School Funding Fairness in New York State: *An Update for 2013-14*

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1. Introduction

A decade after the monumental appeals court ruling in Campaign for Fiscal Equity v. State, funding equity for public elementary and secondary education in New York State is 42nd in the nation, or 8th from the bottom. This inequity has roots in the decades of public policy decisions made by the executive and legislative branches of government driven by political dynamics at the state, regional and local levels. Only after 14 years of litigation by a New York City based organization known as the Campaign for Fiscal Equity (CFE) resulted in a trilogy of Court of Appeals decisions in 1995, 2003 and 2006 directing the State to correct this inequity did reform begin.

In 2007 the State enacted major education financing and accountability reforms entitled Foundation Aid and the Contract for Excellence. These reforms embarked the State on a historic journey toward improving the quality of education provided in the poorest urban, rural and suburban communities in the state. Unfortunately, that journey has been halted for the time being at least. Even in the first year of the reforms, in 2007, foreshadowing of this could be detected. Distributional corrections contained in the executive's initial proposal for reform were reduced by half after that proposal was subjected to New York State legislative process.

According to Governor Andrew Cuomo, New York State's education funding problem is primarily one of inefficiency and not one of inequitable or inadequate funding.

> "The problem with education in New York is not money," Cuomo said. "We have one of the highest spending rates in the nation. Our performance isn't where our money is."[1]

From the Governor's perspective, the answer is not to provide additional funding or redistribute existing funding more equitably, but rather to cap spending growth and make local public schools and districts compete for any additional funds they might receive.

The Governor's view of school funding in New York State is difficult to reconcile with two recent national reports on school funding, both of which chastised the state for its highly inequitable funding system and for its particularly poor treatment of districts serving high need student populations. New York State's school finance formula provides a striking example of poorly allocated and underfunded state aid, resulting in both substantial inequities in resources across higher and lower need districts and the children they serve and substantive inadequacies in resources specifically available to children attending high need districts. In the most recent

[1] http://www.wskg.org/wskg_news/cuomo-gets-mixed-reviews-schools-poll

edition of *Is School Funding Fair,* New York State received a grade of D for funding fairness and was (and remains) among the most inequitable states in the nation.[2]

Table 1 provides funding fairness estimates based on national data from 2008 to 2010 for the 15 least equitable states. Equity is evaluated by the relationship between total state and local revenues per pupil and district concentrations of children in poverty. The national *School Funding Fairness* report card identifies as "regressive" funding formulas, those where districts with higher concentrations of children in poverty have predictably lower state and local revenue per pupil, as opposed to progressive states, where districts with higher concentrations of children in poverty have predictably higher state and local revenue per pupil. Table 1 shows that NY lies 8th from the bottom, with predicted state and local per pupil revenues in high poverty districts at 89% of predicted state and local per pupil revenues for low poverty districts.

Table 1

Predicted State and Local Revenue in the Least Equitable States 2009-2011

	Predicted State & Local Revenue per Pupil [1]				
State Name	***0 percent poverty***	***10 percent poverty***	***20 percent poverty***	***30 percent poverty***	***Fairness Ratio[2]***
Nevada	$11,145	$9,857	$8,719	$7,712	0.69
North Carolina	$10,676	$9,530	$8,506	$7,593	0.71
New Hampshire	$14,696	$13,441	$12,293	$11,243	0.77
North Dakota	$11,851	$10,895	$10,016	$9,208	0.78
Vermont	$15,340	$14,118	$12,993	$11,958	0.78
Illinois	$13,032	$12,151	$11,330	$10,564	0.81
New York	$18,843	$17,767	$16,752	$15,796	0.84
Texas	$9,271	$8,885	$8,515	$8,160	0.88
Idaho	$7,292	$7,017	$6,753	$6,499	0.89
Maryland	$13,656	$13,167	$12,695	$12,240	0.90
Pennsylvania	$13,776	$13,351	$12,939	$12,541	0.91
Alabama	$9,160	$8,899	$8,646	$8,400	0.92
Iowa	$11,477	$11,160	$10,853	$10,554	0.92
Nebraska	$10,723	$10,455	$10,195	$9,940	0.93
Missouri	$9,428	$9,227	$9,030	$8,837	0.94

[1] Predicted state and local revenue based on 3-year model (2009-2011) of U.S. Census Fiscal Survey data, total state and local revenue per pupil as a function of a) adj. census poverty rate, b) enrollment size, c) county population density, d) regional competitive wage variation, and e) state.

[2] Fairness ratio = Predicted State & Local Revenue at 30% Poverty / Predicted State & Local Revenue at 0% Poverty

[2] Baker, B. D., Sciarra, D. G., & Farrie, D. (2010). *Is School Funding Fair?: A National Report Card*. Education Law Center.

In another recent report from the Center for American Progress on *Stealth Inequities* in state school finance formulas, New York State is identified among states where state aid systems actually contribute to the funding inequities.[3] Specifically, the report shows that New York State allocates substantial state aid to its lowest need school districts through adjustments to foundation aid sharing ratios, including minimum aid and through a multi-billion dollar program which drives disproportionate property tax relief aid to wealthy downstate suburban districts.

Inequities and inadequacies, while separable school finance concepts are, in important practical ways interconnected. [4] Given the information in Table 1 above, one might assert that even though high poverty New York State districts have fewer resources than lower poverty New York State districts, they clearly have more total state and local revenues than even lower poverty districts in other states, including Pennsylvania. The problem with this assertion is that the majority of cost pressures involved in providing adequate educational services are local or regional. It might be less expensive, for example, to provide adequate educational programs and services in Mount Vernon if not for the high labor costs stimulated by the spending behavior of far more affluent Westchester County districts, most of which can also provide more desirable working conditions. The spending behaviors of these surrounding districts necessarily influence the costs for all. Specifically, they influence the ability of districts to pay a competitive wage in order to recruit and retain quality teachers, the largest driver of school district expense.

Further, students graduating from local public school districts in the same region must compete with each other for access to postsecondary education and employment. Those growing up in impoverished neighborhoods already face a substantial uphill challenge, a challenge that can be moderated by the provision of targeted interventions both in their communities and their schools. Those targeted interventions, which include early childhood education and reduced class sizes, among other things, cost money. If the money isn't there, the interventions won't be there either.

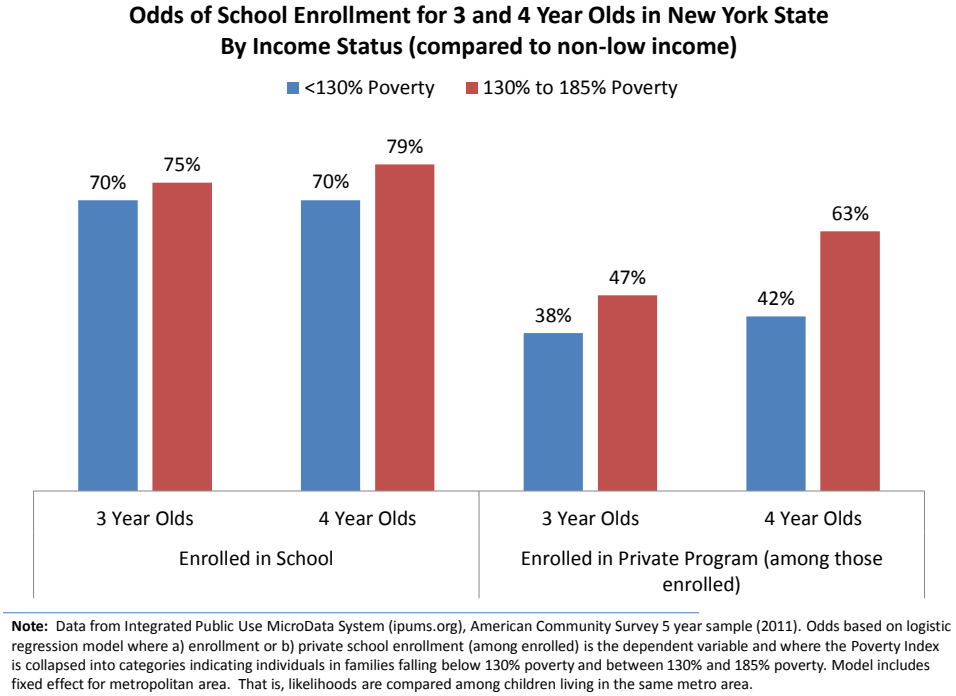
Figure 1 shows the odds of being enrolled in school (broadly defined) for 3 and 4 year old children in New York State, by their income/poverty status. Low income 3 year olds are only 70 to 75% as likely as their higher income peers in the same metropolitan area to be enrolled in school. Among those enrolled in school, 38% to 47% are enrolled in private schools. For 4 year

[3] Baker, B. D., & Corcoran, S. P. (2012). The Stealth Inequities of School Funding: How State and Local School Finance Systems Perpetuate Inequitable Student Spending. *Center for American Progress*.

[4] Baker, B., & Green, P. (2008). Conceptions of equity and adequacy in school finance. *Handbook of research in education finance and policy*, 203-221.

olds, enrollment rates are comparable. By contrast, in New Jersey which leads the nation in publicly financed preschool for low income children, the lowest income children (<130% poverty) are 91% as likely as their higher income peers to be enrolled in school at age 3 or 4 (applying the same analysis and data).

Figure 1



Note: Data from Integrated Public Use MicroData System (ipums.org), American Community Survey 5 year sample (2011). Odds based on logistic regression model where a) enrollment or b) private school enrollment (among enrolled) is the dependent variable and where the Poverty Index is collapsed into categories indicating individuals in families falling below 130% poverty and between 130% and 185% poverty. Model includes fixed effect for metropolitan area. That is, likelihoods are compared among children living in the same metro area.

Goals of this Policy Brief

This policy brief provides an update to a policy brief released in 2011 in which I evaluated the condition of the New York State school finance formula. In that report, I uncovered many of the problems which I later elaborated in my work with Sean Corcoran on Stealth Inequities in school finance. This report reviews some of those problems and sheds new light on how recent changes to the state school finance formula do little if anything to resolve persistent inequities.

I begin by comparing the current state of school funding in New York with the funding formula and targets that were proposed by the state as remedy legislation to comply with the court order issued in Campaign for Fiscal Equity vs. State. I show that in 2013-14, the state

continues to far underfund the original proposed remedy and most dramatically underfund the proposed remedy for children with the greatest needs.

Next, I explore the consequences of that underfunding. During the Fall/Winter of 2012, Michael Rebell and colleagues from Teachers College at Columbia University released a series of reports in which they summarized the *essential resources* of a sample of schools in New York, where *essential resource* benchmarks were drawn from language in the C.F.E. decisions. I expand on Rebell's analysis to evaluate the distribution of class sizes by student needs and by district wealth, statewide, over the past 3 years. I also explore the distribution of accountability ratings of schools with respect to funding shortfalls, based on the new classification scheme adopted by the state to expedite state imposed interventions.

Finally, I discuss the fatal analytic flaws, bait and switch tactics with alternative spending measures and arbitrary data choices undergirding the state's approach to calculating basic funding levels – referred to as the "successful schools" model. Collectively these decisions lead to substantial underestimates of basic education costs and especially of the costs of providing a sound basic education to high need children in high cost regions.

2. Broken Promises: The Remedy that Wasn't

The 2007 foundation aid formula was adopted by the state specifically to achieve compliance with the high court's order in Campaign for Fiscal Equity. The state argued that this new formula was built on sound empirical analysis of the spending behavior of districts that achieved adequate outcomes on state assessments. The state argued that the foundation formula applied this evidence, coupled with additional *evidence-based* adjustments to address student needs and regional cost variation, in order to identify a specific target level of per pupil spending for each district statewide, which would provide comparable opportunities to achieve adequate educational outcomes. The state determined the share of that target funding to be raised through local tax revenues and estimated the amount to be paid by the state toward achieving each districts' *sound basic funding target.*

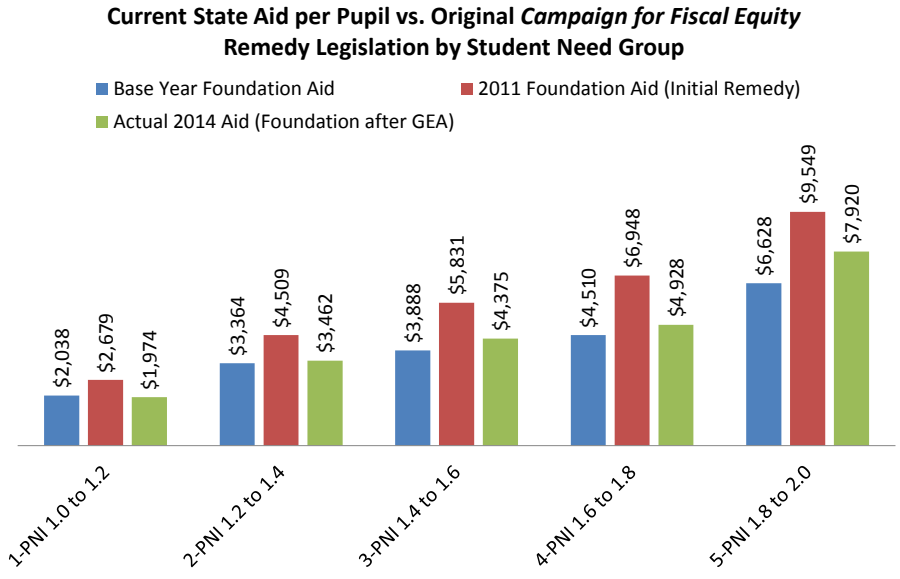
Then, they simply failed to fund it.

2.1. Failure to Fund the Original C.F.E. Remedy

The Foundation Aid formula was to be phased in from 2007 to 2011. The data behind the base spending calculation had been drawn from 2003-2005, and included general education instructional spending of school districts that a) achieved 80% proficiency rates on state assessments, and b) were in the lower half spending districts among those who achieved desired outcomes. The formula for converting these figures to funding targets involves a combination of inflation adjustment, and phase-in percent to bring the dated estimates up to date and project the annual increases for hitting the adequate funding target in future years – four years out in the case of the original proposed remedy.

Figure 2 compares the state aid per pupil levels that were proposed for phase in by 2011 – the fourth year of remedy – with districts organized by pupil need group, using the state's index of pupil needs (PNI). Figures are per aidable pupil unit, which is a weighted pupil count including adjustments for children with disabilities. The lowest need districts were estimated to receive an average of $2,679 in state aid per pupil by 2011. The highest need districts were estimated to receive $9,549 by 2011.

Figure 2



Note: Base Year Foundation Aid and 2011 Foundation Aid Targets based on original Campaign for Fiscal Equity remedy legislation, which set a base year 2006-07 foundation aid target and four year phase in through 2011.

The lowest need districts were, in 2007 estimated to be receiving $2,038 per pupil in state aid. That figure placed them about $600 per pupil short of their eventual 2011 target. But, by 2014 (3 years after full phase in), the lowest need district's average aid per pupil had actually dropped slightly. The highest need districts in the state faced a nearly $3,000 per pupil difference between their estimated base year funding and their eventual 2011 target funding. By 2014, budgeted state aid for the highest need districts had risen to $7,920, but was still well short of the original proposed 2011 funding target.

2.2. The Formula Today: Cuts, Gaps and Caps

The gaps identified in Figure 2 compare funding for the coming year to a retrospective funding target of 3 years ago – that is, what might have been appropriate funding back in 2011. Further, Figure 2 compares only the state aid share of funding, not the total state and local revenue. Ultimately, the goal of a foundation aid formula is to apply state aid, in combination with local revenues (at equitable taxation) toward achieving a level of cumulative funding in each district that is sufficient for achieving constitutionally adequate and equitable student outcomes.

In this brief, I refer to that adequate funding target the ***sound basic funding target***. The *sound basic funding target* is a per pupil general instructional spending figure assigned for each district statewide, that, by the design is assumed to provide the constitutionally minimum floor of spending. In annual budget projections, the state continues to walk through the steps of calculating each district's adequate target funding:

Base x PNI x RCI x TAPU = Sound Basic Funding Target

Base funding in this calculation remains built on a retrospective three year average of general education instructional spending of "efficient" and "successful" districts, with an inflation factor and phase in percent applied. As per the Regents Primer on State Aid:

> The Foundation Amount is the cost of providing general education services. It is measured by determining instructional costs of districts that are performing well. It is adjusted annually to reflect the percentage increase in the consumer price index. For 2007-08 aid, it is $5,258. It is further adjusted by the phase-in foundation percent. For 2009-10, the adjusted amount is: $5,410 x 1.038 (CPI) x 1.025 (phase-in), or $5,756. For 2010-11, the adjusted amount is: $5,708 x 0.996 x 1.078, or $6,122. For 2011-12, the

adjusted amount is: $5,685 x 1.016 x 1.1314, or $6,535. For 2012-13, the adjusted amount is: $5,776 x 1.032 x 1.1038, or $6,580.[5]

PNI is the pupil needs index and RCI the regional cost index. TAPU is the Total Aidable Pupil Unit count, which includes additional adjustments, such as adjustments for children with special educational needs.

In Figure 2, I presented state aid figures with respect to these pupil counts, which are higher than actual enrollment counts in districts and also vary by district. As such, it is more appropriate in many cases to represent spending targets per actual pupil, where the common measure in New York State is referred to as the Duplicated Combined Adjusted Average Daily Membership (DCAADM).[6]

Sound Basic Funding Target / Actual Pupils = Target per Pupil

Finally, the state aid share of the sound basic funding target is determined by subtracting the expected local minimum contribution from the sound basic funding target.

Sound Basic Funding Target – Local Contribution = State Aid

Annual budget worksheets produced in their final adopted form around April 1 (later March) each year walk through these calculations but then add a few additional adjustments, including a two-step calculation for determining just how much of the sound basic funding target will be cut from each district, referred to as the "gap elimination adjustment" and "partial restoration" of the gap elimination adjustment.

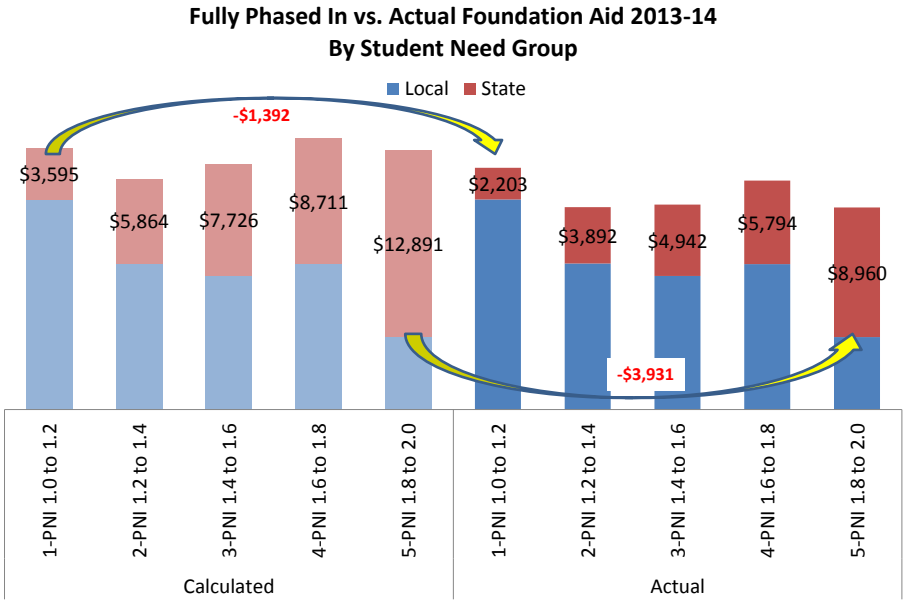
[5] http://www.oms.nysed.gov/faru/PDFDocuments/Primer12-13A.pdf One can back these figures out of the state aid worksheets as well by taking each districts' "Adjusted Foundation per Pupil" divided by their PNI and RCI. For 2012-13, that figure rounds to $6,580 for each district. Prior years also match. Interestingly, however the 2013-14 aid worksheets yield a foundation level of only $6,515, or a cut to the foundation level of $65.

[6] Duplicated CAADM. This item (Duplicated Combined Adjusted Average Daily Membership or DCAADM) is the pupil count used to calculate per pupil amounts for the revenue items and expenditure categories. The pupil count is based on data from State aid worksheets and Basic Educational Data System forms. This pupil count is the best count of the number of students receiving their educational program at district expense. DCAADM includes the average daily membership (ADM) of students enrolled in district programs (including half-day kindergarten pupils weighted at 0.5); plus equivalent secondary attendance of students under 21 years of age who are not on a regular day school register plus pupils with disabilities attending Boards of Cooperative Educational Services (BOCES) full time plus pupils with disabilities in approved private school programs including State schools at Rome and Batavia plus resident students for whom the district pays tuition to another school district plus incarcerated youth. Beginning with the 1999-2000 school year, pupils resident to the district but attending a charter school are included. Beginning with the 2007-08 school year, students attending full-day Pre-K are weighted at 1.0, 1/2 day Pre-K weighted at 0.5. Since residents attending other districts were also included in the CAADM count of the receiving district, this pupil count is a duplicated count. The State total consists of the sum of the rounded pupil counts of each school district. Data Source: State Aid Suspense File. See: http://www.oms.nysed.gov/faru/Profiles/18th/revisedAppendix.html

Figure 3 and Figure 4 illustrate the difference in 2013-14 between the calculated state aid levels given the pure – uncut – form of the foundation aid formula,[7] and the actual foundation aid levels after application of the GEA and GEA partial restoration.[8] In Figure 3, these differences are compared by pupil needs group. The left half of the figure includes the initial calculation of aid, with 2011 total local revenue per pupil (from state fiscal profile data) included to show cumulative effects. The right half of the figure includes the actual 2013-14 aid estimates.

The lowest need districts were calculated to receive $3,595 per pupil in state aid, but were actually allocated $1,392 less, or $2,203. By contrast, the highest need districts were calculated to receive nearly $13,000 per pupil in state aid, but received nearly $4,000 per pupil less than that after applying GEA and partial restoration.

Figure 3

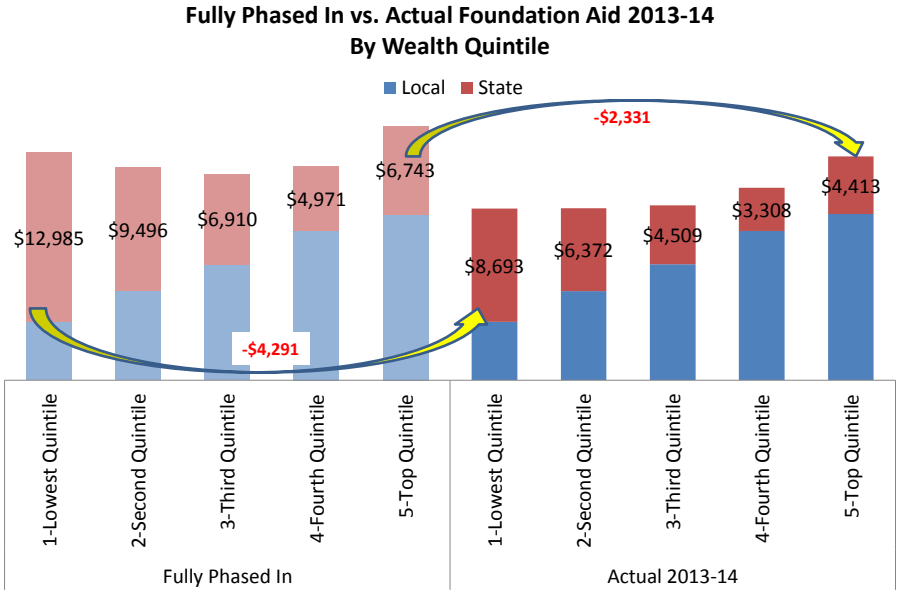


Note: Local revenue is actual local from 2010-11 Fiscal Profile. Fully Phased In Foundation Aid from state aid run worksheet (March/April 2013). Actual Foundation Aid is 2013-14 Foundation Aid after application of Gap Elimination Adjustment and Partial Restoration of GEA. Figures expressed per Pupil in Duplicated Combined Adjusted Average Daily Membership (DCAADM)

[7] File DBSAD1 W(FA0001) 00 FOUNDATION AID BEFORE PHASE-IN 03/26/13

[8] (Foundation Aid [DBSAA1, 03/26/13, E(FA0197) 00 2013-14 FOUNDATION AID] + GEA [AA(FA0186) 00 2012-13 GAP ELIMINATION ADJUSTMENT (SA1213)] + GEA Partial Restoration [AB(FA0187) 00 2013-14 GEA RESTORATION])

Figure 4



Note: Local revenue is actual local from 2010-11 Fiscal Profile. Fully Phased In foundation aid from state aid run worksheet (April 2013). Actual Foundation Aid is 2013-14 Foundation Aid after application of Gap Elimination Adjustment and Partial Restoration of GEA. Figures expressed per Pupil in Duplicated Combined Adjusted Average Daily Membership (DCAADM).

Figure 4 addresses the calculated aid levels and budgeted actual aid levels by wealth quintile, using the Combined Wealth Ratio to group districts. The highest wealth districts would, if the formula was funded as designed, receive about $6,700 per pupil. But, they in fact receive about $4,400 per pupil after cuts are imposed. However, the shortfalls are nearly twice as large for the state's lowest wealth districts which would receive nearly $13,000 per pupil under a fully funded foundation formula, but instead receive only about $8,700 per pupil.

Figure 5 and Figure 6 summarize the actual *General Education Expenditures per Pupil*[9] compared with the *Sound Basic Spending Targets*[10] arrived at in the first step of the formula calculation above. These graphs address whether districts currently spend equal to state estimates of what they need to spend in order to provide a sound basic education. Figure 5 provides these comparisons by student need level and Figure 6 by wealth. Figure 5 shows that the districts with the lowest pupil needs spend above their estimated sound basic funding targets. Districts in the second lowest need category spend slightly below their sound basic

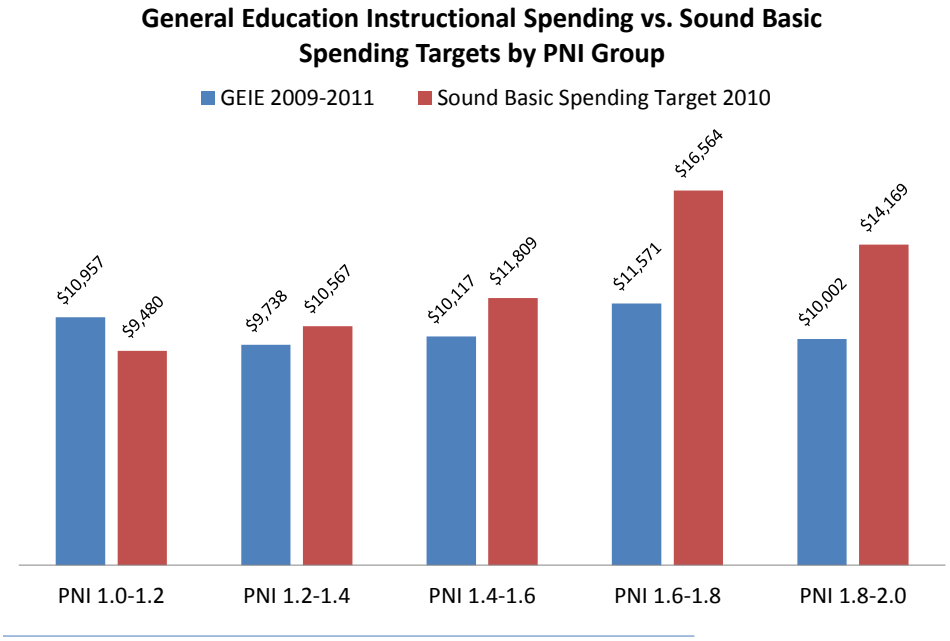
[9] General Education Instructional Spending per General Education Pupil (2012 Successful Schools Estimates), generated by 3 year average from 2009-2011.

[10] Based on the 2010 (mid-year of three year spending range) foundation aid formula funding target, expressed per pupil (using the average student count for the three year period from the 2012 Successful Schools Estimates file).

funding targets. But, districts in the top two groups of student need levels spend $3,000 to $4,000 less per pupil than it is estimated by the state, to provide a sound basic education.

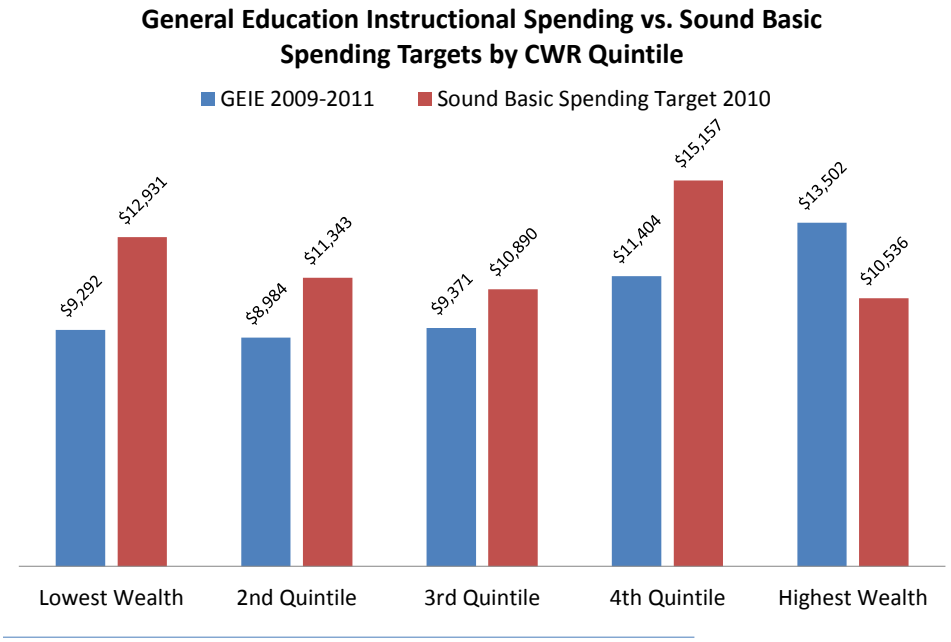
Flipping the analysis to evaluate the disparities by Combined Wealth Ratio, we see that the highest wealth districts spend more than $3,000 more per pupil than estimated for meeting the sound basic education spending floor. But, low wealth districts have shortfalls on the order of $2,000 to $3,000 per pupil.

Figure 5



Note: General education instructional spending from 2012 successful schools update analysis (lagged 3-year average, from 2009-2011). Formula Targets based on fully phased in foundation formula target per enrolled pupil 2010 .

Figure 6



Note: General education instructional spending from 2012 successful schools update analysis (lagged 3-year average, from 2009-2011). Formula Targets based on fully phased in foundation formula target per enrolled pupil 2010 .

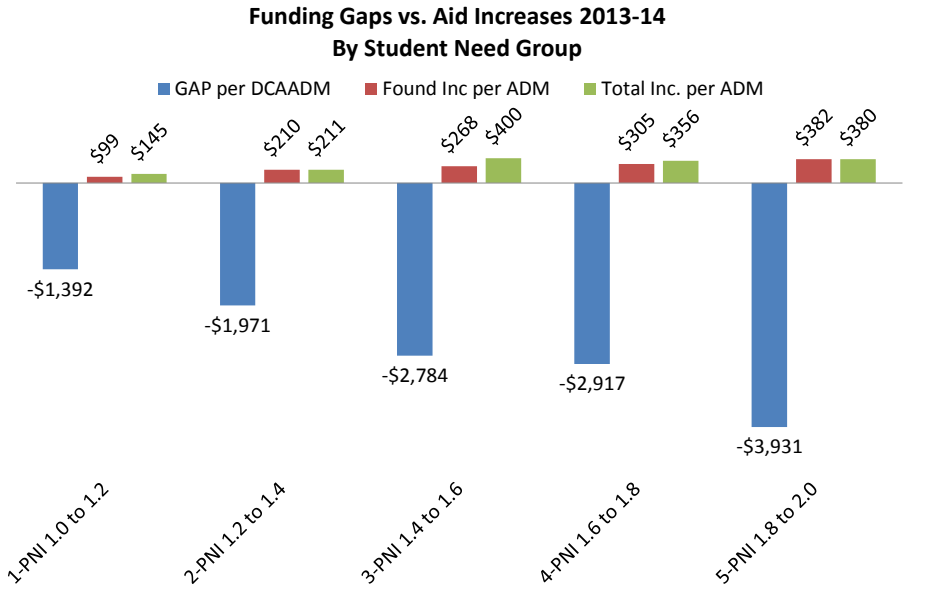
2.3. Too Little, Too Late: Aid Increases & Chasing the Moving Target

The final adopted budget for the 2013-14 school-year included greater increases to the foundation aid formula than the previous few years. But it is important to put those increases in the context of the extent to which the foundation aid formula remains underfunded. Specifically, the increases in question are really just decreases to the prior cuts.

Figure 7 and Figure 8 compare the extent of current underfunding of the foundation aid formula (after the coming increase) and the size of the increase to foundation funding and to total state aid. The gaps and increases are displayed in Figure 7 by student need group and in Figure 8 by Combined Wealth Ratio quintile. In Figure 7 we see that even after the funding increases of under $400 per pupil in the highest need districts, there remain gaps in funding relative to the state's own *sound basic funding target* of nearly $4,000 per pupil. That is, the additional funding for 2013-14 was less than 10% of the remaining shortfall. If the *sound basic funding target* was to stay constant, it would still take 10 more years at the current rate of increase in order to close the gap. During that time, a cohort of first graders would be making their way to their junior year in high school. Even worse, ten years from now, that which was

estimated to provide a *sound basic education* in the current year will be far from adequate. That is, the state is chasing a moving target, but falling further and further behind each year.

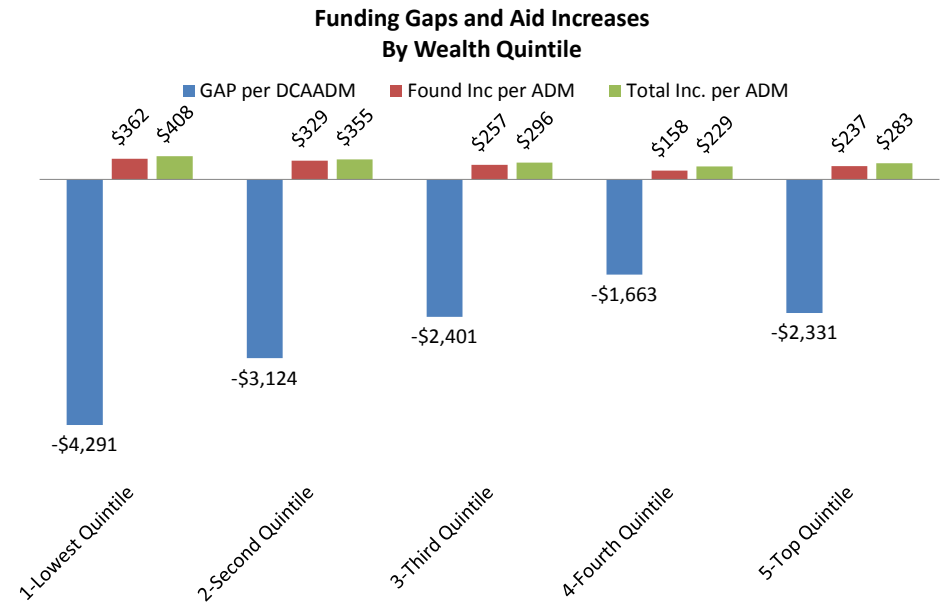
Figure 7



Note: Funding Gaps are gap between fully phased in foundation target, and actual foundation aid, per pupil in duplicated combined average daily attendance. Foundation and Total aid increases 2013-14 per pupil in DCAADM based on district level aid runs for 2013-14 adopted budget. Foundation Aid increase includes Gap Elimination Adjustment and Partial Restoration.

Figure 8 displays the increases and remaining gaps by wealth quintile. For 2013-14, the state's lowest wealth districts will be underfunded relative to their calculated *sound basic funding target* by over $4,000 per pupil, even after receiving a per pupil increase of around $400 per pupil. Even higher wealth districts will continue to be underfunded significantly with respect to their formula funding targets.

Figure 8



Note: Funding Gaps are gap between fully phased in foundation target, and actual foundation aid, per pupil in duplicated combined average daily attendance. Foundation and Total aid increases 2013-14 per pupil in DCAADM based on district level aid runs for 2013-14 adopted budget. Foundation Aid increase includes Gap Elimination Adjustment and Partial Restoration.

These figures do show that the 2013-14 increases to funding are systematically greater in both higher need and lower wealth districts. That is, the increases per pupil are allocated "progressively." But, these increases make little headway toward improving the progressiveness of the system as a whole or reducing the formula funding gaps that have emerged to date.

Put simply, these marginal increases are too little, too late. More dramatic change is required, and sooner than later.

3. Disparate Consequences

Practitioners in New York State's public school systems are all too familiar with the effects *in the trenches* of yearly cuts and underfunding of the state's school finance formula. In this section, I use statewide data to reveal the disparate consequences both to educational programs and services, and to educational outcomes. In this section, I rely primarily on school level data from the New York State Education Department's (NYSED) School Report Cards database.

3.1. Class Sizes

One can expect disparities in funding of this magnitude to be reflected in programs and services provided. That is, what those dollars buy or in their absence, what they can't buy. Schooling is a labor intensive industry. A sizeable share of education spending is allocated to balancing staffing quantities and qualities. Specifically, a central tradeoff in the resource allocation equation is the balance between maintenance of competitive wages for certified staff in order to recruit and retain high quality staff and achieving desired staffing ratios which are driven by class size preferences.

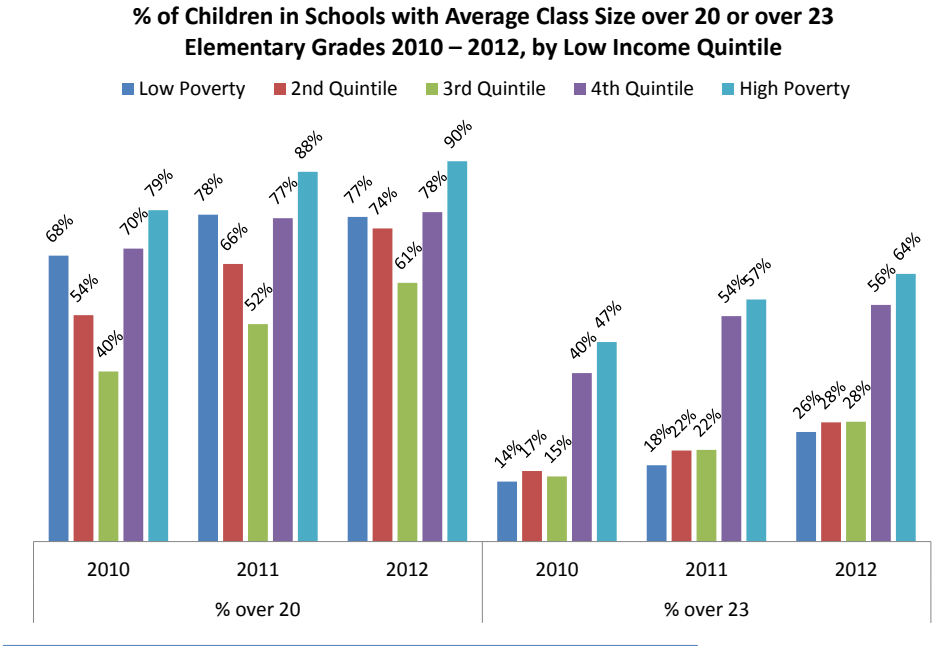
In Campaign for Fiscal Equity v. State, the Court of Appeals addressed specific resources that should be available in all schools in order to meet the *sound basic education* requirement. In a recent series of reports C.F.E. attorney Michael Rebell and colleagues evaluated what they referred to as *essential resources,* drawing on language from the Court of Appeals. Specifically pertaining to class sizes, Rebell and colleagues explain:

> *… the Court of Appeals has indicated that classes of about the sizes listed below are appropriate and that larger class sizes may lead to unsatisfactory results. For schools and classes with large concentrations of students below grade level, and for AIS and RTI services, smaller class sizes may be necessary.*
>
> *a. Kindergarten-grade 3: 20 students*
> *b. Grades 4-6: 21-23 students*
> *c. Middle and High School: 21-23 students (p 13-14)* [11]

Figure 10 and Figure 11 explore the percent of children attending schools with average class sizes above these thresholds at the elementary level and in 8th grade and how those shares have grown in recent years. In Figure 10 we see that in schools with the highest shares of low income children, the percent of children in schools with average class sizes over 20 is highest. That percent grows from 79% in 2010 to over 90% in 2012. More striking are the differences in shares of children attending schools with average class sizes above the upper bound suggested by Rebell and colleagues – 23 students. Only about 15 to 17% of children in schools with low concentrations of low income children had average class sizes above 23. But, the majority of children in high poverty schools attend schools that have average class sizes over 23. These shares have grown each year since 2010.

[11] http://www.equitycampaign.org/i/a/document/25757_EssentialResourcesfinal2_6_13.pdf

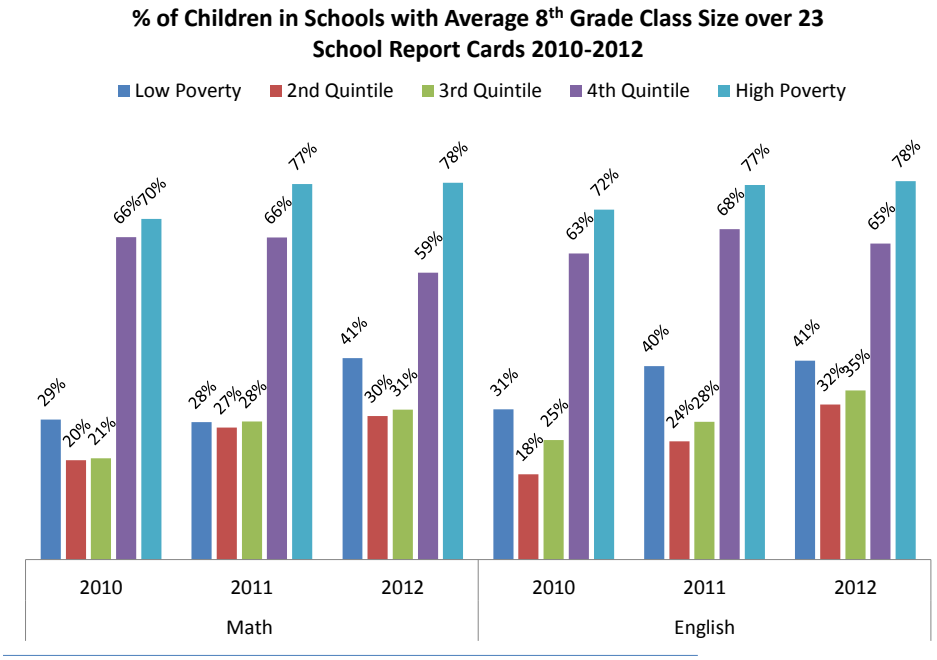
Figure 9



Note: Average Class Sizes based on enrollment weighted school level data drawn from the 2011-12 NYSED School Report Cards database. Approximately 1,000 schools per quintile (quintiles by school, not enrollment weighted).

Figure 11 addresses 8th grade class sizes in English and Math, and focuses on the 23 threshold, or the upper bound of appropriate middle school class size. Most striking is that the percent of children attending schools with average class sizes above 23 is much higher – more than three times as high – in high poverty than in low poverty schools. The vast majority of 8th graders in high poverty schools attend schools where average 8th grade math or English classes are greater than 23 students, a large share of which are in New York City. But, in most cases, 1/3 or fewer among children in low poverty schools attend schools where average class sizes exceed 23 students.

Figure 10



Note: Average Class Sizes based on enrollment weighted school level data drawn from the 2011-12 NYSED School Report Cards database. Approximately 1,000 schools per quintile (quintiles by school, not enrollment weighted).

In years since the C.F.E. decision, there has emerged increased skepticism of the cost effectiveness of class size reduction as a strategy for achieving more adequate educational outcomes.[12] This skepticism rests on a) claims that existing literature supporting positive effects of class size reduction is largely built on a single high quality randomized trial, b) arguments that studies of the policy effects of class size reduction in California and Florida led to unintended consequences regarding the distribution of teaching quality, and c) claims that class size reduction is simply more expensive than other routes to achieving comparable outcome gains. In a report released in 2012, I explain:

> While it's certainly plausible that other uses of the same money might be equally or even more effective, there is little evidence to support this. For example, while we are quite confident that higher teacher salaries may lead to increases in the quality of applicants to the teaching profession and increases in student outcomes, we do not know whether the same money spent toward salary increases would achieve better or worse outcomes if it were spent toward class size reduction. Indeed, some have raised concerns that large scale-class size

[12] Chingos, M. M. (2012). Class Size and Student Outcomes: Research and Policy Implications. *Journal of Policy Analysis and Management*.

reductions can lead to unintended labor market consequences that offset some of the gains attributable to class size reduction (such as the inability to recruit enough fully qualified teachers).[13] And many, over time, have argued the need for more precise cost/benefit analysis. [14] Still, the preponderance of existing evidence suggests that the additional resources expended on class size reductions do result in positive effects.[15] (Baker, 2012)

Perhaps more importantly, there is little if any evidence that raising class sizes to 25 or 30 students per class in elementary or middle grades, in high poverty districts causes no harm. Most reviews of class size effects quibble over class size reductions from 23 students down toward 15 per class (range addressed in Tennessee STAR study). In particular, there exists no evidence that achievement gaps can be effectively mitigated where children in higher poverty settings are subjected to class sizes of 25 or more, while children in lower poverty settings are provided much smaller classes. Consider also that for a teacher covering 6 sections of a particular subject, moving from 30 children per class to 20 would lead to a total reduction of student load of 60 students. That's 60 fewer assignments, quizzes, tests to grade each time. Even with only one graded assignment per week, at 5 minutes per assignment, this difference in total load amounts to 5 hours per week.

3.2. Accountability Status

In 2012, New York State, along with several other states chose to participate in the U.S. Secretary of Education's *Elementary and Secondary Education Act* "regulatory flexibility

[13] Jepsen, C., Rivkin, S. (2002) What is the Tradeoff Between Smaller Classes and Teacher Quality? NBER Working Paper # 9205, Cambridge, MA. http://www.nber.org/papers/w9205

"The results show that, all else equal, smaller classes raise third-grade mathematics and reading achievement, particularly for lower-income students. However, the expansion of the teaching force required to staff the additional classrooms appears to have led to a deterioration in average teacher quality in schools serving a predominantly black student body. This deterioration partially or, in some cases, fully offset the benefits of smaller classes, demonstrating the importance of considering all implications of any policy change." p. 1

For further discussion of the complexities of evaluating class size reduction in a dynamic policy context, see:

David Sims, "A Strategic Response to Class Size Reduction: Combination Classes and Student Achievement in California," *Journal of Policy Analysis and Management*, 27(3) (2008): 457–478

David Sims, "Crowding Peter to Educate Paul: Lessons from a Class Size Reduction Externality," *Economics of Education Review*, 28 (2009): 465–473.

Matthew M. Chingos, "The Impact of a Universal Class-Size Reduction Policy: Evidence from Florida's Statewide Mandate," Program on Education Policy and Governance Working Paper 10-03 (2010).

[14] Ehrenberg, R.G., Brewer, D., Gamoran, A., Willms, J.D. (2001) Class Size and Student Achievement. Psychological Science in the Public Interest 2 (1) 1-30

[15] Baker, B. D. (2012). Revisiting the Age-Old Question: Does Money Matter in Education?. *Albert Shanker Institute*.

initiative" casually referred to as the NCLB Waiver program. As framed by the U.S. Department of Education, "This flexibility rewards States that are showing the courage to raise their expectations in their academic standards."[16]

Like its immediate predecessor *Race to the Top,* the NCLB Waiver program was characterized as an opportunity for states to propose "innovative" reform strategies for improving low performing schools. But also like its predecessor, the NCLB Waiver program prescribes with a high degree of precision those "innovations" that must be included on a state's application to qualify for a waiver. In many respects, the entire program is suspect, beginning with the fact that the program involves the U.S. Secretary of Education unilaterally permitting states to sidestep existing Federal Statute (NCLB). Additionally, the prescriptive and coercive approach has backed most states into adopting strikingly similar *innovations,* including nearly identical schemes for identifying and classifying local public school districts to be subjected to federally approved "turnaround" models.

Like other states with approved NCLB waivers, New York has adopted a modified performance classification scheme to identify those schools and districts subject to the most immediate interventions.

> Using 2010-11 school year results, NYSED will identify as Priority Schools the lowest achieving district and public charter schools in the state based on combined ELA and math assessment results or graduation rate for the "all students" group, if these schools are not demonstrating progress in improving student results. The Department will identify any district with at least one Priority School as a Focus District. If a district is among those with the lowest achieving subgroups in ELA and mathematics combined or for graduation rate and is not showing improvement, the district will also be identified as a Focus District. These districts in turn will be required to identify, at a minimum, a specified number of schools as Focus Schools.[17]

Under this model, the state assumes no blame for a district's or school's "failure" to achieve measured outcome goals, but grants itself additional authority to impose significant structural, programmatic and staffing changes. By design of this system, the fault lies with district and school management and operations and the quality of teachers delivering the curriculum. Schools identified as priority schools and districts identified as focus districts are

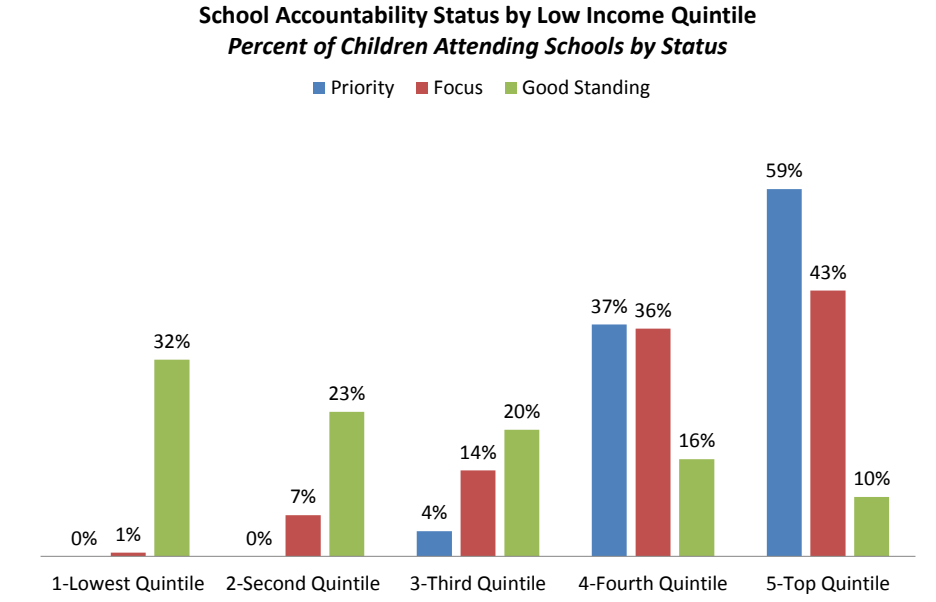
[16] http://www.p12.nysed.gov/esea-waiver/
[17] http://www.p12.nysed.gov/esea-waiver/field-memo.pdf

unlikely to receive substantive additional financial resources from the state but will face additional accountability and potential restructuring requirements.

Figure 11 addresses the distribution of children, by low income quintile, across schools falling into different accountability classifications under the new system. For example, Figure 11 shows that for Priority schools, 59% (weighted by enrollment) are schools in the highest quintile of low income concentration. 37% are schools in the next highest quintile of low income concentration.

No priority schools have low concentrations of low income children (are in the bottom 40%). Patterns are similar though somewhat less striking for focus schools. Focus schools tend to fall in the higher quintiles of low income concentration. By contrast, those schools in "good standing" tend to be in the lower poverty quintiles. In other words, low income enrollment concentrations remain a substantial correlate with waiver classification status.

Figure 11



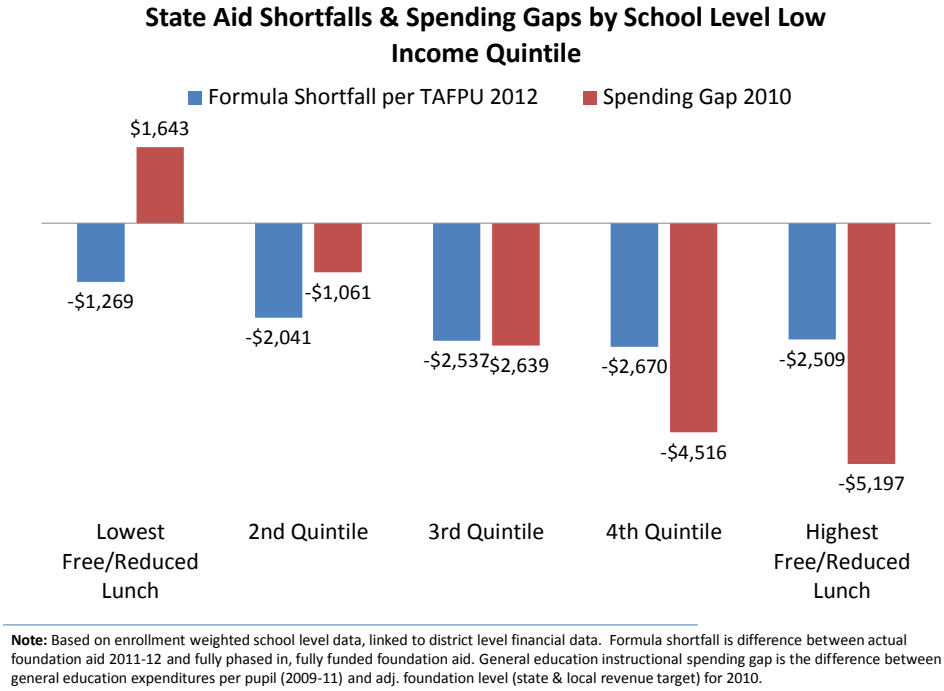
Note: Based on enrollment weighted school level data drawn from the 2010-11 NYSED School Report Cards database, linked with NYSED NCLB Waiver school level ratings. Approximately 1,000 schools per quintile (quintiles by school, not enrollment weighted).

Figure 12 points more directly toward state policy and responsibility. Figure 13 presents the gap between actual *General Education Expenditures per Pupil*[18] compared with the *Sound*

[18] General Education Instructional Spending per General Education Pupil (2012 Successful Schools Estimates), generated by 3 year average from 2009-2011.

Basic Spending Targets[19] derived from the foundation aid formula, and also presents the average state aid shortfalls by low income quintile. That is, how much less per pupil do districts spend than the state estimates that they need to spend in order to achieve constitutionally adequate outcomes?

Figure 12

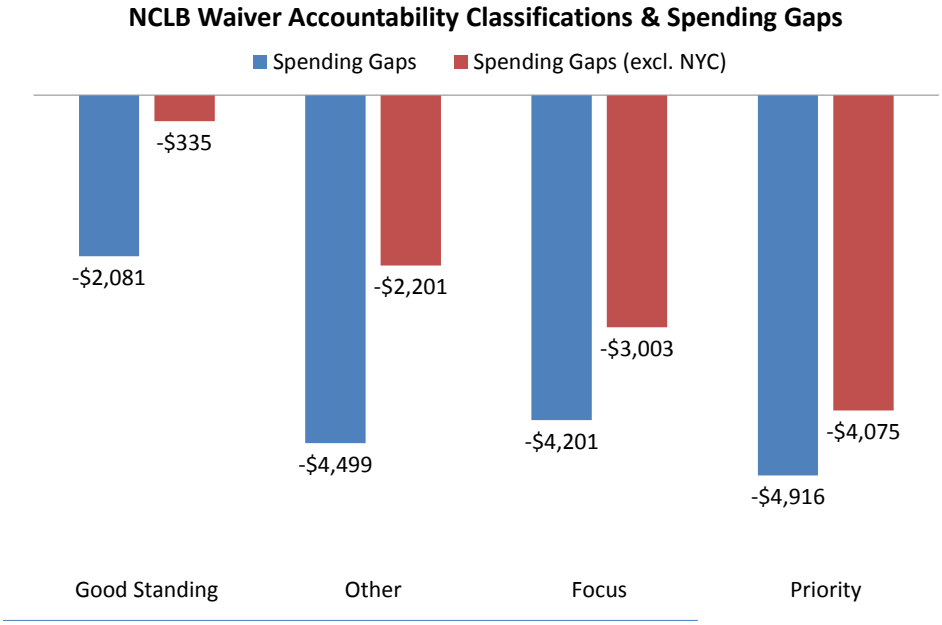


Note: Based on enrollment weighted school level data, linked to district level financial data. Formula shortfall is difference between actual foundation aid 2011-12 and fully phased in, fully funded foundation aid. General education instructional spending gap is the difference between general education expenditures per pupil (2009-11) and adj. foundation level (state & local revenue target) for 2010.

Figure 13 links the two above concepts, showing the spending gaps per pupil by accountability classification. Of particular note in Figure 14 is how the spending gaps vary by waiver classification. Those districts that are home to schools "in good standing" face spending gaps, on average. But, many districts in this category do spend more than state estimates for sound basic spending targets. Meanwhile, districts that are home to focus schools and in particular priority schools face substantial sound basic spending gaps.

[19] Based on the 2010 (mid-year of three year spending range) foundation aid formula funding target, expressed per pupil (using the average student count for the three year period from the 2012 Successful Schools Estimates file).

Figure 13



Note: Based on enrollment weighted school level data drawn from the 2011-12 NYSED School Report Cards database, linked with NYSED NCLB Waiver school level ratings. Spending gaps calculated at district level, using NYSED 2012 Successful Schools update figure for GEIE (based on prior three years) and Foundation Formula Target for 2010.

Though unlikely to be a successful strategy with the state as arbiter, districts so severely underfunded by the state and serving high need student populations should push back against the state on the following basis:

> Districts with schools that have been preliminarily identified as Priority Schools, as well as preliminarily identified charter schools, that believe that there are extenuating or extraordinary circumstances that should cause the school to not be so identified may petition the Commissioner to have a school removed from Priority status. These petitions will be due two weeks from the date of notification that a school has been preliminarily identified as a Priority School. (p. 6) [20]

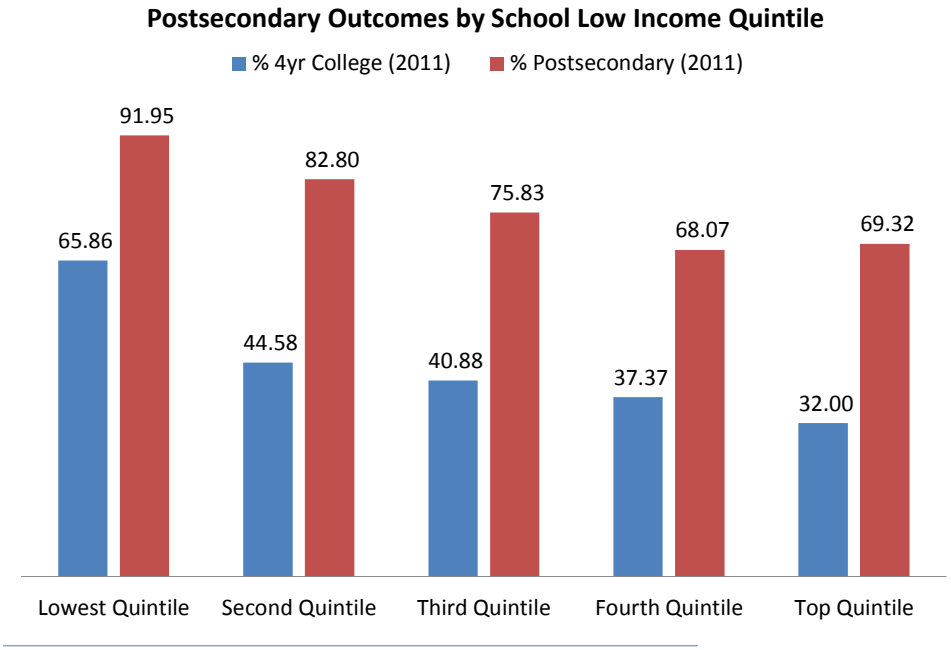
That is, it might be a logical strategy to use the state's own dramatic underfunding of the state's own estimate of adequate funding as basis for arguing extenuating circumstances. Until the state at the very least meets its own minimum funding obligation, the state should have little authority to force additional requirements or structural changes on these districts. The state must accept at least partial blame for current conditions, if not the lion's share.

[20] http://www.p12.nysed.gov/esea-waiver/field-memo.pdf

3.3. Student Outcomes

Figure 14 summarizes postsecondary matriculation outcomes by low income quintiles. Notably, postsecondary matriculation declines as poverty increases. Figure 14 shows that in New York State, substantial outcome gaps persist, with college matriculation rates much lower in schools with higher concentrations of low income children. These gaps apply to both four year college matriculation and to postsecondary education in general.

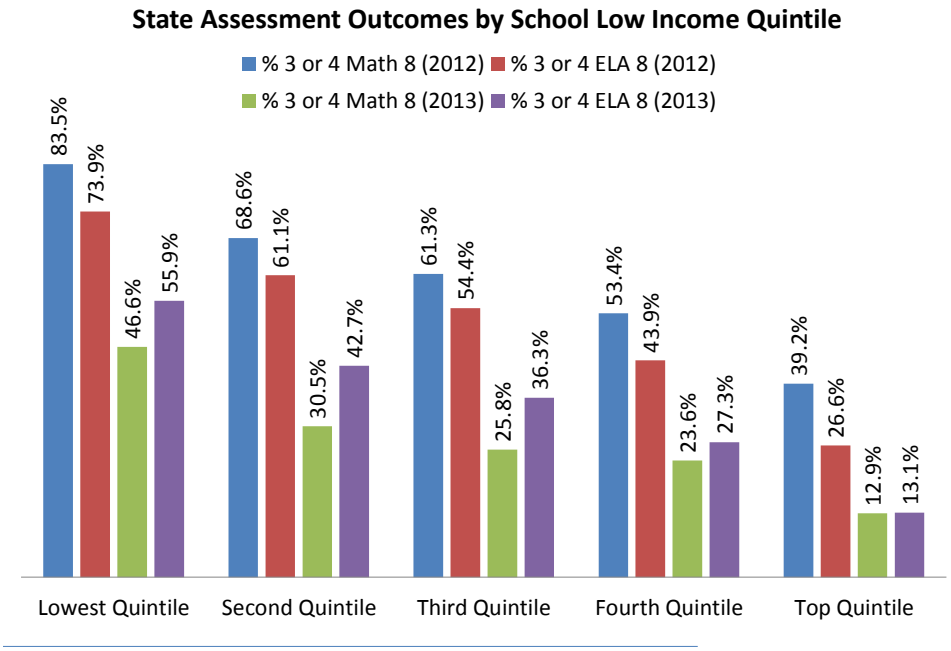
Figure 14



Note: Based on enrollment weighted school level data drawn from the 2011-12 NYSED School Report Cards database. Approximately 1,000 schools per quintile (quintiles by school, not enrollment weighted).

Figure 15 summarizes state assessment outcomes by low income concentration and includes rates of children scoring level 3 or 4 for both 2012 and 2013 assessments (first round of Common Core Assessments). While 83.5% of children in low poverty districts were proficient in 8th grade math in 2012, only 39.2% of children in high poverty districts were proficient in math.

Figure 15



Note: Based on enrollment weighted school level data drawn from the 2011-12 & 2013 NYSED School Report Cards database. Approximately 1,000 schools per quintile (quintiles by school, not enrollment weighted).

In 2013, under the new assessment system, math and English language arts proficiency rates flipped, overall proficiency rates were lower, and income related disparities became even more stark and predictable. In 2012, school level concentrations of low income children explained about 28% of variation in math proficiency (grade 8) and 44% of variation in ELA proficiency. In 2013, low income concentrations explained 48% of the variation in math proficiency and 50% in ELA proficiency.

Statistical models estimated for related research indicate that even among districts serving similar student populations (low income and ELL), gaps between current spending and estimated need are associated with these outcome gaps. A $1,000 reduction in spending gap is associated with a 3.3% increase in 4yr college attendance, 1.1% increase in postsecondary attendance, 1.2% increase in 8th grade math scores (2012) and 1.4% increase in 8th grade ELA scores (2012), among school serving similar populations.

4. *Stealth Inequities* in New York's State Aid Formula

As mentioned at the outset of this policy brief, New York State has been acknowledged as being among states that allocate state aid in such a way as to exacerbate inequities. In a

2012 report from the Center for American Progress, I, along with Sean Corcoran of NYU identified a series of school funding formula features that tended to exacerbate rather than resolve inequities. Among those stealth inequities, and particularly relevant in New York State are:

- Minimum Aid Provisions & Sharing Ratio Adjustments
- Tax Relief Provisions (disproportionately allocated to wealthier districts)

In a typical foundation aid formula, once formula targets are established for each district, some combination of measures of taxable property wealth and income are used to determine the appropriate state and local shares to fund the formula targets. The goal is to ensure that districts, regardless of wealth or income, can at equitable tax effort raise the revenues necessary to provide a sound basic education. That is, a primary goal of foundation aid formulas is to provide for tax equity, which necessarily includes equitable tax relief.

But the political process that yields state school finance formulas typically involves numerous political tradeoffs and backroom deals before a formula is adopted. In the worst cases, these deals undermine equity and adequacy objectives of the formula entirely. In less extreme cases, these provisions lead to a squandering of scarce state aid resources as political pork, where those resources might be better allocated to improve equity and adequacy for those with the greatest needs. The recent Center for American Progress report characterized these political tradeoffs in state aid systems as Stealth Inequalities and identified New York State as among the worst in the nation.

4.1. State Sharing Adjustments

Figure 16 presents a simplified characterization of adjustments to the state aid sharing ratio including the $500 per pupil minimum foundation aid which is provided regardless of wealth. Under the initial local effort calculation, districts with income/wealth ratios over 1.0 would receive no state foundation aid. New York City falls in this category. Adjustments to the aid sharing come in two parts. First, there is the adjustment to the aid sharing ratio for districts having an income wealth index between 1.0 and 2.5, which provides a more gradual reduction in aid with increased wealth than would occur by the initial local contribution calculation. Then, there is the $500 minimum provided when either the original calculation or follow up calculation falls below that level. While these may seem like small tradeoffs, in the 2011 policy brief, I showed that the first adjustment, excluding New York City, results in redirection $2.5 billion in state aid (if the formula was fully funded) and the second adjustment (minimum aid)

results in redirecting nearly $1.25 billion in state aid. If the overall system was generally equitable, the misdirected aid would perhaps be less of a concern.

Figure 16

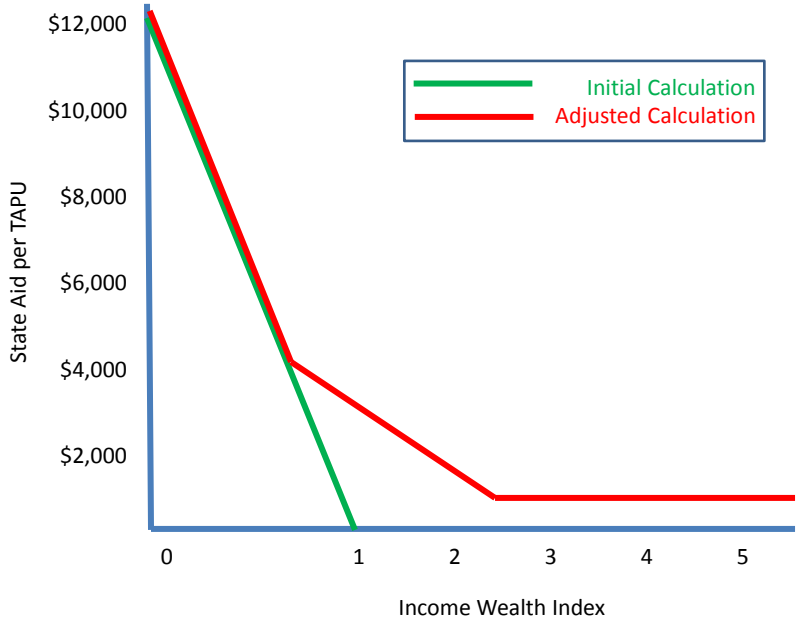
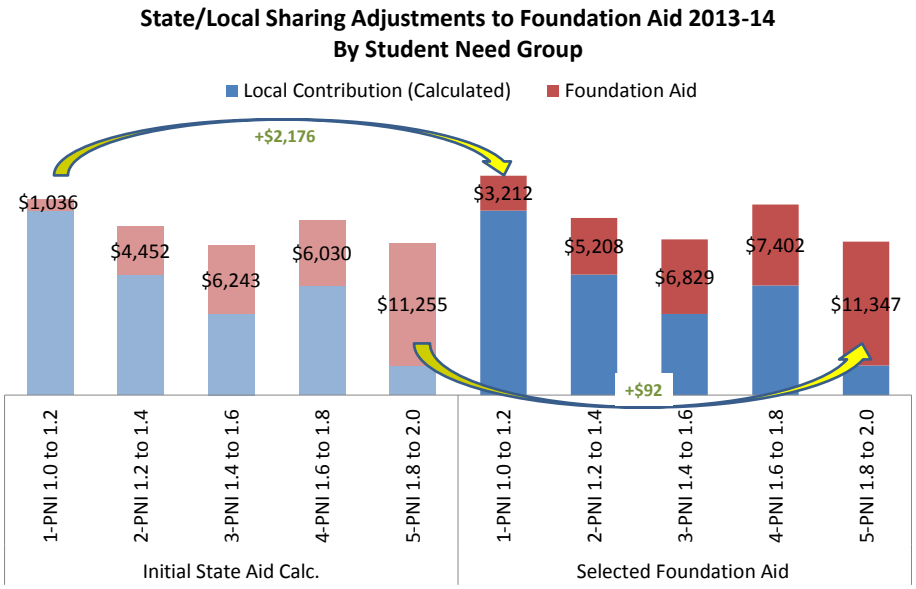


Figure 17 and Figure 18 address the condition of the 2013-2014 formula. In the left side of Figure 17, I show, by pupil need index, the average original calculated aid levels. In the right side of the figure, I show the adjusted formula aid estimates. Blue portions are the calculated local contribution per pupil. Under initial calculations, the lowest need group would receive just over $1,000 per pupil in state aid. But, the adjustments give them a boost of over $2,000 per pupil raising their aid to over $3,000 per pupil. By contrast, the average boost for high need districts is only $92 per pupil. The result is that the shifting of state aid actually increases the gap in per pupil state and local revenue between high and low need districts.

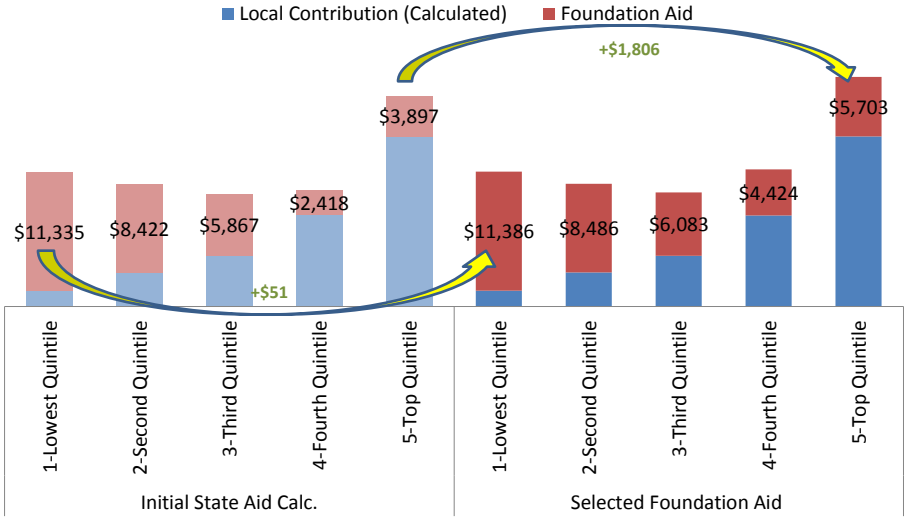
Figure 18 displays the shift by combined wealth ratio quintile. The adjustments provide the wealthiest quintile nearly $2,000 per pupil more in state aid but provide the poorest quintile of districts only $51 per pupil more aid. Again, these adjustments exacerbate inequity between wealthy and poor districts.

Figure 17



Note: Local contribution is the per pupil (aidable pupil unit) local contribution estimated in state aid run worksheets (March 26, 2013). Initial State Aid is the calculation of state aid (per aidable pupil unit) prior to application of alternative aid sharing ratio and/or minimum aid. Selected Foundation aid is foundation aid after adjustments for state/local share, including minimum aid.

Figure 18



Note: Local contribution is the per pupil (aidable pupil units) local contribution estimated in state aid run worksheets (March 26, 2013). Initial State Aid is the calculation of state aid (per aidable pupil unit) prior to application of alternative aid sharing ratio and/or minimum aid. Selected Foundation aid is foundation aid after adjustments for state/local share, including minimum aid.

4.2 Tax Relief

The second program that exacerbates disparities in revenues across New York districts is the School Tax Relief program. New York's School Tax Relief program provides individual property owners with two levels of exemptions—basic[21] and enhanced[22],[23] --to their taxable property values. New York then provides aid to local districts to offset the revenues lost to these exemptions. While only property owners with incomes of less than $500,000 per year are eligible for basic tax relief under the program, the largest exemptions remain concentrated in the state's more affluent school districts. [24]

Figure 19 shows the distribution of STAR program aid on a per pupil basis by student need group. The lowest need districts receive $1,703 per pupil in STAR support to offset revenues lost to exemptions whereas the highest need districts receive only $645 per pupil. That is, STAR further exacerbates the disparity between high and low need districts by an additional $1,000 per pupil.

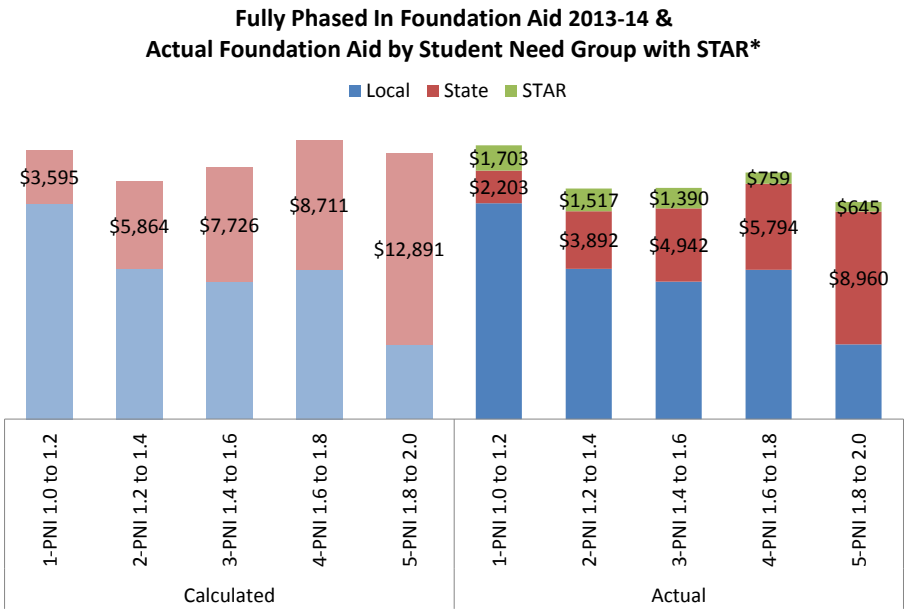
Figure 20 shows the distribution of STAR program aid by wealth quintile. The lowest per pupil amounts of STAR aid are for districts in the lowest wealth quintile. The highest are in the second quintile from the top. As measured either by wealth or by student needs, STAR aid exacerbates inequity across local public school districts.

[21] Available for owner-occupied, primary residences where the resident owners' and their spouses income is less than $500,000, exempts the first $30,000 of the full value of a home from school taxes

[22] Provides an increased benefit for the primary residences of senior citizens (age 65 and older) with qualifying incomes, exempts the first $62,200 of the full value of a home from school taxes as of 2012-13 school tax bills (up from $60,100 in 2011-12)

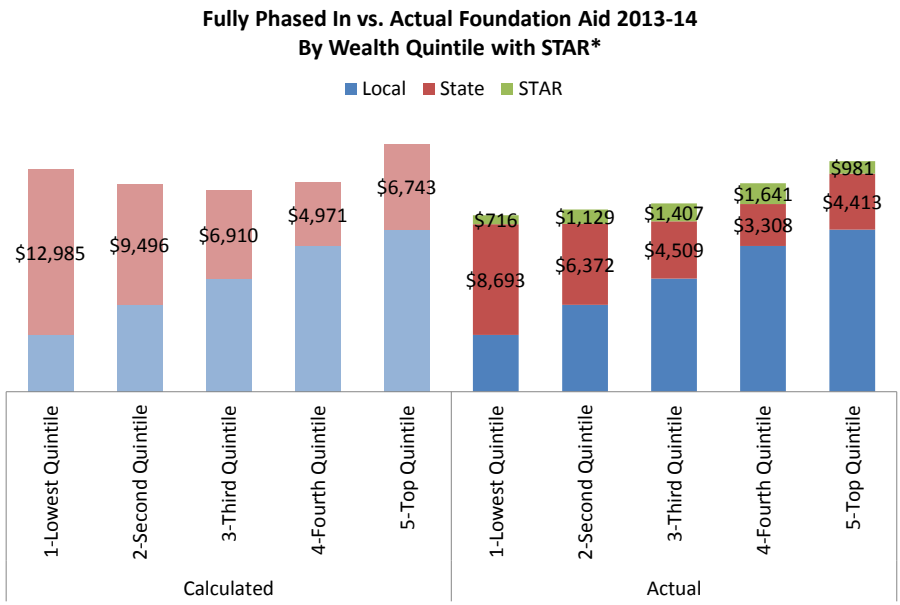
[24] New York State Division of Taxation and Finance, STAR http://www.tax.ny.gov/pit/property/star/ex_index.htm

Figure 19



Note: Local revenue is actual local from 2010-11 Fiscal Profile. Fully Phased In foundation aid from state aid run worksheet (April 2013). Actual Foundation Aid is 2013-14 Foundation Aid after application of Gap Elimination Adjustment and Partial Restoration of GEA. STAR Aid from 2010-11 Fiscal Profile. Figures expressed per Pupil in Duplicated Combined Adjusted Average Daily Membership (DCAADM).

Figure 20

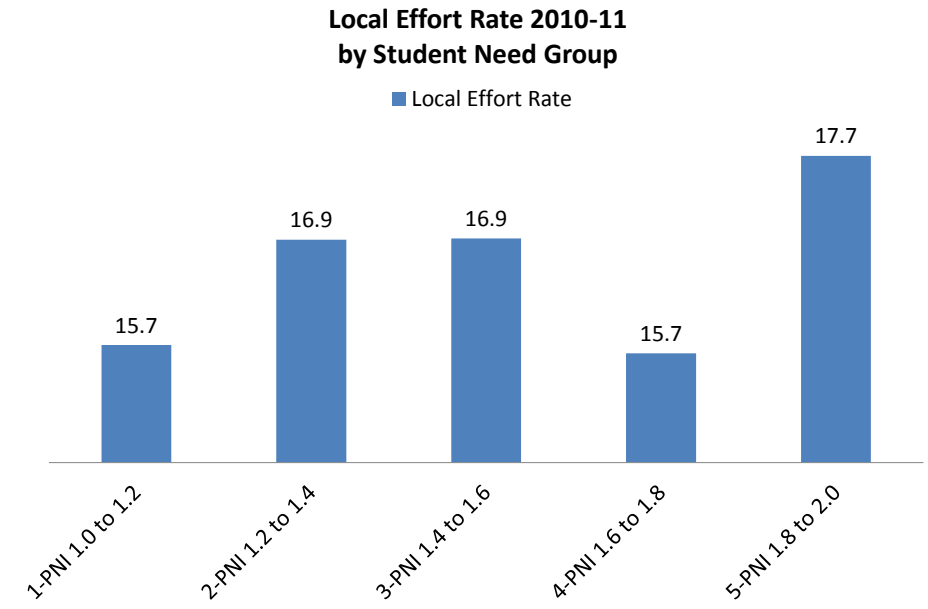


Note: Local revenue is actual local from 2010-11 Fiscal Profile. Fully Phased In foundation aid from state aid run worksheet (April 2013). Actual Foundation Aid is 2013-14 Foundation Aid after application of Gap Elimination Adjustment and Partial Restoration of GEA. STAR Aid from 2010-11 Fiscal Profile. Figures expressed per Pupil in Duplicated Combined Adjusted Average Daily Membership (DCAADM).

Figure 21 and Figure 22 summarize the average local effort rates of districts by a) pupil need group and b) wealth quintile. STAR is designed to provide tax relief to specific households within communities, but the distribution of aid from the program still tends to benefit communities that are on average, wealthier and serving lower need students. It is also the case, as seen in Figure 21 and Figure 22, that the lower need and wealthier communities in the state tend to have lower average local effort rates.

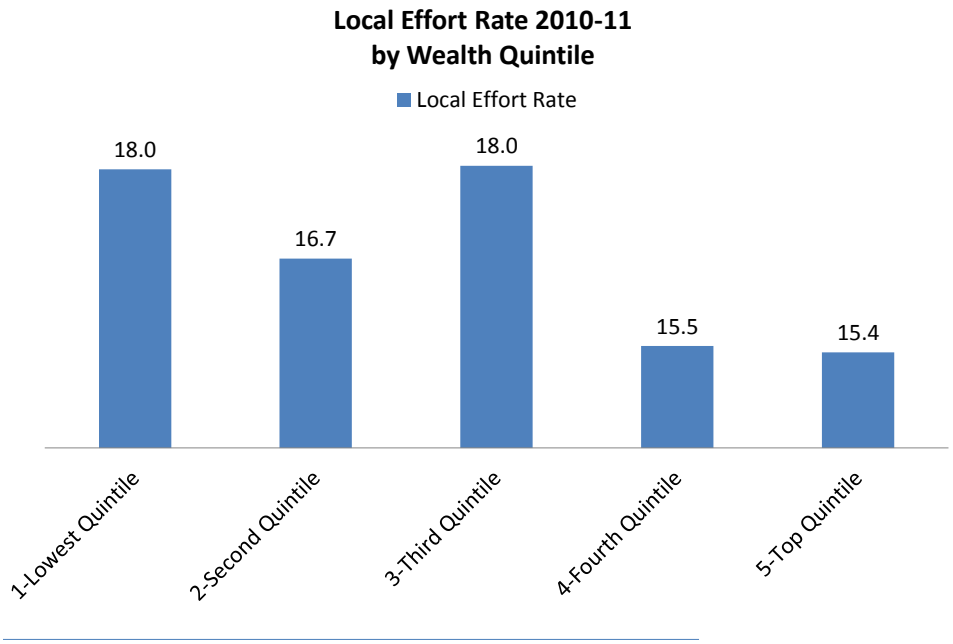
In short, it makes little sense to provide disproportionate property tax relief to those communities that already have the lowest local effort.

Figure 21



Note: Local effort rate from 2010-11 Fiscal Profiles.

Figure 22



Note: Local effort rate from 2010-11 Fiscal Profiles.

4.2.1. Resolving Conflicting, Dysfunctional Policy Agendas

Recall that Governor Cuomo has largely framed New York State's education finance problem as a problem of overspending and inefficiency, rather than inequity and inadequacy. The Governor has attempted in part to tackle the inefficiency problem with tax and expenditure limits – including a 2% cap on local levy growth and a separate cap on state education spending. Meanwhile, the Governor has left untouched, STAR aid.

Unfortunately for the Governor's policy platform, a significant body of literature suggests that:

a) tax and expenditure limits are more likely to result in reduction of service quality than improvement to efficiency;
b) tax and expenditure limits with local voter override provisions are likely to lead to increased wealth-driven inequities across local communities;
c) tax relief subsidies like STAR (including STAR specifically) often lead to increased inefficiency;

d) tax relief subsidies like STAR (including STAR specifically) may stimulate inequity in spending by lower the tax price of additional revenues for wealthy districts.

In other words, the current package of policies combines the worst of both worlds, simultaneously stimulating inequity and inefficiency and likely also reducing overall quality.

Several recent studies have addressed New York's STAR tax relief program. Tae Ho Eom and Ross Rubenstein (2006) found:

> We find evidence that, all else constant, the exemptions have reduced efficiency in districts with larger exemptions, but the effects appear to diminish as taxpayers become accustomed to the exemptions.[25]

Jonah Rockoff (2010) similarly finds that STAR subsidies encouraged additional spending, but did not also explore efficiency consequences:

> I find that tax-price reductions for homeowners in New York State led to an increase in local school district expenditures, crowded out a significant portion of the intended tax relief, and raised taxes for other property owners. (p. 27) [26]

To the extent that property tax relief was granted in greater proportion in more affluent communities, one might also expect STAR aid to have exacerbated inequities in addition to promoting inefficiency. Indeed that is precisely what Tae Ho Eom and Kieran Killeen (2007) found:

> Similar to many property tax relief programs, New York State's School Tax Relief (STAR) program has been shown to exacerbate school resource inequities across urban, suburban, and rural schools. STAR's inherent conflict with the wealth equalization policies of New York State's school finance system are highlighted in a manner that effectively penalizes large, urban school districts by not adjusting for factors likely to contribute to high property taxation. As a policy solution, this article presents results of a simulation that distributes property tax relief using

[25] Eom, T.H., Rubenstein, R. (2006) Do State Funded Property Tax Exemptions Increase Local Government Inefficiency? An Analysis of New York State's STAR Program. Public Budgeting and Finance 26 (1) 66 - 87

[26] Rockoff, J. (2010) Local Response to Fiscal Incentives in Heterogeneous Communities. Working Paper, National Bureau of Economic Research & Columbia University. http://www0.gsb.columbia.edu/faculty/jrockoff/papers/local_response_draft_january_10.pdf

> an econometrically based cost index. The results substantially favor high-need urban and rural school districts.[27]

A separate body of literature has addressed the effects on public service quality and equity of various forms of tax and expenditure limits like those recently adopted in New York State. For example, David Figlio (1998) finds:

> I use a comprehensive panel of school districts from Oregon and Washington, with annual data from before and after Oregon imposed its limitation in 1990. Controlling for unobserved heterogeneity, I find that Oregon student-teacher ratios have increased significantly as a result of the state's tax limitation.[28]

Figlio and Rueben (2001) find:

> Using data from the National Center for Education Statistics we find that tax limits systematically reduce the average quality of education majors, as well as new public school teachers in states that have passed these limits.[29]

And Downe's and Figlio (1997), in an unpublished working paper find:

> In this paper, we find compelling evidence that the imposition of tax or expenditure limits on local governments in a state results in a significant reduction in mean student performance on standardized tests of mathematics skills.[30]

Others including Oliff and Lav (2008) explain the equity consequences of tax and expenditure limits with override provisions in Massachusetts under that state's Proposition 2 ½. Specifically, they highlight the problems with implementing such limitations in years when state aid falls short. They explain that Massachusetts was only able to partially offset some of the negative equity consequences of the local tax limit by providing effectively targeted state aid to low income communities. They explain that:

> …when state aid has receded as a result of economic downturns or state policy decisions, the poorest communities have had to make the largest budget cuts. In

[27] Eom, T.H., Killeen, K. (2007) Reconciling State Aid and Property Tax Relief for Urban Schools: Birthing a New STAR in New York State. Education and Urban Society 40 (1) 36-61

[28] Figlio, D. N. (1998). Short-Term Effects of a 1990s-Era Property Tax Limit: Panel Evidence on Oregon's Measure. *National Tax Journal*, *51*, 55-70.

[29] Figlio, D. N., & Rueben, K. S. (2001). Tax limits and the qualifications of new teachers. *Journal of Public Economics*, *80*(1), 49-71.

[30] Downes, T. A., & Figlio, D. N. (1997). *School Finance Reforms, Tax Limits, and Student Performance: Do Reforms Level Up or Dumb Down?*. Institute for Research on Poverty, University of Wisconsin--Madison.

> states that do not have a system of school aid that is targeted as effectively as Massachusetts', students in low-income communities are likely to fall increasingly behind students in schools that have greater resources.[31]

They explain that override provisions tend to further exacerbate inequities, because wealthier communities are more likely than poorer communities to override caps.

> This has contributed to a growing spending gap between local governments in high-income communities and all other communities, despite Massachusetts' progressive system of state aid. This is likely to occur in other states that implement a cap. [32]

In short, both STAR and the tax limits tend to increase inequity. Tax limits are likely to reduce service quality but not improve efficiency. And STAR induces inefficiency.

5. The Failures of Successful Schools Analysis

Finally in this last section, I revisit and illustrate how the applied, operational definition of educational adequacy used for guiding the state school finance formula is insufficient for achieving the stated objective of providing for a "meaningful high school education." The methods behind the formula are suspect. The measures over time flawed. The result, even if it had been implemented, inadequate.

5.1. Operationalizing *Educational Adequacy*

The current foundation aid formula is intended to provide sufficient resources for all children to have access to a meaningful high school education. The State Department of Education's primer on state aid for 2011-12 explains that:

> *The Foundation Amount is the cost of providing general education services. It is measured by determining instructional costs of districts that are performing well*.[33]

Already, this framing suggests an erosion of the "meaningful high school education" standard to a standard based on current districts that happen to be "performing well," with little or no validation that "performing well" equates to "meaningful high school education." That is, the

[31] http://www.cbpp.org/archiveSite/5-21-08sfp.pdf

[32] http://www.cbpp.org/archiveSite/5-21-08sfp.pdf

[33] http://www.oms.nysed.gov/faru/PDFDocuments/Primer11-12D.pdf

cost of an adequate education is merely to be equated with the average spending of districts "performing well," regardless of how or why they might be performing well.

How this standard is operationalized is explained further in the 2009 technical documentation on how the state calculates the average instructional spending of districts "performing well." [34]

> *…an adequate education was operationally defined as a district:*
>
> *With a simple, unweighted average of 80 percent of its test takers scoring at Level 3 or above on eight examinations (Fourth Grade English Language Arts, Fourth Grade Mathematics, high school Mathematics A, Global History, U.S. History, English, Living Environment and Earth Science) in 2005-06, 2006-07 and 2007-08. Note that, given this operational definition, a district could have less than 80 percent of its test takers with a score at Level 3 on one or more of the tests and still be providing an adequate education.*
>
> *518 school districts met this standard, including: 6 High Need Urban/Suburban districts, 90 High Need Rural districts, 290 Average Need districts and 132 Low Need districts*. (2009 Technical Final)[35]

So, "performing well" which is to mean "adequate" which by extension is assumed equivalent to "meaningful high school education," can be equated to an average of 80% of children in a district scoring at level 3 or 4 on state assessments. Note that the 80% (scoring at level 3 or higher) threshold indicated here is lower than the recent (2006-07) actual average (about 85%) percent of children scoring at level 3 or higher on Regents exams across districts statewide (unweighted). In addition, New York State's average performance is itself relatively average at the 8th grade level on the National Assessment of Educational Progress. New York State performs better than average at the 4th grade level.[36] Thus, the assumption embedded in current policies is that a "meaningful high school education" in New York State is similar to the national average quality of education (as measured by tested outcomes).

[34] http://www.oms.nysed.gov/faru/documents/technical_final.doc

[35] http://www.oms.nysed.gov/faru/PDFDocuments/technical_2009.pdf

[36] http://nces.ed.gov/nationsreportcard/statecomparisons/Default.aspx

5.2. Mismeasurement of Outcome Standards

During the Spring of 2010, analyses by Dan Koretz of Harvard revealed that between 2006-07 and 2008-09 percentages of students scoring at level 3 or higher became substantially inflated. Recently produced documents related to the test score inflation investigation also provide new insights into the relationship between Regents assessment scores and college readiness.

> *"We see that students with Regents Math A passing scores of 65 typically do not meet the CUNY cut-score for placement into college-level Mathematics courses. Indeed, these students may have only a little better than a 50-50 chance of earning a grade of "C" or higher in CUNY's remedial Mathematics courses."*[37]

Digging deeper, Koretz and colleagues estimated the grade 8 math cut scores that would have been required to have incrementally increasing odds of getting at least a 75 or 80 on Math A Regents, a level identified by the researchers as closer to "college" ready than the 65 noted above (which only gave a 50/50 chance of passing college math).

For the 2006 cohort evaluated, the 8th grade level 3 cut-score was 650. But, statewide, students would need a score of 660 to merely have a 50/50 chance of a Regents Math A score of 80 or higher, and 648 (nearly the current cut score) to merely have a 50/50 chance of a Regents Math A score of 75. In high needs districts students would need 8th grade scores of 668 and 655 merely to have a 50/50 chance of scoring 80 or 75 respectively on Math A Regents. That is, the current cut-scores for Level 3 in 8th grade math - the cut scores accepted in the analyses in this report and in the state's empirical definition of adequacy - are lower than the scores needed to have a 50/50 chance at college readiness in high need districts. Further, the State Education Department (SED) and Legislature have relied on an assumption that having 80% of children reach these cut-points defines the public policy standard, which is then inferred to meet the constitutional standard. By that definition, a meaningful high school education is characterized as having an 80% chance of having less than a 50% chance of being prepared to pass college math courses.

That is, using an 80% threshold for students scoring level 3 or higher on 8th grade math is to assume acceptable that only 80% of children will obtain a cut-score that is associated with less than a 50/50 chance of scoring 75 on Regents Math A (for children in high need districts). The Everson memo notes that "of the 6,500 or so students with Regents Math A scale scores

[37] Everson, H.T. (2010) Memo to David Steiner: Relationship of Regents ELA and Math Scores to College Readiness Indicators. July 1, 2010

below 75, nearly 90% were placed into remedial courses at CUNY." (p. 2) Given that the meaningful high school education standard arose in part from trial testimony regarding remedial backlog in the CUNY system, it is hard to conceive how the present operational definition when applied to pre-inflated test scores, is sufficient.

Further, the approach used for determining "adequacy" by the 80% threshold for scoring level 3 or higher does not necessarily require that students score level 3 or higher across all tests, but rather that the average percentage of students across tests and grades district-wide exceed 80%.

Additional years of data provide more insights. For 2010, the Regents adjusted the assessment cut scores to address the inflation issue, and as one might expect proficiency rates adjusted accordingly. Figure 23 shows the rates of children scoring at level 3 or 4 in 2009 and again in 2010. Each circle is a district, and circle size indicates the overall enrollment size of districts (with NYC represented as its separate districts). I have selected a few key, rounded, points for comparison. Districts where 95% of children were proficient or higher in 2009 had approximately 80% in 2010. Districts that had 80% in 2009 had approximately 50% in 2010. This means that the operational standard of adequacy using 2009 data was equivalent to 55% of children scoring level 3 or 4 in 2010. This also means that *if we accept as reasonable, a standard of 80% at level 3 or 4 in 2010,* that was equivalent to 95% - not 80% - in 2009.

Figure 23

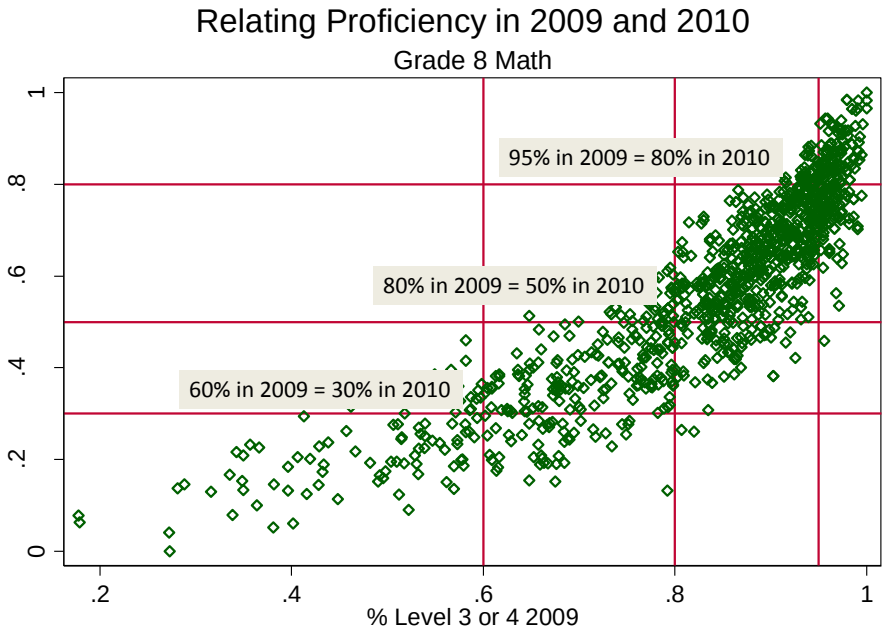
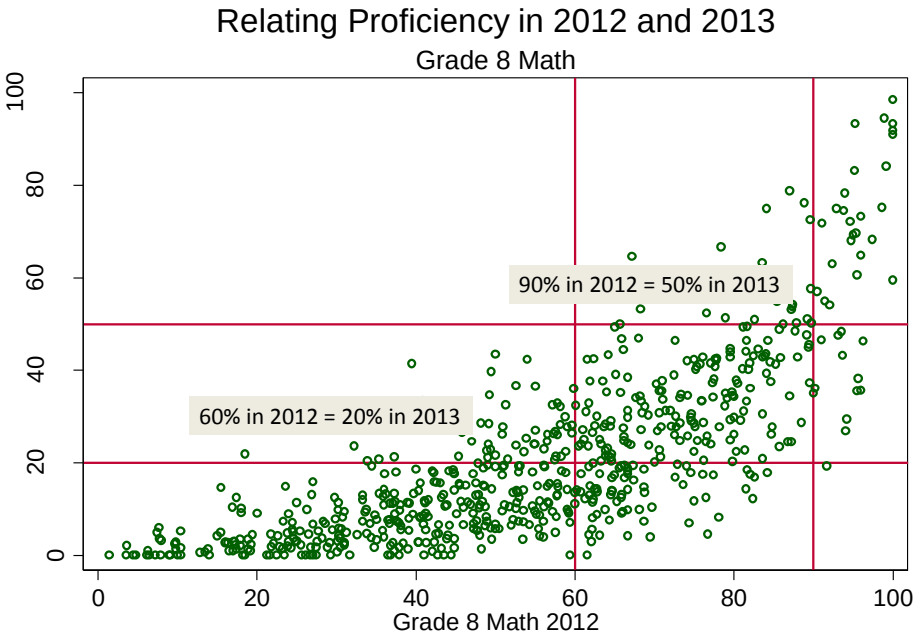


Figure 24 shows the resulting shift of the change in assessments from 2012 to 2013, also for 8th grade math. Again, I've applied ballpark cutpoint comparisons. Here, a school where 60% were proficient in 2012 was likely to have 20% proficient in 2013. A school where 90% were proficient in 2012 was likely to have 50% proficient in 2013. One might argue that the 2013 assessments while new and evolving are the product of more thoughtful consideration of what it takes for New York State children to be truly college ready, whereas previous assessments were less clearly linked. The procedure that led to assignment of cutpoints for proficiency for the updated assessment was similar to that employed by Koretz for the evaluation of prior assessments and the resulting 2010 adjustments shown above. If the 2013 assessments do more accurately represent the standard for college readiness, and thus the constitutional standard of meaningful high school education, it is quite likely that the cost of achieving that constitutional standard is much higher than previously estimated. Notably, only a handful of schools surpass the 80% threshold on math proficiency for the 2013 assessments.

Figure 24



5.3. Why Successful Schools Models Fail

Problems with New York State's outcome measures alone might thwart any reasonable attempt to determine the costs across different settings of achieving those outcomes. That is, if a sufficiently rigorous method was used. For example, as standards drifted downward, one would expect to find it cheaper to achieve those standards, all else equal. But while the cost of achieving those standards might be less, it may be because the standards are not in fact constitutionally adequate. Thus, the cost estimate derived from them does not represent the cost of meeting the constitutional standards. But to begin to address these questions, one must be applying reasonably rigorous methods to sufficiently vetted, high quality data and measures.

The chosen methods and data for determining the costs of achieving desired outcomes is not sufficiently rigorous to begin with, and under these circumstances the approach is destined to fail. Further, the relationship between the state's described method for estimating costs – the foundation funding level – and the values that ultimately appear in the foundation aid formula is unclear.

The successful schools method asserts that the average spending of a subset of school districts that happen to present test scores above a specific level should be sufficient spending for other districts to achieve at least the same level of outcomes. As applied New York, the lower spending districts that achieve those standards are assumed to present the level of spending needed to efficiently achieve those outcomes. The method recognizes that districts in certain regions or serving certain children may face higher costs to achieve the same outcomes. But the higher costs – specifically pertaining to children's needs – are addressed only by adoption of an arbitrary adjustment factor and not by evaluating districts serving children with specific characteristics that do achieve comparable outcomes.

Several important decisions are involved in the methodologically loose structure of a successful school districts analysis. Among these decisions are:

a) Selecting the relevant expenditure measure
b) Determining steps & methods for identifying a representative distribution of "successful" districts
c) Selecting appropriate adjustments for student need related costs, regional labor cost variation and other "cost" factors outside of control of local school officials.

In an analysis intended to inform design of a state aid formula – specifically to set an "adequacy" cost figure – one must choose a spending measure that includes the same mix of programs and services that are intended to be paid for with foundation (adequacy) funding. If

the funding formula "adequacy" cost figure is intended to cover current operating expenditures per pupil, then one should use for their cost analysis, a compatible measure of current operating expenditures per pupil. If one were, for example to calculate costs based on a spending measure that did not include spending on special education programs or transportation, and then use the findings to establish a new funding formula, without adding back in the costs of providing special education services or transportation, the formula would fall short of meeting actual funding needs.

It is also important that analyses account appropriately for the value of the education dollar over time. Cost analyses typically involve retrospective data, but are intended to influence future policies, creating a significant time difference between the spending data used to inform policy and adoption of the policy. A consumer price index (CPI) is unhelpful for adjusting past spending to reflect future costs, unless we are considering how many loaves of bread or gallons of gas can be purchased with the education dollar.

But we are not mainly purchasing loaves of bread or gallons of gas with that dollar. We are attempting to purchase educational outcomes, a far more complex endeavor. Changes in education costs are driven by a combination of a) the need to pay competitive wages [relative to other career alternatives] to maintain the quality of entrants to the teaching profession, b) changes in the demography of the student population that may affect the costs of achieving constant outcomes and c) changes, if any, in the desired outcomes. Achieving higher outcomes costs more, and achieving lower outcomes costs less, all else equal. Competitive wage growth alone has historically outpaced consumer price indices.

In a state with the demographic and economic diversity of New York, any pool of successful districts used for informing the design of school finance policy must be sufficiently representative. Among other factors, geographic representation is critical given the substantial variation in regional labor costs from Albany to Buffalo, or from Pocantico Hills to Plattsburgh. It would make little sense, for example, to derive a statewide base cost of adequate schooling from a sample of districts largely concentrated in upstate and western New York, given that the largest share of students in the state are concentrated in downstate, New York City and Long Island.

Finally, it is wholly insufficient to rely on factors to adjust for the costs of meeting the same outcome standards in different settings with different children, by drawing those factors from: a) a loose and/or incomplete reading and application of literature on costs, derived from unlike schooling contexts (states, regions), b) adopted policies (rather than actual costs) used in other states or the current state (New York), or c) thin air. Analysis of marginal spending

differences associated with marginal outcome differences for different student populations and in different schooling settings, in the state in question can provide far more accurate estimates.

The steps of the New York State Successful Schools analysis are as follows.

Step 1: Adj GE Exp = GE Exp 2006-08 /RCI

Step 2: Adj. Pupils = GE Pupils 2006-08 + FRPL x GE Pupils 2006-08

Step 3: Adj. GE Exp per Adj. Pupils = Adj GE Exp/ Adj. Pupils

Step 4: Identify those districts that a) "pass" and b) are in lower half of Adj GE Exp/ Adj. Pupils

Step 5: Take average of Adj GE Exp/ Adj. Pupils for those who make the cut

For the 2009 and 2012 updated analyses, in Step 1, a spending figure called General Education Instructional Spending per Pupil is summed for the previous three years. This general education instructional figure excludes special education spending and likely also excludes other operational but non-instructional costs, but the figure is poorly documented. The General Education Instructional Expenditure figure – summed across 3 prior years – is then divided by the Regional Cost Index, intending to adjust the value of the spending figure for regional labor cost variation.

In Step 2, an adjusted pupil count is created by summing the actual, general education pupils and adding to them 1.0 additional pupil for each child qualified for free or reduced priced lunch. This adjusted pupil count is used to further deflate the spending figure, in theory to represent the cost per pupil if there were no children qualified for free or reduced priced lunch (as that weight is intended to be added back in through the PNI in the formula).

In Step 3, the adjusted General Education Instructional Expenditure (Adj. GEIE) per pupil figure is created by dividing the GEIE by the adjusted pupil count. Then, in Step 4 and 5, districts achieving the specified standard are identified, and the lower half Adj. GEIE districts are identified and the average of their expenditures is taken. This last step is called the "efficiency" filter and it is assumed that applying this filter creates a pool of districts that spend efficiently toward achieving the target outcomes (as opposed to merely excluding the majority of districts operating in higher cost regions of the state).

5.3.1. The "Efficiency Filter" Game

In their September, 2004 Amicus Brief, William Duncombe and John Yinger of Syracuse University explained:

> *Using only the lowest spending schools is equivalent to assuming that the lowest-spending schools are the most efficient and that other schools would be just as efficient if they were better managed. Both parts of this assumption are highly questionable. The successful schools approach on which these figures are based makes no attempt to determine why some schools spend less per pupil than others; the low spending in the selected schools could be due to low wage costs and a low concentration of disadvantaged students, not to efficiency. Moreover, even if some schools get higher performance for a given spending level than others, controlling for wages and student disadvantage, there is no evidence that the methods they use would be successful at other schools.*[38]

Quite simply, there is no basis for such an approach either from a lay standpoint regarding the "reasonableness" of the approach or from a scholarly standpoint regarding rigor of methods and basis for key decisions. From a lay standpoint, as noted by Professors Duncombe and Yinger, there may be a plethora of reasons why the lower half of districts meeting the standards are in the lower half, from simply being in lower cost regions to having less needy students. Further, cutting the sample in half rather than some other proportions is entirely arbitrary. From a research standpoint, due to these same factors and many more, this method is not, nor is it likely to ever be widely accepted and printed (other than to critique its unreasonableness) in legitimate scholarly journals.

The loose methodology of successful schools analysis allows state officials to pick and choose the order in which they carry out specific steps, resulting in vastly different results. Currently, the state begins by identifying those districts statewide meeting the 80% standard. Then, the state selects the lowest 50% of districts by their adjusted instructional spending – the efficiency filter.[39] By taking the lower half spending districts statewide (whether applying their spending adjustments first or not), state officials exclude nearly all downstate districts. Yet, they maintain the assertion that the cost estimates are still applicable to those districts. The weakness of this assumption did not slip past one dissenting justice in the final ruling where this

[38] http://cpr.maxwell.syr.edu/efap/CFE_Articles/Amicus_brief.pdf

[39] Existing documentation is unclear regarding whether the "instructional spending" per pupil figure used is adjusted for each district by the Pupil Need Index and by the Regional Cost Index prior to excluding the upper half. But, because the regional cost index adjustment is generally insufficient, changing the order of these operations has only modest effects (see following analysis)

procedure was accepted by the majority. In her dissent, in the 2006 ruling on the validity of the new foundation formula and its underpinnings, Chief Judge Kaye explained:

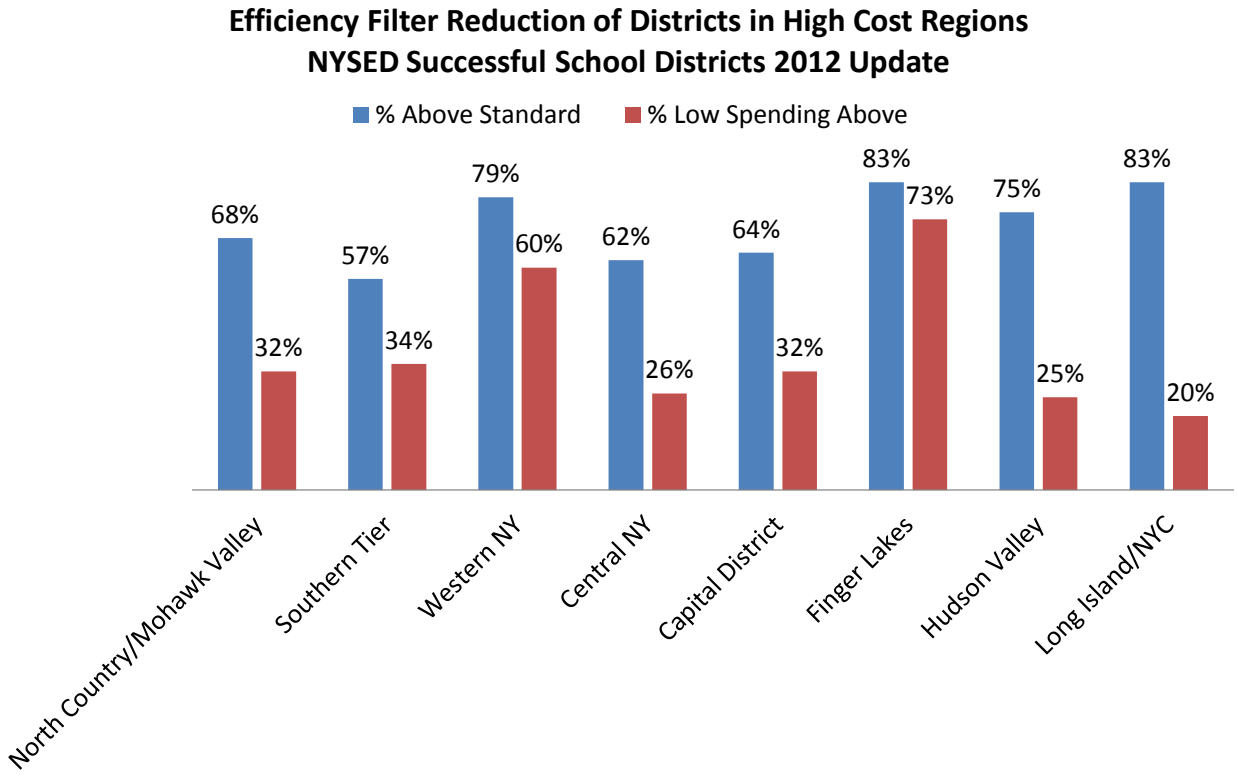
> *The 50% number not only is wholly arbitrary, but also has the effect of eliminating most of the school districts in Westchester and Nassau, the two counties that border New York City and thus most resemble the City in the concentration of students who are not English proficient and in the higher regional costs, particularly in hiring and retaining capable teachers.*[40]

Figure 25 shows the distribution of districts excluded from final "adequacy" calculations as a result of applying the efficiency filter. In short, applying efficiency filter severely biases the underlying "cost/spending" estimates toward Western NY and Finger Lakes district spending, and away from the much higher spending levels of Hudson Valley, Long Island and NYC districts. While 75% of Hudson Valley districts are "successful" only 25% make it into the successful schools spending calculation. While 83% of Long Island/NYC districts are successful, only 20% make it into the spending calculation. Meanwhile, 60% of western New York districts make it into the spending calculation. The imbalance of representation in the spending calculation leads to severe downward bias in the successful schools spending estimate.

Put bluntly, one cannot reasonably assert that the spending levels of relative low poverty districts that lie largely in the geographic space between Ithaca and Buffalo have any relevance to the costs of producing adequate educational outcomes in Mount Vernon, New York City or Poughkeepsie.

[40] http://www.cfequity.org/pdfs/resources/11.20.06CourtRuling-NYSLRB.pdf

Figure 25



Note:
[1] Tabulated based on RCI as reported in DBSAD1, 3-29-12, N(MI0123) 03 REGIONAL COST INDEX (RCI), using data set with RCI merged into NYSED FARU District Fiscal Profiles (http://www.oms.nysed.gov/faru/Profiles/profiles_cover.html) 2007 to 2011
[2] Based on "successful district" classification as presented in Excel Workbook used for 2012 Successful Schools Update analysis.
[3] Based on "low spending district" classification as presented in Excel Workbook used for 2012 Successful Schools Update analysis.

5.3.2. The "Instructional Spending" Bait & Switch

A second peculiar feature of the state's successful schools analysis is the choice of a partial current operating expenditure figure. The figure is referred to as a three year average of *general education instructional expenditures*, where those general education instructional expenditures exclude expenditures for special education and include prorated shares of administrative expenses. Transportation and debt service expenses are also removed. As important as the choice of a *partial* operating expenditure figure is the choice to use a time lagged figure from 2006 to 2008 as basis for calculating required spending of successful districts in 2009, to be used for setting foundation levels after 2009, with similar issues applying to the updated 2012 analysis.

The steps in the per pupil spending calculation (in the 2009 update) are as follows:

Step 1: General Education Instructional Expenditures (GEIE) = 2006 GEIE + 2007 GEIE + 2008 GEIE

Step 2: RCI Adj GEIE = $GEIE_{2006\text{-}2008}$ / 2009 RCI (regional cost index)

Step 3: Need Adj. Pupil $Count_{2006\text{-}2008}$ = 2006 General Ed Count + 2007 General Ed Count + 2008 General Ed Count + (%Free or Reduced Lunch x [2006 General Ed Count + 2007 General Ed Count + 2008 General Ed Count])

Step 4: Adj. GEIE per $Pupil_{2006\text{-}2008}$ = RCI Adj $GEIE_{2006\text{-}2008}$ / Need Adj. Pupil $Count_{2006\text{-}2008}$

That is, as discussed previously, general education instructional spending is summed across three lagged years (Step 1). It is then divided by the regional cost index (Step 2). A need adjusted pupil count is created (Step 3). Need adjusted spending is determined by dividing the RCI adjusted spending total by the need adjusted pupil count.

But, it is perhaps easiest to observe the shortcomings of the General Education Instructional Expenditures figure adopted for these analyses by looking at that figure without the RCI or Free/Reduced Lunch adjustment, and by RCI region.

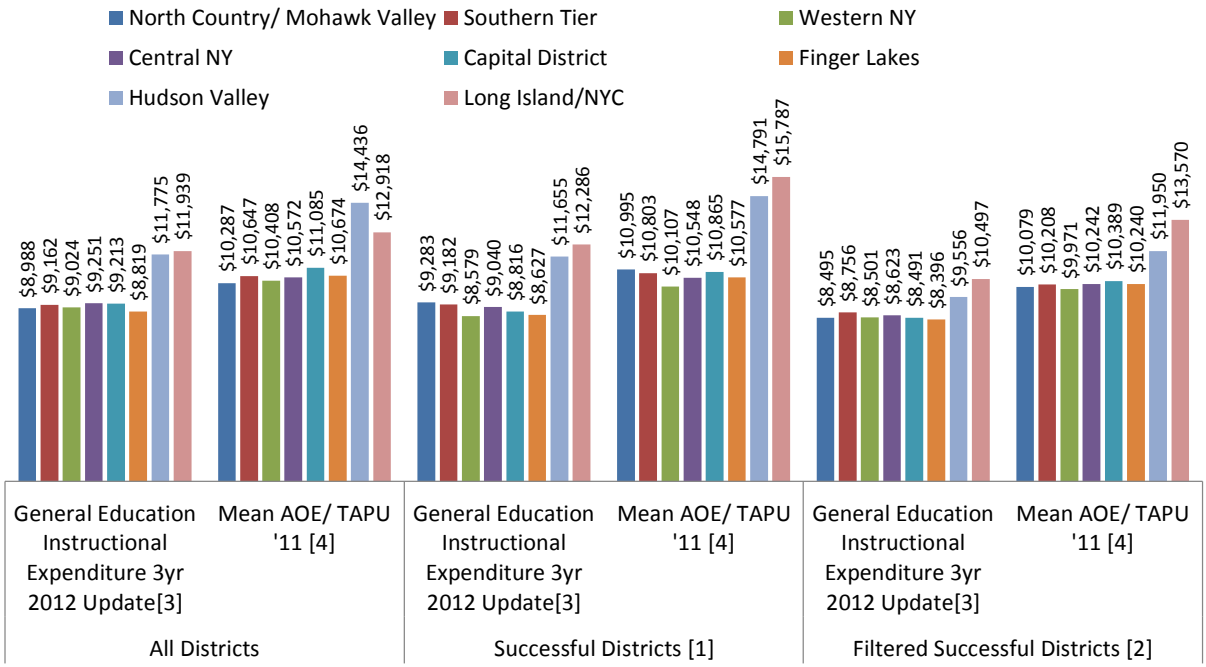
Figure 26 compares the unadjusted General Education Instructional Expenditures for 2009-2011 (2012 Update report) to the actual (also not adjusted for RCI or PNI) AOE per TAPU for 2011. Special education is effectively removed from both because special education weightings are embedded in TAPU for the AOE figure, and transportation and debt service expenditures are deducted from AOE calculations.[41] So, these figures should be comparable or at least close, if it is the case that general instructional spending is meant to generate a cost figure to be used in a foundation formula, to cover operating expenses. The lack of comparability is driven by selective other deductions from AOE that are considered not to be "core" expenditures. Those selective deductions have greater negative impact on spending calculations for districts in some regions than in others.

In Long Island/NYC, among filtered "successful" districts, GEIE is $3,000 per pupil below AOE, whereas the difference for North Country districts is only about $1,500 per pupil. The use of the GEIE figure substantially reduces spending estimates for down state and Long Island districts, which already are disproportionately excluded from the base funding calculation.

[41] See, for example, calculations for Utica in 2012-13, here: https://eservices.nysed.gov/publicsams/reports.do

Figure 26

Comparing Adjusted Operating Expense & General Education Instructional Expense



Note:
[1] Based on "successful district" classification as presented in Excel Workbook used for 2012 Successful Schools Update analysis.
[2] Based on "low spending district" classification as presented in Excel Workbook used for 2012 Successful Schools Update analysis.
[3] General Expenditure as presented in Excel Workbook used for 2012 Successful Schools Update analysis divided by enrollment (not adjusted for low income students).
[4] File DBSAC1, 3-29-12, M(WM0006) 00 2010-11 AOE/TAPU FOR EXP

Taken together with the efficiency filter, the choice of the severely reduced spending figure is indicative of a manipulative process designed to produce the lowest possible spending estimate. The New York State Successful School Districts model is little more than a veiled attempt to make it appear that the state has employed a rational, empirical method for establishing foundation funding targets.

Once one has accomplished substantively deflating the base figure in a state school finance formula, all other features added on to that base become substantively deflated as well.

5.4. Comparison against Better Targets

I conclude with comparisons of current spending levels and estimates of the costs of achieving specific outcome levels in 2007 generated by a cost model estimated by William Duncombe of Syracuse University (Models included in Appendix A). In short, the cost model approach uses historical data on New York State school districts to estimate the "cost" of achieving a specific level of educational outcomes, given the varied student characteristics, varied conditions of local public school districts, and varied competitive prices for key schooling inputs such as teachers. The approach also attempts to account for those circumstances where districts spend more than they would otherwise need to in order to achieve specific outcome levels (inefficiency). This approach, unlike simply taking the average spending of districts "performing well," accounts more thoroughly for the various attributes of school districts that influence the costs of "performing well." And this approach, unlike "successful schools" analysis appears in numerous rigorous peer reviewed journals in economics, education and public policy.[42]

While now somewhat dated, the cost projections provided by William Duncombe continue to reveal that the state's highest need districts face the most significant shortfalls. Perhaps more importantly, these cost estimates, now six years after the fact, show that the per pupil costs of achieving either 80% students at level 4, or 90% at level 3 or higher, are much higher than the state's own estimates of costs produced by the successful schools analysis. These figures point to the need for more rigorous, updated analyses to be used to replace the state's current approach for determining funding targets.

[42] Downes, T., Pogue, T. (1994). *Adjusting School Aid Formulas for the Higher Cost of Educating Disadvantaged Students. National Tax Journal XLVII* , 89-110.

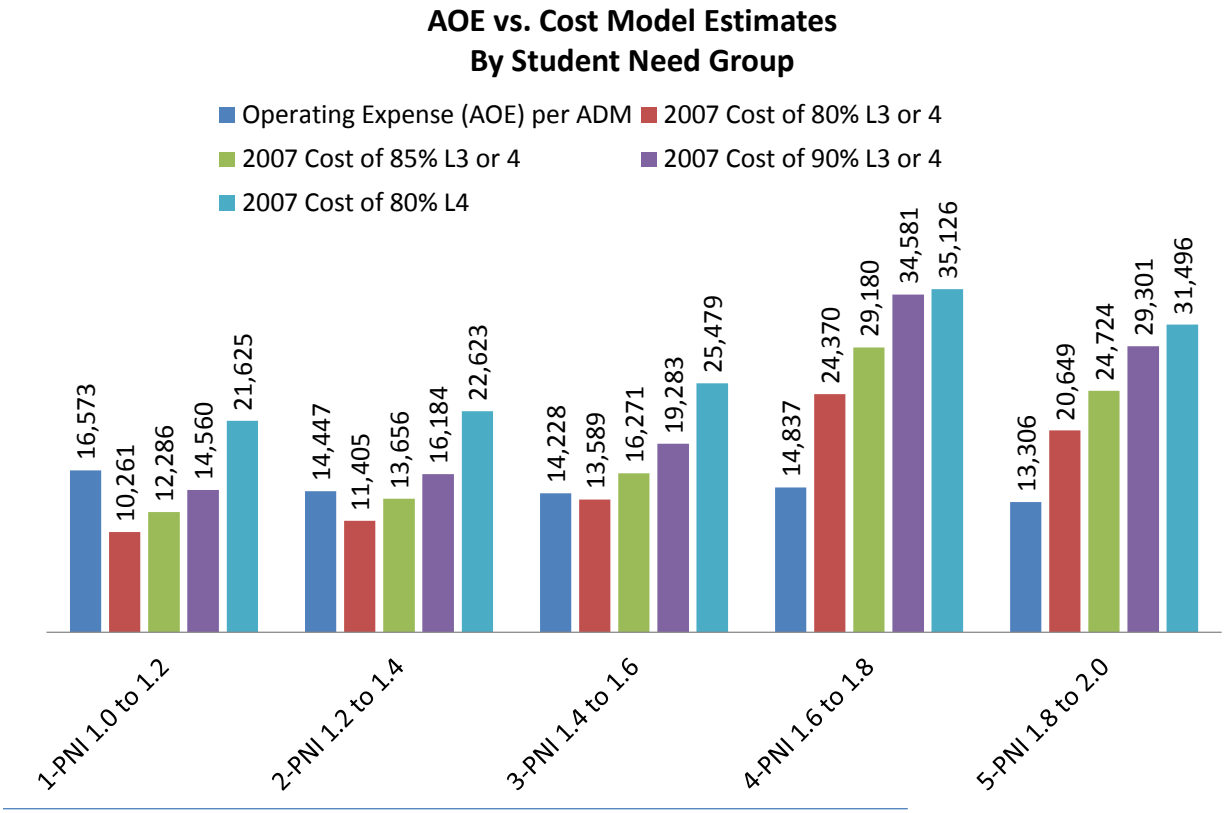
Duncombe, W. and Yinger, J.M. (2008) Measurement of Cost Differentials In H.F. Ladd & E. Fiske (eds) pp. 203-221. Handbook of Research in Education Finance and Policy. New York: Routledge.

Duncombe, W., Yinger, J. (2005) How Much more Does a Disadvantaged Student Cost? *Economics of Education Review* 24 (5) 513-532. Duncombe, W. and Yinger, J.M. (2000). Financing Higher Performance Standards: The Case of New York State. *Economics of Education Review, 19* (3), 363-86.

Duncombe, W. and Yinger, J.M. (1998) "School Finance Reforms: Aid Formulas and Equity Objectives." *National Tax Journal* 51, (2): 239-63. Duncombe, W. and Yinger, J.M. (1997). Why Is It So Hard to Help Central City Schools? *Journal of Policy Analysis and Management, 16*, (1), 85-113.

Imazeki, J., Reschovsky, A. (2004) Is No Child Left Beyond an Un (or under)funded Federal Mandate? Evidence from Texas. *National Tax Journal* 57 (3) 571-588.

Figure 27



Note: AOE is Adjusted Operating Expense per Pupil (DCAADM) for 2010-11. Cost targets based on education cost function model estimated by William Duncombe of Syracuse University, including estimates of the cost of achieving 90% students at level 3 or 4, and 80% students achieving level 4, in 2006-07.

6. Conclusions & Policy Recommendations

I conclude with three major policy recommendations for the State of New York. Throughout this policy brief, I have shown that:

- New York State has, in the years since the high court ruling in Campaign for Fiscal Equity v. State, engaged in persistent, systemic underfunding of the state's own remedy to the unconstitutional funding inadequacies which led to C.F.E.
- As a result, many high need districts across the state, big city and small city, urban, suburban and rural to this day spend far less than the state itself identified as sufficient for meeting outcome standards.

- Class sizes continue to grow for children attending school in higher poverty settings and the majority of children in high poverty settings now attend school in inappropriately large classes.
- The state has continued to raise outcome standards and to raise the stakes attached to them, and children in New York State districts are now failing on the state's own standards at alarming rates, while state officials pass blame onto local district administrators and teachers.

Meanwhile, state policymakers continue to protect billions of dollars in misallocated state aid, ranging from formula minimum aid levels to the state's tax relief program which has been repeatedly documented as driving disproportionate subsidies to the state's wealthiest communities. Finally, I revealed herein how the state engaged in numerical gaming of their original estimates of district funding needs, applying a mix of low outcome standards, pruned spending figures and uneven exclusion of districts by region, to achieve low-balled targets.

Arising from these findings are the following recommendations:

Fully Funding the Formula

First and foremost, the state must move toward fully funding the existing foundation aid formula. It is entirely inexcusable that districts serving the highest need student populations in many cases are receiving only about 50% of what the state school finance formula warrants. At current rates of increase, the formula will likely never be fully funded and the state's highest need and lowest wealth districts will continue to suffer most from these shortfalls. Fully funding the existing foundation aid formula will require more money and as a result will require revisiting state tax policies, revenue collections and local revenue requirements.

More Accurately Targeting Existing State Aid

Significant sums of state aid are inefficiently allocated to the least needy districts in one of the wealthiest states in the nation. Yet, huge funding gaps persist for the neediest districts. To ease the burden on the state for fully funding the existing foundation aid formula, the state should look first to state aid that is presently misallocated. While foundation aid adjustments, minimum aid and even STAR aid combined are insufficient to fully dig the state out of its funding hole, appropriate redistribution of these aids will help.

Using More Rigorous Methods to Estimate Future Costs in High Need, High Cost Settings

While fully funding the current foundation aid formula is the first priority, it must be recognized that the analyses behind the current formula are based on outcome standards that are now dated, and far too low. Given new, elevated *college ready* and *common core* outcome standards expected of New York State's children, the state must revisit its approach to

measuring the cost of achieving desired outcomes across children and settings. In doing so, state officials must resolve the various other problems associated with the current "successful schools" model. Specifically, state officials must identify the current spending measure that appropriately reflects spending categories to be supported by the foundation aid formula. State officials must apply methods or models that give more appropriate consideration to the geographic distribution of districts. That is, cost estimates for downstate and Long Island districts should not be based disproportionately on data derived from districts that lie between Syracuse and Buffalo. Finally, the state should conduct more rigorous analyses of the additional costs of achieving newly updated outcome goals, for districts serving varied concentrations of children in need, including children from economically disadvantaged backgrounds, children with limited English language proficiency and children with disabilities.

Appendix A. Cost Model Estimates

Cost Model Estimates for New York State Districts (provided by William Duncombe)

	Model 1 Level 3 or 4				Model 2 Level 4 Only		
DV = Expenditure per Pupil [1]	Coef.	Std. Err.	P>t		Coef.	Std. Err.	P>t
Teacher Labor Cost [2]	1.511	0.124	*		1.804	0.083	*
Outcome Index [3]	2.611	0.824	*		0.778	0.165	*
Student Needs							
% Free or Reduced (2yr Avg.)	0.012	0.003	*		0.008	0.002	*
% Severe Disability (2yr Avg.)	0.009	0.002	*		0.010	0.002	*
Enrollment Size							
Enroll >250 and <500	-0.257	0.112	*		-0.301	0.138	*
Enroll >500 and <1000	-0.343	0.112	*		-0.399	0.138	*
Enroll >1,000 and <1,500	-0.386	0.112	*		-0.453	0.138	*
Enroll >1,500 and <2,000	-0.423	0.113	*		-0.502	0.139	*
Enroll >2,000 and <2,500	-0.411	0.113	*		-0.481	0.139	*
Enroll >2,500 and <3,000	-0.460	0.114	*		-0.540	0.140	*
Enroll >3,000 and <5,000	-0.474	0.114	*		-0.569	0.140	*
Enroll >5,000 and <7,500	-0.479	0.115	*		-0.570	0.141	*
Enroll >7,500 and <10,000	-0.511	0.116	*		-0.611	0.141	*
Enroll >10,000 and <15,000	-0.520	0.122	*		-0.646	0.144	*
Enroll >15,000	-0.513	0.188	*		-0.672	0.165	*
Indirect Efficiency Controls							
% Owner Occupied Housing Units (2000)	-0.002	0.001	*		-0.002	0.001	*
Per Pupil Adjusted Gross Income	2.089	0.562	*				
Per Pupil Adjusted Gross Income (squared)	-0.079	0.023	*				
Tax Share [4]	-0.180	0.024	*		-0.141	0.021	*
Total Aid Rate [5]	0.803	0.198	*		0.305	0.127	*
Year							
yr2003	0.014	0.011			0.032	0.009	*
yr2004	0.010	0.013			0.027	0.011	*
yr2005	0.010	0.016			0.021	0.012	**
yr2006	0.046	0.018	*		0.091	0.016	*
yr2007	0.065	0.021	*		0.112	0.020	*
Constant	-31.490	6.778	*		-12.160	1.038	*
Centered R2 = 0.2424					Centered R2 = 0.2532		

[1] Total spending without tuition, transportation, debt service and other undistributed expenses

[2] Estimated teacher salary for teachers with 1 to 5 years of experience, with average experience and average share with a graduate degree

[3] Outcome index combines percentages of students scoring above threshold on state assessments in elementary (math, ELA and social studies), middle (Math, ELA and Science) and high school (math, English, global history, US History, Geography), and cohort 4 year graduation rates

[4] Ratio of value of median residential value in each district divided by property values (with correction for STAR exemptions)

[5] State Aid share (total aid rate, excluding building and transportation)

Note: Teacher Wages and Outcome Index treated as endogenous. Instruments include average characteristics of other districts sharing labor market, including population density (based on county data), enrollment, percent nonwhite students, median house values and percent limited English Proficient Students.

*p<.05, **p<.10

Appendix B: 50 Districts with the Largest Formula Funding Shortfalls per Pupil 2013-14

Name	GAP per DCAADM	% Shortfall (Gap/Target)	GAP = Foundation Target - Foundation after GEA	DCAADM	Foundation Target (Full Phase In) = State Share per TAFPU x Selected TAFPU	Foundation After GEA	RCI	PNI	Selected TAFPU	Adj. Foundation per Pupil (Base x PNI x RCI)	Adj. Tax Rate	Sharing ratio	Selected Local	Adj. Foundation - Local = State Share per TAFPU
WESTBURY	-$9,646	69%	$43,388,103	4,498	62,763,206	19,375,103	1.425	1.822	5,456	$16,915	0.009	0.515	$5,412	$11,504
HEMPSTEAD	-$8,458	50%	$63,463,802	7,503	127,724,327	64,260,525	1.425	1.808	8,587	$16,785	0.005	0.857	$1,911	$14,874
BARKER	-$7,627	68%	$7,207,775	945	10,666,353	3,458,578	1.091	1.810	959	$12,865	0.006	0.811	$1,743	$11,122
BRENTWOOD	-$7,164	43%	$121,981,375	17,027	282,669,292	160,687,917	1.425	1.721	19,811	$15,978	0.005	0.884	$1,709	$14,268
ROOSEVELT	-$6,938	43%	$20,751,896	2,991	48,655,522	27,903,626	1.425	1.736	3,621	$16,117	0.006	0.668	$2,680	$13,437
COPIAGUE	-$6,614	56%	$33,419,108	5,053	59,881,306	26,462,198	1.425	1.533	6,069	$14,232	0.008	0.596	$4,365	$9,867
UTICA	-$6,588	48%	$64,381,488	9,773	133,950,664	69,569,176	1.000	1.849	11,832	$12,046	0.005	0.900	$725	$11,321
ELLENVILLE	-$6,464	51%	$11,428,484	1,768	22,443,103	11,014,619	1.314	1.766	2,060	$15,118	0.006	0.559	$4,224	$10,895
CENTRAL ISLIP	-$6,425	44%	$42,552,572	6,623	97,043,603	54,491,031	1.425	1.738	7,508	$16,135	0.007	0.638	$3,210	$12,925
MIDDLETOWN	-$6,408	50%	$46,884,727	7,317	93,704,333	46,819,606	1.314	1.703	8,320	$14,579	0.007	0.662	$3,316	$11,263
SCHENECTADY	-$6,320	49%	$66,241,068	10,481	135,462,735	69,221,667	1.124	1.686	12,191	$12,346	0.006	0.900	$1,235	$11,112
FALLSBURGH	-$6,006	45%	$8,156,167	1,358	18,279,539	10,123,372	1.314	1.749	1,660	$14,973	0.006	0.578	$3,961	$11,012
WYANDANCH	-$5,858	35%	$13,227,623	2,258	37,546,692	24,319,069	1.425	1.705	2,728	$15,829	0.005	0.863	$2,066	$13,763
LIBERTY	-$5,688	41%	$8,964,368	1,576	21,614,144	12,649,776	1.314	1.740	1,869	$14,896	0.006	0.634	$3,331	$11,565
FREEPORT	-$5,595	50%	$37,305,546	6,668	74,399,572	37,094,026	1.425	1.533	7,671	$14,232	0.008	0.576	$4,533	$9,699
FRIENDSHIP	-$5,551	39%	$2,353,436	424	6,105,035	3,751,599	1.091	1.962	463	$13,946	0.004	0.900	$760	$13,186
MOUNT MORRIS	-$5,420	40%	$2,894,197	534	7,323,150	4,428,953	1.141	1.808	641	$13,440	0.007	0.820	$2,015	$11,425
FILLMORE	-$5,326	39%	$3,877,614	728	10,015,248	6,137,634	1.091	1.853	834	$13,171	0.005	0.900	$1,162	$12,009
INDIAN RIVER	-$5,326	41%	$21,366,044	4,012	51,600,069	30,234,025	1.000	1.704	4,819	$11,102	0.003	0.900	$394	$10,708
ROCHESTER	-$5,253	34%	$180,961,810	34,449	529,083,251	348,121,441	1.141	1.898	39,877	$14,109	0.005	0.900	$841	$13,268
BRASHER FALLS	-$5,122	40%	$5,577,790	1,089	13,854,050	8,276,260	1.000	1.871	1,233	$12,190	0.005	0.900	$954	$11,236
HANNIBAL	-$5,111	38%	$7,917,044	1,549	20,732,591	12,815,547	1.103	1.780	1,748	$12,791	0.005	0.900	$930	$11,861
PORT JERVIS	-$5,107	41%	$15,508,907	3,037	38,138,329	22,629,422	1.314	1.491	3,738	$12,764	0.006	0.786	$2,561	$10,203
NEWBURGH	-$4,810	39%	$56,076,211	11,659	142,035,380	85,959,169	1.314	1.653	12,933	$14,151	0.008	0.680	$3,168	$10,982
WHITEHALL	-$4,773	38%	$3,713,316	778	9,892,304	6,178,988	1.124	1.979	946	$14,492	0.006	0.535	$4,035	$10,457
WARSAW	-$4,766	46%	$4,832,288	1,014	10,604,963	5,772,675	1.141	1.575	1,124	$11,708	0.007	0.733	$2,273	$9,435
ALFRED ALMOND	-$4,765	46%	$3,087,990	648	6,706,971	3,618,981	1.091	1.639	751	$11,650	0.008	0.679	$2,719	$8,931
WELLSVILLE	-$4,702	41%	$6,309,453	1,342	15,409,729	9,100,276	1.091	1.735	1,497	$12,332	0.008	0.807	$2,038	$10,294
UNIONDALE	-$4,636	60%	$31,785,444	6,856	52,881,611	21,096,167	1.425	1.479	7,434	$13,731	0.008	0.439	$6,617	$7,113
JAMESTOWN	-$4,579	37%	$23,350,438	5,100	62,553,155	39,202,717	1.091	1.654	5,688	$11,756	0.005	0.900	$759	$10,997
N. ROSE-WOLCOT	-$4,561	39%	$6,559,363	1,438	16,959,821	10,400,458	1.141	1.808	1,572	$13,440	0.006	0.723	$2,651	$10,789
LANSINGBURGH	-$4,552	44%	$11,850,039	2,603	27,194,025	15,343,986	1.124	1.542	3,035	$11,292	0.007	0.773	$2,332	$8,960
LYNDONVILLE	-$4,519	38%	$3,022,965	669	7,987,452	4,964,487	1.141	1.784	739	$13,262	0.007	0.735	$2,453	$10,808
CARTHAGE	-$4,499	41%	$15,698,420	3,489	37,873,923	22,175,503	1.000	1.572	4,035	$10,242	0.004	0.900	$855	$9,386
BAY SHORE	-$4,497	56%	$27,634,147	6,145	49,151,185	21,517,038	1.425	1.454	7,389	$13,499	0.010	0.467	$6,847	$6,652
FALCONER	-$4,461	43%	$5,562,889	1,247	12,796,035	7,233,146	1.091	1.524	1,411	$10,832	0.006	0.802	$1,764	$9,069
SYRACUSE	-$4,455	32%	$99,185,034	22,266	312,645,447	213,460,413	1.103	1.805	26,305	$12,971	0.005	0.900	$1,085	$11,885
SOLVAY	-$4,401	48%	$6,688,972	1,520	13,868,993	7,180,021	1.103	1.458	1,878	$10,477	0.008	0.626	$3,092	$7,385

Name	GAP per DCAADM	% Shortfall (Gap/Target)	GAP = Foundation Target - Foundation after GEA	DCAADM	Foundation Target (Full Phase In) = State Share per TAFPU x Selected TAFPU	Foundation After GEA	RCI	PNI	Selected TAFPU	Adj. Foundation per Pupil (Base x PNI x RCI)	Adj. Tax Rate	Sharing ratio	Selected Local	Adj. Foundation - Local = State Share per TAFPU
LYONS	-$4,386	34%	$4,166,969	950	12,198,044	8,031,075	1.141	1.653	1,103	$12,288	0.007	0.900	$1,229	$11,059
PERRY	-$4,371	41%	$4,034,515	923	9,829,009	5,794,494	1.141	1.712	1,002	$12,726	0.008	0.661	$2,917	$9,809
ARKPORT	-$4,319	42%	$2,531,053	586	6,082,750	3,551,697	1.045	1.620	672	$11,029	0.007	0.812	$1,978	$9,052
CLYDE-SAVANNAH	-$4,287	31%	$3,738,281	872	12,050,875	8,312,594	1.141	1.727	1,043	$12,838	0.006	0.900	$1,284	$11,554
HOOSICK FALLS	-$4,259	42%	$5,178,337	1,216	12,216,273	7,037,936	1.124	1.674	1,365	$12,258	0.008	0.621	$3,309	$8,950
MOUNT VERNON	-$4,234	42%	$37,696,714	8,904	90,590,743	52,894,029	1.314	1.629	11,041	$13,945	0.010	0.513	$5,740	$8,205
PINE VALLEY	-$4,222	31%	$2,828,492	670	9,075,714	6,247,222	1.091	1.965	722	$13,967	0.005	0.900	$1,397	$12,570
MORIAH	-$4,220	32%	$3,244,943	769	10,001,039	6,756,096	1.000	1.836	929	$11,962	0.006	0.900	$1,196	$10,765
POUGHKEEPSIE	-$4,204	30%	$19,352,514	4,603	64,552,342	45,199,828	1.314	1.827	5,248	$15,640	0.007	0.680	$3,340	$12,300
ALBANY	-$4,191	48%	$45,282,666	10,805	95,133,809	49,851,143	1.124	1.664	12,780	$12,185	0.010	0.567	$4,741	$7,444
RANDOLPH	-$4,190	37%	$4,185,925	999	11,464,012	7,278,087	1.091	1.841	1,058	$13,086	0.005	0.763	$2,250	$10,836
JOHNSON CITY	-$4,186	47%	$11,912,449	2,846	25,474,600	13,562,151	1.045	1.535	3,263	$10,451	0.007	0.678	$2,643	$7,807