.84 percent in FY13 to 13.89 by FY20. **For CMSD, SB 341 results in a slight drop in per-pupil contributions to SERS "Basic Benefits," from $273 in FY12 to $259 by FY20—a savings of $15 compared to the old law.**

SERS Retiree Health Care

SERS offers health benefits to retirees of age sixty-two with ten years of service, sixty with twenty-five years, or fifty-five with thirty years.[40] Premium subsidies are provided to those with twenty or more years of service, rising from 50 percent for those with twenty to twenty-four years, up to 85 percent for those with thirty-five years.[41] As with STRS, the SERS board has made these eligibility conditions and subsidies more stringent over the years in order to keep the system solvent. There have also been changes in plan design: higher deductibles, co-pays, and co-insurance.

The modifications were necessitated by the fact that, in 2004, the SERS health care fund was projected to run out in 2006. The underlying problem at the time was that employer contributions did not cover net pay-go expenditures (benefits less retiree premiums).[42] By the time that the first GASB 43 valuation was conducted in FY07, the funded ratio was 7.9 percent, higher than most pay-go systems, but clearly headed in the wrong direction—health care assets by the end of FY06 were below those of FY02. Consequently, SERS instituted nearly annual benefit cuts and premium hikes to stave off imminent insolvency. Even so, ORSC found that as of December 2006 the health care fund was still slated to run dry in six years, in 2012. Additional cuts and premium hikes over the next several years were necessary to extend solvency to 2023, before SB 341 was enacted. For example, effective July 1, 2008, SERS eliminated subsidies for retirees with fifteen to nineteen years of service (previously the subsidy was 50 percent), cut subsidies from 75 to 50 percent for those with twenty to twenty-four years of service, and also made cuts for those with twenty-five to thirty-four years of service.

These and other changes reduced net pay-go expenditures from 8.17 percent of payroll in FY04 to 3.47 percent in FY11 and 1.98 percent in FY12. Similarly, the retiree health normal cost fell from 6.77 percent as of the end of FY08 to 2.94 percent by end of FY12.[43]

To fund these costs, SERS first determines the actuarial contributions for "Basic Benefits" and then contributes the remainder of the 14 percent statutory contribution to retiree health. This residual was 0.55 percent for FY12, and averaged 0.81 percent over FY10–FY12. Prior to that, from FY04–FY09, the retiree health contribution averaged 3.90 percent. In addition, SERS imposes a surcharge on employers for those employees whose salary is below a certain level. Statewide, this surcharge is 1.5 percent of payroll. (It can vary among districts up to 2.0 percent; for CMSD, this has run at 1.96 percent, as will be relevant below.) Thus, for FY12, the total (statewide) employer contribution to retiree health was 2.05 percent.

As SB 341 was being crafted in early 2012, the most recent valuation (June 30, 2011) projected that the health fund would become insolvent in eleven years, by FY23. The goal of SB 341 was to extend the fund's solvency by reducing pension contributions and freeing up more of the 14 percent total contribution for retiree health. The system actuaries and the Final Report to ORSC estimated that the bill would reduce pension payments to 12.53 percent, raising retiree health contributions from 0.55 percent to 1.47 percent, plus the 1.5 percent surcharge to 2.97 percent. Moreover, this was projected to rise to a total of about 4 percent by FY15. As a result, the report anticipated that the retiree health fund would "remain solvent indefinitely."

After SB 341 was enacted in September 2012, this hope was almost immediately dashed. The actuarial reports for June 30, 2012, released in November of that year, found that pension funding requirements did not drop (due to adverse market developments), so the funding available for retiree health (including the surcharge) did not rise as planned. It *fell* from 2.05 percent in FY12 to 1.66 percent in FY13. Consequently, instead of seeing the fund's solvency extended from FY23 to the indefinite future, the valuation report projected it would run out in eight years, by FY20, since the contributions would not cover costs.

The Bottom Line

Under the most recent projections, therefore, SERS will either have to increase funding or cut benefits.[44] To gain a rough idea of the funding requirements, we assume that under current policies employer contributions statewide will rise from 1.66 percent (including the surcharge) to the current normal cost of 2.94 percent. For CMSD, the rate will be 0.46 percent higher, due to the higher surcharge, but the rise will be the same—1.28 percent. The dollar impact would be outweighed by the drop in CMSD's payroll per pupil, so **we project a drop in per-pupil retiree health costs for CMSD of $10 by FY20.**

By way of comparison, we project what CMSD's retiree health contributions would have had to be in order to extend solvency, absent the changes in SERS benefits over the last several years. Specifically, we assume that contributions would rise to cover the normal cost as of FY09—6.77 percent (vs. 2.94 percent today). We find that instead of dropping $10, **the per pupil cost would rise $61 by FY20. That is, the benefit cuts are projected to save $71 per pupil.**

Still, more cuts are likely. The retiree health subsidy for SERS is currently 80 percent for retirees with thirty years of service and 85 percent for those with thirty-five years. By contrast, STRS cut back its subsidy to a maximum of 63 percent (at thirty years). SERS has the authority to make such cuts and, on current projections, will need to do so, absent further contribution hikes.

To summarize, the CMSD contributions to SERS for retiree benefits—**"Basic Benefits" and retiree health together—are projected to drop $25 per pupil by FY20 under current policies**, as the impact of payroll shrinkage outweighs the rise in contribution rates. **Without SB 341 and SERS' prior changes to retiree health, the cost would rise $61 per pupil.** Neither of these figures is large, for two reasons: (1) SERS pension plan is in better shape than STRS; and (2) the non-teaching personnel covered by SERS comprise a much smaller part of CMSD's payroll than the teaching personnel, covered by STRS.

GROWTH IN TOTAL RETIREE BENEFIT COST FOR CMSD

To calculate the total per-pupil retiree costs, we take the four projections of CMSD employer contribution rates for retiree benefits (pension and retiree health for SERS- and STRS-covered employees) and apply them to projected payroll for SERS- and STRS-covered employees.[45] The result is depicted in Figure 5. The solid orange line is the historical cost from FY04 to FY11. The four programs together cost CMSD $1,247 per pupil in FY04 and rose slightly to $1,364 by FY11. This represents a rise of about 1.3 percent per year (again, these figures net out inflation). That is because CMSD's payroll per pupil rose at about that rate, while the contribution rate remained constant (14 percent plus the retiree health surcharge for SERS).[46]

Figure 5 Projected CMSD Retiree Costs Per Pupil
(Pension and Retiree Health, STRS and SERS)

Legend:
— Historical
- - - Projected ramp-up, with changes in pension and retiree health
- - - Projected ramp-up, without changes in pension and retiree health

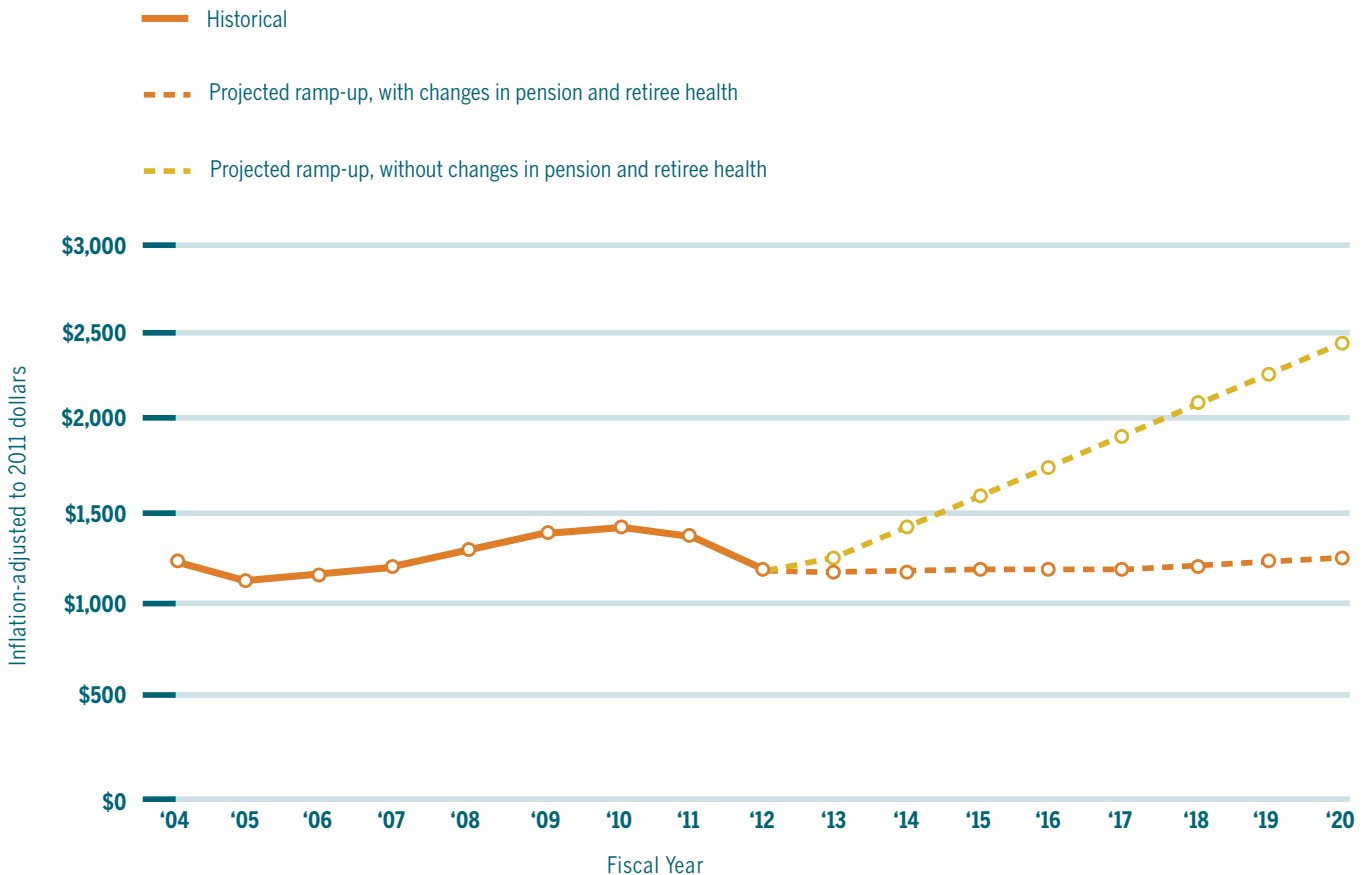Y-axis: Inflation-adjusted to 2011 dollars
X-axis: Fiscal Year

Figure 5 also shows the projected costs for CMSD both with (dashed orange line) and without (dashed yellow line) the legislative and board-initiated changes to the plans. Projecting forward, **with the changes, the total retirement cost is expected to shrink a small amount, by $107, to $1,257 per pupil by FY20**. This is a drop of about 0.9 percent per year, a combined result of the offsetting effects of

the shrinkage in payroll per pupil of about 1.7 percent per year and the rise in CMSD's contribution rate (to STRS and SERS together) of about 0.8 percent per year.[47]

Without the legislative fixes in SB 341 and SB 342, along with the STRS and SERS board fixes to retiree health insurance, retirement costs would be projected to rise substantially. **Instead of falling $107 to $1,257, between FY11 and FY20 the cost would be projected to rise by $1,112 to $2,476 per pupil. That is, the legislative and board actions will save an estimated $1,219 per pupil by FY20.[48]**

The total budget impact of these legislative and board fixes is the per-pupil savings multiplied by the number of pupils. By FY20, these changes are projected to save CMSD $38.1 million per year (adjusted for inflation). Of that savings, $30.4 million is due to the savings from STRS pension, and another $7.2 million is the savings from SERS and STRS board actions on retiree health.

Now let's take a look at the potential impact of these savings on CMSD spending patterns.

Overall Impact

Unfortunately for the district, resolution of the retirement cost shortfall leaves the district still well short of a balanced budget. Despite the savings the district will see in its retirement costs as a result of the state's recent legislation, the Cleveland Municipal School District still faces a bleak future. The district's five-year financial forecast, published after passage of SB 341 and SB 342, outlines a continuing struggle to find sufficient revenue to run the district. For the FY13 school year, CMSD anticipated a budget shortfall of $30.7 million, while the projected savings from the pension reform totaled $1.4 million. The district's forecast, however, projected a $90.0 million deficit by FY17 (the final year for which it provides such an estimate),[49] while we project pension reform will result in $23.7 million in savings in that year (all in FY11 dollars). Unless the district identifies new funding sources or is able to raise taxes, the most likely targeted use of the savings generated from pension reform will be narrowing the budget deficit.

It seems then that SB 341 and SB 342 came at an opportune time. Here, we illustrate what impact the costs might have had on various components of the district budget had the laws not been enacted. Figure 6 shows this impact—in FY20, the difference between projected per-pupil costs with (orange line) and without (yellow line) the reforms is stark.

Figure 6 CMSD Per-Pupil Costs With and Without Legislative Changes

— Projected per-pupil expenditure, without new laws

— Projected per-pupil expenditure, with new laws
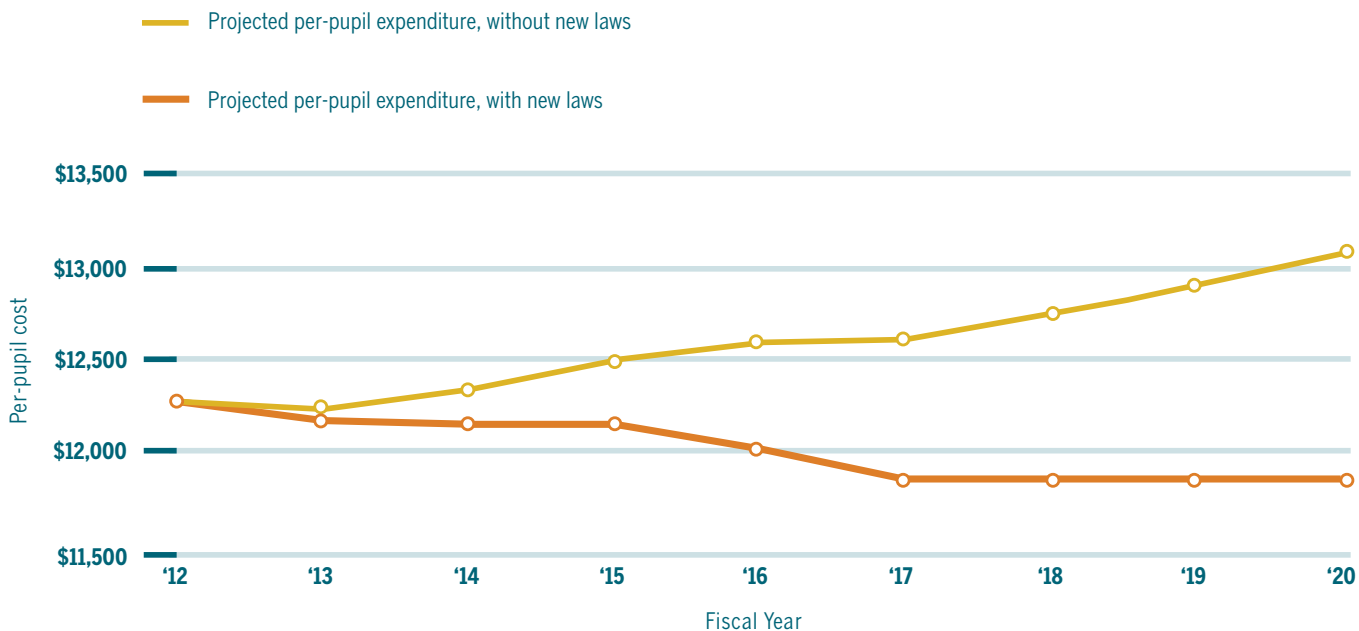
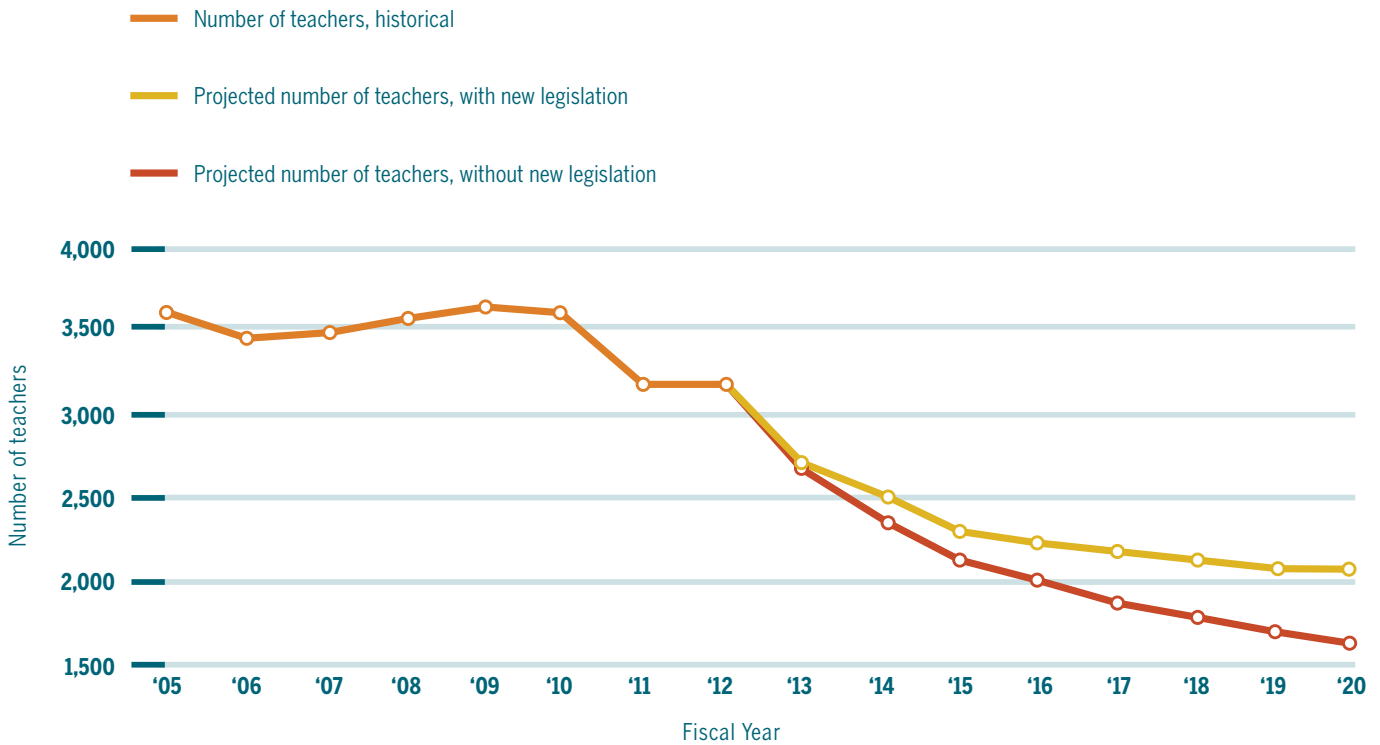|	'12	'13	'14	'15	'16	'17	'18	'19	'20
Projected per-pupil expenditure, without new laws	12,274	12,197	12,329	12,492	12,559	12,591	12,760	12,929	13,098
Projected per-pupil expenditure, with new laws	12,274	12,161	12,120	12,111	12,011	11,879	11,879	11,879	11,879

Passage of the retirement reform legislation had a minimal impact on the school system during the 2012–13 school year, reducing obligated spending by $1.4 million, or $37 per pupil (in constant FY11 dollars). However, the new laws produce considerable savings with time; annual savings increase to $23.7 million or $712 per pupil in the 2017 school year, and grow to $38.1 million or $1,219 per pupil in 2020.

The most likely use for the retirement savings would be reducing the district's projected deficit, rather than increasing expenditures. However, without the savings generated from the retirement reform legislation, the district would face more difficult funding shortfalls as demands to fund pension programs increase. Figure 7 indicates how those shortfalls might be distributed based on average spending patterns used for this study (all in FY11 dollars).[50] The purple line represents the impact of the extra retirement costs on per-pupil spending if the retirement reform legislation had not passed. The other lines indicate how much of the extra costs would have impacted various expenditure categories (for example, orange for instruction and yellow for instructional support) if the district maintains typical spending patterns.

Figure 7 Retirement Legislation Impact Per Pupil, by School Function, CMSD
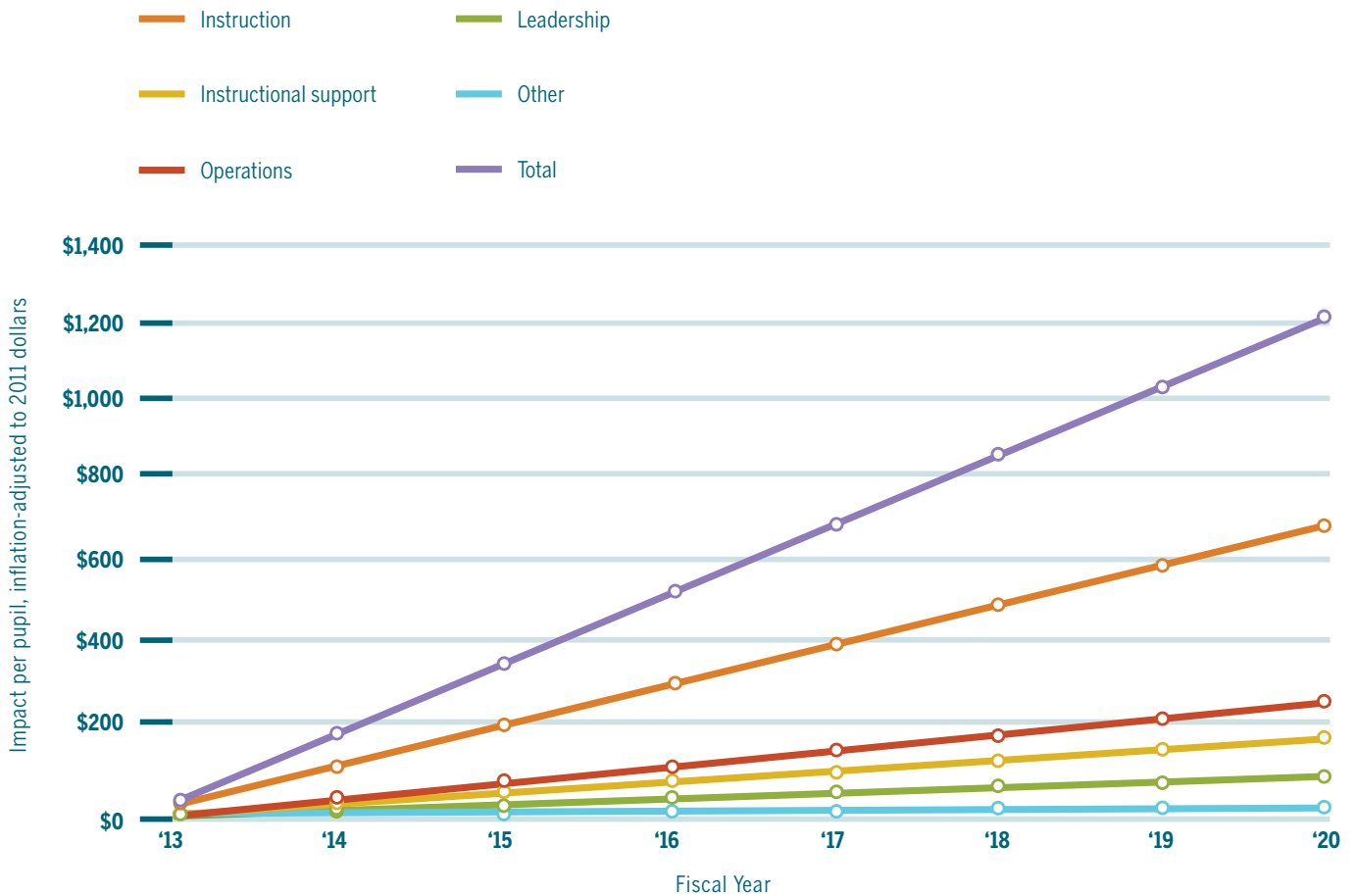
As Figure 7 shows, had the state not enacted SB 341 and SB 342 the impact on retirement costs would have been negligible for Cleveland schools in FY13, amounting to $37 per pupil. However, without the legislation the burden would grow with each passing year. By FY17, the district would have $712 per pupil in additional retirement costs, requiring cuts to education programs; if it allocated those costs across its budget, an additional $399 per pupil would be pulled out of instruction and $146 per pupil from operations (including food service, transportation, and building maintenance). By FY20, the additional pension costs would have reached $1,219 per pupil; $683 of that amount could be cut from classroom instruction, while $160 per pupil would be cut from instructional support (for example guidance, libraries, and teacher professional development). In other words, the urgency of the district's ongoing deficit struggle would be more severe if the pension reform legislation had not passed.

Figure 8 CMSD Number of Teachers 2005-20

Number of teachers, historical

Projected number of teachers, with new legislation

Projected number of teachers, without new legislation

	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
Number of teachers, historical	3,557	3,436	3,502	3,515	3,583	3,553	3,187	3,170								
Projected number of teachers, with new legislation									2,727	2,525	2,341	2,273	2,216	2,169	2,126	2,085
Projected number of teachers, without new legislation									2,711	2,434	2,182	2,050	1,933	1,827	1,726	1,631

Figure 8: "Number of teachers, historical" represents actual employment data (FY05 through FY12). "Projected number of teachers, with new legislation" represents the total number of teachers the district is projected to hire through FY20 (estimates for FY13 to FY20 based on projected enrollment, Figure A-1 in the Appendix).[51] "Projected number of teachers, without new legislation" indicates the impact on teacher hires if the reform legislation had not passed.

Another scenario could have played out if the pension legislation had not been enacted—cuts to the teaching force. Since FY10, the loss of employment for Cleveland teachers has accelerated as the budget crisis deepened and as student enrollment continued to decline. In FY05, CMSD employed 3,557 teachers for its schools, which resulted in a student-to-teacher ratio of 17.6:1. By FY12, after a decline of 19,659 in student enrollment (Figure A-1, page 25), only 3,170 teachers worked for the district. The student-to-teacher ratio went down, however, reaching 13.5:1 by FY12, as enrollment declined more rapidly than the teacher

workforce. Given the district's financial situation, we assume that the continuing enrollment declines we project through FY20 (see Appendix) will be matched by further decreases in its teaching workforce. By FY13 the student-to-teacher ratio had already climbed back to about 14:1, and we assume it will edge up further to 15:1. As a result, by FY20 it could employ only 2,085 teachers, 41 percent fewer than in 2005. However, without the savings provided by SB 341 and SB 342, CMSD would lose even more teachers. If none of the funds saved from pension reform were available for stabilizing the student-to-teacher ratio, the district would have to cut 455 more teachers than otherwise projected by FY20. This would raise the student-to-teacher ratio to 19.2:1.

CONCLUSION

In some respects, the story for Cleveland looks similar to that of Milwaukee. Ohio enacted SB 341 and SB 342 to reduce retirement costs and Wisconsin famously adopted Governor Scott Walker's Act 10.[52] However, there are also some important differences, both in how the changes were made and in their net effect. One similarity is that in both cases the employee contribution was raised for teachers.[53] Another similarity was the reduction in retiree health benefits.[54] A major difference was that the pension benefit itself was *not* cut by Act 10 in Wisconsin, unlike the Ohio legislation. Another important difference—perhaps the biggest—was the size of the net employee retirement benefit to begin with. In Milwaukee, the employee paid nothing for either the pension or retiree health, so the full value of these benefits—over 30 percent of payroll (as measured by the two "normal costs")—accrued to the employee. As a result, when employee pension contributions were raised and retiree health benefits cut, the employee still received a net benefit, just not as large. In Ohio, by contrast, the employee's pension contribution was already 10 percent, and most of the employer's contribution went to pay the unfunded liability, leaving only about 5 percent for net employee benefit. As teacher contributions rise by 4 percentage points and benefits fall under SB 342, new hires in Ohio (taking the entry cohort as a whole) can expect to receive less than they pay for—a net negative pension benefit.[55] Thus, in Ohio, the school districts were spared any increase in their burden to pay for previously promised benefits, but only by pushing that burden largely onto new employees. While fiscally advantageous, it remains to be seen what impact this approach will have on recruiting a high-quality workforce.

APPENDIX A: ENROLLMENT AND REVENUE PROJECTIONS

To determine the impact of the retirement savings on the public schools in Cleveland, several factors must be considered, with the district's projections for student enrollment among the most important. CMSD's student base plunged since the beginning of this century (Figure A-1). In FY00, CMSD recorded 78,190 students attending its schools. By FY12, student enrollment plummeted to 42,883, a 45 percent decline. By 2020, we project the district will have 31,279 pupils in attendance—60.0 percent less than the district enrolled in 2000.[56]

As expected, fewer pupils result in less revenue to operate a school system (Table A-1). The Cleveland Municipal School District estimates that its revenue will decline from $480.7 million in the current fiscal year to $443.7 million by FY17 (current dollars). For FY18 through FY20, which is beyond the district's projection period, we use the Consumer Price Index from the Congressional Budget Office to determine the rate of growth in district funding per pupil.[57]

Figure A-1 Cleveland Metropolitan School District Projected Enrollment 2012-20
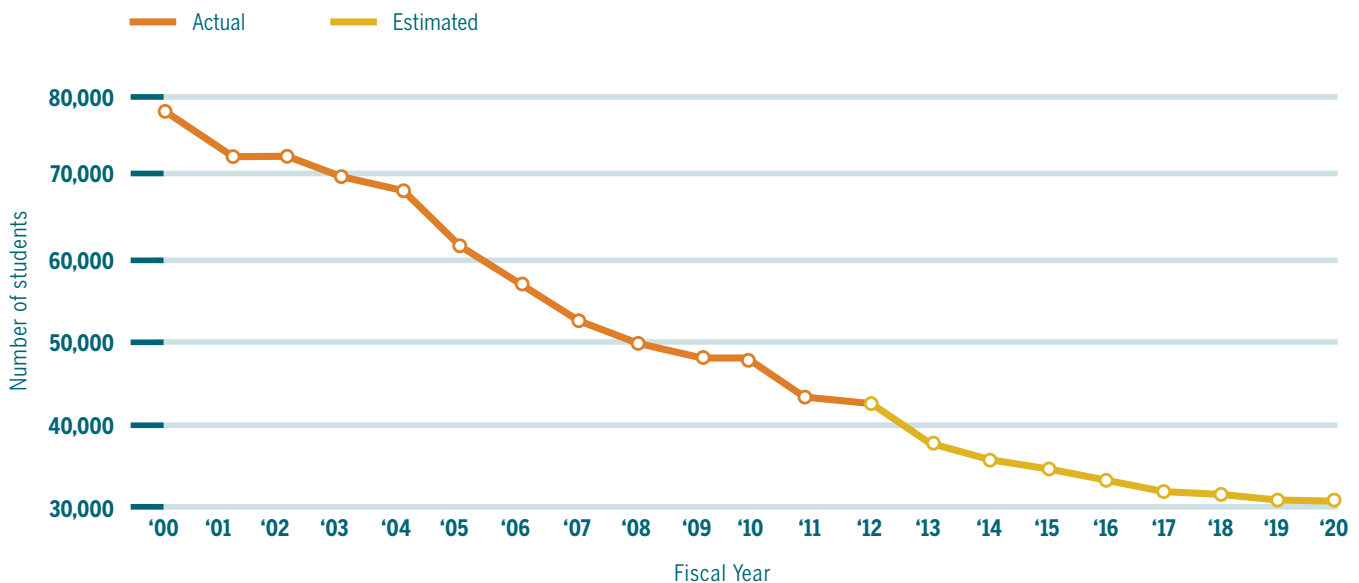
Table A-1 Cleveland Metropolitan School District Projected Revenue 2012-20

	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
Projected per-pupil funding (current dollars)		12,532	12,590	12,773	13,019	13,195	13,351	13,658	13,972	14,294
Total funding less charter and non-public school funding (in millions)	598.8	537.4	480.7	467.7	457.2	449.9	443.7	444.4	445.5	447.1

ENDNOTES

1. CMSD reduced its teaching staff by about 10 percent in 2011, after remaining essentially constant since 2005, a period during which enrollments fell by about 30 percent.

2. Though the board presented lawmakers with a proposal to do so in 2006, the plan was ultimately not adopted.

3. SB 342 raises contributions for all teachers (current, as well as new hires), from 10 percent in 2012 to 14 percent in 2016, in yearly 1 percent increments. The tighter eligibility requirements also apply to current teachers (less so for those near retirement), and not just new hires.

4. One caveat to this promising picture: The legislative changes and system modifications will still not ensure that the teachers' pension fund meets the state's requirement that it is fully funded over a thirty-year period.

5. Employees covered by STRS and SERS are not covered by Social Security.

6. Cleveland Municipal School District, *Comprehensive Annual Financial Report (FY11),* June 30, 2011, *http://www. cmsdnet.net/Departments/~/media/Files/Departments/Finance/2011CAFR_Submission.ashx*.

7. Figure 1 originally appeared in Robert Costrell and Michael Podgursky, "Golden Peaks and Perilous Cliffs: Rethinking Ohio's Teacher Pension System," Thomas B. Fordham Institute, June 2007.

8. See Costrell and Podgursky, "Golden Peaks and Perilous Cliffs," Table A, p. 31.

9. State Teachers Retirement System of Ohio, "Special Pension Plan Reform Coverage," accessed February 26, 2013, https://www.strsoh.org/legislation/legislation.html.

10. This section is based on the STRS Actuarial Valuation Reports, the STRS Comprehensive Annual Financial Reports, and the "Final Report to ORSC Analyzing Retirement Systems' 30-Year Plans," July 2012. The current valuation report, prepared by PricewaterhouseCoopers, is "State Teachers Retirement System of Ohio, July 1, 2012 Actuarial Valuation Report," dated November 9, 2012; it reflects the revised actuarial assumptions adopted in March 2012, but does not reflect the new legislation adopted in September 2012.

11. The valuation reports and CAFRs do not report the ARC as a contribution rate, but it can be inferred from reported data in a few different ways. The reports give actual contributions as a percent of ARC, so the ARC rate can be estimated by dividing that into 13 percent. The reports also give the dollar amount of the ARC and that can be divided by covered payroll. Finally, the amortization rate can be calculated from standard financial formulas with the data provided in the reports on the unfunded accrued liability and the amortization assumptions (including payroll growth); this can be added to the employer normal cost (which is reported) to get a third estimate of the ARC. These three estimates give similar results. The first estimate is depicted in Figure 2, up through FY11. For FY12, we use the direct estimate given in the Final Report to ORSC. This reflects the revised actuarial assumptions adopted by STRS in March 2012. For FY13, we use information from the FY12 valuation report (which also reflects the revised actuarial assumptions) to calculate the ARC by the third method above, since the data required for the first two methods are not yet available.

12. For definitions, see the Glossary on page 20 of the summary report: "The Big Squeeze: Retirement Costs and School District Budgets," Thomas B. Fordham Institute, June 2013, http://www.edexcellence.net/publications/the-big-squeeze.html.

13. The FY03 contribution met the ARC, but the amortization period for the ARC was forty years at that time, not thirty.

14. The Final Report to ORSC estimates the FY12 ARC at 30.10 percent.

15. The projection here assumes the FY20 ARC rate will not change from FY13, even though the projected ramp-up path of contributions falls short of the ARC before then. This is a conservative approach, underestimating the future ARC, since the underpayments will raise the UAL. Ideally, it would be better to simulate the whole path using actuarial procedures such as those modeled for SERS later in this report. However, the STRS reports do not provide sufficient information to perform this simulation. An alternative simulation, provided in the Final Report to ORSC (p. 126), assumes that contributions continue at the current rate (13 percent). Under this scenario, the ARC continues to rise from 30.1 percent in FY12 to about 35 percent in FY20.

16. The historical data for CMSD's STRS-covered payroll are backed out of data from the CMSD CAFRs. They are projected forward using the same growth as projected revenues, discussed later in this report.

17. It is rational (and arguably fair) for the normal cost contributions to drop with payroll, since fewer employees are accruing benefits. What is more interesting is the shifting burden of amortization payments; as CMSD sheds payroll, it bears less of the state's amortization of the unfunded liability, including that accrued from CMSD's previous employees.

18. The law applies corresponding changes to the requirements for "early retirement," with actuarially reduced benefits.

19. The normal cost for the pre-SB 342 plan (15.94 percent) is the FY13 rate, drawn from the FY12 valuation report, issued in November 2012. The rate for the new plan (10.86 percent) is from the Final Report to ORSC, p. 130, released in July 2012; this was not updated in the FY12 valuation report. The ORSC report projects a further decline to 9.88 percent over the next thirty to forty years, once all employees have turned over.

20. The only other example of this that we are aware of is Illinois, which recently implemented a two-tiered system for teachers.

21. As the Final Report to ORSC points out, Ohio teachers also receive retiree health benefits. However, the normal cost for that benefit (as discussed later) is only about 1 percent, so the employee contribution still exceeds the sum of the pension and retiree health normal cost. The Final Report to ORSC adds an additional justification for this situation that the authors of that report (an actuarial team led by William B. Fornia) find "compelling": that the pension normal cost "is based on a rate of investment return [7.75 percent] that a typical worker cannot get in the marketplace" (p. 129). In other words, the controversial actuarial practice of discounting liabilities by the expected return on risky assets leads to contributions that understate the value to employees of the benefit, a point that is persuasively argued by Andrew Biggs and Jason Richwine, "The Effect of Pension Accounting Rules on Public-Private Pay Comparisons," *ABA Journal of Labor & Employment Law*, Winter 2012, 227-238.

22. STRS memo, September 13, 2012.

23. The 6.53 percent drop in the amortization rate is from the Final Report to ORSC (p. 130). That report calculates the ARC at 15.26 percent, a bit higher than our estimate of 14.02 percent, because it is based on data from the FY11 valuation. The Report to ORSC projects that the ARC "will fall slightly below 13.00 percent" by FY17 (p. 131). However, this is because their calculation phases in the deferred gains through FY11 but "does not reflect actuarial losses from July 2011 through June 2012." The report adds a "stress test" that does incorporate the estimated FY12 losses and finds that the plan falls short of the thirty-year funding goal (p. 133). To meet that goal, the report states that the plan would be required to implement another 1.7 percent cut in the present value

of retirement benefits, over and above the 15 percent cut enacted under SB 342. If future returns continue to fall short of actuarial assumptions, further cuts would be required, and the Final Report estimates those cuts under the assumption of 5.00 percent returns. The report concludes, "Even if future poor returns do not materialize, it is likely that the next actuarial valuation as of July 1, 2012 will show that additional modest benefit reductions are required in order to maintain a 30-year funding period for retirement benefits and long term solvency of health benefits" (p. 138). The FY12 valuation report did not assess the funding period under the new plan, but our analysis based on the data in the FY12 valuation supports that conclusion. However, market returns were strong in FY13, so the next valuation report might show a better result.

24. This section is based on the STRS Actuarial Valuation Reports for retiree health care, the STRS Comprehensive Annual Financial Reports, annual reports of the Ohio Retirement Study Council (ORSC), and the "Final Report to ORSC Analyzing Retirement Systems' 30-Year Plans," July 2012. The current valuation report, prepared by PricewaterhouseCoopers, is "State Teachers Retirement System of Ohio, January 1, 2013 Actuarial Valuation of Retiree Health Benefits Under GASB 43," dated March 2013.

25. The contribution rates were 2 percent for FY83-FY97, 3.5 percent for FY98, 8 percent for FY99-FY00, and 4.5 percent for FY01-FY02 (Valuation Report, January 1, 2007, p. 5).

26. We calculate the net pay-go expenditures from data in the STRS CAFRs as provider payments, less health care premiums paid by the retirees and (since 2006) Medicare Part D reimbursements to STRS from the Federal government for prescription drug coverage.

27. The CAFRs do not report data on premiums per retiree, but it is unlikely that the growth in the number of participating retirees accounted for much of the growth in total premiums paid by retirees.

28. For 2006, premium hikes were capped at 3 percent, but the formula was uncapped again in 2007.

29. Specifically, STRS proposed to increase district and employee contributions by 2.5 percent each, for a total of 5 percent, of which 0.6 percent would be directed to shoring up the pension fund, along with the 1 percent previously dedicated to retiree health.

30. The crash affected the retiree health fund, as well as the pension fund. By FY07, health care assets represented 28.1 percent of accrued liability and the funded ratio rose to 33.2 percent in FY08 before the market crash. By FY09, after the crash, it fell to 20.1 percent.

31. STRS had previously performed valuations, but not under GASB 43 rules, so the discount rate was notably higher. The ARC depicted for FY06 can be inferred from the FY07 GASB 43 valuation. STRS calculated the ARC for FY06 at 4.58 percent, but this was under the higher discount rate (8.0 percent). Netting out the change due to the higher discount rate, the FY07 GASB valuation reports that the FY06 ARC was 0.45 percent higher than FY07, of which 0.40 percent was due to changes in benefits and premiums. However, the available information does not indicate how much of that is apportioned to normal cost vs. amortization, and thus we do not depict the FY06 normal cost.

32. This includes the effect of a rise in the discount rate from 4.9 percent to 5.4 percent.

33. As mentioned, this rate is paid in its entirety by any retirees eligible for health coverage with fewer than fifteen years of service (among those who retired prior to 2004), and this is also the rate that all retirees now pay for spouses and dependents.

34. State Teachers Retirement System of Ohio, "Board News," February 2013, https://www.strsoh.org/past_news/13_Feb_Board_News.html.

35. This section is based on the SERS Actuarial Valuation Reports, the SERS Comprehensive Annual Financial Reports, and the "Final Report to ORSC Analyzing Retirement Systems' 30-Year Plans," July 2012. The current valuation report, prepared by Cavanaugh MacDonald Consulting, is "Report on the Annual Basic Benefits Valuation of the School Employees' Retirement System of Ohio, Prepared as of June 30, 2012," dated November 15, 2012; this report reflects the September 2012 legislative changes, unlike the corresponding STRS report for FY12.

36. The actuarial reports do not discuss the reasons for this drop. There was no cut in benefits.

37. The twenty-seven-year amortization period was the result of setting a thirty-year closed amortization in 2009, where "closed" means the endpoint is fixed, so the number of remaining years decreases each year. The "closed" period method was retained upon resetting the period to thirty years.

38. These projections exceed those in the ORSC Final Report, which rise a bit over 14 percent and then drop below. That report did not have the FY12 actuarial results yet, which showed a deteriorated position.

39. This also affects the amount by which pensions are reduced for early retirement.

40. This section is based on the SERS Actuarial Valuation Reports for retiree health care, the SERS Comprehensive Annual Financial Reports, annual reports of the Ohio Retirement Study Council (ORSC), and the "Final Report to ORSC Analyzing Retirement Systems' 30-Year Plans," July 2012. The current valuation report, prepared by Cavanaugh Macdonald Consulting, is "Report on the Retiree Health Care Valuation of the School Employees' Retirement System of Ohio, Prepared as of June 30, 2012," dated November 15, 2012.

41. The subsidy rises further, by 1 percentage point per year of service beyond thirty-five. The subsidies are much smaller for spouses and children.

42. We estimate that for FY03-FY06, the employer contribution for retiree health averaged 5.90 percent (including the surcharge discussed below), while the net pay-go expenditures averaged 7.63 percent of payroll.

43. In addition, the amortization rate—to pay down the unfunded liability—is currently 3.30 percent.

44. The next valuation, likely to be released in the fall of 2013, may show better results, due to strong market performance through most of FY13.

45. Historical data for SERS and STRS payroll are backed out of the data in CMSD's annual CAFRs. They are projected forward with the same growth rates as projected school revenues, discussed below.

46. More specifically, CMSD's payroll shrank, but not as rapidly as enrollments did.

47. As discussed above, the contribution rates are projected to increase a bit, absent further benefit cuts, because SB 341 and SB 342 did not entirely fix the problems, falling short of the state's thirty-year pension funding goal and retiree health solvency.

48. The vast majority of the savings—$972, or 80 percent—is from the changes to the STRS pension plan.

49. Cleveland Municipal School District Five-Year Forecast, October 2012.

50. Average expenditure patterns used for this report originate from research in three states and six major metropolitan areas. Total expenditures of $31.9 billion for 2.2 million students are included in the average.

51. CSMD had a student-to-teacher ratio of 13.5:1 in FY12 and averaged a 14.65:1 ratio between FY05 and FY12. We use a student-to-teacher ratio of 14:1 for FY13, 14.5:1 for FY14, and 15:1 between FY15 and FY20 because CSMD has stated that they expect the ratio to increase with its budget crisis. However, the district did not project how much it projects class sizes to increase.

52. The goals of Act 10 included reduction of district retirement costs, but also extended to other benefits.

53. Although the net effect was similar (4 percentage point hike in Ohio and about 6 percentage points in Wisconsin), the mechanism by which this was effected differed. In Wisconsin, the statutory employee contribution did not change in any material respect, but Act 10 barred districts like Milwaukee from paying this for the employee. In Ohio, where the employer "pick-up" was not an issue, the legislation raised the statutory employee contribution.

54. Here, too, the mechanism for the cuts differed. In Milwaukee, retiree health is a district benefit, locally bargained before Act 10 removed it from collective bargaining, thereby empowering the district to make changes. In Ohio, it is a state benefit, and the state board had the authority to make changes, without legislative approval.

55. Although the changes affect both current and new teachers, it is the new teachers who will feel the full impact, since they will pay the higher contributions for their entire career, for benefits of reduced value.

56. Enrollment for the Cleveland Municipal School District through the FY12 school year is taken from data from the Ohio Department of Education. Projections through FY17 are based on district-produced projections released October 2012. For FY18 through FY20, we assumed the enrollment decline would stabilize at 2 percent per year

57. Congressional Budget Office, "An Update to the Budget and Economic Outlook: Fiscal Years 2012 to 2022," August 2012, http://www.cbo.gov/sites/default/files/cbofiles/attachments/08-22-2012-Update_to_Outlook.pdf.