

SPENDING BY THE MAJOR CHARTER MANAGEMENT ORGANIZATIONS

COMPARING CHARTER SCHOOL AND LOCAL PUBLIC DISTRICT
FINANCIAL RESOURCES IN NEW YORK, OHIO, AND TEXAS

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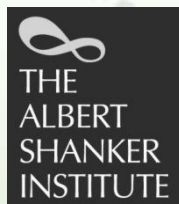
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SPENDING BY THE MAJOR CHARTER MANAGEMENT ORGANIZATIONS: COMPARING CHARTER SCHOOL AND LOCAL PUBLIC DISTRICT FINANCIAL RESOURCES IN NEW YORK, OHIO, AND TEXAS

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Executive Summary

Policymakers have long pursued more cost effective, scalable alternatives for delivering elementary and secondary education. The elusive goal is identifying how to reform educational systems so that children will consistently achieve more academically—at a lesser cost. A frequently heard reform claim of this sort is that charter schools deliver higher performance at a lower cost. While the test score side of this question has been addressed by a great number of studies (with generally mixed findings), the cost side of the question has received far less attention.

This study evaluates the cost claim by comparing the per-pupil spending of charter schools operated by major charter management organizations (CMOs) in New York City, Texas and Ohio with district schools. In each context, we assemble three-year panel data sets including information on school level spending per pupil, school size, grade ranges and student populations served for both charter schools and district schools. For charter schools we use both government (and authorizer) reports of spending, and spending as reported on IRS non-profit financial filings (IRS 990).

We compare the spending of charters to that of district schools of similar size, serving the same grade levels and similar student populations. Overall, charter spending variation is large as is the spending of traditional public schools. Comparative spending between the two sectors is mixed, with many high profile charter network schools outspending similar district schools in New York City and Texas, but other charter network schools spending less than similar district schools, particularly in Ohio.

We find that in New York City, KIPP, Achievement First and Uncommon Schools charter schools spend substantially more (\$2,000 to \$4,300 per pupil) than similar district schools. Given that the average spending per pupil was around \$12,000 to \$14,000 citywide, a nearly \$4,000 difference in spending amounts to an increase of some 30%. In Ohio, charters across the board spend less than district schools in the same city. And in Texas, some charter chains such as KIPP spend substantially more per pupil than district schools in the same city and serving similar populations, around 30 to 50% more in some cities (and at the middle school level) based on state reported current expenditures, and 50

to 100% more based on IRS filings. Even in New York where we have the highest degree of confidence in the match between our IRS data and Annual Financial Report Data, we remain unconvinced that we are accounting fully for all charter school expenditures.

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Introduction

Policymakers have long pursued more cost effective, scalable alternatives for providing **elementary and secondary education for America’s schoolchildren**. This quest is especially pertinent for state legislators and governors, for whom elementary and secondary education spending is often the largest single budget category. In short, the elusive goal is to identify how to reform educational systems so that the children they serve will consistently achieve more academically—at a lesser cost.

Policy research in education rarely, if ever, provides clear-cut evidence that a particular strategy is reliably more cost effective or efficient than others, across all settings and for all children.¹ Lack of validation, however, does not necessarily deter promoters of various options. For example, charter schooling as a *reform movement* has gained significant traction across traditional party lines. Yet despite pervasive claims that charter schools as a whole consistently *do more with less*, such claims have not been subject to empirical scrutiny.²

One reason for the lack of rigorous and reliable assessment of cost effectiveness issues is **the tendency to treat “charter schooling” as a specific policy option, and traditional public schooling as a clearly defined counterfactual**. Arguably, the question of the aggregate effectiveness of charters as a movement has been over-researched, at the expense of digging deeper into which (if any) charters work well, and why. Emphasis on *charters in the aggregate* has minimized efforts to clarify what different kinds of charters are actually doing, to assess whether and why their strategies do or do not yield benefits, and to determine the real cost of success where it is found.

Research on the cost effectiveness of charter schools as compared to their traditional public school counterparts is plagued by at least two persistent and major shortcomings.

The first problem is that financial reporting on charter schools is often inconsistent, incomplete regarding revenue sources and expenditures, and imprecise regarding specifics of resource allocation. Further, in many cases, host districts of charters maintain the obligation to finance certain operational costs of charters, including provision of facilities space (co-location) in New York City, and provision of food, transportation and special education services under many state charter school laws. These complexities add to the difficulty of comparing expenditures in charter schools versus traditional public schools,

and many states' data systems are not up to the challenge of a more nuanced and accurate analysis.

The second problem is that charter schools operate differently, in many ways, from traditional public school districts. First, they often serve substantively different student populations, with substantively different needs for educational programs and services than the traditional public schools we might hope to compare them to. Second, they often finance capital infrastructure and investment in expansion from operating funds, thus significantly altering cost pressures in hard-to-interpret, often counterbalancing ways. Put simply, even if you have accurate **data, you can't just compare charter and regular school** finances without accounting for such differences.

As a way to approach some of the difficult research complexities, this report explores the finances of charter schools run by private management organizations in three locations: New York City, Ohio and Texas. We have chosen these contexts in part because school level financial data for both charter schools and district schools are available, and in part because these contexts are home to several charter schools operated by major non-profit management companies.³ In an effort to better respond to some of the common problems outlined above, this research estimates per-pupil spending differences between charter schools and traditional public schools by correcting for differences in location, size and student populations, and using two alternative sources of spending data for charters (state/local data systems & IRS filings). We compare expenditures of charter schools and traditional public schools in the same local contexts, using data from 2008 to 2010.

Implications from Studies of “Successful” Charters

Arguments favoring expansion of charter schooling as a policy option often involve three key claims: that they are (a) more effective and (b) less costly, while (c) serving the same children as regular district schools.⁴ Each prong of this argument is subject to empirical validation. To date, most research has focused on the first prong, with increasing consideration of the third. That is, controlling for student population characteristics (to the extent practicable), how effective are charter schools at improving student outcomes? Several studies have addressed this question in one form or another, leading collectively to mixed results. In a recent comprehensive meta-analysis of charter school effect studies, Betts and Tang (2011) summarize:

Focusing on math and reading scores, the authors find compelling evidence that charters under-perform traditional public schools in some locations, grades, and subjects, and out-perform traditional public schools in other locations, grades, and subjects. However, important exceptions include elementary school reading and middle school math and reading, where evidence suggests no negative effects of charter schools and, in some cases, evidence of positive effects.⁵ (p. 1)

That is, while in the aggregate charter schooling has largely been a break-even endeavor on effectiveness, charters in some contexts do better, while others do worse. The major

outstanding question is why: What do the successful schools do, and how much does it cost?⁶

A handful of recent high-profile studies have begun to explore in greater detail just what **makes some “successful” charter schools tick.**⁷ Most of these studies have side-stepped or downplayed cost implications while focusing on specific programs and strategies often **present in “successful” charter schools.** Perhaps most notably, a series of studies from Roland Fryer and colleagues have explored the effectiveness of specific charter school strategies, including **Harlem Children’s Zone,**⁸ **“no excuses” charter schools in New York City,**⁹ schools within the Houston public school district (Apollo 20) mimicking no excuses charter strategies^{10,11} and an intensive urban residential schooling model in Baltimore.¹² The broad conclusion across these studies, as stated by Fryer and his co-authors, is that charter schools or traditional public schools can produce dramatic improvements to student short-term and long-term outcomes by implementing **“no excuses” strategies** and perhaps wrap-around services; they also conclude that these strategies either come with potentially negligible costs, or that higher costs, if any, are worth it since they yield a substantial return.¹³ But, each of these studies suffers from poorly documented and often ill-conceived comparisons of costs and/or marginal expenditures.¹⁴

Further, the authors’ analyses and documentation of the financial data are woefully inadequate.¹⁵ Specifically in their study touting the successes of no excuses charter schools in New York City the authors purport to find that no excuses strategies improve outcomes, but money does not, because they find no simple correlation between spending differences and outcomes across the 35 schools.¹⁶ The authors fail entirely to consider that the majority (55% to 60%) of per-pupil spending differences across New York City charter schools are explained by grade ranges served and total enrollments (and/or enrollment per grade level and economies of scale), where enrollment is to some degree a function of institutional maturation (scaling up).¹⁷ Given the extent to which expenditures vary because of uncontrollable structural differences across these schools, a simple correlation between spending variation and student outcomes is unlikely.¹⁸

Similar imprecision undermines Fryer’s analysis of a policy that applies “no excuses” strategies from the charter school context to traditional public schools in Houston, Texas. Fryer concludes in his study of **Apollo 20 schools in Texas** that “The marginal costs are \$1,837 per student, which is similar to the marginal costs of other high-performing charter schools,” where **“marginal cost” is the additional expenditure supposedly required to implement the no excuses strategies.** Further, Fryer notes that while this may seem like a significant barrier, the outcome improvements yielded by the program are worth it.¹⁹

It may in fact be true that this marginal expense is worth it, but it’s important to contextualize that marginal expense. Among other things, it is important to understand the import of an additional \$1,837 expense. In its Houston context, the average middle school operating expenditure per pupil is \$7,911. Therefore, the average marginal expense is \$1,837/\$7,911, or 23.2%.²⁰ In our view, a 23% to 30% cost increase is substantial. **Because it’s possible that scaling up the strategies might reduce marginal costs, further**

research of strategies and their costs is warranted. In the interim, however, it seems prudent to attend more carefully to the real magnitude of marginal costs.²¹

The combined implications of these studies are that some charter schools and some **traditional public schools, by adopting “no excuses” charter school strategies, are raising student outcomes**—but the marginal increases in student outcomes may come with significant costs. Moreover, current information on costs of the programs and services that yield these marginal benefits is incomplete, poorly documented and widely varied.

Studies of Charter School Revenues, Expenditures and Efficiency

Additional studies have explored the fiscal landscape of charter schooling from angles other than achievement effects or specific program strategies. Some attempt to compare the rates of public subsidy between charter schools and traditional public schools. Others attempt to compare cumulative revenues and expenditures of charter and traditional public schools, including private contributions.

The studies focused on subsidy rates alone make the argument that charter schools are subsidized at a lower per-pupil rate than are traditional public schools, and therefore even if charter schools break even on outcomes, they generate efficiency gains. However, subsidy rates do not necessarily indicate costs because the public subsidy covers only a portion of the full costs for many charter schools, which often enjoy private as well as public funding.²²

To address this discrepancy, studies on cumulative revenues and expenditures seek to more accurately detail **the full costs of charter schools’ outcomes, in order to** better understand the true costs of scaling up either charter schools in general or specific charter models.²³ A handful of these studies provide useful insights for our analyses in part because of the extent of variation they appear to reveal across Texas charter schools.²⁴ They also provide some anecdotal evidence regarding the extent to which access to philanthropy drives that variation. Because these studies do not explore which charters spend more or less and whether those differences occur systematically in specific charter networks, they offer little help in sorting out whether some models and networks may be more efficient than others.

The goal of this study is to generate, as precisely and accurately as possible, comparisons of revenues and expenditures per pupil for a subset of privately managed charter schools and traditional public schools operating within the same cities and states. Specifically, we evaluate per-pupil expenditures for charter schools and traditional public schools in New York City, Ohio and Texas. As noted above, criteria for school selection include the availability of school site financial data as well as charter affiliation with major non-profit management organizations.

We compare per-pupil expenditures for charter schools operated by major non-profit management companies, and for local public schools in the same area serving similar student populations. We use data from both compiled, publicly downloadable state and

Table 1. Charter Networks by Location Included in our Study

Location	Charter Management Organizations
<i>New York City</i>	KIPP Achievement First Green Dot (1) Success Academies Uncommon Schools Lighthouse (1)
<i>Ohio</i>	Concept Schools Constellation Schools KIPP (1) Ed Vantages Summit Academy
<i>Texas</i>	IDEA KIPP Uplift Yes Prep Cosmos Foundation Honors Academy Shekinah Learning Institute Student Alternatives Program America CAN Democratic Schools Research Inc. Educational Leadership Educational Resource Center Faith Family Kids Life Schools Responsive Education Solutions Richard Millburn Academies Riverwalk Education Foundation Rylie Family Faith Academy Salvaging Teens at Risk Southwest Winners Foundation Winfree Academy

local government data sources on school site expenditures and from individual school site annual financial reports and IRS filings. The hand compilation of these latter sources required that we limit the scope of our analyses to specific charter school networks. Charter networks for which we have gathered information are listed in Table 1.

Financing Mechanisms

Here, we provide some context regarding the financing mechanisms for determining public subsidies for charter schools in our three selected contexts. Charter school revenues consist of a combination of public subsidies and private contributions, and the magnitude of the private contribution varies widely, whether in Texas or New York City.²⁵ Local public school districts also may (and do) receive private contributions, but to a much smaller degree.²⁶ Further, public subsidies come in multiple forms, both direct and indirect. In

some instances, the state directly provides basic funding for independent charters (those not operated by districts); in others, state money goes to the host district, which passes it on to the charters. Charters may receive additional support in a variety of ways. Some states or host districts provide some services directly to charters; some states provide categorical grants directly to charters to secure certain services, or to host districts which then provide services to the charters. Needless to say, these various flows of revenues and in-kind services complicate comparisons across charters and traditional public schools. Appendix A provides a cursory description, for contextual purposes, of the determination of public subsidy rates in each setting.

Revenue and Spending Measures

The following analyses incorporate a handful of different resource measures. Our primary interest in this study is comparing the spending of charter and traditional public schools. We focus on spending because our interest in the long run is to tease out the cost structure and scalability of different programs and services being offered by different charter **management companies. “Cost” and “spending” are not the same. Cost refers to the** minimum amount that must be spent to achieve any particular outcome goal, whereas spending is merely what was spent, regardless of outcomes. An important step toward understanding cost is to: first, determine spending for specific programs and services or under specific governance structures, and second, to consider that spending in light of information on outcomes.

Revenues are funds received and potentially available to be spent. A school cannot spend **revenues it doesn’t have. If institutions achieving higher outcomes are doing** so with greater spending, then achieving those outcomes across other institutions may not be possible if revenues cannot be equalized. See Appendix B for elaboration on Total Revenues, Total Expenditures and Current Operating Expenditure definitions.

School Site versus District Comparisons

Charter *schools* are of primary interest in this study. Most research on charter school effectiveness is on charters operating within large urban centers and competing with large, complex urban public school systems for student enrollment. We might consider each **charter school to be its own “district” and compare each with the “host district” or** collection of surrounding districts. However, **in most cases the “host districts” as a whole don’t provide** the best comparison basis for several reasons. Host districts operate at different economies of scale, serve a much wider range of grades, and often serve much more diverse student populations, especially students with disabilities including those with severe disabilities. Further, as noted previously, host districts often cover numerous expenses for students attending charters.

Most evidence on the effectiveness of specific charter models is instead based on comparisons of the outcomes for students *lotteried in* to charter schools with those for students *lotteried out* and attending nearby traditional public schools. Therefore, to

identify spending differences that may be associated with effectiveness differences, we must compare resources of the charter school sites with those of the traditional public schools the students might otherwise attend. It could easily be the case that the charter schools in question spend less on average than the district in total, but that the charter schools in fact spend much more than the specific schools that the students would have otherwise attended. Our goal is to take small steps toward making more precise and accurate comparisons at the school site level, and to generate preliminary estimates across our three settings.

School site expenditure data aren't easy to come by. Few states provide statewide reporting of school site expenditures. Ohio and Texas are two exceptions. While we express concerns throughout this report about the consistency of these data sources, these states should be commended for being ahead of the curve, and by a long shot. Some cities like New York City have also maintained school site budgeting systems that are relatively consistent, well documented and stable over time.

In contrast, it is important to note that even simple, tentative comparisons of spending between charter and regular public schools are simply not possible in most other states, because the data are non-existent.

Data and Measures

Because our goal in this study is to compare the expenditures of schools sharing similar characteristics, the empirical analyses require three types of data:

1. **School Characteristics:** Grade ranges served, grade-level classification, or both; total enrollment; and city location.
2. **Student Population Characteristics:** Percentages of low-income children, children with disabilities and children with limited English proficiency.
3. **Per-Pupil Expenditures:** School site operating expenditures per pupil, supplemented in Texas with district total revenues per pupil.

Spending across schools tends to vary by structural characteristics of the schools, including grade ranges served and total school enrollment (economies of scale). To some extent, per-pupil spending differences across schools of different grade ranges are simply artifacts of the way in which schools have been organized over time, rather than a reflection of true cost differences. Nonetheless, it remains most appropriate to compare **elementary schools' per-pupil spending to other elementary schools' per-pupil spending**, middle to middle, and so on.

Because spending also varies by school size, observed differences are to some extent explained by economies of scale in the organization of teaching staff and overhead costs. However, small school size is outside of the control of local officials (an **uncontrollable cost factor**) only where reorganization by consolidation is not feasible. As such, we treat economies of scale two different ways. In one approach, we compare charter schools to

traditional public schools of the same size (by including an enrollment measure in our models), the same grade level and the same student population in the same city. In a second set of analyses, we compare charter schools to traditional public schools serving the same grade level and similar student populations in the same city, but we allow size to vary. Setting aside the scale measure allows us to consider the additional spending associated with the fact that many charter schools are smaller than their traditional public school counterparts.

Data on total enrollments and grade range configurations are gathered from state school data systems, supplemented with data from the National Center for Education Statistics Common Core of Data (NCES CCD); data on city location are from the NCES Common Core. We also gather information on student population characteristics, using both state data systems and the NCES Common Core. We gather school-level measures of the percent of student population that is low income (either percent free lunch or percent economically disadvantaged), the percent of the student population that is limited in their English proficiency, and the percent of students classified as having one or more disabilities or an individualized educational programs.

Table 2. Data Sources

	New York City ²⁷		Ohio		Texas	
	<i>BOE</i>	<i>Charter</i>	<i>TPS</i>	<i>Charter</i>	<i>TPS</i>	<i>Charter</i>
<i>Demographic Data 1</i>	NY State School Report Cards (SRC)	NY State School Report Cards (SRC)	Ohio Department of Education ODE ²⁸	ODE	Texas Education Agency TEA ²⁹	TEA
<i>Demographic Data 2</i>	NCES CCD	NCES CCD	NCES CCD	NCES CCD	NCES CCD	NCES CCD
<i>Financial Data 1</i>	BOE Data ³⁰	SUNY Annual Financial Report ³¹	ODE ³²	ODE	TEA ³³	TEA
<i>Financial Data 2</i>		IRS 990 ³⁴		IRS 990		IRS 990

For New York City public schools, we import expenditure data from the annual financial report files of the **city’s school site budgeting system, making relevant exclusions for** specific citywide expenses, including those expenses that support charter schools generally and co-located charter schools specifically (see Baker and Ferris, pp. 24 & 25).³⁵ For New York City charter schools we use two sources to identify expenditures. First, we use annual **financial reports (AFRs) gathered by the State University of New York’s Charter Schools Institute.**³⁶ We also gather the Internal Revenue Service Form 990 (line 18, total expenses) for each New York City charter school and for its affiliated regional and national management organizations. In New York City, per-pupil expenditure calculations using AFRs and IRS 990s are highly correlated (see Baker and Ferris, 2011).

For Ohio schools we use data on total expenditures per pupil (the sum of administrative expenses, building operations, instruction, pupil support and staff support) from the Ohio **Department of Education's school site expenditure reporting system**. We also gather data from school site and CMO IRS 990s.

Finally, for Texas schools we use school-site data on current operating expenditures per **pupil from the Texas Education Agency's campus**-level data reporting system. IRS filing data for Texas charter CMOs is organized differently than in the other settings. Specifically, Texas CMOs are organized more like districts, with IRS filings covering the finances of multiple charter schools operating in a specific area. For example, KIPP Houston (which is simply KIPP) reports finances associated with the operation of all of its KIPP schools in Houston and Galveston. Therefore, to determine the per-pupil spending for KIPP Houston schools we take the KIPP Houston total expenditure figure divided by the total enrollment of KIPP schools under the KIPP Houston umbrella. As a result, the resulting per-pupil spending figures do not vary across KIPP Houston schools or for other CMO networks across schools in specific locations. This aggregation effect explains some of the difference between our IRS reported expenditures per pupil and TEA reported expenditures per pupil, which do vary across schools within network.

Also, because Texas IRS expenditure figures are more analogous to district expenditure figures, we provide additional benchmarking comparisons in our Texas analyses with host district total revenues per pupil. That is, we add district-to-district comparisons to our school-to-school comparisons in Texas, treating charter networks as analogous to districts and benchmarking against host district aggregate resources.

Not all data were available for all charter schools or networks listed above. Further, in some cases, there exists only a single charter school from a given network in a particular location. For example, there is only one Green Dot school in New York City, and only one KIPP school in Ohio. In addition, because many of our analyses compare schools within charter networks to public schools in the same city, many charter schools outside of cities with large sample sizes of traditional public schools and other charter schools are excluded from certain analyses.

Models

As stated above, our objective is to compare the spending of charter schools with the spending of comparable traditional public schools, operating in comparable locations. We define location by the city containing the school, as identified in the NCES Common Core of Data.

To compare per-pupil expenditures of similar schools, we estimate statistical models to characterize the distribution of spending across schools of similar characteristics. Essentially, these models take the existing spending and student characteristics data on all schools in the data set and determine the predicted spending level of a school with X, Y and Z characteristics. That is, what is the average, or expected, spending per pupil for a school with 0% low income, 0% limited English students and 10% children with disabilities, and what is the average, or expected spending per pupil for a school with 50%

low income, 20% LEP and 16% with disabilities? Then, given those predicted, or expected values, we can compare individual schools or groups of schools' actual spending against the expected spending for a school with similar characteristics.

This method is merely intended to estimate comparable expenditures, and not differences in actual costs associated with student populations and school structural characteristics. This approach is similar to methods used in a variety of studies with similar goals, including: **Baker's studies of within-district** spending variation (and predictors of that variation) in Texas and Ohio cities (Baker, 2009, 2012); **Toutkoushian and Michael's** (2007) analysis of the Indiana school funding formula cost and need factors; and Chambers and colleagues' evaluation of the weighted student formulas in San Francisco and Oakland (2008).³⁷

Model 1 compares per-pupil spending of CMO charter schools, by group, schools serving the same grade levels, with similar students, and of similar size

Model 1: Expend = f (Scale, Students, Level, CMO, Location)

In this model we use our different spending per-pupil measures as dependent variables. In our equations, we include student enrollment (scale),³⁸ student population characteristics, an indicator of school level (using NCES classification for NYC and Ohio, and TEA classification for Texas schools), a location “**fixed effect**” such that each school is compared against those in the same city,³⁹ and an indicator for the CMO to which a charter belongs. This CMO fixed effect gives us the average difference between spending for charters under that CMO and the baseline category in the model—traditional public schools.

On average, charter schools tend to enroll fewer students than traditional public schools, and smaller schools (below a certain size) tend to spend more per pupil. So, one might argue that it is fairer to compare charter school spending to spending in traditional public schools of the same size.⁴⁰ However, as noted earlier, one might also argue that in a population-dense urban area where achieving economies of scale is feasible across schools, we should not be operating unnecessarily small schools if that leads to higher costs. Therefore, in a second set of models we remove the scale factor, and we compare CMO average spending to spending in average-size schools in the same city that serve the same grade levels and student populations.

Model 2: Expend = f (Students, Level, CMO, Location)

Note that the CMO variable that reflects differences in spending between CMOs and comparable public schools in any given site is derived from a group of 1 to 4-5 schools. Because these are very small clusters of schools, the CMO differences will not often show up as “**statistically significant**” differences from similar public schools. This does not, however, affect the interpretation of the findings. The point is that the CMO indicator characterizes the actual average difference in CMO spending when compared to the projected spending levels for all surrounding schools. The data include the universe of

schools (all schools), not a sample. And, the regression presents a description of actual subgroup averages within the data set.

Finally, the models described above evaluate the average differences between CMO clustered schools and district schools, but we recognize that schools within a single CMO may vary. Therefore, we explore that possibility across charter schools in New York City and in Houston. Specifically, our third model reflects not average CMO spending, but instead reflects the difference between predicted and actual per-pupil spending for each individual charter school. That is, **this model is designed to answer the question “Given the student characteristics and grade levels served, how much more or less did each charter school spend than would be expected, on average, in a model including all traditional public schools in the same city?”**

Model 3: Expend = f (Students, Level, Location)

These three equations give us three different windows on the comparative spending of charter and traditional public schools. In the first, we are able to compare charter spending to traditional public schools serving similar students and accepting the additional costs of operating schools that are too small to operate at efficient scale. In the second, we add the cost of operating at small scale back into charter expenditures. And in the third, we evaluate the variation in charter school spending across individual charter schools, rather than in groups.

Data

Tables 3-5 below provide our descriptive statistics—not adjusted for student and school characteristics—on charter schools, CMO-operated charter schools and traditional public schools in our data sets. In each case we explore data over a three-year period, from 2007-08 to 2009-10. We provide these descriptive summaries to show exactly what the data are, to illustrate how such data might typically be reported—and to caution against unfounded conclusions based on such presentation. That is, these tables offer only simple averages (weighted for student enrollment) of the raw data on student characteristics and spending, for all charter schools, for our selected charter schools and for all traditional public schools, comparable and not.

It is important to understand that we provide these summaries mainly to clarify for readers the contents of our data and our comparison groups. Thorough research studies should provide such detailed summaries of data and sources, including thorough descriptive comparisons, before moving on to make more statistically nuanced comparisons. However, it is the more statistically nuanced comparisons that are of primary interest in this work.

Table 3 summarizes our data for New York City schools. From 2008 to 2010, total numbers of New York City charter schools grew from just over 60 to over 90. Because

Table 3. Descriptive Characteristics for NYC Schools Data

	Charter Schools				Traditional Public Schools			
	Elementary	Middle	Secondary	Other	Elementary	Middle	Secondary	Other
<i>All Charters in Data Set</i>								
2008	42	10	2	6				
2009	50	10	2	15				
2010	61	17	3	12				
<i>Total Charter Enrollment in Data Set</i>								
2008	13,285	1,969	1,055	1,958				
2009	15,560	2,368	1,115	4,141				
2010	18,010	3,386	1,552	6,065				
<i>CMO Schools Included in Analysis</i>								
2008	7	9		0	783	290	299	143
2009	10	8		4	878	276	303	134
2010	10	8		3	928	254	329	150
<i>Total Enrollment in Analysis</i>								
2008	2,264	1,758		0	510,541	176,074	283,030	58,644
2009	3,500	1,901		667	571,596	184,102	275,715	58,438
2010	3,889	2,226		1,348	606,109	161,369	276,343	67,432
<i>% Low Income (Free Lunch)</i>								
2008	51.82	58.00			63.84	63.27	64.97	65.02
2009	48.22	54.42		72.09	69.74	67.17	63.91	67.09
2010	57.62	60.75		48.99	67.57	66.84	70.27	66.29
<i>% LEP/ELL</i>								
2008	0.39	4.38			14.03	13.79	14.91	9.28
2009	0.57	4.34		2.50	15.62	14.58	13.60	8.67
2010	0.74	4.67		1.89	16.32	13.52	13.50	9.25
<i>% Special Education</i>								
2008	7.63	12.21			13.75	15.22	12.37	45.06
2009	7.36	12.44		8.86	14.48	17.25	13.50	47.14
2010	11.01	12.85		11.28	16.26	16.70	11.49	14.70
<i>Per -Pupil Spending</i>								
2008	\$12,440	\$14,928			\$12,926	\$12,500	\$10,995	\$12,214
2009	\$13,651	\$15,960		\$13,019	\$13,987	\$13,344	\$12,154	\$13,140
2010	\$13,735	\$15,329		\$12,955	\$14,179	\$13,340	\$12,091	\$13,050

some of these schools are not CMO-operated, and because some are high schools (which have fewer comparison counterparts and are thus excluded from our analyses), we explore only a handful of those schools in detail, most of which serve elementary and middle grades.⁴¹

In New York City, our research dataset includes 16 to 22 CMO-operated charter schools (the number varying by year as new schools evolved and as gaps appeared in data). These schools serve similar grade levels, they do not necessarily serve similar students. For

example, rates of children in families falling below the 130% poverty level (i.e., those qualified for free lunch) are significantly higher in NYC public schools than in charters at the elementary level.⁴²

The bottom portion of the table compares school-level expenditures per pupil, on average, without any corrections or adjustments for comparability among schools (other than grade-level comparability). However, a surface review of these figures indicates that the charter elementary schools appear to be spending marginally less per pupil than traditional public elementary schools, while the CMO middle schools appear to be spending somewhat more than their public counterparts.

Table 4. Descriptive Characteristics for Ohio Schools Data

	Charter Schools				Traditional Public Schools			
	Elementary	Middle	Secondary	Other	Elementary	Middle	Secondary	Other
<i>All Charters in Data Set</i>								
2008	116	13	74	52				
2009	131	18	79	54				
2010	146	22	84	61				
<i>Total Charter Enrollment in Data Set</i>								
2008	26,995	1,566	12,956	29,880				
2009	33,534	2,065	14,637	33,808				
2010	35,069	2,646	15,642	37,362				
<i>CMO Schools Included in Analysis</i>								
2008	26	3	5	9	1,757	683	678	83
2009	30	5	5	9	1,780	696	686	86
2010	33	7	6	10	1,803	704	694	88
<i>CMO Enrollment in Analysis</i>								
2008	5,990	340	986	5,288	691,587	347,911	521,095	36,907
2009	7,729	665	1,102	5,776	707,161	348,724	523,468	37,323
2010	7,682	881	1,086	5,723	719,302	349,892	521,784	38,831
<i>% Economically Disadvantaged</i>								
2008	74.61	57.23	61.83	47.55	42.73	33.92	29.39	48.88
2009	83.04	67.44	61.11	60.05	45.79	34.97	31.39	56.50
2010	84.51	76.34	82.24	60.67	48.33	38.62	33.98	57.98
<i>% Special Education</i>								
2008	10.75	17.92	11.61	16.46	14.14	14.35	14.27	18.16
2009	10.41	12.25	11.78	16.57	14.99	14.55	14.77	18.65
2010	10.65	10.50	19.34	18.79	14.71	14.47	14.86	18.29
<i>Total School Site Expenditures (ODE)</i>								
2008	\$9,869	\$8,097	\$7,089	\$7,335	\$8,674	\$8,738	\$8,646	\$9,330
2009	\$9,482	\$10,784	\$7,583	\$7,390	\$8,830	\$8,988	\$8,883	\$9,647
2010	\$9,706	\$9,463	\$7,370	\$8,190	\$9,147	\$9,243	\$9,197	\$9,976

Table 4 summarizes the Ohio data. Again, total numbers of Ohio charter schools (based on available data) are listed in the top section, and CMO charters are subsequently identified.⁴³ Statewide, Ohio charter schools do serve relatively more economically disadvantaged student populations (as measured by percent free and reduced lunch). Notably, charters are concentrated in poorer urban centers in the state.⁴⁴

Table 5. Descriptive Characteristics for Texas Schools Data

	Charter Schools				Traditional Public Schools (Statewide)			
	<i>Both (Other)</i>	<i>Elementary</i>	<i>Middle</i>	<i>Secondary</i>	<i>Both (Other)</i>	<i>Elementary</i>	<i>Middle</i>	<i>Secondary</i>
<i>All Charters in Data Set</i>								
2008	117	133	30	94				
2009	132	157	37	111				
2010	136	171	44	112				
<i>Total Charter Enrollment in Data Set</i>								
2008	33,058	34,249	5,474	17,048				
2009	37,289	39,509	7,011	18,682				
2010	44,800	45,932	8,376	20,029				
<i>CMO Schools Included in Analysis</i>								
2008	45	41	14	41	361	4,252	1,591	1,617
2009	55	53	21	51	348	4,303	1,624	1,610
2010	63	64	23	53	335	4,353	1,631	1,653
<i>CMO Enrollment in Analysis</i>								
2008	15,324	10,694	3,702	10,126	55,435	2,289,438	974,728	1,242,086
2009	18,211	13,894	4,842	11,111	52,559	2,327,354	997,977	1,247,823
2010	23,477	18,734	5,652	12,307	56,354	2,372,211	1,013,339	1,263,737
<i>% Economically Disadvantaged</i>								
2008	65.14	70.48	80.22	65.03	56.45	61.44	53.25	44.46
2009	59.49	72.03	85.31	74.42	55.60	62.44	54.91	46.46
2010	63.26	71.21	83.03	73.25	55.92	64.71	56.94	49.10
<i>% LEP/ELL</i>								
2008	11.07	19.29	12.50	11.78	8.77	25.35	9.67	6.66
2009	9.68	20.40	12.88	10.24	7.66	25.87	10.01	6.31
2010	11.18	22.24	15.74	10.06	7.15	25.96	10.04	6.00
<i>% Special Education</i>								
2008	7.66	4.79	6.92	12.98	15.97	8.61	11.66	11.05
2009	6.81	4.44	6.65	12.37	14.63	8.07	10.70	10.68
2010	5.58	4.61	6.53	12.32	13.51	7.83	10.01	10.37
<i>Current Operating Expenditures (TEA)</i>								
2008	\$6,956	\$5,152	\$6,542	\$6,365	\$11,280	\$5,782	\$6,033	\$6,516
2009	\$7,030	\$7,012	\$7,212	\$6,745	\$11,820	\$6,155	\$6,512	\$6,959
2010	\$7,056	\$6,335	\$8,151	\$7,998	\$13,164	\$6,297	\$6,686	\$7,301

Finally, at a cursory, descriptive level, it appears that Ohio charter schools are spending marginally more per pupil than traditional public schools at the elementary and middle levels, and less at the secondary level. But again, statewide the Ohio charter schools tend to have higher poverty concentrations than traditional public schools. Making judgments about spending among comparable schools, however, is impossible from these descriptive tables.

Table 5 displays descriptive information for Texas charter schools and traditional public schools. Again, the table summarizes both the total numbers of charter schools (reporting complete data) and total numbers of CMO-operated charters in our analysis. In Texas, comparisons to thousands of traditional public schools distributed across grade levels and serving millions of students are possible. Like Ohio charter schools, when compared against a statewide sample, the Texas charter schools serve higher concentrations of low-income children. On average, Texas charter schools serve comparable to slightly lower percentages of Limited English Proficient students at the elementary and middle levels. And like charters in other contexts, the Texas charters have lower percentages of children with disabilities.

As set forth in the bottom section of the table, it would appear that operating expenditures per pupil are relatively comparable between charter schools in the aggregate and traditional public schools statewide (the exception being **the “other” category of schools by grade level**, where special/alternative schools are likely driving the results).

Findings From Alternative Models

Model 1: Average Spending Variations in Local Contexts

The first model —the “baseline” model—is intended only to detect existing variation in spending across schools within specific local contexts. That is, the model is designed to compare spending among similar schools in similar locations, specifically teasing out differences in spending between charter schools within specific CMO networks and comparable traditional public schools. It is important to note, however, that the model accepts and reflects the present inequities and irrationalities of spending variation in these settings.

That is, rather than reflecting the actual additional cost of providing high-quality educational opportunities to a student in a given category, this analysis reflects what the state funding formula provides. Within New York City, for example, the share of children qualified for free lunch is a relatively small driver of funding differences across schools: schools with higher poverty rates have only slightly higher per-pupil spending than schools with lower poverty rates. The magnitude of effect is larger in Texas and Ohio, but it is still modest. In each case, among student characteristics, the strongest predictor and the largest magnitude of effect on spending variation across schools is the share of children with disabilities.

Table 6. Baseline Models (with scale component)

		New York City 2008-2010		Ohio 2008-2010		Texas 2008-2010	
<i>Student Factors</i>							
	<i>Poverty Measure</i>	1.559	*	17.078	*	7.931	*
	<i>LEP/ELL</i>	-0.138				0.281	
	<i>Special Education</i>	271.594	*	61.840	*	89.165	*
<i>Grade Level</i>							
	<i>Elementary</i>	0.000		0.000		-3178.13	*
	<i>Middle</i>	-615.308	*	810.929	*	-2762.51	*
	<i>Secondary</i>	-161.061		768.968	*	-1225.11	*
	<i>Other/Both</i>	-814.818	*	-299.145	*	0.000	
	<i>Enrollment (scale)</i>	-0.920	*	-0.662	*	-1.06	*
<i>Year</i>							
	<i>Year = 2009</i>	750.640		193.981	*	440.574	*
	<i>Year = 2010</i>	396.543		530.626	*	667.447	*
	<i>Constant</i>	10046.610	*	8366.473	*	8351.511	*
	<i>R-Squared</i>	0.517		0.462		0.413	

*P<.05

Table 6 displays regression estimates for our baseline model (one for each state), showing how per-pupil expenditures vary across schools and within cities (controlling for city location) for each of our data sets. It reflects how per-pupil spending varies, on average, across schools within each context, highlighting the factors that drive per-pupil spending differences across schools. For Ohio and Texas, Table 6 shows the factors that contribute to differences in per-pupil spending across schools and within cities, since each model includes a series of dummy indicators (fixed effects) for each city. (This was obviously not necessary for New York City).

For example, in New York City, a 1% increase in low income concentration is associated with a modest additional \$1.56 in per-pupil spending. The other two data sets are only marginally more progressive with respect to poverty. In Ohio, within cities, a 1% increase in low income concentration is associated with a \$17.08 increase in per-pupil spending, and within Texas cities, a 1% increase in low income concentration is associated with a \$7.93 increase in per-pupil spending. Concentrations of children with disabilities have a far more substantial effect on school site budgets across schools within a city.

In each context, differences in spending by grade level are substantial, but not consistent across models. In New York City, middle schools on average spend less than elementary schools, but in Ohio and Texas that differential is flipped. Also, in each context, there

exists some elevation in spending among smaller schools, when other factors remain constant.

What is clear is that in each context, higher poverty schools are spending on average only slightly more than those with lower poverty, and schools serving different grade levels are spending differently. In addition, schools with higher shares of children with disabilities are spending more per pupil. In each context, these factors along with city location explain about half of the variations in spending per pupil across schools. Much of that variation is explained by city location alone. That leaves us with the unfortunate reality that school level per-pupil spending measures are pretty noisy—or in other words, inequitable and unpredictable. School level per-pupil spending varies widely from school to school in ways not readily or substantially explained by the likely factors. Our next goal is to determine the extent to which charter school spending, by CMO, varies from the norms characterized in these models.

Models 2 and 3: Spending Differences for EMO Charters and Traditional Public Schools

In this section, we present the central findings of our analysis: the estimated differences in per-pupil expenditures for charter schools within specific CMO networks, as compared to those for similar traditional public schools in the same city. This analysis constitutes the most precise comparison of spending in charter schools, both individually and by CMO, and in similar public schools around them. This analysis requires use of our second and third descriptive statistical models to sort out the seemingly subtle but hard to explain variations in spending and student populations we first laid out in our descriptive tables.

For each context, we conduct our analysis using two different data sources. For New York City and Ohio, we use expenditures reported on Form IRS 990 and on analogous alternative sources (ODE or NYC Charter Annual Financial Reports). In Texas, our IRS 990 data are more analogous to a district total expenditure figure. Therefore, we provide some additional graphic comparisons to alternative benchmarks.

New York

Figure 1 details estimated spending differences between New York City CMO affiliated charter schools and traditional public schools of the same size (smaller than average), grade level and with demographic profile. The figure shows, for instance, that the Green Dot School reported spending \$552 to \$870 more per pupil than similar NYC BOE schools. Spending in Achievement First schools and Success Academies was comparable to that of **NYC BOE schools. By contrast, the city's KIPP academies spent nearly \$4,000 per pupil more, on average, than comparable city public schools.** Since the average spending per pupil was some \$12,000 to \$14,000 citywide, the nearly \$4,000 difference for the KIPP academies means they spend about 30% more than comparable public schools.

School Site Differences in Reported Expenditures by Charter Schools (by CMO) and NYC DOE Schools of Similar Size

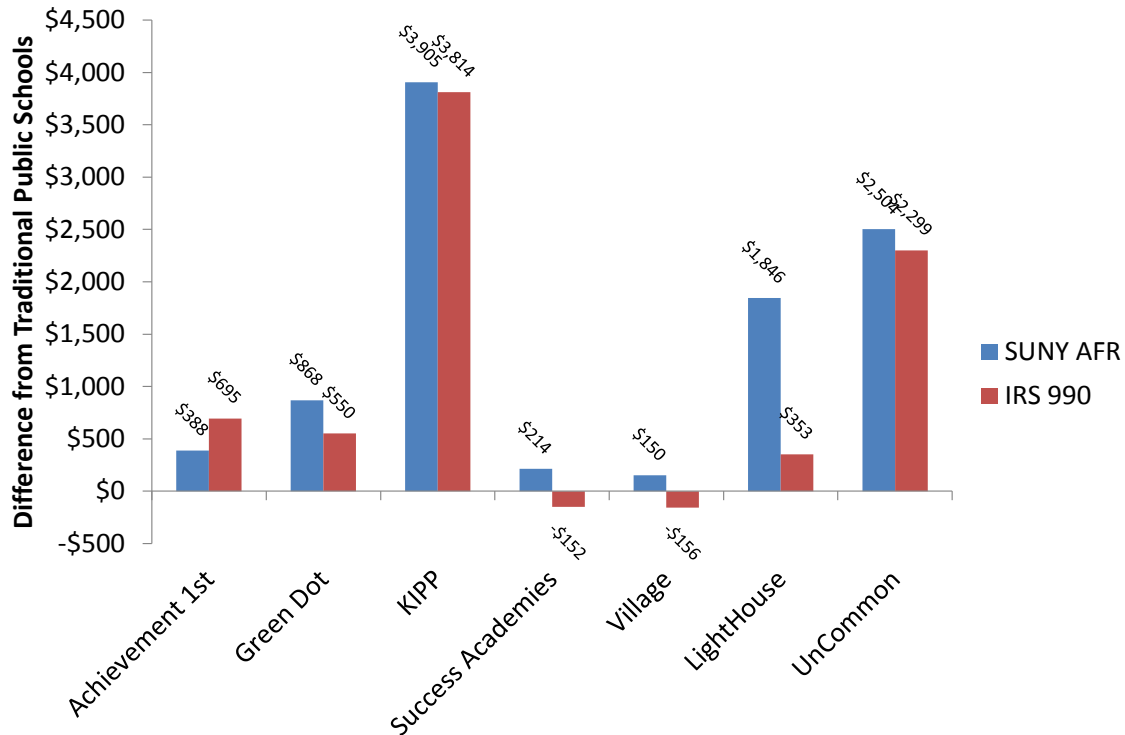


Figure 1. New York City Estimates Holding Scale Constant

Figure 2 details spending of NYC charter schools with the scale covariate eliminated. That is, in this case, we compare the charter schools to any school serving a similar population and grade levels, regardless of size. In this case, the differentials in spending are substantially greater. In this analysis, Achievement First schools spent \$660 (about 5%) more than traditional public schools (about 5%); the Green Dot school spent as much as \$1,500 (about 11.5%) more; Success Academies spent nearly \$1,000 (about 7.7%) more; and, KIPP schools spent about \$4,300 (33%) more.

It is particularly relevant that we consider these differentials if we are considering the **option of scaling up “successful” charter schools**. If reproducing the successes claimed for particular charters would require schools to raise an additional \$2,000 to \$4,000 per pupil in private donations, doing so may be feasible across 200 to 1,000 pupils. But, if we expect to provide similar services for 10,000 or 50,000 pupils, philanthropy may no longer be sufficient.

It may be that the models promoted by particular charters simply function better at small scale. Even when scaled up, individual charter schools are generally smaller than non-charters in New York. And that small size comes with additional costs. Taken together, the findings of Figure 2 and Figure 1 for KIPP academies indicate that KIPP middle schools

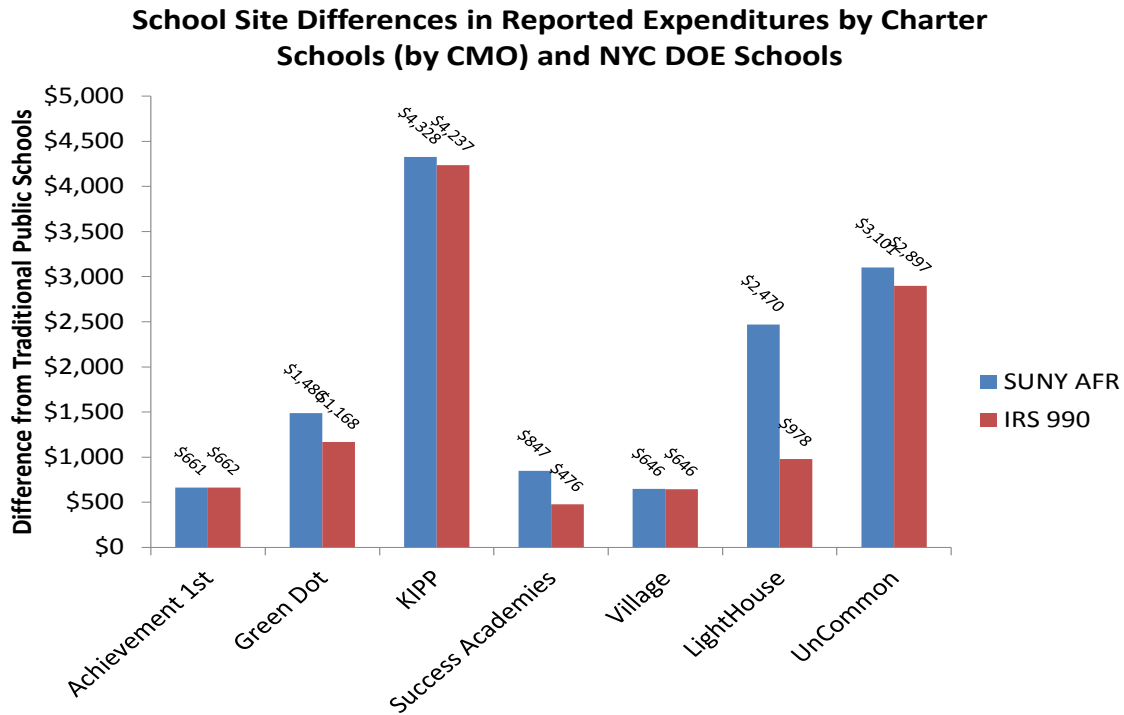
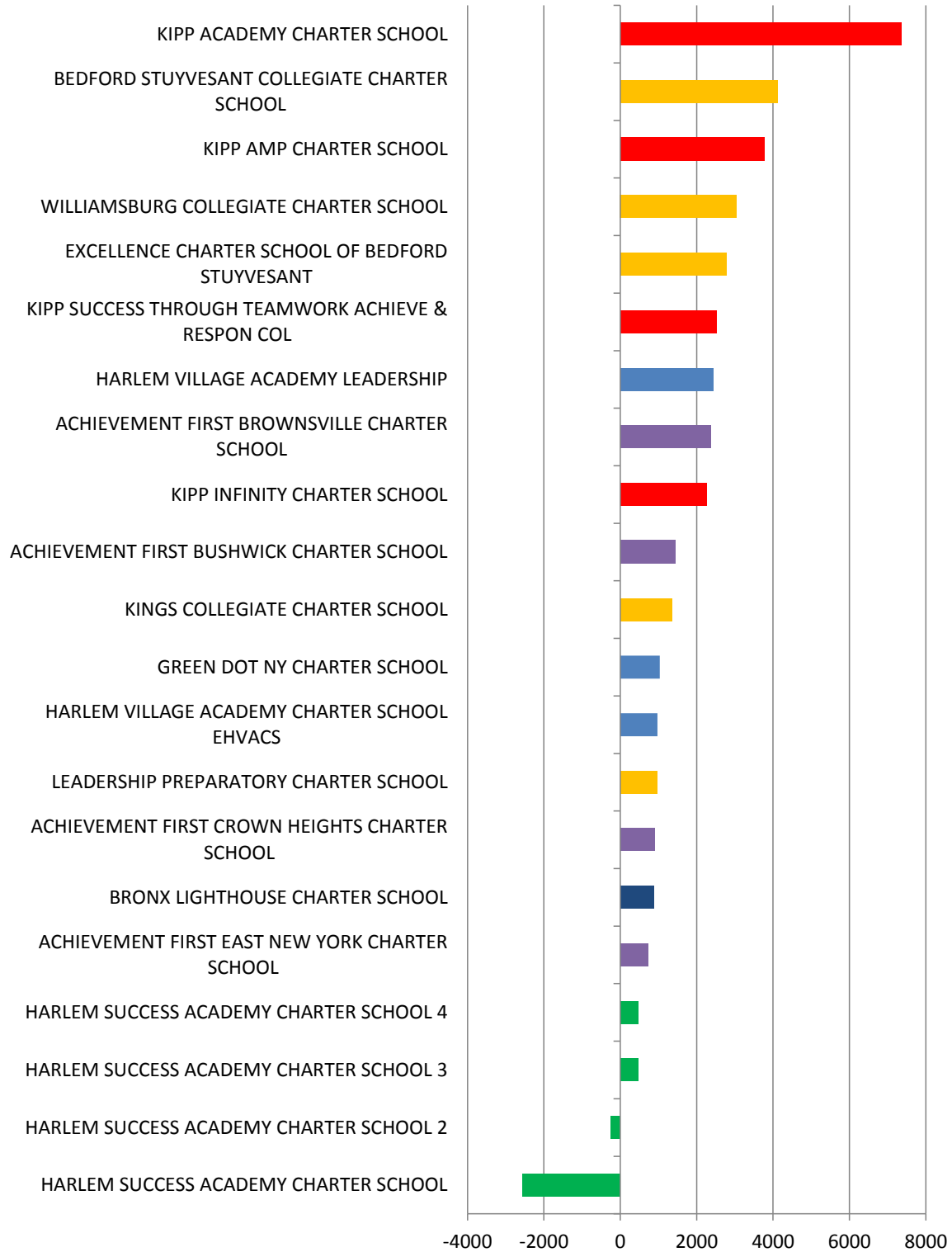


Figure 2. New York City Estimates Allowing Scale to Vary

spent about \$3,900 per pupil more than similar size middle schools, but \$4,300 per pupil more than all middle schools serving similar students. That indicates that the smaller size of KIPP charter middle schools adds about \$400 per pupil to their average expenditure. The additional spending associated with small size may or may not play an important role in determining effectiveness. Smaller size comes with additional costs for a number of reasons, primarily rooted in staffing ratios, but also in general overhead costs per pupil. However, Baker and Ferris (2011) did not find the expected strength of relationship between charter spending per pupil and school size.

Figure 3 provides results from comparisons of reported and predicted school site spending in New York City. That is, it answers the question of how much more or less particular charters spent than predictions based on similar schools. Individual KIPP schools are identified in red. Notably, KIPP Academy is somewhat of an outlier, as discussed by Baker and Ferris (2011). KIPP Academy appears to continue to run all schools' expenditures through its financial reporting system, but these figures decline in 2009-10 from the previous year. In addition, KIPP Academy expenditures continue to include spending on such supplemental programs as KIPP to college. Note that our models are based on a three-year panel of data from 2008-2010. However, other KIPPs also continue spending more than comparable city schools.

Achievement First schools are displayed in purple, and as one might expect from their aggregate elevated spending in the previous two figures, these schools also spend



Green = Success Academies; Purple = Achievement First; Orange = Uncommon Schools; Red = KIPP; Blue = Other

Figure 3. Spending Over/Under Expected Spending for Individual NYC Charter Schools

marginally more than district schools. Uncommon schools are displayed in orange and like KIPP schools have uncommonly high per-pupil spending compared to expectations.

The only two individual schools in the figure that show marginally lower spending per pupil are both Success Academies. However, Success Academies are also among the only NYC Charter schools whose IRS 990 reported expenditures and AFR expenditures do not line up exactly from year to year. The comparison here is based on IRS 990 reports. AFR reports for the four Success schools indicate slightly higher spending for Success schools 2-4; AFR data for Success 1 was incomplete, not having been reported in 2010. We take these data as they are, but we would caution against drawing conclusions until inconsistencies are addressed.

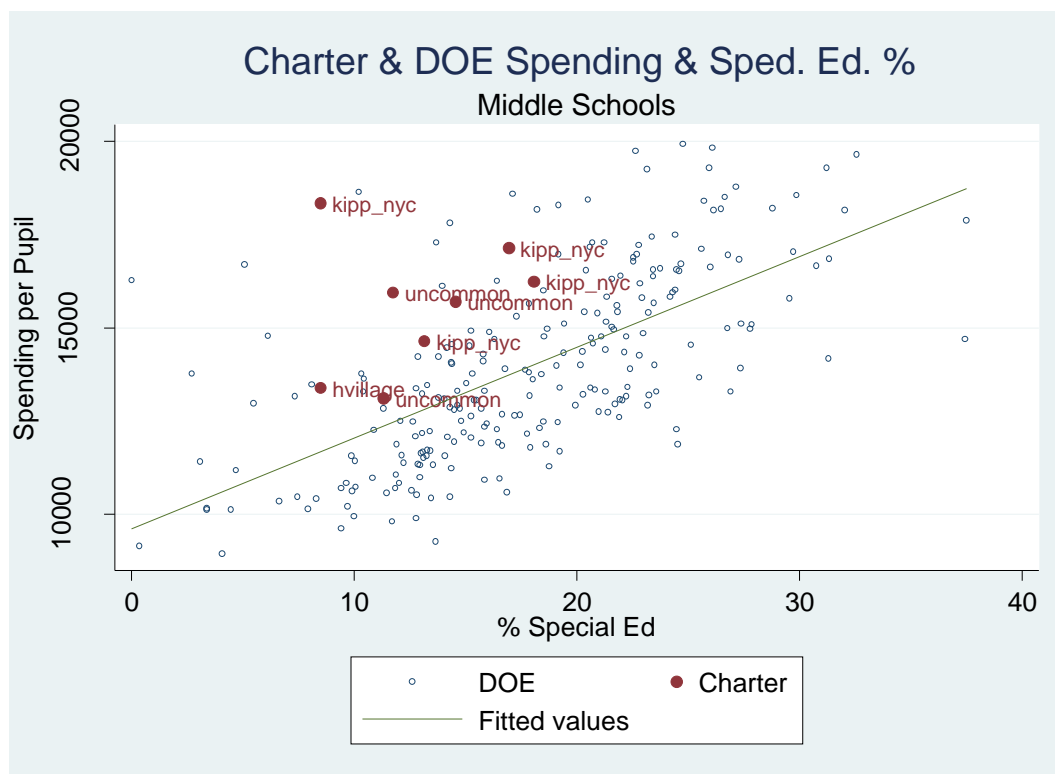


Figure 4. Illustration of Per-Pupil Spending by Special Education Concentration in NYC Department of Education (DOE) Middle Schools

For a different angle on spending differences, Figure 4 illustrates the distribution of school site spending in New York City middle schools, based on 2010 data and with CMO middle schools identified. Of all variables in our models, special education population concentrations were the strongest predictor of spending variation across schools. Thus, we plot per-pupil spending with respect to special education populations in our illustration.

As can be seen in the figure, per-pupil spending differences across NYC middle schools is associated with differences in special education populations. Schools with higher special education populations have higher expenditures, and schools with lower special education populations have lower expenditures. However, KIPP schools and Uncommon Schools on average have relatively low special education populations but in many cases have per-pupil spending levels similar to or higher than NYC public schools with much higher special education populations. All KIPP and Uncommon Schools serving middle grades, and Harlem Village, spend more per pupil than the average NYC public school serving comparable special education shares.

Ohio

Next, we turn our attention to Ohio. Figure 5 displays the average per-pupil spending differences for Ohio charter schools compared to public schools in the same city with similar student populations, grade levels and enrollments. ODE data indicate that, unlike NYC charter schools, Ohio charter schools appear to spend consistently less, and in some cases substantially less, per pupil than traditional public schools in the same city. The differences range from 10% to over 30% less per pupil, in a state where the spending average tends to hover between \$8,000 and \$10,000 per pupil.

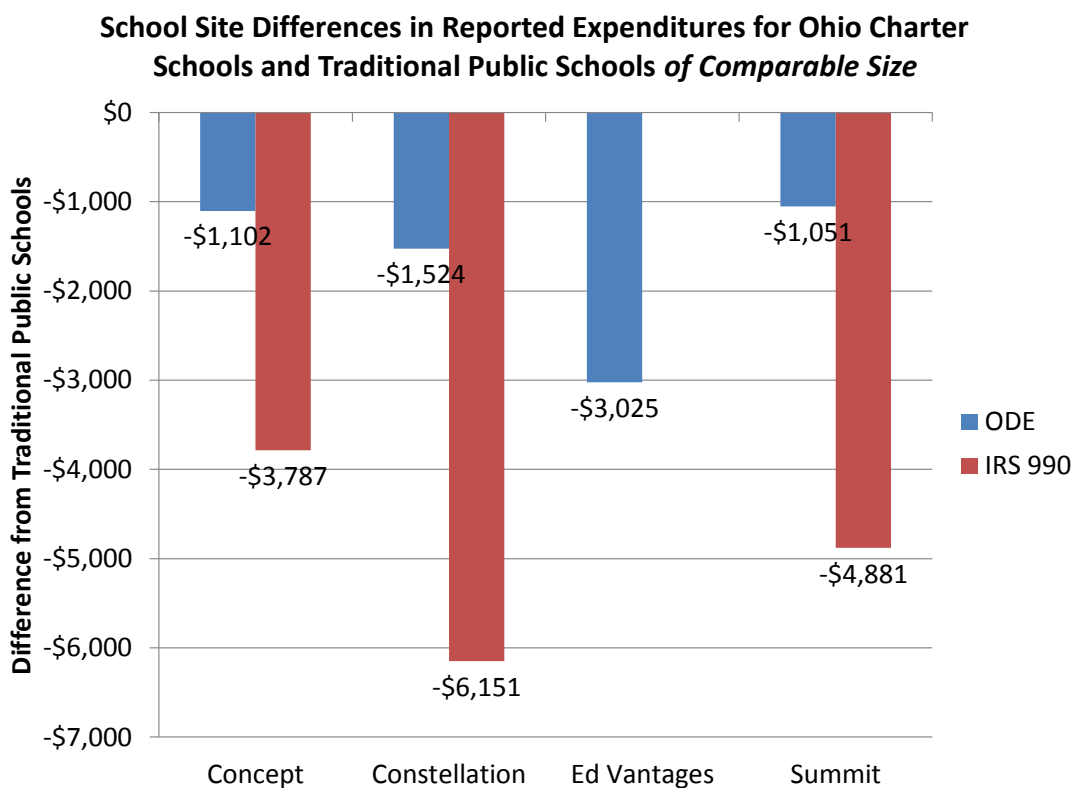


Figure 5. Ohio Estimates Holding Scale Constant

When IRS 990 data are used for analysis, spending in Ohio charters drop to levels that appear unreasonably low, and suspect. Average per-pupil spending for our CMO charter sample is \$3,000 lower per pupil than that reported by ODE (in 2010, the IRS 990 figure was \$5,900 and the ODE figure was \$8,900). Again, with averages for non-charters around \$8,000 to \$10,000 per pupil, these figures would indicate charters spending 40% to 60% less than similar schools in the same city. That is not plausible.

In Ohio, removing the scale factor did not substantively change the estimates of spending differences. Ohio charters still spent, on average, about 10% to 30% less than their traditional public school counterparts in the same cities in models using ODE total school site per-pupil spending data. Recall that Ohio charter schools also tended to serve relatively high concentrations of low-income students, though many Ohio charters do serve relatively modest percentages of children with disabilities. Again, when applying the IRS 990 data, charters appear to show improbable funding deficits as well as funding deficits that are inconsistent with ODE reported expenditures.

The implication here is that the IRS 990 data for Ohio charters simply does not provide a complete picture of Ohio Charter school revenues and expenditures. In particular, it might

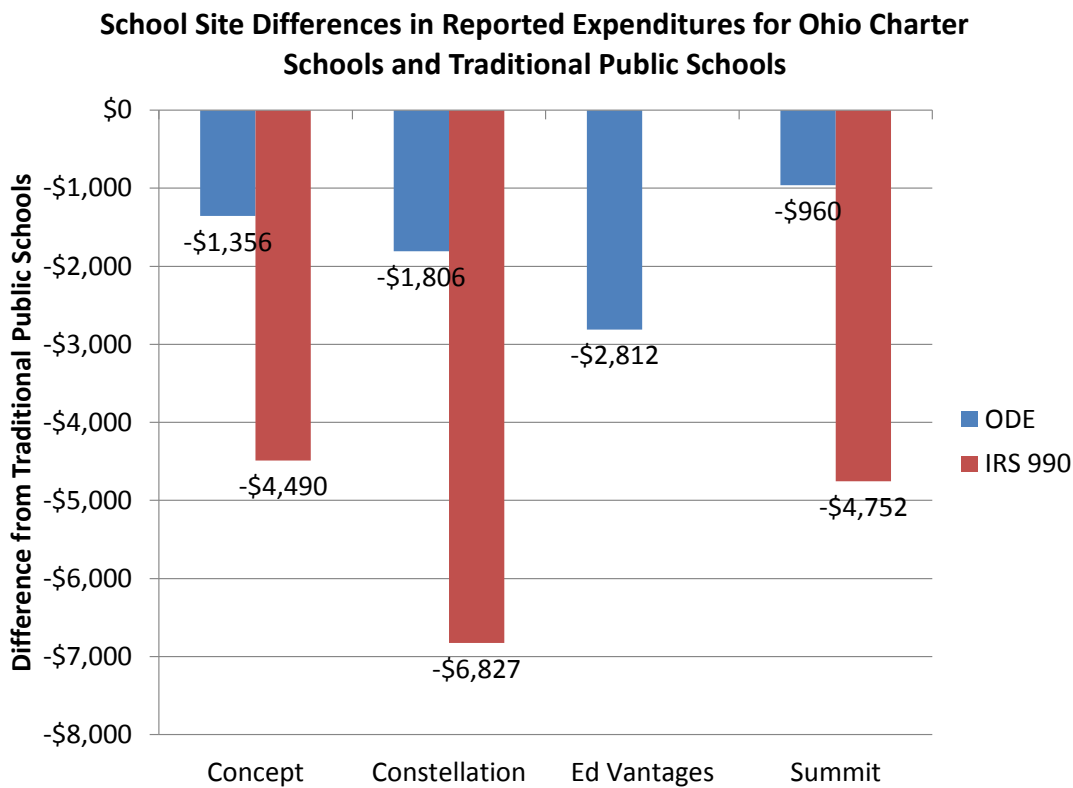


Figure 6. Ohio Estimates Allowing Scale to Vary

be more plausible to find (as we do in Texas) that the IRS 990 data show higher levels of per-pupil spending than the current expenditures reported by ODE, since IRS 990 filings should contain more complete reporting of private contributions. But, we find the opposite.

We considered the possibility that the IRS 990 forms might reflect primarily private contributions but may not include all government source funds. However, most IRS filings on Ohio charter schools report very low private contribution rates on their IRS 990s, with the bulk of revenue generated via government grants and program service revenues. Only a select handful of Ohio charters reported any substantive private revenue. KIPP Central Ohio (not included in our Ohio models due to other missing data) generated over 30% of its revenue from private gifts in 2010. A handful of Constellation and Horizon schools also reported sizeable gifts, though not the majority of either. Summit Academy schools reported no private contributions.

On average, Ohio charter schools appear to spend consistently, substantially less per pupil than similar public schools in the same city. While the finding that charters spend less is consistent across data sources, the magnitude of the spending gaps varies widely between IRS 990 and ODE expenditure reports, raising some questions regarding both reliability and validity of our findings. Again, the key factor raising our suspicions about these comparisons is that the IRS 990 data are systematically lower than the ODE expenditure reports, where our expectation would be the opposite. The ODE reports of expenditures provide the more supportable comparisons among the two sources.

Texas

Finally, we come to our Texas analyses. In Texas there exists a great deal of variation in charter spending with respect to traditional public school spending. The discrepancies are particularly interesting given the present State Average formula for financing Texas Charter schools laid out earlier in this report. Charter funding should be relatively consistent as a result of the state formula. However, charter schools established prior to 2001 are on a transition formula. Differences between charter spending and spending of other schools in the same city must therefore arise as a function of a) spending of other schools in the same cities being higher in some cities containing some charter CMOs and lower in others, and b) differences in access to private contributions. Taylor and colleagues provide some evidence of the latter.⁴⁵

In every available case, IRS 990 total expenditure estimates exceed TEA current expenditure estimates (see Figure 7). This would be expected since these are somewhat different measures, with IRS 990 total expenditures potentially including purchasing of capital and/or payment of debt, as well as payment toward school or network expansion, where students are not yet added to the denominator. While the average operating expenditures of CMO charters in our sample (2010) is \$7,085, the mean IRS 990 total expenditures is \$9,799.

Note also that our IRS 990 expenditures are aggregated across all schools within a local network of schools, while our TEA current operating expenditures vary at the school level. When we average the TEA current operating expenditures across schools within local networks, the correlation between IRS 990 filings and TEA figures is quite high (.78).

Regardless of data source, the network Salvaging Teens at Risk spends much less than comparable traditional public schools. Somewhat like the Ohio estimates, these differences represent spending deficits on the order of 50%. Context may play a role here, in that **schools operating under Salvaging Teens at Risk do not operate in the state’s major cities.**⁴⁶

Honors Academies, not concentrated in Dallas or Houston (but which are in Fort Worth and Irving) also appeared to spend somewhat consistently less than traditional public schools. Context may again play a role. School site expenditures for comparable schools in Fort Worth are generally higher than in Dallas, for example.⁴⁷

Among all the networks, KIPP schools appeared to generally spend more than comparable traditional public schools. Again, recall that KIPP operates separate overarching foundations for clusters of schools in each city. So, in our models, each KIPP cluster has its

School Site Differences in Reported Expenditures between Texas Charters (by CMO) & Texas Traditional Public Schools 2008-2010 of Comparable Size

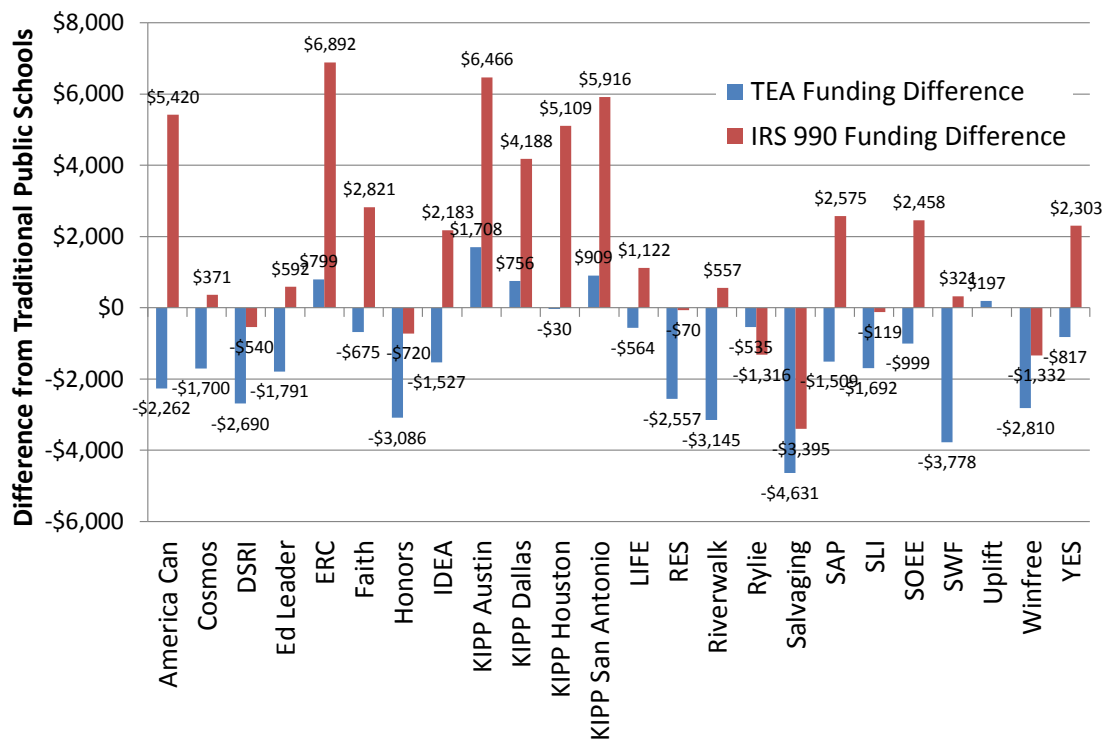


Figure 7. Texas Estimates Holding Scale Constant

own dummy variable, and each KIPP cluster or district has different average spending from each other KIPP cluster or district. Further, each context is different. Spending more than the average in Dallas takes less than spending more than average in Houston or Austin. In Figure 7, KIPP Austin, Dallas and San Antonio schools, based on TEA data, spent from \$750 to \$1,700 more per pupil than similar traditional public schools, or about 11% to just over 25% of the average \$6,500. KIPP Houston schools collectively spent similarly to traditional public schools, but this lack of difference masks grade-level differences. KIPP Houston middle schools consistently outspent other middle schools in Houston, but KIPP Houston also operates lower schools whose spending is more in line with Houston public elementary schools.

Based on IRS filings for the KIPP networks, total expenditures per network pupil for KIPP schools exceeded traditional public school spending by \$4,000 to nearly \$6,500 per pupil. **This finding seems consistent with Gronberg, Taylor and Jansens’ finding that some KIPP academies had raised as much as \$11,000 per pupil in philanthropic giving, during the same time frame examined here.**⁴⁸

Figure 8 removes size differences from the equation. Here, the interesting findings still largely pertain to KIPP schools. When comparing KIPP schools to traditional public

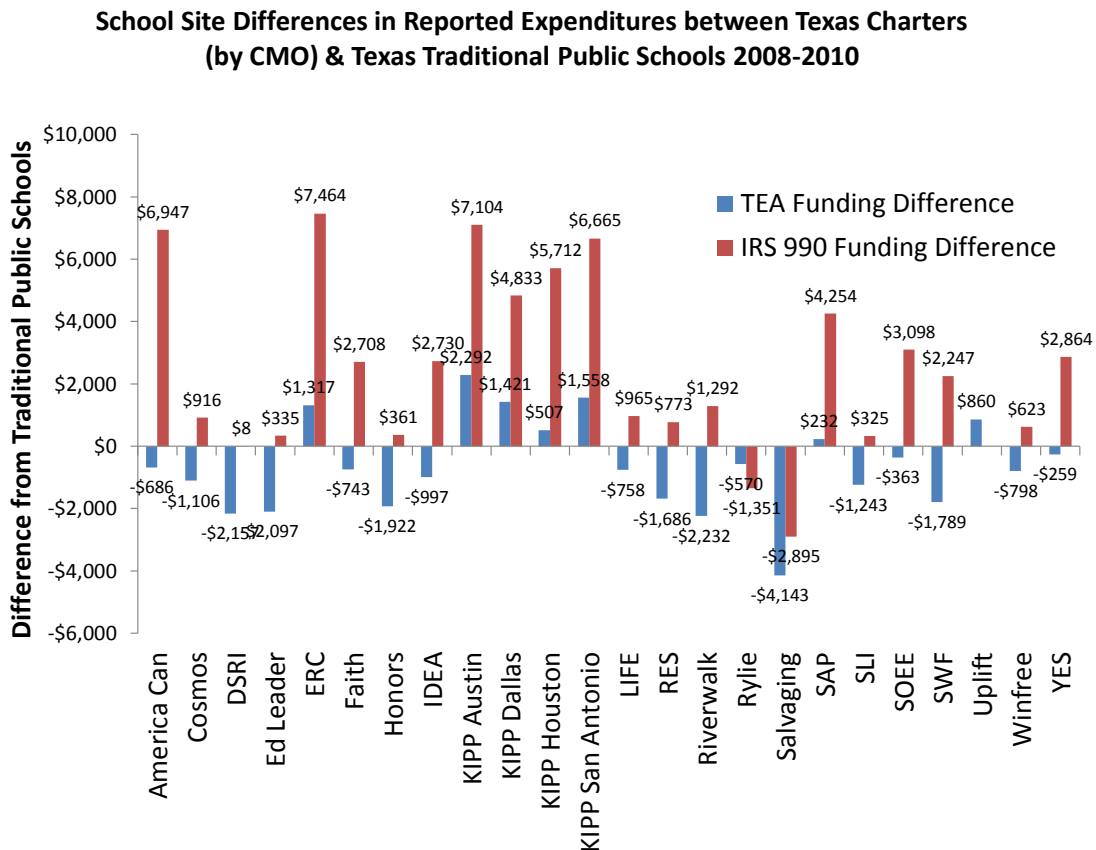
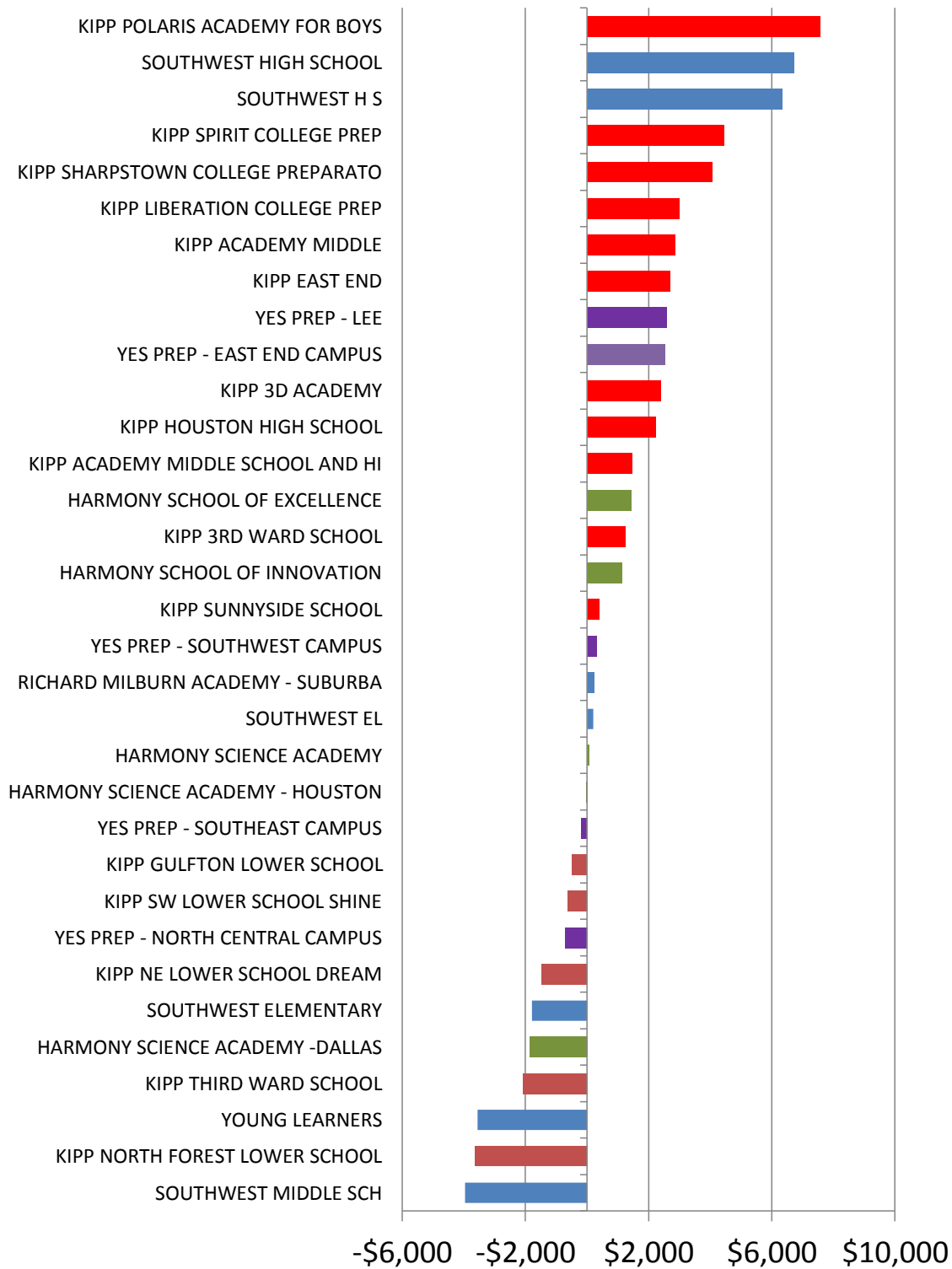


Figure 8. Texas Estimates Allowing Scale to Vary



Red = KIPP (dark red = elementary); Green = Harmony; Purple = Yes Prep; Blue = Other

Figure 9. Spending Over/Under Expected Spending for Individual Houston Charter Schools

schools of all sizes serving similar grades and populations, KIPP Houston schools spend \$500 more per pupil than traditional public schools. That to say that, considering the findings in Figure 7, the additional expenditures from small size incurred by KIPP Houston schools is about \$500 per pupil. In each other city, smaller size of KIPP schools also appears to account for about \$500 in additional expenditures. In figure 8, KIPP Austin schools spend over \$2,000 more per pupil than traditional public schools—about 30% over an average of some \$6,500.

KIPP regional (district) level expenditures remained substantially greater than traditional public schools in the same city when determined by their IRS 990 filings. In this case, KIPP expenditures ranged from nearly \$5,000 per pupil more to over \$7,000 per pupil more than traditional public school site operating expenditures (comparisons against total district revenues to follow)—or approximately twice the average spending of traditional public schools.

Figure 9 shows the differences between the predicted spending for Houston charters—based on comparable schools in the city—and individual schools’ actual spending, as

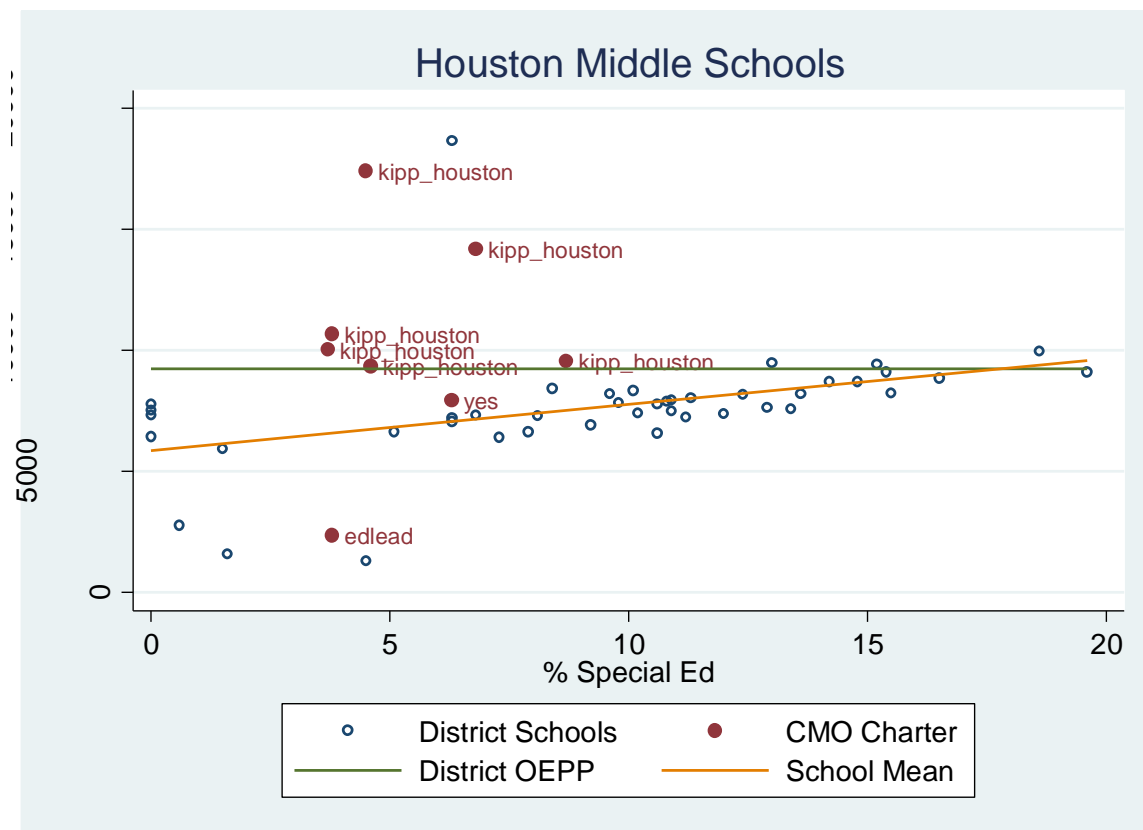


Figure 10. Illustration of Per-Pupil Spending by Special Education Concentration in Houston Middle Schools (with District Operating Expenditures Included)

indicated by analysis of TEA operating expenditure data. KIPP schools are identified in red (bright red for middle schools and darker red for elementary schools). YES prep schools are in Purple, and Harmony schools in Green. The general pattern among KIPP schools is for KIPP middle schools to consistently spend more than similar middle schools citywide, and for KIPP elementary schools to spend about the same, or less than comparable elementary schools citywide. Schools belonging to other networks appear not to consistently deviate from local spending norms.

Figures 10 and 11 provide illustrations of the different per-pupil expenditure measures—in local context—for Houston middle schools. Figure 10 uses the TEA operating expenditures per pupil (OEPP) data, where individual KIPP schools report varied levels of spending (from about \$10,000 to over \$15,000 per pupil). Blue circles in the plot represent traditional public middle schools in the city of Houston. The diagonal orange line is the best fit line between middle school spending and special education populations, which explain a significant portion of the variation in middle school spending (correlation = .65, in 2009-10). The Green horizontal line represents the Houston ISD district-wide current

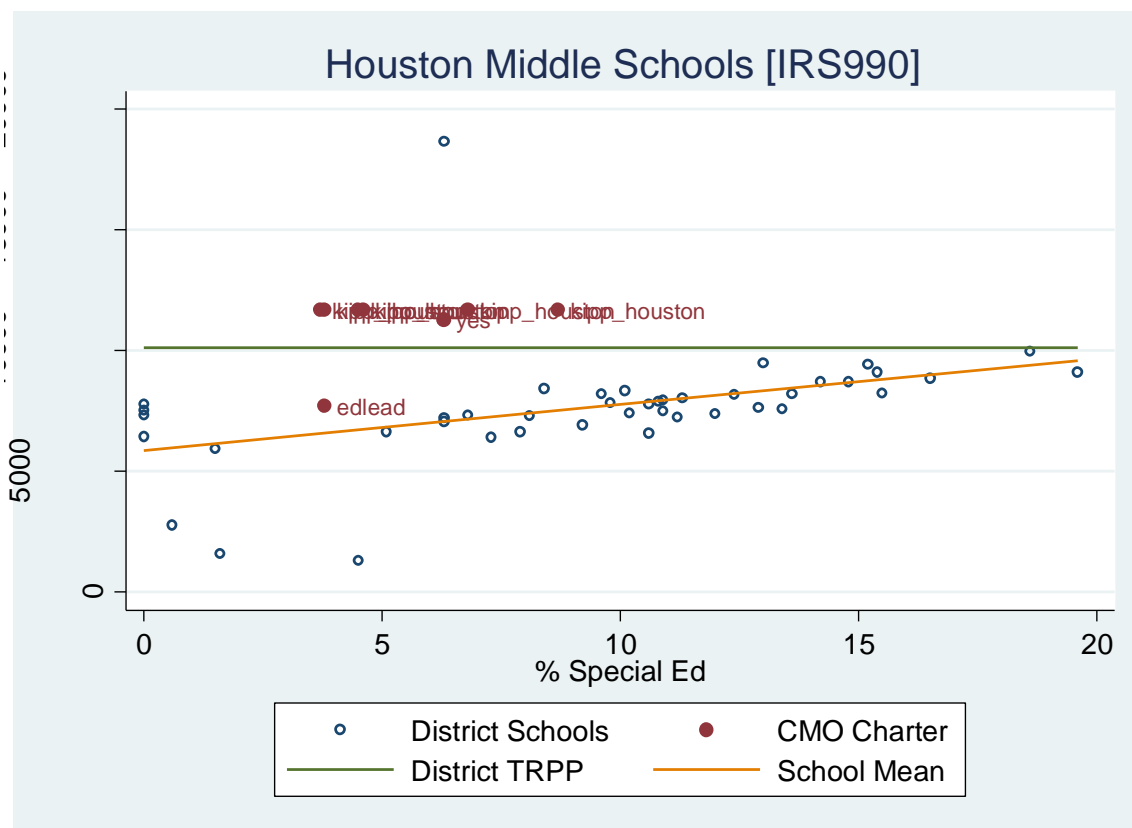


Figure 11. Illustration of Total CMO Network Per-Pupil Spending by Special Education Concentration in Houston Middle Schools (with District Total Revenues Included)

operating expenditure per pupil (somewhat below \$10,000). KIPP middle schools invariably outspend individual Houston city schools serving similar students. KIPP middle schools also each spend at or above the citywide average. And some KIPP middle schools spend well above the citywide average, based on TEA data.

Figure 11 replaces the charter school operating expenditure data with total expenditure data reported for network schools on form IRS 990. Figure 11 also replaces the previous horizontal green line of operating expenditures with a green line representing district total revenues per pupil (TRPP). Figure 11 shows that KIPP Houston schools, as a district operating within Houston, spend around \$2,000 per pupil more than Houston public schools raises in total revenue per pupil. Further, it is important to understand that KIPP network schools serve substantially fewer children with disabilities compared to those enrolled within district schools, and that disability concentrations remain the most consistent predictor of expenditure differences across Houston schools.

To summarize, our Texas statewide analyses show that current operating expenditures for KIPP schools in particular tend to be higher than those of similar schools in the same city. Further, in Houston, which is home to the largest number of KIPP schools, KIPP middle schools in particular consistently outspent similar public schools in current operating expenditures, while KIPP elementary schools spent similarly to traditional public schools. **Finally, KIPP Houston “district” per-pupil expenditures are higher than Houston ISD total revenues per pupil, including revenues for the districts’ expansive physical plant. Further,** KIPP Houston schools serve on average far fewer children with disabilities than other similar grade level schools in Houston.

Conclusions and Implications

These analyses take an important step forward in comparing charter school spending to traditional public schools serving similar children, in similar grades and in the same city, and across multiple contexts. Further, we are able to make comparisons, with varying degrees of success, across three distinct charter school environments, based on data covering numerous major Charter Management Organizations and individual schools.

To no surprise, what we find is that charter school spending relative to public school spending varies widely. It varies widely partly because charter school spending itself varies and partly because the spending of surrounding schools varies across contexts. We find that in New York City, no charter network included in our analysis systematically spends less per pupil than comparable NYC public schools. Most spend more, and some spend substantially more. KIPP, Achievement First and Uncommon schools spend 20% to 30% more per pupil than similar traditional public schools in the city.

This finding is consistent with other data on charter school finance in New York City. First, the Independent Budget Office reports discussed above indicate that co-located charter schools receive slightly higher public subsidy levels than traditional public schools in the city. We make our comparisons against traditional public schools serving the same grade level and similar populations. Charter schools in NYC have much lower special education

population concentrations and city schools with lower special education shares spend less than the citywide average. Further, charter schools in our sample raise substantial additional philanthropy, above and beyond the public subsidy level. These margins of additional expenditure are also consistent with our summary and critique of the poorly-documented accounts of Fryer and colleagues regarding New York City charter schools.

Our findings regarding charter schools in Texas and Ohio are more mixed, perhaps because they appear to be hampered by data inconsistencies. We are relatively confident in the finding that Ohio charter schools appear to be spending less than otherwise similar traditional public schools in the same Ohio cities, but not as confident that we have captured precisely the magnitude of the gap, since IRS filing data appear to incompletely capture charter spending in Ohio. In Texas, IRS filing data do consistently report higher expenditures than state documented current expenditures, as expected. But, there are huge differences in spending across Texas charter schools, with some spending much less than district schools and others spending much more.

The one charter management organization that operates across settings—KIPP—consistently spends more than neighboring district schools regardless of setting, but with some variation by grade level (note that we lacked sufficient data on the Ohio KIPP school). Texas KIPP schools spend marginally more in current operating expenditure than peer schools in each Texas city where they operate (especially for middle schools) and Texas KIPP “districts” (city groupings of KIPP schools) spend in the aggregate more than local public school districts raise in total revenues per pupil. These findings corroborate related work by Taylor and colleagues, which, using the same data, pointed to private contribution rates as high as \$11,000 per pupil in some KIPP schools.⁴⁹

These findings, coupled with evidence from other sources discussed earlier in this report, paint a compelling picture that “no excuses” charter school models like those used in KIPP, Achievement First and Uncommon Schools, including elements such as substantially increased time and small group tutoring, may come at a significant marginal cost. Extrapolating our findings, to apply KIPP middle school marginal expenses across all New York City middle school students would require an additional \$688 million (\$4,300 per pupil x 160,000 pupils). In Houston, where the middle school margin is closer to \$2,000 per pupil and where there are 36,000 middle schoolers, the additional expense would be \$72 million. It makes sense, for example, that if one expects to find comparable quality teachers and other school staff to a) take on additional responsibilities and b) work additional hours (more school weeks per year), then higher wages might be required. We provide some evidence that this is the case in Houston in Appendix D. Further, even if we were able to recruit an energetic group of inexperienced teachers to pilot these strategies in one or a handful of schools, with only small compensating differentials, scaling up the model, recruiting and retaining sufficient numbers of high quality teachers might require more substantial and sustained salary increases.

But, it’s also quite possible that \$688 million in New York or \$72 million in Houston might prove equally or even more effective at improving middle school outcomes if used in other ways (for example, to reduce class size). Thus far, we simply don’t know.

Among our most important findings, however, is that data quality and financial reporting remain significant barriers to conducting accurate and precise comparative expenditure analyses across traditional public and charter school sites. It remains difficult to characterize fully the expenditures of charter schools and the financial relationships between CMOs and their schools. On the positive side, large established organizations like Achievement First, KIPP and Uncommon Schools are increasing the transparency of their reporting, and in settings like NYC, where the SUNY charter school center authorizes several schools, alternative financial reports continue to yield consistent spending **estimates. But elsewhere, in places like Ohio and Texas, reconciling charter schools'** independent financial documents with government data sources remains difficult. That said, Ohio and Texas are likely among the best cases for conducting such analyses because data are available on school site expenditures. In other states, these types of analyses are **simply not yet possible. And this matters if we're to get a grasp on not only "what works,"** but the equally important question of how much it costs.

The road to painting a clearer picture of charter school spending and the "costs" of charter models should take two different but concurrent paths forward. First, we must continue to make strides in improving the precision with which we are able to compare marginal spending differences across organizational units like schools or districts. Put simply, we need more comparable spending measures. We need such measures in order to make more accurate judgments about the relative efficiency of charter schools and about the relative equity of their available resources. One cannot accurately compare the relative efficiency in producing student outcomes, of one set of schools to another, where the spending measure for one set of schools is incomplete or where the spending measure for the other set of schools may include expenditures on the children in the first set. Similarly, one cannot make reasonable judgments about resource equity across children attending different types of schools where resource measures are incomplete and beneficiaries of resources are unclear.

Second, beyond looking at average expenditure differences by schools we must also begin to dig deeper into understanding the cost structure of providing specific programs and services—most notably, those programs and services that *work*, or that make *successful* charter schools tick. Determining cost structure requires: breaking the expenditures down into their parts, rather than viewing them as a whole; figuring out which programs, strategies or reforms are *causing* improved outcomes; determining the ingredients of successful strategies—the people, materials, supplies, equipment, physical space, and time it takes to implement these strategies; and then, calculating the cost of each factor and the cumulative cost of putting it all in place.

The substantial variation in resources introduced into urban education systems by the emergence of well-funded and less-well-funded charter schools creates significant equity concerns. Certainly cities like Houston and New York have long histories of offering competitive district-operated magnet schools of choice that have received more resources than other city schools. But these cities have also in the past decade begun to tackle this issue and design within-district resource allocation formulas intended to improve funding equity and predictability across schools.⁵⁰ The press for improved within-district equity

came in part from public pressure to deconstruct the system of elitism which revolved around academic competition for access to better resources. The emergence of well-endowed charter schools that are oversubscribed and have long waiting lists has replaced the old system with one in which access to more adequate educational resources is now contingent on winning a lottery.

Appendix A

State Policies for Financing Charter Schools

New York

Our primary source for understanding the allocation of public subsidies to New York City charter schools is the Independent Budget Office (IBO) report of 2010. As explained by IBO, under New York State charter school laws, “Charters receive a per pupil allocation from their home school district (in the case of charters in New York City this is DOE) which is **intended to provide most of their basic operating costs**”(p.3). The per-pupil allocation is determined according to the Adjusted Operating Expense (AOE) of the host districts. **The AOE is based on “local expenses from two years earlier, multiplied by the percentage change in the statewide measure of those expenses from three years prior to one year prior” (p. 3)**

In addition, charter schools are eligible to request from the district, goods including textbooks and software, special education services including evaluations, health services and student transportation. The IBO explains that as a matter of local policy:

In New York City there is a long-established process for nonpublic schools to access these services, and charter schools have access to similar support from DOE. For these items, charter schools receive the goods or services rather than dollars to pay for them. Most of these noncash allocations are managed centrally through DOE. (p. 3)

Further, as a matter of local policy:

DOE has also chosen to effectively cover some other expenses faced by charter schools, particularly those located in DOE buildings. Charters also qualify for reimbursement for services provided to certain students based on their educational needs (p. 3).

Under the state’s charter law, there is no provision for direct public funding of the cost of school facilities. **But, again as a matter of local policy in New York City, the city’s education department provides space in DOE buildings to several charter schools (all in our sample).**⁵¹ Charters located in DOE facilities pay only a nominal rental fee and if charters share a DOE building (co-located with traditional public school), their utilities and **janitorial costs are also absorbed within the DOE’s budget.**(p. 5)

Texas

Texas charter school laws provide for several types of charter schools, but two dominate the current landscape, open enrollment and district charter schools. District charters are operated by districts (potentially contracting with private management firms) and financed through district budgets. **Open enrollment** charters operate as independent entities drawing students from across district boundaries. For financing purposes, students enrolling in Texas charter schools are treated as inter-district transfer students.

Transfer student tuition rates are set according to the state school finance formula (Foundation School Program, FSP). For charter schools opened since 2001, funding is **provided according to a “State Average Formula,” based on the state average funding per weighted student.**⁵²

That is, funding to open-enrollment charter schools operates as a pass through payment from local districts, where the tuition level is set according to a calculation of statewide funding per weighted student. This means that for districts below the statewide average funding per weighted pupil, their payments for charter students will exceed their resources available to their own students, and for districts above the statewide average funding per weighted pupil, the opposite will be true.

Open enrollment charters are eligible for direct federal funding through IDEA and Title I. These funds may be accessed by application to the state. In addition, state grants for startup funding are available for the first three years of operation.

Taylor and colleagues (2011)⁵³ summarize that on average charter schools end up with marginally less combined state, local and federal revenue (excluding private contributions) than traditional public school districts statewide. Actually, charters received federal funding comparable to the average, more state funding and less local funding -- these latter differences likely being a function of charters being located primarily in districts more reliant on state funding.

Ohio

As described by the Ohio Department of Education, **Ohio “community schools”** (i.e., charters) receive funding from the state through the state school finance formula, according to the per-pupil foundation allocation.⁵⁴ All indications in formal documentation provided by ODE are that charter schools receive their funding directly from the state (rather than district pass through) in accordance with the state school finance formula which determines the appropriate per-pupil allotment.

The foundation allotment includes the basic formula allotment (for FY12 this amount is \$5,653), and a handful of supplemental aids related to concentrations of low income and limited English proficient children, gifted children, and aids for specific programs and/or interventions including all day Kindergarten, dropout prevention, community outreach and class size reduction. Charters also receive weighted funding for children with disabilities, with weights differentiated according to need category.

Appendix B Finance Measures

Total Revenues per Pupil

Total revenues per pupil include all revenues received by school districts, including revenues from local property taxes for general operations of the schools, state general aid and categorical aids, intermediate government payments (including county or municipal payments to school districts), payments received from other school districts (such as tuition from sending districts), tax revenues generated by special levies approved for payment of debt obligations (bonds), and grants and gifts.⁵⁵ **Some components of “total revenues” simply aren’t available to be spent on current operations of schools, such as specific educational programs.** Specifically, revenues generated by special tax levies for such purposes as payment of debt on capital projects are limited by law. Some state categorical aids may also be limited to support only investment in capital (such as “building” aid in New York State).

Total Expenditures per Pupil

Typically, a total expenditure per pupil measure includes expenditures on both current year annual operating expenses and on payments on debt and capital outlay.⁵⁶ Total expenditure per pupil figures can jump around significantly due to one-time payments/expenses on equipment or debt that may actually represent expenditures serving not only current year, but future year students. As such, total expenditure figures are not commonly used for making comparisons across schools within years. The figure used for Ohio data, which is labeled a total expenditure figure and includes some capital expenses incurred in the current fiscal year, but does not include debt payments.⁵⁷

Current Operating Expenditures per Pupil

Current operating expenditures typically include all current year expenses, ranging from salaries and benefits of all school employees, to payments for transportation and food services, and payments on annual upkeep – maintenance and operations – of facilities, including lease payments. Current operating expenditures typically make up the bulk of total expenditures per pupil, about 85% nationally.⁵⁸ In our Texas data, district current operating expenditures run at about 86% of district total revenues per pupil across all districts and 88 to 90% in major urban centers (based on district level expenditure and revenue data). These figures are consistent with national figures on current spending as a share of total spending.⁵⁹

Appendix C

Transfers between CMOs and Schools

Among the greatest difficulties in constructing an accurate portrayal of school-site spending for charter schools is identifying the extent to which expenditures of the higher-level organizations are passed through to the lower-level organizations, versus the extent to which the higher-level organizations provide direct support for services to the lower-level organizations. Further complicating such analyses is the fact that in many if not most cases, the higher-level organizations may charge the lower-level organizations for centralized services, through a management fee.

Ultimately, the flow of money is often difficult, if not impossible to properly track. It is thus a challenge to fully account for school-site spending. We believe that the analyses we present herein are conservative – trying our best not to overstate charter expenditures per pupil.

In each case in the previous analyses we count only the lowest level organization spending in our per-pupil calculations, which includes payment of management fees *upward* but may not include in-kind contributes from management organizations that don't flow through the school site. For lack of any precise documentation, or any evidentiary basis for constructing estimates, we must set aside the possibility that higher-level organizations provide direct services to local charter schools that are not otherwise reported by the charter schools as their own expenditures. These expenses would include any professional development, curricular materials and supplies, but also would include prorating the expenses for centralized administrative expenses across individual schools (such as the **salary of Success Academies' CEO Eva Moskowitz**, with compensation at \$379,478 in 2010, which amounts to nearly \$275 per pupil for Success Academies). We leave these expenses out of school-site budgets, despite the fact that many likely belong within. These types of expenses would typically be included within the expenditure calculations for traditional public schools. It would be less likely, for example, that a traditional public school district would have a chief executive compensated primarily or exclusively by some outside entity.

Here, we provide a brief summary of funds that flow in both directions between management companies and school sites. The Mathematica/CRPE study on charter CMOs provides some useful insights into different ways in which charter CMOs use central management structures and organize centralized responsibilities:

CMOs look very much like school districts, both in organizational structure and functions served. Central office staff provides supports, services, and oversight for the schools they manage. Among the 37 CMOs responding to our survey of central office staff, the majority of CMO positions are directed at educational supports (such as professional development, coaching, assessment, and data analysis), operations (such as payroll and facilities management), and finance.

...Some CMOs invest heavily in large central offices, while others maintain a fairly minimal level of administrative staff. Decisions about how to allocate central staff

appear to be more a function of CMO preference than a function of size, and CMOs vary widely in how they allocate their staff across categories.

The overall size of the central office in relation to number of students served also varies widely.

Although one might expect this ratio to drop as CMOs grow because of economies of scale, there is no significant relationship between size and staff-to-student ratio. This may be because some large CMOs attempt to provide more coaching, guidance, or other support to their schools (CMO Report. p. 19).

Figure 13 summarizes payments upward, from school-site financial reports, to CMOs, labeled as “management fees.” By 2010, CMO management fees among NYC schools were typically between \$1,000 per pupil and \$1,400 per pupil. In prior years, management fees reported at KIPP schools were lower, the shift most likely representing a change in accounting, since total spending per pupil did not also rise. Management fees for Concept schools operating in Ohio were marginally less on a per-pupil basis, but comparable as a share of expenditures.

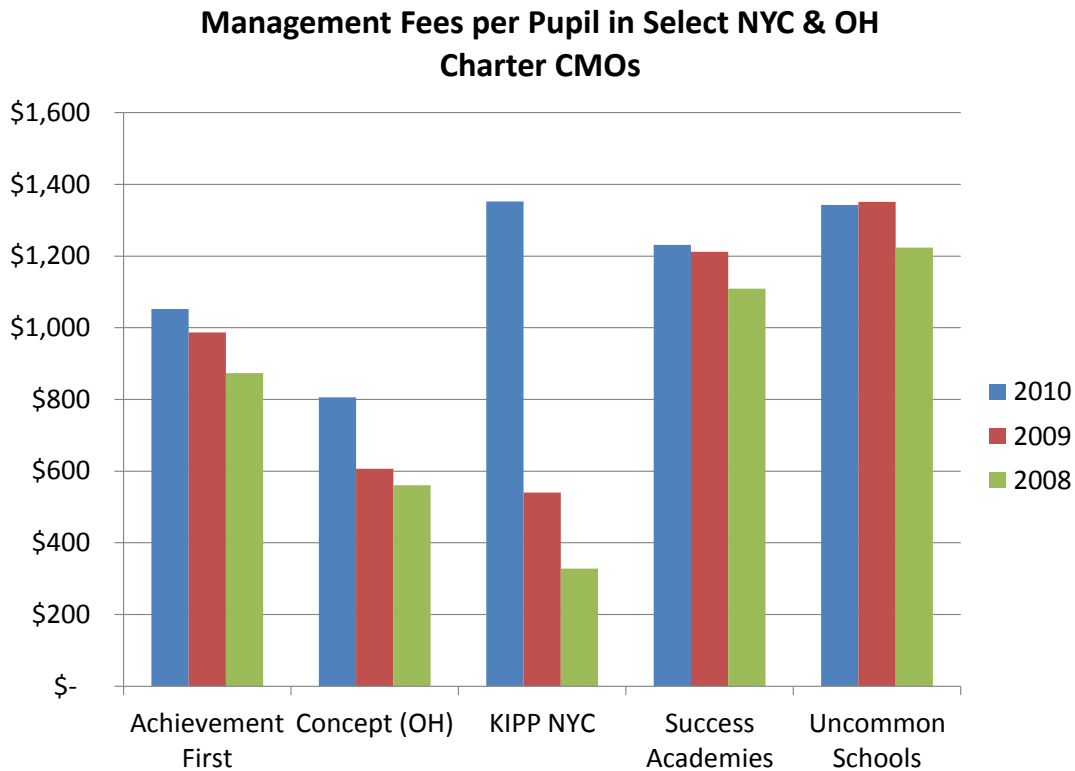


Figure C1. Per-Pupil Management Fees in Ohio and New York

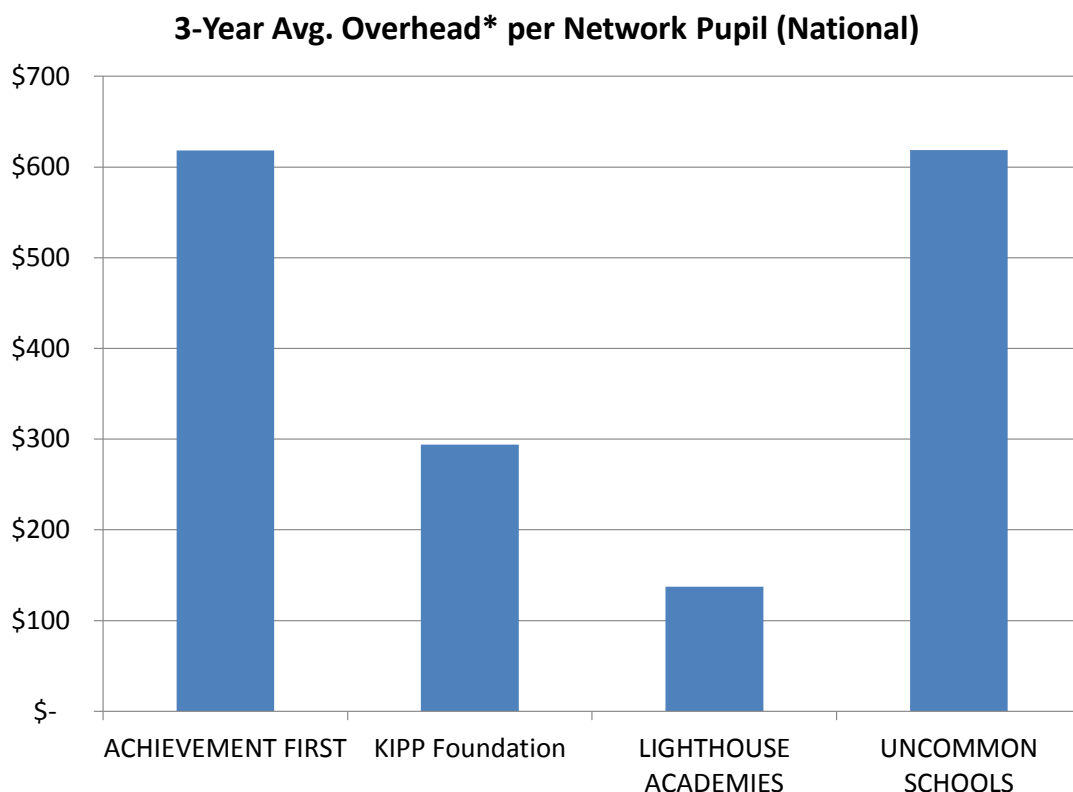


Figure C2. Alternative Estimates of Organization Overhead and Administrative Expenses (National)

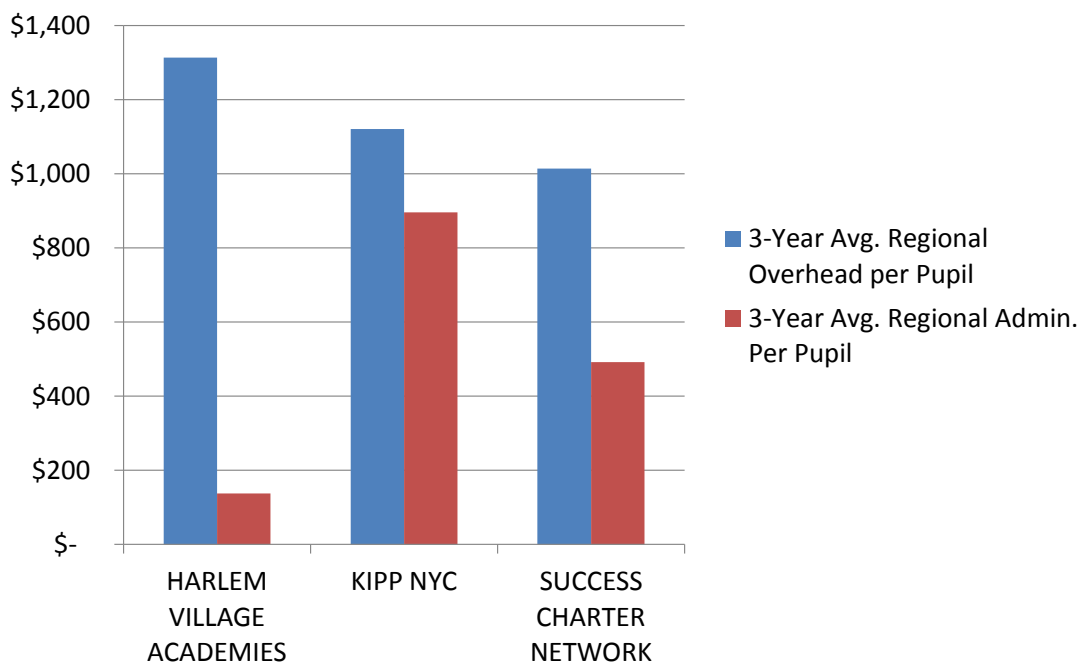
Figure C2 addresses the three-year average overhead expense per pupil for the national CMO networks in our samples. In this case, overhead consists of the sum of a) administrative expenses, b) fundraising expense, and c) occupancy expense recorded on **the CMO national organizations' IRS 990** forms. These total expenses are divided by total network enrollments (estimated by reconciling school lists from CMO web sites with enrollment reports from those web sites, and summed enrollment counts for the same schools from the NCES common core). Central (national) administration, fundraising and occupancy expenses for Achievement First and Uncommon Schools were on the order of \$600 per pupil, and for KIPP and Lighthouse, much less. It is unclear the extent to which management fees from individual schools are assumed to cover central office/organization administrative overhead.

Achievement First provides an example of funding flows between schools and management organizations. Achievement First charter schools receive more resources or support from the management organization than the individual schools contributed to the management organization: the charters paid \$4.1 million for management fees, and Achievement First

reported spending \$7.3 on the management of schools. This \$3 million difference is not included in our estimate of charter-level spending.

Following the flow of IRS reported data makes this clear. For 2010 IRS 990 filings, Achievement First **reported approximately \$4.1 million in “program service” revenue**, consisting entirely of management fees paid to the management organization for services provided to their charter schools. New York City Achievement First Schools paid over \$2.2 million in such fees (with Achievement First also operating schools in other states). But, the Achievement First management organization also took in \$12.4 million in contributions from other sources, or three times the program service revenue. The management organization reported granting about \$5.4 million directly to Achievement First schools and spent another \$7.3 million on management. An additional \$914,175 was spent on a software program **to manage “core operations,” approximately a quarter million dollars apiece on recruitment and curriculum development, and roughly one hundred thousand dollars apiece on school leadership, telephone services, and bad debt expense.**

3-Year Avg. Overhead* & Administrative Component per Network Pupil (regional)

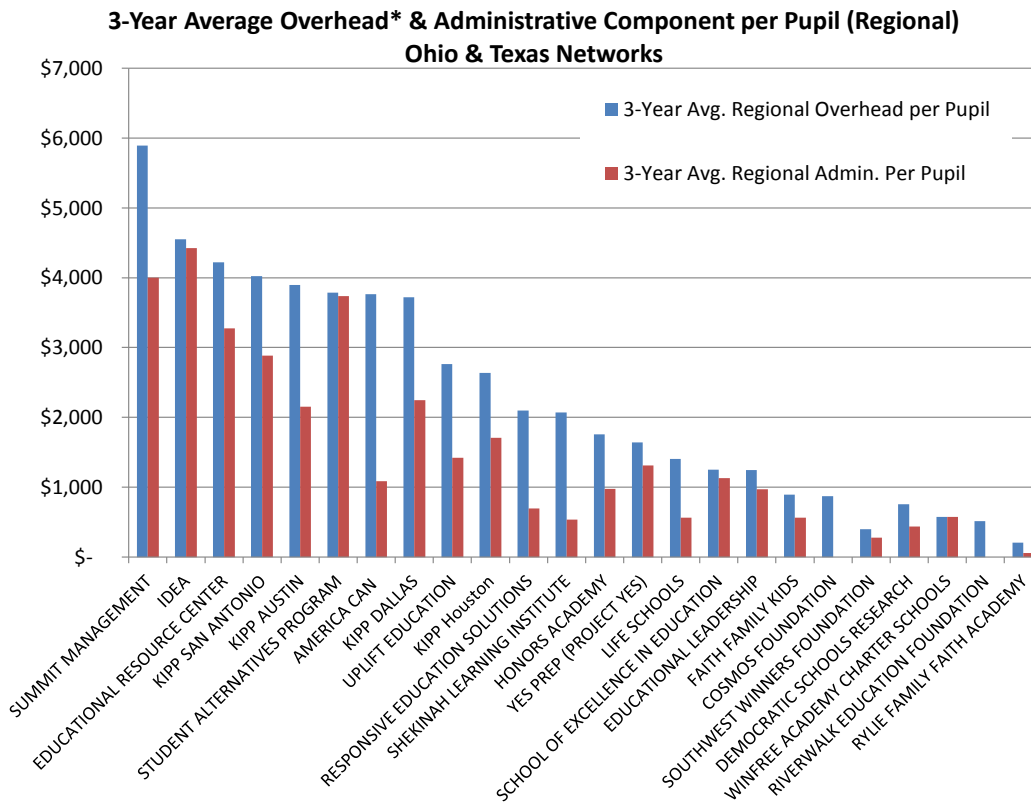


*Includes Administration, fundraising & occupancy

Figure C3. Alternative Estimates of Organization Overhead and Administrative Expenses (Regional NYC)

Figure C3 shows the regional (NYC) overhead and administrative expenses per pupil for charter management organizations. While national overhead expenses were relatively low

for KIPP, regional expenses are much higher, though comparable to both Harlem Village Academies and Success Charter Network. For KIPP, the sum of the national and regional overhead expenses is similar to the \$1,300 per-pupil management fee. As such, one might argue that we are to a large extent picking up centralized KIPP expenditures with school-site data that include this management fee. But such judgments are complex and rarely precise.



*Includes Administration, fundraising & occupancy

Figure C4. Alternative Estimates of Organization Overhead & Administrative Expenses (Regional Texas and Ohio)

Figure C4 shows the three-year average overhead (occupancy, fundraising and administration) expenses per pupil, and administrative expenses per pupil for charter management networks operating in Ohio and Texas. Several of these management companies have what appear to be very high overhead expenses, at least relative to per-pupil operating expenses of the schools operating under their umbrella. Summit, Idea and Educational Resource Center show overhead expenses exceeding \$4,000 per pupil. Texas-based KIPP regional organizations show expenses from \$2,000 to \$4,000. For Texas regionalized KIPP schools, these expenses show up on our IRS 990 reports of Texas KIPP expenditures. These expenditures, as noted earlier, were substantially higher than (a)

KIPP school-site current operating expenditures, (b) other comparable traditional public schools and (c) host-district total revenues per pupil. These are large per-pupil **expenditures, including substantial “district”** (regional) level administrative and fundraising overhead (about \$2,000 per pupil) and substantial occupancy related expenses.

We note that our ability to at least discuss with illustrations the flow of resources back and forth between management organizations and individual school sites has improved even in the past year, since the preparation of the Baker and Ferris (2011) report on New York City charter schools. IRS filings from established charter CMOs like Achievement First appear to be providing greater detail regarding specific grants and payments to individual schools. Nonetheless, the level of detail remains insufficient, and the reporting of important details inconsistent across CMOs and more substantially across locations. Even in New York where we have the highest degree of confidence in the match between our IRS data and Annual Financial Report Data, we remain unconvinced that we are accounting fully for charter school expenditures. And in this study, we set aside more complex service provider arrangements like those which occur in Harlem Childrens’ Zone.

Appendix D

Charter School Teacher Wages in Houston

Here, we provide a brief analysis of the structure of teacher wages across charter school operators in Houston. We began this supplemental analysis out of curiosity regarding how the differences in spending might show up in charter schools, with an obvious focus on teacher salary variation. We were particularly interested in whether the time and effort requirements of working in a no excuses environment come with a salary premium attached. Taylor (2011)⁶⁰ explored some of the causes of differences in instructional and non-instructional spending across open-enrollment charter schools and traditional public schools in Texas, explaining as follows:

. . . open-enrollment charter schools paid lower salaries, on average, than did traditional public school districts. Average teacher pay was 12% lower for teachers in open-enrollment charter schools than for teachers in traditional public school districts of comparable size, and adjusted for differences in local wage levels, average teacher pay was 24% lower. Average teacher salaries were lower not only because open-enrollment charter schools hired less experienced teachers, on average, but also because open-enrollment charter schools paid a smaller premium for additional years of teacher experience (p. ix).

Our interest was piqued by Taylor’s assertions regarding average differences in teacher salaries, coupled with our findings regarding the large amount of variation in spending across charters. Taylor points out that average teacher pay was lower in charter schools and that charters had fewer support staff (fewer aides) and one fewer teacher per 100 pupils, again on average. To a large extent, differences in average teacher pay were a function of employing teachers who are less experienced.

In Figure D1, we take individual teacher-level data on experience levels, degree levels and salaries (base pay), and construct a model of teacher salaries for all full-time teachers working within Houston ISD, YES prep schools, KIPP schools and Harmony Schools in Houston. In other words, for teachers of similar characteristics—experience and degree level—what is the expected base pay?

As shown in Figure 12, at similar experience levels, beyond the first few years, KIPP teachers are paid about 10% more than Houston ISD teachers. This differential is likely intended to account for additional time and responsibilities associated with the KIPP model. YES Prep schools pay comparably to Houston ISD. By contrast, Harmony schools (a) pay much less than Houston ISD and the other two CMOs, and (b) show no growth in salaries with respect to experience levels.⁶¹

The KIPP salaries also raise a question going forward. Assuming that the KIPP schools retain teachers beyond year 10 and that the schools will not lower their wages as experience rises toward 15 and 20 years, these schools could face substantially increased labor costs down the line. That is, KIPP expenditures may have to rise above their current

levels to accommodate future costs, and current KIPP spending levels already far outpace district spending levels.

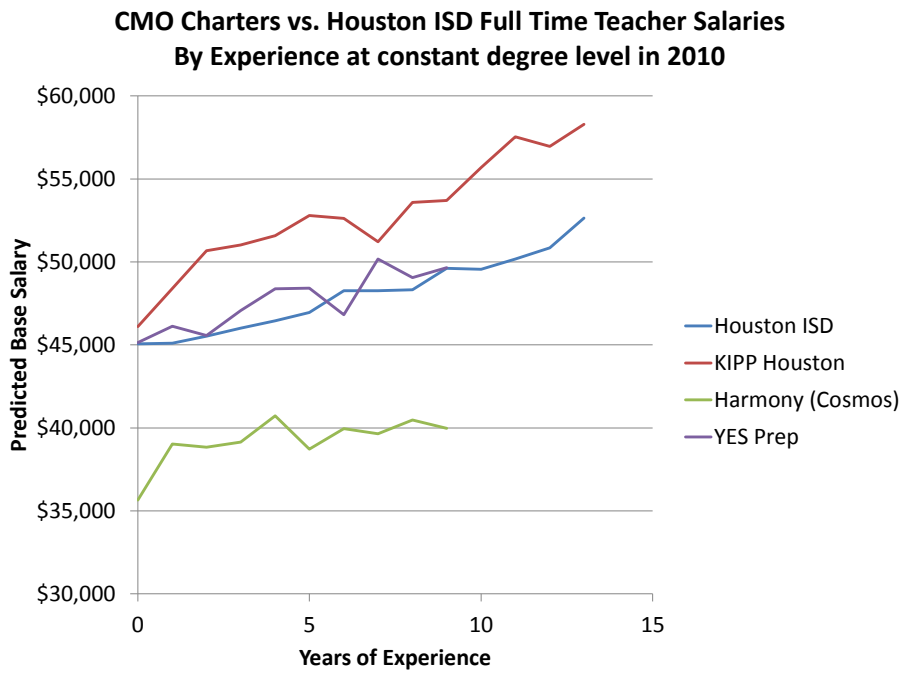


Figure D1. Variation in Teacher Compensation across Houston Charter Networks

Notes and References

1 Baker, B.D. & Welner, K.G. (2011) School Finance and Courts: Does Reform Matter and How Can We Tell? *Teachers College Record*, **113** (11), 2374-2414

2 See for example: Winters, M. (2010, March 1). Charter Schools Aren't Just Better, They Cost Less! *New York Daily News*. Retrieved April 24, 2012, from <http://www.nydailynews.com/opinion/city-charter-schools-better-cost-article-1.176005>.

3 Unfortunately, statewide school site expenditure data are not available in New York. New York City operates its own separate school site financial reporting system. New York City is, however, home to the largest number of charter schools in New York State, and in particular the largest numbers affiliated with major private management organizations.

4 These arguments are arguably emergent from more recent years of charter school advocacy and are not necessarily tied to the origins of the charter school movement. Early charter advocates might have argued instead that the role of charters is to advance parental liberties of choosing schools outside of their attendance zone and choosing schools that provide unique or different programming opportunities. In addition, early charter advocates might have argued that efficiency and serving comparable populations were not central objectives because charters were intended to provide opportunities for experimenting with new or unique programs and models. It is only more recently, where charter advocates and policymakers have pushed for charters to serve much larger shares of the student population (and in some cases largely replace urban district schools), that these new arguments have become more prominent.

5 Betts, J.R. & Tang, Y.E. (2011). *The effect of charter schools on student achievement: A meta-analysis of the literature*. Center on Reinventing Public Education. Retrieved April 24, 2012, from http://www.crpe.org/cs/crpe/download/csr_files/pub_NCSRP_BettsTang_Oct11.pdf

6 Betts and Tang as well as others (see Di Carlo [2011]) point out that charter schools in some locations seem more likely to produce positive results for students lotteried into those charters when compared with students who were lotteried out. Specifically, oversubscribed charter schools in New York and Boston appear to deliver achievement gains larger than charter schools in most other locations. But the lack of rigorous studies in many other parts of the nation limits the ability to extrapolate the New York and Boston findings to say, Texas or Ohio. There is also pretty broad agreement that specific charter operators, such as the KIPP Academies, seem more likely to yield positive effects (based on a handful of high-quality studies of KIPP middle schools). Another recent large scale evaluation study from Mathematica Policy Research (MPR), in collaboration with the Center on Reinventing Public Education (CRPE), explored the relative effectiveness of schools operated by various charter management organizations, or **CMOs. That study also found mixed effectiveness of the various CMOs. Fuller's (2012) review of the CMO study** summarized the study findings as follows:

The authors conducted an impact analysis focused only on middle school grades, finding that a small fraction of CMO-run middle schools boosted achievement growth at notable levels. But on average, student performance in the CMO-run schools did not outpace achievement growth in other charters or in host districts for a statistically matched set of students. (p. 1)

Finally, there's the often cited CREDO study of charter schools in 16 states, along with a similar study by RAND on charter school performance in 8 states. Both studies also yielded mixed results. The most cited conclusion from the CREDO study is as follows:

The study reveals that a decent fraction of charter schools, 17 percent, provide superior education opportunities for their students. Nearly half of the charter schools nationwide have results that are no different from the local public school options and over a third, 37 percent, deliver learning results that are significantly worse than their student would have realized had they remained in traditional public schools.

Those critical of the charter school movement are quick to point out that more are worse than are better than their virtual counterparts. And those advocating charter expansion are quick to point out that a decent fraction are superior, and that we should focus our efforts on replicating that fraction. But the CREDO study, like many others, does not (nor did it intend to) provide insights regarding the characteristics – programs, services, resources – of that 17%.

Betts, J. R. & Tang, E. (2011). *The Effect of Charter Schools on Student Achievement: A Meta-Analysis of the Literature*. Seattle, WA: Center for Reinventing Public Education.

Fuller, B. (2012) *Review of “Charter-School Management Organizations: Diverse Strategies and Diverse Student Impacts.”* Boulder, CO: National Education Policy Center. Retrieved February 1, 2012, from <http://nepc.colorado.edu/thinktank/review-charter-school-management>.

Gill, B., Haimson, J., Killewald, A., McCullough, M., Nichols-Barrer, I., Bing-ru, T., Verbitsky-Savitz, N., Bowen, M., Demeritt, A., Hill, P., & Lake, R. (2011). *Charter-School Management Organizations: Diverse Strategies and Diverse Student Impacts*. Mathematica Policy Research & Center on Reinventing Public Education. http://www.mathematica-mpr.com/publications/PDFs/Education/CMO_Final_updated.pdf.

Center for Research on Education Outcomes (CREDO) (2009, June). *Multiple Choice: Charter School Performance in 16 States*. Palo Alto: CREDO, Stanford University.

Miron, G. & Applegate, B. (2009). *Review of “Multiple choice: Charter school performance in 16 states.”* Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved April 24, 2012, from <http://epicpolicy.org/thinktank/review-multiple-choice>.

Zimmer, R., Gill, B., Booker, K., Lavertu, S., Sass, T. & Witte, J. (2009). *Charter Schools in Eight States: Effects on Achievement, Attainment, Integration and Competition*. Santa Monica, CA: RAND Corp. Retrieved May 23, 2009, from http://www.rand.org/pubs/monographs/2009/RAND_MG869.pdf.

Briggs, D.C. (2009). *Review of Charter Schools in Eight States: Effects on Achievement, Attainment, Integration and Competition*. Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved April 24, 2012, from <http://epicpolicy.org/thinktank/review-Charter-Schools-Eight-States>.

7 Hoxby’s (2009) study of New York charter schools found support for longer school day/year, time devoted to reading instruction, ‘small rewards/small punishment’ discipline policies, a school mission statement emphasizing academic achievement and teacher pay systems not based exclusively on experience and education. Di Carlo (2011) also takes note that highly acclaimed KIPP, Aspire and Achievement First schools share common characteristics, including providing significant additional school time (in KIPP’s case, up to 50-60 percent more).

Di Carlo, M. (2011) Policy Brief: The Evidence on Charter Schools and Test Scores. <http://www.shankerinstitute.org/publications/charterreview/>.

Hoxby, C. M., Murarka, S., & Kang, J. (2009, September). *How NYC’s Charter Schools Affect Achievement*. Second report in series. Cambridge, MA: NYC Charter Schools Evaluation Project. Retrieved October 1, 2009, from <http://www.nber.org/~schools/charterschoolseval/>.

8 Dobbie, W. & Fryer, R. G. (2009). *Are High-Quality Schools Enough to Close the Achievement Gap? Evidence from a Bold Social Experiment in Harlem*. Unpublished manuscript, Harvard University, 5. http://www.economics.harvard.edu/files/faculty/21_HCZ_Nov2009_NBERwkgpaper.pdf.

9 Dobbie, W., Fryer, R. (2011). *Getting Beneath the Veil of Effective Schools: Evidence from New York City*. http://www.economics.harvard.edu/faculty/fryer/files/effective_schools.pdf.

10 Fryer, R. (2011). *Creating No Excuses Traditional Public Schools: Preliminary Evidence from an Experiment in Houston*. <http://www.hisd.org/HISDConnectEnglish/Images/Apollo/apollo20whitepaper.pdf>.

11 Fryer, R. (2012). *Injecting Successful Charter School Strategies Into Traditional Public Schools: Early Results from an Experiment in Houston*. http://www.economics.harvard.edu/faculty/fryer/files/charter_school_strategies.pdf

12 Curto, V., Fryer, R. (2011) Estimating the Returns from Urban Boarding Schools: Evidence from SEED. NBER Working Paper # 16746 <http://www.nber.org/papers/w16746>.

In each case, the models in question involve resource-intensive strategies, including substantially lengthening school days and years, providing small group (one teacher for 2 or 3 students) intensive tutoring, providing extensive community-based wrap-around services (Harlem Children's Zone), or providing student housing and residential support services (Baltimore).

13 Regarding the benefits of the most expensive of the alternatives explored – residential schooling in Baltimore (at a reported \$39,000 per pupil) – the authors conclude that no excuses strategies of extended school day and school year, and intensive tutoring are likely more cost effective.

14 In their study on the effectiveness of no excuses New York City charter schools, Dobbie and Fryer (2011) use data on 35 charter schools to generate an aggregate index based on five policies including teacher feedback, use of data to guide instruction, high-dosage tutoring, increased instructional time and high expectations.¹⁴ They then correlate this index with their measures of school effectiveness across the 35 schools, finding a significant relationship. Separately, the authors report weak or no correlations between their effectiveness measures and **“traditional” measures of school resources including per pupil spending and class size, concluding that these measures are not correlated with effectiveness.** In short, Dobbie and Fryer argue that potentially costly strategies **matter, but money doesn't.**

Dobbie, W., Fryer, R. (2011). *Getting Beneath the Veil of Effective Schools: Evidence from New York City*. http://www.economics.harvard.edu/faculty/fryer/files/effective_schools.pdf.

15 For a discussion of methods used for evaluating the relationship between fiscal inputs and student outcomes, see Baker, B.D. (2012). *Revisiting the Age-Old Question: Does Money Matter in Education?* Albert Shanker Institute. Retrieved April 24, 2012, from http://www.shankerinstitute.org/images/doesmoneymatter_final.pdf.

16 Dobbie, W., Fryer, R. (2011). *Getting Beneath the Veil of Effective Schools: Evidence from New York City*. http://www.economics.harvard.edu/faculty/fryer/files/effective_schools.pdf.

17 Baker, B.D. & Ferris, R. (2011). *Adding Up the Spending: Fiscal Disparities and Philanthropy among New York City Charter Schools*. Boulder, CO: National Education Policy Center, 33. Retrieved April 24, 2012, from <http://nepc.colorado.edu/publication/NYC-charter-disparities>.

18 In earlier research concerning the Harlem Children's Zone (HCZ), Dobbie and Fryer similarly argued that the substantial benefits they found for children participating in HCZ charter schools could be obtained at what they characterize as negligible marginal expense, noting that “HCZ estimates that they added an additional \$4,657 per -

pupil in school costs and approximately \$2,172 per pupil for after-school and wrap-around programs,” leading to a total per pupil expense of \$19,272. 18. They then explain:

To put this in perspective, the median school district in New York State spent \$16,171 per pupil in 2006, and the district at the 95th percentile cutpoint spent \$33,521 per pupil (Zhou and Johnson, 2008).

Accepting the additional costs of Harlem Children’s Zone as adding up to \$19,000 per pupil and accepting as a relevant comparison basis that this figure lies somewhere between the New York statewide median and the statewide 95th percentile of district spending, then the marginal expense for Harlem Children’s Zone might just be trivial. But the marginal expense calculation in that study for HCZ is suspect (and undocumented), and the comparison basis is misleading, as explained below.

Baker and Ferris (2011) discuss the difficulties of deriving comparable spending-per-pupil figures for Harlem Children’s Zone schools, pointing out that reported total revenues based on IRS filings vary from \$6,000 to \$60,000 per pupil depending on the year of data and which children are counted in the denominator (charter students or all school-aged residents in the zone). That is, there is good reason to question the \$19,000 figure, particularly since the authors never provide the underlying information allowing other researchers to replicate the analyses.

Further it makes little sense to contextualize the HCZ total figure by placing it between the statewide median and a 95th percentile district, since affluent suburban Westchester County and Long Island districts far outpace per-pupil spending in New York City (Baker and Welner, 2010, p. 10). Rather, more meaningful comparisons might be relevant budget components for all schools in New York City, or schools serving similar student populations in the same area of the city. **Using the City’s Independent Budget Office (2010b) figure for 2008-09 of \$15,672, and accepting the authors’ total cost figure of \$19,000 per pupil, the marginal expense for HCZ would be 21%.** Alternatively, comparing the \$19,000 figure with nearby school site budgets for select schools (see Baker and Ferris, p. 24), the marginal expense is 36% to 60%.

Dobbie, W. & Fryer, R. G. (2009). *Are High-Quality Schools Enough to Close the Achievement Gap? Evidence from a Bold Social Experiment in Harlem*. Unpublished manuscript, Harvard University, 5.

Baker, B. D., & Welner, K. G. (2010). “Premature celebrations: The persistence of interdistrict funding disparities” *Educational Policy Analysis Archives*, 18(9). Retrieved April 24, 2012, from <http://epaa.asu.edu/ojs/article/view/741>.

Baker, B.D. & Ferris, R. (2011). *Adding Up the Spending: Fiscal Disparities and Philanthropy among New York City Charter Schools*. Boulder, CO: National Education Policy Center, 33. Retrieved April 24, 2012, from <http://nepc.colorado.edu/publication/NYC-charter-disparities>.

19 Fryer explains:

While this may seem to be an important barrier, a back of the envelope cost-benefit exercise reveals that the rate of return on this investment is roughly 20 percent—if one takes the point estimates at face value.

Fryer, R. (2011). *Creating “No Excuses” (Traditional) Public Schools: Preliminary Evidence from an Experiment in Houston*, 33. Retrieved April 24, 2012, from http://scholar.harvard.edu/rfryer/files/creating_no_excuses_traditional_public_schools_preliminary_evidence_from_an_experiment_in_houston.pdf.

Fryer, R. (2012). *Injecting Successful Charter School Strategies Into Traditional Public Schools: Early Results from an Experiment in Houston*. Retrieved April 24, 2012, from http://www.economics.harvard.edu/faculty/fryer/files/charter_school_strategies.pdf.

20 While no documentation is provided for the \$1,837 figure in Fryer's paper, that figure is quite close to the average difference in current operating expenditure for the five Apollo 20 middle schools in Houston compared to all schools in Houston. When comparison, however, is made to only other Houston *middle schools*, that figure rises to \$2,392, or 30%.

21 In short, across Fryer's various studies, we find a range of marginal expenses for preferred models and strategies, ranging from 21% to 60% above average expenditures of other schools that are not using the preferred models and strategies. These estimates may be significantly understated.

22 A study frequently cited by charter advocates, authored by researchers from Ball State University and Public Impact, compared the charter versus traditional public school funding deficits across states, rating states by the extent that they *under-subsidize* charter schools. The authors identify no state or city where charter schools are fully, equitably funded.

But simple direct comparisons between subsidies for charter schools and public districts can be misleading because public districts may still retain some responsibility for expenditures associated with charters that fall within their district boundaries or that serve students from their district. For example, under many state charter laws, host districts or sending districts retain responsibility for providing transportation services, subsidizing food services, or providing funding for special education services. Revenues provided to host districts to provide these services may show up on host district financial reports, and if the service is financed directly by the host district, the expenditure will also be incurred by the host, not the charter, even though the services are received by charter students.

Drawing simple direct comparisons thus can result in a compounded error: Host districts are credited with an expense on children attending charter schools, but children attending charter schools are not credited to the district enrollment. In a per-pupil spending calculation for the host districts, this may lead to inflating the numerator (district expenditures) while deflating the denominator (pupils served), thus significantly inflating the **district's per pupil spending. Concurrently, the charter expenditure is deflated.**

Correct budgeting would reverse those two entries, essentially subtracting the expense from the budget calculated for the district, while adding the in-kind funding to the charter school calculation. Further, in districts like New York City, the city Department of Education incurs the expense for providing facilities to several charters. That is, **the City's budget, not the charter budgets, incur another expense that serves only charter students. The Ball State/Public Impact study errs egregiously on all fronts, assuming in each and every case that the revenue reported by charter schools versus traditional public schools provides the same range of services and provides those services exclusively for the students in that sector (district or charter).**

Charter advocates often argue that charters are most disadvantaged in financial comparisons because charters must often incur from their annual operating expenses, the expenses associated with leasing facilities space. Indeed it is true that charters are not afforded the ability to levy taxes to carry public debt to finance construction of facilities. But it is incorrect to assume when comparing expenditures that for traditional public schools, facilities are *already paid for* and have no associated costs, while charter schools must bear the burden of leasing at market rates – essentially and “**all versus nothing**” comparison. **First, public districts do have ongoing maintenance and operations costs of facilities as well as payments on debt incurred for capital investment, including new construction and renovation. Second, charter schools finance their facilities by a variety of mechanisms, with many in New York City operating in space provided by the city, many charters nationwide operating in space fully financed with private philanthropy, and many holding lease agreements for privately or publicly owned facilities.**

New York City is not alone in its choice to provide full facilities support for some charter school operators (<http://www.thenotebook.org/blog/124517/district-cant-say-how-many-millions-its-spending-renaissance-charters>). Thus, the common characterization that charter schools front 100% of facilities costs from operating budgets, with no public subsidy, and traditional public school facilities are “free” of any costs, is wrong in nearly every case, and in some cases there exists no facilities cost disadvantage whatsoever for charter operators. Baker and Ferris (2011) point out that while the Ball State/Public Impact Study claims that charter schools in New York State are severely underfunded, the New York City Independent Budget Office (IBO), in more refined analysis focusing only on New York City charters (the majority of charters in the State), points out that charter schools housed within Board of Education facilities are comparably subsidized when compared with traditional public schools (2008-09). In revised analyses, the IBO found that co-located charters (in 2009-10) actually received more than city public schools, while charters housed in private space continued to receive less (after discounting occupancy costs). That is, the funding picture around facilities is more nuanced than is often suggested.

Batdorff, M., Maloney, L., May, J., Doyle, D., & Hassel, B. (2010). *Charter School Funding: Inequity Persists*. Muncie, IN: Ball State University.

NYC Independent Budget Office (2010, February). *Comparing the Level of Public Support: Charter Schools versus Traditional Public Schools*. New York: Author, 1.

NYC Independent Budget Office (2011). *Charter Schools Housed in the City’s School Buildings get More Public Funding per Student than Traditional Public Schools*. New York: Author. Retrieved April 24, 2012, from <http://ibo.nyc.ny.us/cgi-park/?p=272>.

NYC Independent Budget Office (2011). *Comparison of Funding Traditional Schools vs. Charter Schools: Supplement*. New York: Author. Retrieved April 24, 2012, from <http://www.ibo.nyc.ny.us/iboreports/chartersupplement.pdf>.

Note: **The average “capital outlay” expenditure of public school districts in 2008-09** was over \$2,000 per pupil in New York State, nearly \$2,000 per pupil in Texas and about \$1,400 per pupil in Ohio. Based on enrollment weighted averages generated from the U.S. Census Bureau’s Fiscal Survey of Local Governments, Elementary and Secondary School Finances 2008-09 (variable tcapout): <http://www2.census.gov/govs/school/elsec09t.xls>

23 Others have summarized government-reported expenditures of charter schools.

Miron and Urschel (2010) used widely accessible national data sources to evaluate the finances of charter schools. Their analysis also looked at the demographics of the different schools, and they found that while charter schools had, on average, less revenue per pupil in the states investigated, direct comparisons may be compromised by some of the complexities we lay out above. Further, in many cases, the charters in their study served far fewer children with disabilities or children with limited English proficiency.

The recent Mathematica/CRPE study identified substantial variation in charter school per pupil spending in CMOs across the country, but provided only vague and highly aggregated descriptions of that variation. The authors explain that charter management companies in their sample spent between \$5,000 and \$20,000 per pupil but provide no context for these figures. Were the spending differences associated, for example, with operating larger numbers of charters, operating in much higher cost labor markets, or serving needier student populations? The authors also find that the correlation between public subsidy rates and CMO spending per pupil in their sample was .61, suggesting that a significant amount of variation in CMO spending per pupil is driven by revenues obtained outside of public subsidies. The authors explain that at least 9 of the 22 CMOs evaluated spent, on average, more than \$1,000 per pupil beyond amounts allocated from public sources, and four spend more than \$4,000 per pupil more (p. 19).

As mentioned previously, Baker and Ferris (2011) explored annual financial reports and IRS filings of New York City charter schools, similarly concluding that resources varied widely across schools and that resource variation was largely driven by access to philanthropy. But spending variation across charter schools was also substantially a function of differences in grade levels served and of school size, consistent with literature on education costs. School structural characteristics, which often relate to years in operation, explained most of the variation in per student spending across New York City charter schools. That is, differences in per pupil spending were largely a function of school size (numbers of pupils in the denominator), as well as the grade levels (elementary, versus middle or high school) of the schools, to common structural determinants of spending differences. It is likely that much of the remaining variation was a function of access to philanthropy.

Miron, G. & Urschel, J.L. (2010). *Equal or Fair? A Study of Revenues and Expenditure in American Charter Schools*. Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved October 27, 2010, from <http://nepc.colorado.edu/publication/charter-school-finance>.

Baker, B.D. & Ferris, R. (2011). *Adding Up the Spending: Fiscal Disparities and Philanthropy among New York City Charter Schools*. Boulder, CO: National Education Policy Center, 33. Retrieved April 24, 2012, from <http://nepc.colorado.edu/publication/NYC-charter-disparities>.

Gill, B., Haimson, J., Killewald, A., McCullough, M., Nichols-Barrer, I., Bing-ru, T., Verbitsky-Savitz, N., Bowen, M., Demeritt, A., Hill, P., & Lake, R. (2011) Charter-School Management Organizations: Diverse Strategies and Diverse Student Impacts. Mathematica Policy Research & Center on Reinventing Public Education. Retrieved April 24, 2012, from http://www.mathematica-mpr.com/publications/PDFs/Education/CMO_Final_updated.pdf.

24 A handful of recent studies use Texas school-site budget data to explore charter school finance, resource allocation and efficiency. Most recently, in a statewide evaluation of Texas charter schools, Taylor (2011) 24 found **“negligible differences in current operating expenditures between open-enrollment (independent of districts) charter campuses and district charter campuses”** (p. ix). But Taylor also found that both groups of charter schools **“spent significantly less overall on current operating expenditures than matched traditional public school campuses”** (p. ix).

Taylor goes on to explore some of the causes of differences in total current operating spending and in instructional personnel spending, explaining that on average, open-enrollment charter schools (which had lower instructional spending) tended to have fewer teachers per 100 students and far fewer aides than matched traditional public schools. Further, open enrollment charter schools paid lower salaries, on average (p. ix). But Taylor did not explore the variation across charter schools by operator.

Taylor also explored variations in charitable donations across traditional public schools and charters in Texas, finding that on average, public districts received only about \$15 per pupil and open enrollment charter schools about \$448 per pupil. Like the Mathematica Study, Taylor also pointed out substantial variations in charitable donations. While 80% of charters received less than \$100 per pupil in 2008-09, a handful received more than \$2,000 per pupil, and KIPP Aspire Academy reported over \$11,000 per pupil in charitable donations in 2008-09 (p. viii). In two separate studies, Taylor and colleagues have also attempted to model the relative efficiency of charter schools in producing achievement outcomes, when compared with traditional public schools.

While in an earlier study, Taylor and Grosskopf found that charters were **“substantially more efficient”** than traditional public schools (Taylor and Grosskopf, 2009), **Gronberg, Taylor and Jansen’s (2011) more recent findings are more nuanced and more precise.** They found, for example, that while charter schools produce comparable outcomes at less cost than similarly sized (smaller) traditional schools, charters were less efficient than average-sized traditional schools, suggesting some efficiency loss from the small enrollment size of typical charters.

They also estimated separate cost curves for charters and traditional public schools, finding predicted minimum costs for producing specified outcomes to be lower in charters but that charters were “not systematically more efficient than traditional public schools” (p. 2). That is, the statistically estimated minimum costs of achieving specific outcomes was lower in charters, but charters’ actual spending varied substantially from this minimum, such that their average spending toward achieving any given outcomes was no lower than that of traditional public schools.

The authors attribute the difference in estimated minimum costs to differences in regulations/mandates covering charters and traditional public schools, asserting that the freedoms that charters have from mandates may be allowing them to produce outcomes at a lower cost, as estimated by the outer boundaries of the distribution of charters (the cost “frontier”) for charters. That is, those charters that minimize costs for any given level of outcomes can minimize costs at a lower level than districts that minimize costs. Again, while the charter minimums were lower, the charter averages were not. More charters were further from these minimums.

An alternative plausible, and related explanation, is that Texas charter schools are partly freed from mandates and regulations associated with children with disabilities because they serve far fewer of them. That is, part of the mandate relief that allows charters greater flexibility is a result of not serving significant numbers of children with disabilities. Other plausible explanations are also worth exploring, including the possibility that maintenance of large capital stock becomes costly and inefficient for districts over time.

Taylor, L.L. Alford, B.L., Rollins, K.G., Brown, D.B., Stillisano, J.R., & Waxman, H.C. (2011). *Evaluation of Texas Charter Schools 2009-2010* (Revised Draft). College Station, TX: Texas Education Research Center, Texas A&M University.

Taylor, L.L. & Grosskopf, S. (2009) The Relative Efficiency of Charter Schools. *Annals of Public and Cooperative Economics* 80 (1), 67-87.

Gronberg, T., Taylor, L.L., Jansen, D. (2011) The Relative Efficiency of Charter Schools: A Cost Frontier Approach. *Economics of Education Review*. (in press). Retrieved April 24, 2012, from <http://www.sciencedirect.com/science/article/pii/S027277571100104X>.

Gronberg, T., Jansen, D., Taylor, L. (2011) The Impact of Facilities on the Cost of Education. *National Tax Journal* 64 (1), 193-218.

A note on open-enrollment charter schools (Subchapter D):

The most common form of charter schools in Texas, open-enrollment charter schools, are created by eligible entities (e.g., non-profit organizations, institutions of higher education (IHE), or governmental entities) as completely new local education agencies (TEC §12.101). Although the SBOE authorizes open-enrollment charter schools, the commissioner of education maintains authority over them. Open-enrollment charter schools are characteristically eligible for federal funding through categorical programs such as the Individuals with Disabilities Education Act (IDEA) or Title I of the Elementary and Secondary Education Act (ESEA), and may draw their enrollment from multiple school district lines, as authorized by the SBOE. Open-enrollment charter schools may not charge students tuition (TEC §12.108). Currently, the number of open-enrollment charter schools that may be authorized by the SBOE through Chapter 12 Subchapter D of the TEC is capped at 215, but many open-enrollment charter schools operate multiple campuses, and the commissioner of education maintains the authority to allow these charters to expand (Taylor, 2011, p. i).

District charter schools (Subchapter C). District charter schools are established in one of two ways. Either a **majority of parents and teachers at an existing traditional public school petition the district’s governing board** to convert the campus to a charter school and the petition is approved (TEC §12.052), or the board of trustees of a

school district grants a charter for a new district campus or for a program that is operated by an outside contractor at a facility located in the boundaries of the district (TEC §12.0521). Although district charter schools remain part of their original school district, they maintain curricular autonomy and are exempt from various local and state directives. All Texas school districts are required by the TEC to implement policy that provides for district charter schools (Taylor, 2011, p. i).

25 See :

Taylor, L.L. Alford, B.L., Rollins, K.G., Brown, D.B., Stillisano, J.R., & Waxman, H.C. (2011). *Evaluation of Texas Charter Schools 2009-2010* (Revised Draft). College Station, TX: Texas Education Research Center, Texas A&M University.

Baker, B.D. & Ferris, R. (2011). *Adding Up the Spending: Fiscal Disparities and Philanthropy among New York City Charter Schools*. Boulder, CO: National Education Policy Center, 33. Retrieved April 24, 2012, from <http://nepc.colorado.edu/publication/NYC-charter-disparities>.

26 On a per pupil basis, most traditional public school district charitable contributions amount to little. Taylor and colleagues (2011) point out that in Texas, local public school districts received about \$15 per pupil in charitable contributions. Taylor notes that **“more than half of the local revenue for open-enrollment charter schools (\$448 per pupil, on average) came from charitable donations.”** Several charters raised in excess of \$2,000 per pupil and one KIPP school over \$11,000 per pupil (p. viii).

27 Our New York City data are reconciled, and in some cases rounded out with data from two additional sources. First, we obtained a comprehensive school site data set on New York City public schools from the Research Alliance for New York City Schools housed at New York University (www.steinhardt.nyu.edu/research_alliance).

The research alliance data are gathered from the same sources we use directly, including the NYC Department of Education, the NY State Department of Education and National Center for Education Statistics. The Research Alliance data also included additional identifiers for consistent merging of data elements across data sources. We also consulted data gathered by Gotham Schools to reconcile special education population counts and enrollment shares for New York City Charter schools.

Those data are explained here: <http://gothamschools.org/2010/05/11/closing-the-gap-charter-school-special-education-stats/#more-38141>, and the data themselves are provided here: <http://www.box.net/shared/static/v4fz4xchjk.xlsx>.

28 Ohio Department of Education <http://ilrc.ode.state.oh.us/> (Power users reports).

29 Texas Education Agency. <http://ritter.tea.state.tx.us/perfreport/aeis/2010/DownloadData.html>.

30 New York City Department of Education. https://www.nycenet.edu/offices/d_chanc_oper/budget/exp01/y2008_2009/guide.asp.

31 Charter Schools Institute, State University of New York. <http://www.newyorkcharters.org/pubsReportsAudits.html>.

32 Ohio Department of Education. <http://ilrc.ode.state.oh.us/> (Power users reports)

33 Texas Education Agency. <http://ritter.tea.state.tx.us/perfreport/aeis/2010/DownloadData.html>.

34 www.guidestar.org.

35 NYC BOE Site Based Budgets in this analysis exclude: Building Services, Charter Schools, Non-Pub/Non-NYC, Oth Regional Csts, Regional Support, Building Maintenance, Charter Schools, Energy, Food Services, Transportation, Text Books, Summer & Evening Sch, Debt Service, Pass-Throughs, System-Wide Costs, Oth Syswd Obligs, Regional Costs. The regressed relationship between Total Expenditures per pupil (school site) and our expenditure figure per pupil (school site) has a slope of 1.089. That is, on average, across grade level configurations, the total expenditures per pupil are about 8.9% higher than our reduced figure. The r-squared for this relationship is .91 indicating that the relationship between our reduced per pupil spending figure and the total figure is nearly perfectly linear, and a nearly constant 8.9% shift across all schools. That shift is not substantially mediated by grade ranges served or by population characteristics. Excluded expenses are largely centralized, uniform expenses.

36 Charter Schools Institute, State University of New York.
<http://www.newyorkcharters.org/pubsReportsAudits.html>

37 Chambers, J.G., Shambaugh, L., Levin, J., Muraki, M., & Poland, L. (2008). *A Tale of Two Cities: A Comparative Study of Student-Based Funding and School-Based Decision Making in San Francisco and Oakland Unified School Districts*. Palo Alto, CA: American Institutes for Research.

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Baker, B.D. (2012). Re-arranging deck chairs in Dallas: Contextual constraints on within district resource allocation in large urban Texas school districts. *Journal of Education Finance* 37 (3), 287-315.

Toutkoushian, R., & Michael, R. S. (2007). An alternative approach to measuring horizontal and vertical equity in schooling. *Journal of Education Finance*, 32(4), 395–421.

38 Typically, a spending model would include either a second order (curved) term or a series of size categories in order to capture the non-linear relationship between size and spending, or size and cost. That relationship typically takes a sharp downward curving trajectory for schools with under 100 to about 300 students and then gradually levels off as schools reach efficient scale. But, we found in this case that when estimating our models across schools primarily within large city contexts, a simple linear scale term was sufficient. A second order scale term creates the problem of assuming that spending rises for larger schools, rather than leveling off. And using size categories – the otherwise preferred method – creates the problem of assuming that schools at the upper and lower boundaries of the arbitrarily constructed categories are similar.

39 In alternative specifications, we compared included Core Based Statistical Area as the comparison basis instead of city. Results were not substantively altered.

40 Generally, economies of scale in schooling costs fall along a curve (sharply declining across the smallest schools then gradually approaching scale efficiency). We find in our school level models, within large cities that a simple, linear specification of expenditure differences with respect to size is sufficient, and avoids other problems that arise when applying higher order terms (curved specifications) [note].

41 Many charter schools in New York (and our other contexts) serve irregular grade ranges (e.g., k-8 or k-12), especially as they scale up, adding grades from year to year. Because of this, these schools end up being classified as **“other” in terms of school level. In traditional public school systems, many of the “other” schools tend to be special schools, with disproportionately high special education populations, making comparisons between charters and district schools in the “other” category difficult.**

42 For middle schools, this gap appears to be closing somewhat (although, as discussed below, this is not the case when more localized comparisons are made). Gaps in percentages of children with limited English language

proficiency remain very large, consistent with the earlier findings of Buckley and Bajaaj (2010) and Baker and Ferris (2011). Finally, there also remain gaps in percentages of children with disabilities served between NYC charter and traditional public schools citywide.

43 Ohio shows a wider distribution of charters across grade configurations. Again, the study includes a large sample of well-distributed traditional public schools against which to compare our charters.

44 The relative concentration of low-income students in charters and nearby traditional public schools varies, and that variation is accounted for in our statistically adjusted comparisons. LEP/ELL data were sparse for Ohio districts in publicly available sources. Ohio charter schools like those in New York City tended to serve smaller percentages of children with disabilities than traditional public schools. In general, Ohio schools serve relatively small shares of children with limited English language proficiency and school site data reported in Ohio redacts figures of 10 or fewer. As such, data on LEP/ELL children at the school level in Ohio were sparse and little use in these analyses.

45 Gronberg, T., Taylor, L.L., Jansen, D. (2011) The relative efficiency of charter schools: A cost frontier approach. *Economics of Education Review*. (in press):
<http://www.sciencedirect.com/science/article/pii/S027277571100104X>

46 These schools operate in the following locations: Little Elm, The Colony, Arlington, Aubrey, Denton, and Lewisville

47 Baker, B.D. (2012). Re-arranging deck chairs in Dallas: Contextual constraints on within district resource allocation in large urban Texas school districts. *Journal of Education Finance* 37 (3), 287-315.

48 Gronberg, T., Taylor, L.L., Jansen, D. (2011). The relative efficiency of charter schools: A cost frontier Approach. *Economics of Education Review*. (in press):
<http://www.sciencedirect.com/science/article/pii/S027277571100104X>

49 Gronberg, T., Taylor, L.L., & Jansen, D. (2011) The relative efficiency of charter schools: A cost frontier approach. *Economics of Education Review*. (in press):
<http://www.sciencedirect.com/science/article/pii/S027277571100104X>

50 Baker, B.D. (2009). Evaluating marginal costs with school level data: implications for the design of weighted student allocation formulas. *Education Policy Analysis Archives* 17 (3).

51 For a concise listing of co-locations, see:

Democrats for Education Reform (2011) Teacher Voice/Teacher Choice: Teacher Satisfaction in NYC Charter Schools. http://www.dfer.org/2011/09/teacher_voicete.php. See appendix A.

52 See TEC § 12.106. The State Average formula is based solely on the state-wide average funding per weighted student, calculated using the state average adjusted allotment, state average enrichment tax rates, and a state average additional state aid for tax reduction (ASATR) per WADA. The name of this funding formula is the State Average formula.

For schools in operation prior to September 1, 2001, the State Average funding system will be phased in over 10 years beginning in 2003-2004, and during the phase-in period the schools will receive a portion of their funding under the Resident District formula. Retrieved April 24, 2012, from <http://ritter.tea.state.tx.us/charter/handbook/handbook.pdf>

53 Gronberg, T., Taylor, L.L., & Jansen, D. (2011) The Relative Efficiency of Charter Schools: A Cost Frontier Approach. *Economics of Education Review*. (in press):
<http://www.sciencedirect.com/science/article/pii/S027277571100104X>

54 <http://www.ode.state.oh.us/GD/Templates/Pages/ODE/ODEDetail.aspx?page=3&TopicRelationID=998&ContentID=2305&Content=115088>

55 Allison, G.S., Honegger, S.D., & Johnson, F. (2009). *Financial Accounting for Local and State School Systems: 2009 Edition* (NCES 2009-325). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

56 <http://www2.census.gov/govs/school/09f33pub.pdf>

57 <http://www.ode.state.oh.us/GD/DocumentManagement/DocumentDownload.aspx?DocumentID=5454>

58 Calculation based on Census Fiscal Survey of Local Governments—Public School Finance (F-33) from 2007-2009.

59 For more specific information on the current expenditure measures used herein, for Texas see:
<http://www.tea.state.tx.us/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=2147491750&libID=2147491747> & charter supplement
<http://www.tea.state.tx.us/WorkArea/linkit.aspx?LinkIdentifier=id&ItemID=2147486723&libID=2147486722>,
and for Ohio see:
<http://www.ode.state.oh.us/GD/DocumentManagement/DocumentDownload.aspx?DocumentID=5454>

60 Taylor, L.L. Alford, B.L., Rollins, K.G., Brown, D.B., Stillisano, J.R., & Waxman, H.C. (2011) *Evaluation of Texas Charter Schools 2009-2010* (Revised Draft). College Station, TX: Texas Education Research Center. Texas A&M University.

61 Harmony schools import large numbers of their teachers on H-1 visas, primarily from Turkey:
<http://www.mysanantonio.com/news/education/article/Harmony-schools-causing-discord-2435402.php>. Similar analyses we have conducted in New Jersey on teacher salary structures in schools including Paterson Science and Technology and Central Jersey College prep, both of which also recruit teachers from Turkey in particular, show similarly flat salary distributions and much lower than surrounding public school districts and other charter schools. Details available on request from authors.