

School Choice and School Performance in the New York City Public Schools - Will the Past be Prologue?

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EXECUTIVE SUMMARY

The New York City public schools are remarkably different today than they were when Michael Bloomberg was first sworn in as mayor in 2002. One prominent dimension of change has been the expansion of school choice and school competition.

The availability of alternatives to traditional public schools has increased dramatically in New York City over the past decade. There were only 22 charter schools in the city in 2003-2004, whereas there were 159 admitting students in 2012-2013. The growth of new regular public schools has been even greater, with approximately 60 new schools opening each year from 2003 to the present. These new schools include 123 small non-selective high schools intended to serve students in the city's poorest neighborhoods and to provide an alternative to the many large high schools that were closed by the Bloomberg administration because of persistent low performance.¹

The process by which students are assigned to NYC public high schools has also changed fundamentally. In 2004, a universal high school choice process was implemented. Under this system, all incoming high school freshmen are required to rank up to 12 programs they would like to attend. There is no default school assignment, meaning everyone has to choose.



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These changes in choice have been associated with improvements in student outcomes relative to the four other big districts in New York as well as New York State as a whole. For example, from 2004-2005 to 2011-2012, NYC's high school graduation rate increased by 18 percentage points, whereas the increase for the state and the four other big districts was only about half that. Large gains relative to the state and other large districts have also been registered on state tests of academic achievement.

Improvements in the outcomes for students in the NYC schools could be due to many other factors besides school choice. To identify the causal impact of school choice, we examine research that has specifically scrutinized the impact of new schools and charter schools on student outcomes. Two recent rigorous evaluations have found that NYC charter schools are, on average, doing a substantially better job for students than the regular public schools with which they directly compete. For example, student gains in math in charter schools compared to traditional public schools are equivalent to roughly five additional months of schooling in a single school year. Likewise, students attending the small high schools of choice opened by the Bloomberg administration have high school graduation rates that are about 10 percentage points greater than students who wanted to attend these same schools but lost a lottery for admission.

Despite these movements toward greater school choice and competition, and the corresponding improvements in student outcomes, there is much work to be done to provide the students of New York City with a world class public education and an ideal system of school choice. Our recommendations for further improving choice and competition in New York City are to:

- Remove remaining residential preferences for school assignment, as well as other screening procedures that are not essential to the mission of a school.
- Expand the centralized application and admissions process so that it includes all public schools.
- Simplify the application and admission process by including all charter schools and interested private schools in a process that has one application, one timetable, and one offer of admission.



- Take significantly greater care to assure that the economic, educational, and residential advantages of students' parents are not reflected in the quality of the public schools to which students are assigned:
 - » Replace chronically low performing schools in poor neighborhoods with new schools.
 - » Increase the number of charter schools in areas with traditionally low performing public schools.
 - » Use the student assignment philosophy of Educational Option schools in a larger proportion of schools to achieve a balanced distribution of students.
 - » Improve substantially the web-based process by which parents/students express their preference for schools.
 - » Strengthen district-wide policies that enhance the effectiveness of the teacher workforce and the teaching tools at their disposal.



Introduction

The New York City public schools are remarkably different today than they were when Michael Bloomberg was first sworn in as mayor in 2002. Prior to his administration, 32 community school boards and a Board of Education were responsible for the schools. Early in the first Bloomberg administration, authority was centralized in the office of the chancellor, reporting directly to the mayor. Mayoral control allowed for a significant number of changes in the organization and delivery of public education that might not otherwise have occurred or that might have occurred more slowly under the previous system of dispersed authority.

Changes to public education under the Bloomberg administration encompass areas such as expanding the pipeline for new teachers, ending social promotion, rewarding high performing teachers and principals, and reducing the bureaucracy. This report focuses on one prominent dimension of change among many, but one that was a conceptual foundation for many other elements of reform: the expansion of school choice and school competition. We address:

- changes in the availability of alternatives to traditional public schools, in particular the growth in charter schools and new small non-selective high schools;
- changes in the formal process by which children are assigned to schools to incorporate parental/student choice;
- changes in school performance as indicated through standardized test scores and high school graduation rates;
- evidence that bears on the causal relationship between public school choice and improved student outcomes;
- characteristics of the present school choice system, including comparisons with other large cities; and
- areas in which school choice and competition can be improved.

Growth in alternative public schools of choice

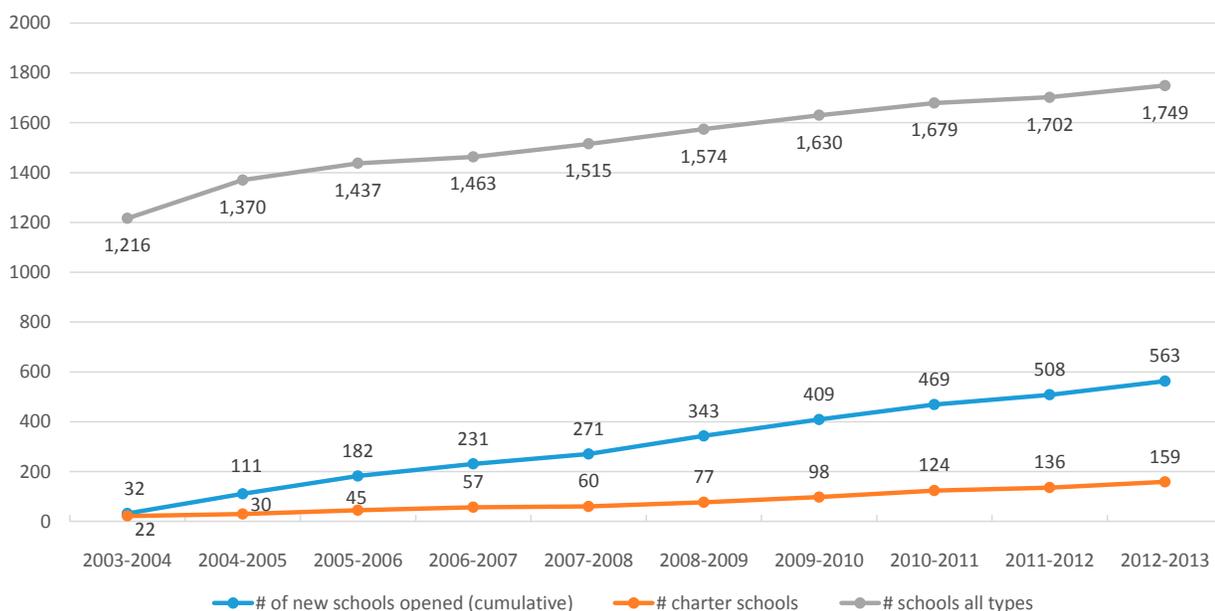
During the Bloomberg administration there have been dramatic annual and cumulative increases in the number of public schools of choice that are alternatives to traditional neighborhood schools. As displayed in the figure below,² there were 22 charter schools in the city in 2003-2004, whereas there were 159 in 2012-13. The growth in the number of new regular public schools has been even greater, with roughly 60 opening each year in the last decade. Charter schools presently serve about five percent of the public school students in NYC, whereas new schools directly managed by the



district serve over 13 percent. The total population of students served by the New York public schools remained relatively stable over this period, at a little over one million. Presently, 18 percent of the NYC public school population, or roughly two hundred thousand students, are being served by schools that came into existence during the Bloomberg administration.

The most interesting and intensively examined of these new schools are the small non-selective high schools intended to serve students in the city’s poorest neighborhoods and to provide an alternative to large high schools that were closed by the Bloomberg administration because of persistent low performance.

Figure 1. New York City Public Schools: Growth in Charter and New Schools



The choice process

The process by which students are assigned to NYC public high schools has changed fundamentally. Prior to the Bloomberg administration, nearly all students were given a default assignment to the school within their community school district that was geographically closest to their place of residence. The principal exceptions to these so-called zip code assignments were for specialized schools that were city-wide and had competitive entrance requirements, e.g., Bronx High School of Science. In 2004, a universal high school choice process was implemented. Under the new system,

which prevails to the present, all incoming high school freshmen are required to rank up to 12 programs they would like to attend. There is no default school assignment, i.e., everyone has to choose. A centralized computer-based algorithm designed to produce the smallest overall discrepancy between choices and outcomes assigns students to schools. In unscreened high schools, only the students' expressed preferences drive the algorithm, whereas in other schools, several factors may enter into the selection process, as described in the following table.

NYC Public High School Programs by Admissions Requirements

- **Audition** - Programs that require that a student demonstrate proficiency in the specific performing arts/visual arts area for that program.
- **Educational Option** - Programs designed to produce a distribution of students based on prior standardized test score, i.e., 16% high, 68% middle, and 16% low. Half the students are chosen by the school administration and half are selected based on the computerized matching algorithm.
- **Limited Unscreened** - Programs that give priority to students who demonstrate interest in the school by attending a school's Information Session or Open House events or visiting the school's exhibit at any one of the High School Fairs.
- **Screened** - Programs in which students are ranked by a school based on the student's final 7th grade report card grades and reading and math standardized scores. Attendance and punctuality are also considered. There may also be other items that schools require to screen applicants such as an interview, essay or additional diagnostic test score.
- **Test** - Programs that require the student to take the Specialized High Schools Admissions Test (SHSAT) for entrance. For the Specialized High Schools requiring the SHSAT, only the test score determines eligibility.
- **Unscreened** - Programs in which students who apply are assigned by computer algorithm entirely based on their rankings.
- **Zoned** - Programs that give priority to students who apply and live in the geographic zoned area of the high school. There are zoned high schools in Brooklyn, Staten Island, Queens and the Bronx.

The process for student assignment to elementary schools is not uniformly administered and remains subject to local control, as it was prior to the Bloomberg administration. The middle school assignment process is now largely centrally administered but operates under each community district's rules. The districts vary widely in their degree of choice, with some offering considerable choice, particularly for middle schools, and others still relying on default school assignments based on zip code.

Charter schools are open to any student regardless of place of residence, though state law requires charter schools to give priority to students residing within the district in

which the school is located. Prospective students must apply to each charter school. Students are not screened. Charter schools that are over-subscribed carry out their own lotteries to determine who will be admitted.

The city is introducing a citywide application process for kindergarten admission for 2014 that will work much like the high school admissions process in three community districts that are choice districts. Admission to kindergarten in other community school districts will follow each district's rules, which typically prioritize place of residence. What is new is that the process will be managed centrally, which means that nearly all parents only have to apply once by listing their preferences and will receive only one offer.

Performance of the choice system

There are several rationales for preferring a system in which parents choose schools over a system in which school districts assign students to schools, including:

- Parental preference - Large proportions of parents of school-aged children want choice.
- Equity - Parents of means can choose a school through purchase of a home whereas parents do not have that option under traditional residential assignment rules.
- Innovation - Systems in which parents choose schools typically allow new entrants into the market that do things differently and disrupt the status quo.
- Productivity - Systems in which schools compete for students provide an incentive for schools to produce better outcomes in the form of student achievement and parental satisfaction.

There is evidence for each of these rationales in the experience of the NYC public schools with expanded school choice.

Parental preference. Large proportions of charter schools and choice schools in NYC are oversubscribed. For the 2012-2013 school year, more than 69,000 families applied for only 18,600 available spots in charter schools, leaving more than 50,000 on a waitlist. For applications to district-run high schools, students on average listed seven programs in their rankings, and had about a 50 percent chance of getting their first choice.³

Of course, parents and their children are forced to choose a high school, so their engagement in choice and the resulting oversubscription of many schools do not necessarily demonstrate that they prefer choice. But if parents and students are merely going through the choice process as a pro forma exercise, then the schools they choose should be determined largely by geography. In other words, they should choose the school closest to where they live and to which they would have been assigned under the previous system. However, only 14 percent of participants in the NYC high school choice process list as their first choice the school that is closest to their residence. On average students are willing to travel over two miles to attend their first choice school.⁴

These findings are consistent with national survey data⁵: 27 percent of parents report that they moved to their neighborhood of residence because of the schools. Another 16 percent have enrolled their children in public schools of choice, including charter schools and magnet schools. And 11 percent have their children in private schools despite the fact that they are paying twice for their children's education, once in taxes and again in tuition. Thus over 50 percent of parents of school-aged children in the U.S. already engage voluntarily in school choice. There seems little reason to doubt that NYC parents also prefer to be able to choose where their child goes to school. At least at the high school level, those who want to choose have been empowered to do so by the Bloomberg administration.

Socioeconomic equity. The equity goals of school choice have three interrelated components: opportunity, activity, and results. Disadvantaged families should have the same opportunity to choose as more advantaged families. Those families should take advantage of the opportunity to choose as actively as their more affluent counterparts. And finally the choices of more- and less-advantaged families should lead to school assignments that are not badly skewed in terms of school quality.

At the high school level in NYC, everybody is forced to choose. Thus equity in opportunity has been realized simply by the design of the system.

Evidence indicates that equity has also been achieved in the activity of choosing. The following table represents the number of choices made in the NYC high school application process by various groups of students in 2008.⁶ The only notable difference is between minority students and whites, with minorities being more active. Thus, the high school choice process in NYC has created the opportunity for

disadvantaged parents and students to choose on par with more advantaged students, and they take advantage of the opportunity with higher numbers of choices.

Table 1. Number of Choices Made by Students in the NYC High School Application Process

Group	Number of Choices	Group	Number of Choices
All public	7.2	Female	7.3
Bottom 1/3 math	6.6	Black	8.2
Top 1/3 math	7.6	White	4.7
Free lunch eligible	7.6	Hispanic	7.6
ELL	6.9	Asian	6.0
Special education	7.1	Recent immigrant	6.5

The third equity goal of school choice, equivalence of school quality, is hard to achieve because of two factors. The first is the historical relationship between school and neighborhood quality. In fact, the principal reason to end zip code education from an equity perspective is that neighborhoods in which there are high proportions of poor and minority residents have nearly always been shortchanged when it comes to school quality. But there is a practical limit to how far students will travel or should be expected to travel to access a better school. This means that there are typically fewer high quality schools in the geographically accessible reach of disadvantaged families than of advantaged families (think of affluent areas of Manhattan vs. the south Bronx). The efforts of the Bloomberg administration to locate new smaller high schools in traditionally poor neighborhoods and to encourage charter school expansion in those same areas have weakened the link between geography and school quality, but that link is still a reality.

The second factor, self-sorting, is even more difficult to address. The phenomenon, as prevalent in college choice as in high school choice in NYC, is that students tend to prefer a school that includes students similar to them. This means that lower income, lower achieving minority students compared to their more advantaged peers are more likely to have as their first choice a lower performing high minority school. And since the algorithm for high school assignment is driven by the expressed preference of applicants in unscreened schools and includes expressed preference as part of the calculation in all high school assignments, schools tend towards stratification based on socioeconomic background.

The following table indicates that in the 2008 high school choice process in NYC, black students' first choice high schools had lower reading scores and were more racially segregated than the first choice schools of all students.⁷ Whatever the reason, the self-sorting of students through choice into schools that differ in performance undermines the equity goals of choice.

Table 2. Characteristics of Students' First Choice High School

Group	Reading z-score in 1 st choice high school	Percent black in 1 st choice high school
All public	0.18	29.7
Black	0.09	43.9

Innovation. Public school choice can be realized entirely by instituting an open admissions process in lieu of traditional school assignments that are based on place of residence. But the reality across the country and in NYC is that increases in the opportunity for families to choose schools have been accompanied by expansion of the types of schools that can be chosen. The first prevalent form of this association occurred with the introduction in the 1960s and the subsequent substantial growth of magnet schools. Presently, about three percent of public schools in the U.S. are classified as magnets.⁸ These are public schools of choice with a special theme or strength. They were intended, at least initially, to draw students from more advantaged backgrounds into schools in neighborhoods or cities that were experiencing substantial middle-class flight. The effort to attract students who would not consider attending a traditional school in the same location required innovation, at least around school focus and mission. But because magnet schools nearly always operate under the same district rules and regulations as traditional public schools, opportunities for innovation are constrained.

Charter schools have changed that equation. Charter schools are public schools that operate largely independent of the school districts in which they are geographically situated. They are constrained by state and federal rules, the terms of their authorizing charter, and whatever oversight is provided by the entity to which the state has delegated that responsibility. Otherwise they are free to organize themselves and provide education as they see fit, subject to the market reality that their taxpayer funding is determined by their student head count. Thus they need to be sufficiently popular with parents and prospective students to generate at least as much demand for admission as they have seats to fill.

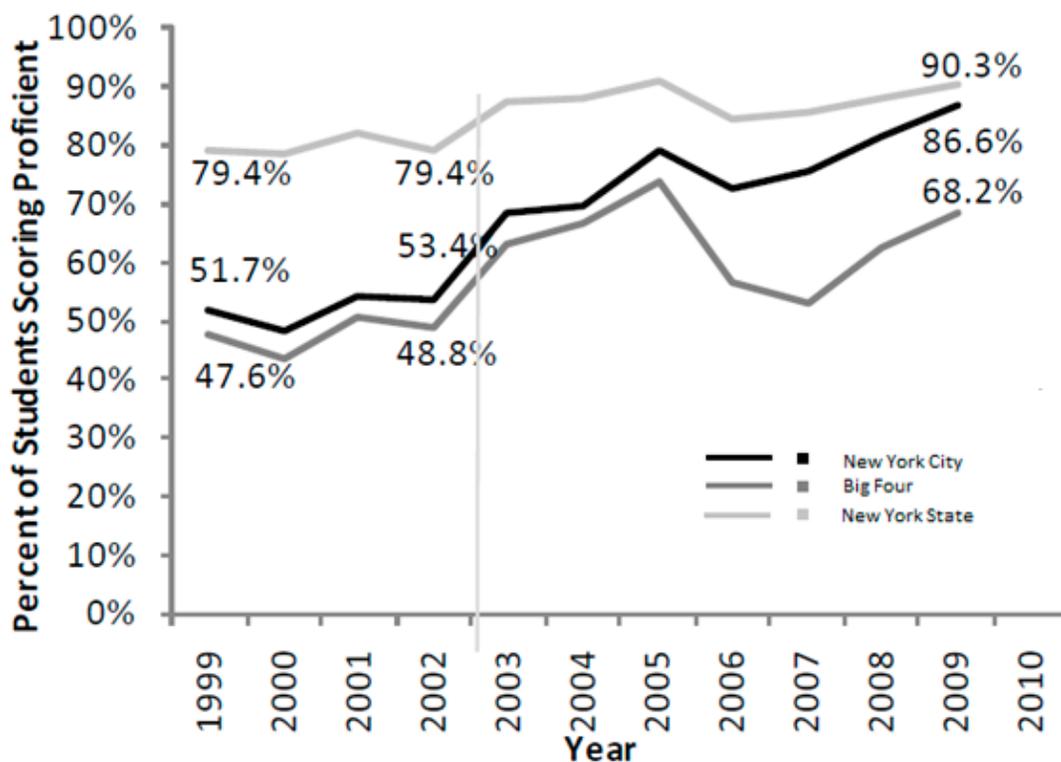
Many charter school operators have used the opportunity provided by their relative freedom from legacy district rules and regulations to organize and deliver education in innovative ways. For example, charter schools in NYC that are the most successful in raising student achievement typically have a rewards and penalties disciplinary policy; teacher pay based somewhat on performance or duties, as opposed to a traditional pay scale based strictly on seniority and credentials; a mission statement that emphasizes academic performance, as opposed to other goals; and a longer school year than the regular public schools.⁹ Charter schools originated and lead the movement towards blended learning, in which students spend a portion of their day working on a computer with internet-delivered content and another portion interacting with teachers. Some have experimented with wrap around programs that place the school at the center of a web of services that are intended to serve the whole family.¹⁰ Nearly all intend to deliver a school culture in which there are high expectations for academic success, low tolerance for misbehavior, and caring relationships between teachers and students. Some of these same features are part of the design of new smaller high schools opened by the Bloomberg administration. Others, such as blended learning, are percolating into regular public schools. The point, here, is not that these features are good or bad, but that they are innovative and depended on an environment of school choice to emerge.

Productivity. In the context of public education, productivity can be evidenced through control of costs, improvements in outcomes, and both. There is no single approach to measuring productivity: different assumptions and different measures will lead to different outcomes. Perhaps the most thorough effort to address differences in productivity among school districts in the U.S. has been carried out by the Center for American Progress, a Washington D.C. liberal/progressive think tank. They examined the relationship between the amount of money school districts spend (after adjusting for differences in cost of living and student needs) and their students' academic achievement on state tests. For 2011, their report places the New York City public schools in the highest level of return on investment relative to what would be predicted after accounting for per-pupil spending and percentage of students in special programs such as students receiving subsidized lunches.¹¹ This is to say that, relative to the needs of students it serves and the high costs associated with delivering a service in NYC, the public schools deliver an excellent return on investment.

The outcomes portion of the productivity equation has been explored in greater detail by James Kemple at the Research Alliance for New York City Schools. The figure

below, adapted from Kemple,¹² displays changes in the actual percent of students scoring proficient on 4th grade mathematics on the state assessment from 1999 to 2010 for New York City, the Big Four (the four other largest districts in New York), and New York State as a whole. The vertical line between 2002 and 2003 represents the beginning of the Bloomberg administration reforms. The interpretation supported by this figure is that academic performance in New York City improved in lock step with the other large urban districts in New York State from 1999 to 2005, whereas thereafter, New York City broke away from the pack and has come close to achieving parity with the state as a whole.¹³

Figure 2. Percent of Students Scoring Proficient on 4th Grade Mathematics (1999-2010)

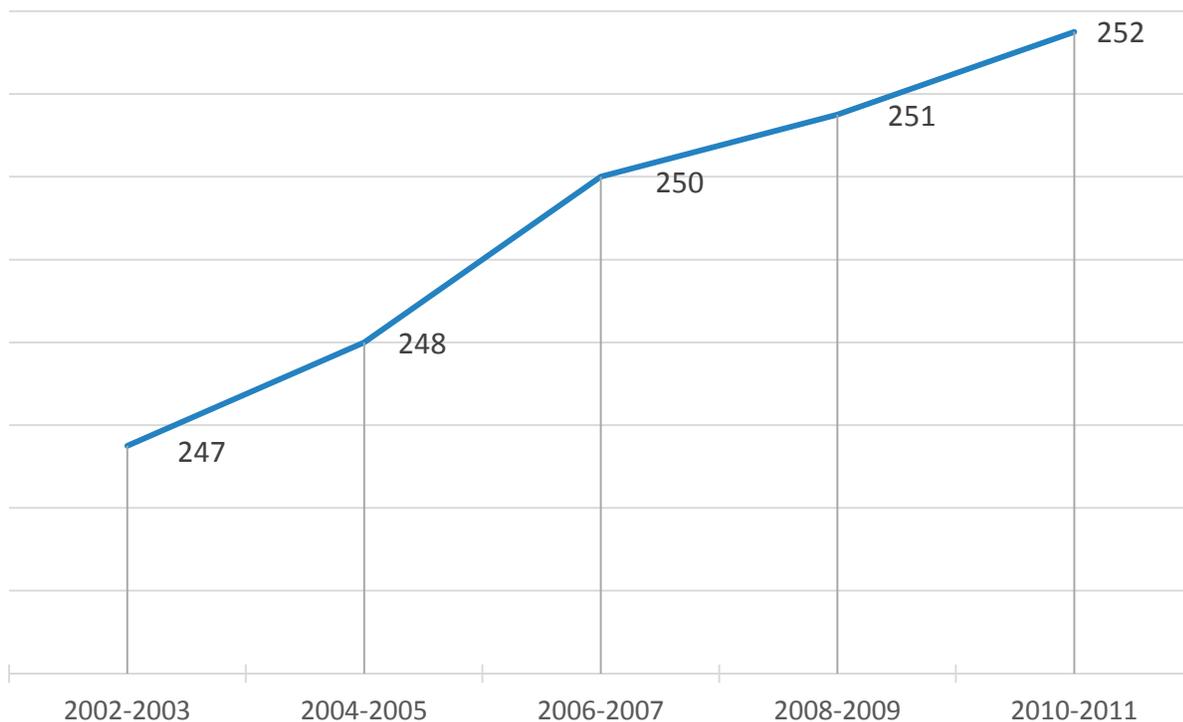


These are unadjusted scores. But NYC has much higher proportions of poor and minority students and many more very large schools than the state as a whole. When the trend line is adjusted for these differences, New York City pulls substantially ahead of the state as a whole.

The NYC public schools have also shown increases in student achievement on the National Assessment of Education Progress (NAEP), which is administered every other

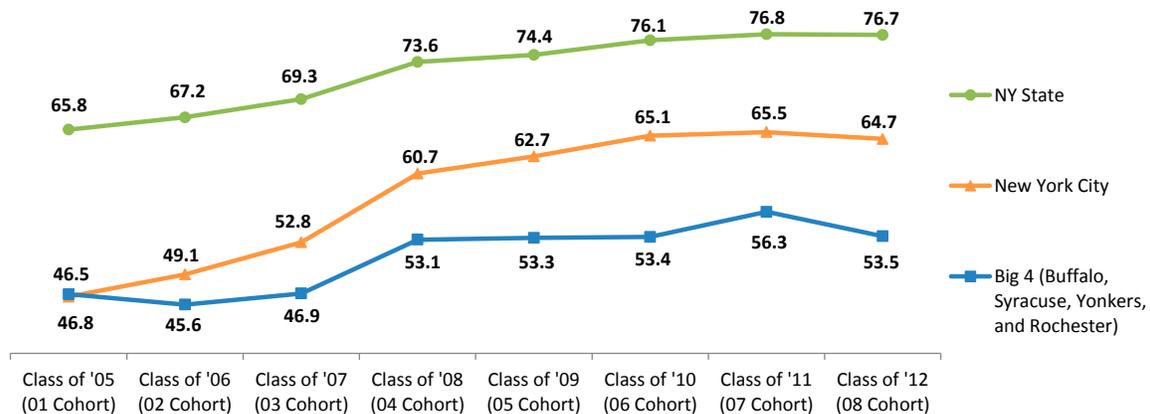
year to a representative sample of students in each of the 50 states and, depending on the year, up to 17 large urban districts. NAEP tests are administered in mathematics and reading at 4th and 8th grade. Longitudinal results for those four assessments (two subjects in two grades) are represented in the following figure as the average scale score across the four assessments each year. Since 2002-2003, NAEP scores have increased by 5 points in NYC, which is exactly the increase experienced by the nation as a whole over the same period.

Figure 3. Mean NAEP Score NYC Public Schools (combining math and reading at grades 4 & 8)



The NYC public schools have also shown gains in higher school graduation rates relative to the state and the big four as illustrated in the following figure.¹⁴ Over the period from 2004-2005 to 2011-2012, NYC’s high school graduation rate (calculated using the state mandated method) increased 18 percentage points, whereas the rate for the state and the other big four districts increased at only about half as much. A comparison with the nation as a whole is only possible through the 2009-2010 school year (the latest for which national data are presently available). During that period, the national graduation rate (calculated by a slightly different method than the New York rate) increased by about three percentage points, whereas the New York City rate increased six times as much.¹⁵

Figure 4. Public High School Graduation Rates in New York City, the State, and other Large Districts



In summary, the New York City public schools have improved at a much faster rate on student achievement on state tests and on high school graduation rates than the state as a whole or the other large districts in the state in the latter half of the Bloomberg administration. The improvement on high school graduation rates is substantially higher than that for the nation, whereas growth in academic achievement has kept pace with the nation.

Evidence for a causal relationship between school choice and increases in student achievement

We have documented a substantial increase in school choice in NYC that is associated with improvements in student outcomes relatively to the other big districts in New York as well as relative to New York State as a whole. But correlation is not causation. Improvements in the outcomes for students in the New York City schools could be due to many factors that lie outside the schools themselves, or outside the influence of school choice. For example, the period between 2002 and 2009 was one of robust economic growth for the nation and for New York City. The unemployment rate in NYC in 2002 was about eight percent. By 2008 it was around five percent. Crime rates dropped continuously during the Bloomberg years, continuing a pre-existing trend. Student achievement in school is related to parental employment and crime, among other things. How can we rule out the contribution of such out-of-school factors to the improvements in academic achievement and graduation rates during the Bloomberg

administration? Likewise, during the Bloomberg years there were many policy changes within the New York City schools in addition to the expansion of choice. For example, the city created or expanded the pipeline for new teachers from non-traditional training programs, including Teach for America and the Teaching Fellows program. In so doing it helped make NYC an attractive place for new teachers to want to work. For example, in 2012 the city had 11,804 applicants for 850 teaching fellow positions.¹⁶ In some years, well over 20 percent of new hires came from these nontraditional and highly selective routes. How do we know that improvements in productivity in the NYC schools aren't due in whole or in part to improvements in the teacher workforce rather in changes in the choice and competition?

The answer to both these questions is that we cannot rule out or account for the influence of out-of-school factors or other policy changes within the schools when looking at overall trends in student outcomes in NYC. School reform in the city has been a soupy mix in which the ingredients blend together and are influenced by cultural and economic contexts.

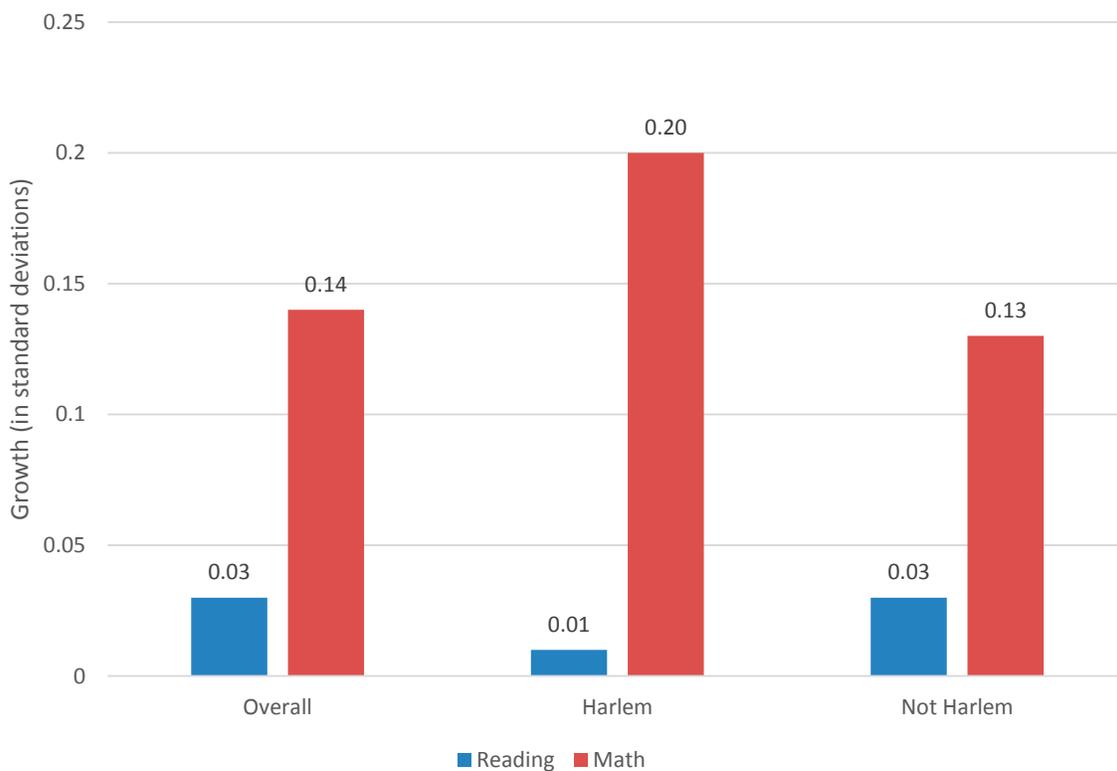
We can, however, address the unique contribution of charter schools and new smaller high schools to changes in student outcomes. These providers are a critical part of the new environment of school choice in NYC. The question is whether they do a better job than the traditional schools that are the alternatives.

A recent study by the Center for Research on Education Outcomes at Stanford University compared academic growth for students in NYC charter schools with that of comparable students at the traditional school most likely to be the feeder school for each of the charters.¹⁷ The figure below represents the differences in student gains between the charters and regular schools between 2007 and 2011 in standard deviation units. When the effect size units in the figure are translated into months of learning per year, charter students in New York City gained an additional one month of learning in reading over their traditional public school counterparts per year of schooling. In math, the advantage for charter students was about five months of additional learning for each school year. In other words, the typical student who remained in a NYC charter school for four years was about two years ahead of his or her traditional public school counterpart on math and four months ahead on reading.

These are very large effects, which are closely in line with prior estimates derived from a study of a subset of these schools in which results were compared for children who

won or lost a lottery for admission.¹⁸ Such a lottery provides the basis for a randomized trial, which is a methodology that generates estimates that are more trustworthy than those obtained from a matching process such as that employed to generate the data in the following figure. The convergence of the estimates from these two very different methods of comparing the effectiveness of charter and regular public schools provides convincing evidence that NYC charter schools are, on average, doing a substantially better job for students than the regular public schools with which they directly compete.

Figure 5. Performance of Charters Relative to Comparable Public Schools (2007 to 2011)



A second line of research bearing on the causal relationship between school choice and student outcomes has examined the performance of 123 of the small high schools of choice in New York City that were opened by the Bloomberg administration to provide an alternative to the large traditional comprehensive high schools that had previously been the only option for most disadvantaged students of color.¹⁹ The popularity of the new small high schools resulted in their being oversubscribed. A lottery was used to make admission decisions. Following outcomes for students who won vs. lost the

lottery is effectively a randomized trial, the strongest method for determining program effects in education.

These schools have produced sustained positive effects, raising graduation rates by 9.5 percentage points and college readiness rates by 6.8 percentage points compared to the outcomes for students who sought to attend these schools but lost the admission lottery. Some considerable amount of the progress that NYC has shown in overall high school graduation rates is due to the contribution of these small high schools of choice.

Characteristics of the present school choice system

The Brown Center for Education Policy at Brookings produces an annual report examining the state of school choice and competition in the 100 largest school districts in the U.S., plus selected smaller districts that are particularly interesting in terms of their choice policies. Our Education Choice and Competition Index (ECCI) provides a measure of the quality of choice and competition within the geographical boundaries of large school districts. Information from the ECCI is conveyed through a public [website](#).

The ECCI is based on formal scoring rubrics within thirteen categories of policy and practice that are important to the availability and quality of choice and to the competition created by choice among providers of education services. The data on which districts are scored are derived largely from the federal government's National Center for Education Statistics. For categories for which no federal data are available, information is derived from school district websites and interviews with district staff. The ECCI generates overall letter grades for each of the 100+ school districts and provides detailed information and scores for each of the underlying categories on which the overall letter grades are based.

The ECCI is grounded in the conceptual model and policy recommendations of the Brown Center Task Force on Choice and Competition in K-12 Education.²⁰ The Task Force framed its work within the realities of large variation in the quality of public schools, widespread selection of schools by choice of place of residence, and choice being exercised predominantly within the public sector.

In general, a high score on the ECCI requires that the geographical area served by a school district provides parents of school-aged children with:

- Maximum choice, including:
 - » good traditional public schools
 - » magnet schools

- » charter schools
- » affordable private schools
- » virtual education
- A choice process that maximizes the match between parental preference and school assignment, including:
 - » no default (everyone must choose)
 - » a common application
 - » rich and valid information on school performance (including test results that incorporate growth and are comparable across all schools)
 - » clear presentation of information (including support for less educated parents)
- Funding and management processes that favor the growth of popular schools at the expense of unpopular schools, including:
 - » weighted student-based funding in which a high proportion of the total local, state, and federal funding follows students to their schools of choice
 - » processes for closing unpopular schools
- Subsidies for the costs of choice for poor families, particularly for transportation

The ECCI report for 2013 has not yet been released, but the scoring for New York City has been completed. New York City received the highest score among the 100 largest school districts in the previous two iterations of the ECCI. It also scores at a high level for 2013.²¹

NYC scores particularly well with respect to its choice process, policies for closing unpopular schools, and information provision to parents and students.

- *Choice process.* The city is exceptional relative to other large districts in its use of a centralized computer-based algorithm to assign public high students to schools in such a way as to maximize the match between student preferences and school assignment, conditional on any admission requirements exercised by the school. Students apply once and receive one offer, assuming they can match with one of the schools they have listed among their choices. This is a far better system than others that are used in most other districts that provide choice.

Consider the assignment mechanism used in Washington, D.C. vs. the one used in the NYC. In D.C., oversubscribed out-of-boundary public schools each use a lottery for admission, with each school conducting its own lottery. Parents apply to each charter school individually. Applications to out-of-boundary public schools are centralized but each public school has its own lottery. Every child has a chance of being admitted to a particular school that is proportional to the number of seats and the number of applicants. The child's chance of admission has nothing to do with the parents' preference for that school -- a parent who has placed her child in the lottery for a school that is far down on her preference list has exactly the same chance of having her child admitted to that school as a parent within the same lottery who strongly prefers that school. The best strategy for a parent would be to apply to as many schools as possible and then accept the offer of admission that comes from the most preferred school. But to the extent that large numbers of parents play this game, the result is that every school is heavily oversubscribed and school assignments approach randomness with respect to parental preferences. Further, the true popularity of schools is masked. In this sense it is like what happened to selective colleges and universities when they switched to a common, easily completed, online application process -- their application rates soared and they seemed all of a sudden to become more popular and more selective when in fact they were neither.

In contrast, in NYC, the computer-based matching algorithms, which are based on work for which Alvin Roth and Lloyd Shapley shared the Nobel Memorial Prize in Economics for 2012, create assignments that result in the smallest possible mathematical difference between the expressed choices and assignments over the whole population of parents exercising choice.

Although the city does better than other large districts in its choice mechanism, there is still substantial room for improvement, which we will address subsequently.

- *Closing unpopular schools.* NYC scores particularly well in terms of its policies for restructuring or closing undersubscribed schools. The NYC Department of Education has a published regulation citing school demand as contributing factor for closure, and has a history of closing large

numbers of schools that have demonstrated poor academic performance and low interest from families.

- *Information to support choice.* NYC has greatly improved the way information is presented to parents on its main website. Even two years ago, enrollment information was overwhelming and not organized in a clear fashion. The redesign of the Choices and Enrollment section of the website has made it much easier for parents to narrow down information, helping NYC to rise on the ECCE in a number of categories. At the same time, substantial improvements could be made in the information on schools that is provided to parents and how it is delivered. The individual school progress reports and accountability report cards are complicated, obtuse, and not available in a form that provides easy side-by-side comparisons of programs on dimensions that are important to individual parents. Why should it be so much easier to shop for a college using a tool such as the federal government's College Navigator than to shop for a high school in NYC?

Areas in which NYC is weaker compared to other large districts include:

- *Availability of alternative schools.* Only 16 percent of NYC students attend a charter, magnet, or affordable private school.²² Other large districts, e.g., Washington, D.C., Duval County, FL, Minneapolis, and New Orleans, have much higher proportions of students attending schools that are alternatives to traditional public schools. These options not only provide the opportunity for a better match between parent/student preferences and placements, they also provide more competition among all the education providers in the market place.
- *Application process.* While all public high schools are included in the application process, regular elementary schools and some middle schools are not. Charter schools carry out their own application process. Compare this, for example, to the Recovery School District (RSD) in New Orleans, which uses a single system that includes not only RSD-operated schools but also charter schools, Orleans Parish School Board schools, and private schools participating in the Louisiana Scholarship Program. The New Orleans model is close to optimal in terms of convenience for parents, the difficulty of gaming the system, and the likelihood of the best match between the parent/student true preference and the resulting assignment. NYC has a way to go to reach this ideal.

Policy Recommendations

The New York City public schools have shown considerable progress since 2002. This is evident in processes such as those involving school choice, but most importantly in student outcomes, including scores on statewide achievement tests and high school graduation rates. There is strong evidence from randomized trials that some components of the choice environment in NYC, particularly charter schools and the new smaller high schools, have played a significant role in the improvement in student outcomes.

There is also little doubt that the continuity of leadership and education policies since 2002 has provided a backdrop for the many changes in the NYC public schools. The average tenure of an urban district school superintendent is about 3.5 years,²³ with every change at the top generating an overhaul of people and policies. Whatever one's policy preferences for the NYC schools, churning leadership should not be part of the equation.

There is much work to be done to provide the students of New York City with a world class public education. Important choices face the new mayor when he assumes office in 2014. We believe the available evidence points to the value of education choice and competition for enhancing equity, innovation, and student outcomes, as well as serving the preference of the majority of parents to be able to choose where they send their child to school. But the value of choice and competition is a function of the degree to which it is well-designed and implemented as well as the broader policy context in which it is embedded.

Our discussion of NYC's areas of strength and weakness on the Education Choice and Competition Index provides a guide to some areas of needed improvement. The city is a national leader in providing school choice, but every large district, including New York, has a long way to go to achieve an ideal system of school choice. Our recommendations for improving school choice and competition in NYC are to:

- Expand the centralized application and admissions process so that it includes all public schools.
- Remove remaining residential preferences for school assignment, as well as other screening procedures that are not essential to the mission of a school (exams for exam schools are essential, whereas having the administrators of

Education Option schools pick half the students or administrators in other schools prioritize admission of students who show up for a school fair is unnecessary and inequitable to families).

- Include charter schools and such private schools as are interested in a one application, one timetable, one offer of admission application process. The current mish mash is confusing, burdensome, and disadvantageous to less educated and motivated parents. New Orleans has accomplished a fully modern application system. NYC should take the next step.
- Much work is needed to assure that the economic, educational, and residential advantages of students' parents are not reflected in the quality of the public schools to which students are assigned. In the current high school choice system, and certainly in the expanded all-grades, citywide system we recommend, parents and students from low-income, traditionally disadvantaged populations need help in obtaining equitable access to good schools. There is no single answer to how to provide such access. Important strategies will include:
 - » continued replacement of chronically low performing schools in poor neighborhoods with new schools,
 - » increasing the number of charter schools in areas with traditionally low performing public schools,
 - » using the student assignment design philosophy for Educational Option schools in a larger proportion of schools to achieve a balanced distribution of students in most schools, and
 - » improving substantially the web-based process by which parents/students express their preference for schools to include --
 - the ability of parents to rank and select schools based on their own information priorities,
 - more consumer satisfaction information on individual schools,
 - the incorporation of nudges to parents to consider schools that may be a good choice for their child, and
 - independent choice portals linked to the district's system to introduce innovation and improvement into the face of the city's choice process.

School choice and competition are important and empirically promising components of efforts to reform public schools and provide a good education for all children. But choice and competition are not a panacea, for several reasons. These include that education, like health care, is heavily regulated and therefore does not respond to market principles in the way that an unregulated or lightly regulated market would.



If, for example, a restaurant is losing customers because of a bad chef, the owner can replace the chef. A hospital administrator is unlikely to have that much flexibility with regard to an underperforming physician and a school principal very rarely can dismiss an ineffective teacher.

Education is also a very complex service for which to shop, with limited opportunities to repair bad decisions. If someone chooses a restaurant with bad service, or questionable food, or unreasonable prices, that person has the opportunity to make a better choice the next time out. And they likely know what they like and can consult a variety of online information sources or friends to gather relevant information to help make a good choice in the first place. The choice of a high school is not similarly guided by strong tastes developed through past experience, or good sources of information, or the ability to easily recover from a bad decision.

Most importantly, the competition between restaurants or stores or manufacturers or airlines is, absent a truly disruptive innovation, carried out within known parameters. If you are an airline you can compete on price, convenience, seat pitch, loyalty programs, and so forth, and management knows how to vary most of the relevant dimensions of each of these components. In contrast, the leadership in a school that is competing with other schools based on student achievement and parental satisfaction may be largely flying blind in terms of how to change the design and implementation of the school's characteristics so as to impact the outcomes on which they are competing. In other words, school leaders do not know enough about how to deliver an effective and satisfying education for all children to compete efficiently. And this is largely not their fault because we are at the point today in developing the knowledge base in education that we were prior to World War II in developing the knowledge base in medicine. Thus schools are left to compete with other schools based on working harder and piecemeal trial and error rather than on implementing proven practices. Competition still works but its effects are muted by the large circle of confusion around questions of what works best for whom under what circumstances.

These constraints on the leverage provided by competition mean that school districts, states, and the nation have to continue to invest in approaches that are a tide that lifts all boats. These include such things as identifying effective instructional materials; designing and implementing professional development programs that work; and deploying accountability systems that motivate and inform.

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