



# And Then There Were Ten: Equity and Adequacy of New York City Schools after Recentralization<sup>1</sup>

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## Introduction

New York City has the largest public education system in the United States, serving over 1.1 million students in 1,700 schools.<sup>2</sup> Given its size, the city school system is a good place to explore the potential associations between various educational reforms and questions of adequacy and fairness. Education research linking governance to equity and adequacy is not new (Elmore, Abelmann, and Fuhrman 1996; Ward 1991; Coleman 1986). Wise (1983) indicated that the origins of adequacy in the school finance literature probably stem from *San Antonio v. Rodriguez*, a landmark federal case in 1973. In the early stages of equity discourse, Garms (1979, 416) recognized that "...any attempt to separately analyze the effects of multiple goals must have a way of separating the allocations for those goals." This challenge remains as we consider what it means for an education system to be "adequate." The very terms begs the question, "Adequate for whom, and for what?" (Clune 1994). Guthrie (1983, 471) noted, "It is difficult to define *adequate* [emphasis in original] with respect to education. Research has provided little scientific 'truth' to help in this effort, and no uniform set of societal values exists with which to measure adequacy."

The purpose of this study was to assess the equity and adequacy of the NYC schools through analysis of the distribution of key resources before and after its 32 decentralized community school districts were recentralized into ten administrative regions in 2003. The study used a framework for assessing adequacy based on economic, sociological, and legal perspectives where the discussion is framed around adequacy of educational inputs, school processes, and educational outputs (Alexander 2004).

## Background

Researchers from a broad array of disciplines have grappled with the question of how organizational structure and governance can affect student performance. Scholars and practitioners alike have argued the benefits and disadvantages of top-down or bottom-up reform (Honig and Hatch 2004); centralization and decentralization (Weiler 1990); and loosely

coupled or open systems (Weick 1976; Sunderman, Levin, and Slee 2010). In New York City, there had been a longstanding argument to recentralize its schools that dated back to the school system's initial decentralization in the 1960s. It took more than three decades and years of lobbying on the part of New York City mayors for the pendulum to swing to mayoral control of public schools and greater centralization. This change was important because as Tyler (1987, 315) noted, "[T]he internal processes of the school [are] ... the articulation and elaboration of the inter-relationship among tasks, people, goals and structures." This articulation can affect the perceived adequacy of the educational system as a whole, from the inputs invested, to the programs offered, to the performance of the students served.

#### *Seeds of Centralization*

The early years of New York City school system were marked by corruption and a centralized system of education that promulgated that corruption. In response, the state legislature re-established an independent board of education, whose members were appointed by the mayor. However, once the membership was appointed, the board was able to operate as an independent agency; its membership had fixed terms and the power to hire the school superintendent and oversee policies. This state of affairs continued for almost a century from 1873 until 1969 (Ravitch, 2010; 1974).

In 1969, a new, more decentralized system of governance was established. Over time, schools were overseen by a seven-member board of education. Each of the city's five borough presidents selected one member of the central board with the mayor appointing two members. With this arrangement came the sharing of power between the 32 community school districts and the central school board. Members of the local community boards were elected by the general public, and they, not the central board, had authority over school personnel and budgets. However, while the vestiges of centralization were being removed, the corruption of the system remained; that is, the decentralized nature of the NYC public education system was also marked by its own issues of corruption and a lack of accountability. As noted by Moscovitch et al. (n.d., 45), "The new [1969 hybrid governance model] was large, unwieldy, and yielded virtually no academic achievement. There was little accountability amid competing power struggles between the central board of education, the community school boards, and the appointed chancellor."

#### *Quest for Mayoral Control*

New York City mayors continued to wage a battle with the local community boards in an attempt to wrest power from their grasp. In 1996, then Mayor Rudolph Giuliani achieved a victory when a state law removed the operational functions of the community school boards and detailed the power of the city chancellor of schools. The power of local boards was greatly diminished but not eliminated. While the chancellor hired all district superintendents, the choice was limited to a list approved by the community school boards. Still, governance of the school system became more centralized under this change.

In 2002, the legislature granted Mayor Bloomberg control of the New York City school system shortly after he was elected to office in that year.<sup>3</sup> The law was set to sunset in July 2009, but was renewed for another six years until June 30, 2015. The city's business community remains a strong supporter of maintaining mayoral control, but many lawmakers and interest groups, including the New York City Civil Liberties Union, have been devising plans to weaken the mayor's power.

#### *Governance and Adequacy in New York City Schools*

The years from 2002 through 2007 marked important changes in governance beyond the transfer of power from local communities to the mayor. During that time, the mayor and his appointed chancellor of schools, Joel Klein, reorganized city schools from 32 community districts into ten administrative regions. Proponents of this change argued that it would increase accountability, efficiency, and performance. While these measures are important aspects of how one assesses the success of the NYC schools, this article is primarily concerned with the associations between important changes in governance and questions of equity and adequacy.

Adequacy of inputs is aligned most closely with past research on equity of resource allocation where fiscal neutrality, horizontal equity, and legitimate differences serve as important guideposts for policymakers who seek, or are forced to consider, greater equity (Alexander 2004). Providing equity in access characterizes this focus. Miner (1983) articulated an early example of this approach when he defined adequacy by identifying the required quantity of schooling inputs per pupil and determining the unit cost based on regional differences.<sup>4</sup> However, the assumed linkage between resources and outputs remain.

That missing link is often subsumed in discussions of adequacy of schooling processes. Research in this area is grounded in sociology and often involves quantitative and/or qualitative descriptions of how schools work and the interactions among individuals within them. This research yields insights into what educational policies mean for students and other individuals who have to operate within school systems; it provides an important foundation for discussions on *how* money matters. This consideration of adequacy may be illustrated in the curricular offerings made available to students.

Discussions of adequacy bring to the discourse arguments on how these outputs may be achieved by explicitly linking schooling inputs, schooling practices, and the attainment of particular standards. While fiscal neutrality marks a focus on inputs, neutrality of results is a focus on outputs. With regard to the latter, this means there should be no systematic association between student characteristics and achievement under the appropriate funding formula for an adequate system. In this context, adequacy of outputs is reflected in the proportion of students meeting proficiency standards set by the state and local governments.<sup>5</sup>

#### **Research Methods**

This study encompasses the time period 2002-2007. These years were chosen because in 2002 the state legislature granted mayoral authority over the NYC schools that led to a

major reorganization of the school system where its 32 decentralized community school districts were recentralized into ten administrative regions in 2003. Then in 2007, the NYC schools underwent another major reorganization, and the legislature revamped the state education funding system.

Three measures of adequacy were analyzed: (1) student proficiency rates in English language arts (ELA); (2) the distribution of full-time-equivalency teachers across the school system's ten administrative regions;<sup>6</sup> and (3) the distribution of core curricular offerings. The data source for ELA student proficiency rates and number of teachers was the New York State Department of Education school report card database.

Student proficiency in English language arts was selected because research indicates that reading ability is a good proxy for future academic success (Cunha, Heckman, Lochner, and Masterov 2006; Heckman 2006; Heckman and Masterov 2007). Second, research makes clear that of the schooling factors that matter, teachers matters most. Because there is little consensus on what are good indicators of high-quality teachers (Allgood and Rice 2002), this study used the proxy measure of adequate numbers of teachers,<sup>7</sup> based upon the following prototype: 24 teachers for a prototypical elementary school (grades K-5) where prototypical was defined as an enrollment of 432 students; 18 teachers for a prototypical middle school (grades 6-8) where prototypical was defined as an enrollment of 450 students; and 24 teachers for a prototypical high school (grades 9-12) where prototypical was defined as an enrollment of 600 students.<sup>8,9</sup>

Next, the study calculated how many teachers would be considered adequate for each NYC school. First, the ratio of actual school enrollment to prototypical enrollment was calculated. Then, the ratio was multiplied by the number of teachers considered adequate for the prototypical school. For example, an elementary school with 300 students would have a ratio of .694 which would then be multiplied by 24 to yield 17 as the adequate or number of teachers for this particular elementary school. Similar steps were followed for all schools in the study. Finally, an adequacy ratio was calculated for each school by dividing the actual number of teachers employed by the adequate number of teachers required. If the ratio was equal to or greater than 1.0, the school was designated as having an adequate number of teachers. If the ratio was less than one, the school was not considered to have an adequate number of teachers. The mean and coefficient of variation were then calculated to determine the mean level of adequacy that existed across schools in terms of the number of teachers employed. The distribution of this measure was also calculated to get a sense of the equity of this distribution.

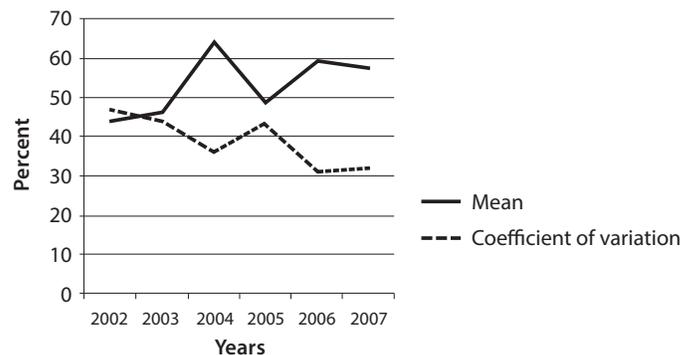
While the adequacy measures described above served as a useful proxy for the equity of the school system over the years examined, several limitations need to be acknowledged. First, to the extent the demographic makeup of the school deviated from the prototypical school as defined in this study, the adequate number of teachers needed may be under- or overestimated. Second, the calculation of the adequate number of teachers needed presumed a prototypical schooling organization that spanned specified grade levels. To the

extent that schools did not fit the prototypical grade format, the recommendation regarding the number of core teachers needed may be inaccurate. Fourth, the process of calculating an adequate number of teachers by school does not speak to their knowledge, skills, and dispositions, all of which could influence student performance and the equity of opportunities afforded to children. Notwithstanding these limitations, important insights regarding the level of adequacy and the degree of equity vis à vis the presence of adequate numbers of faculty may be gained from this study.

### Findings

Figure 1 shows the distribution of the mean and coefficient of variation of the distribution of the percent of students who were proficient in English language arts (ELA) over the six years of the study. The percentage of students considered proficient in English Language Arts increased from 44% in 2002 to 63% in 2004. By 2005, this percentage declined to 50% and then rose to 60% in 2006. While the percent of students considered proficient in ELA rose over time, the coefficient of variation for that distribution dropped. This suggested that gaps between schools in terms of their average student proficiency narrowed over the time period studied.

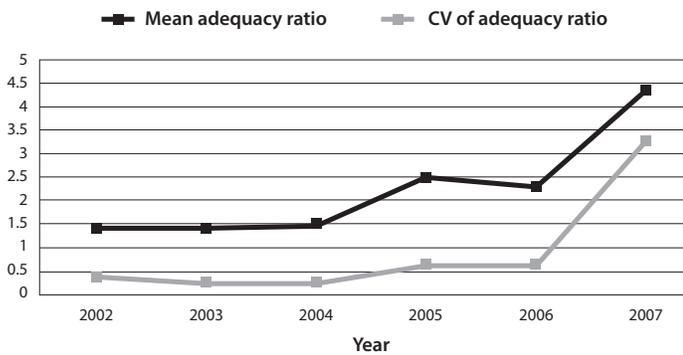
Figure 1 | **Distribution of the Percentage of Students Proficient in English Language Arts, 2002-2007**



Note: The number of schools varied from year to year, as follows: in 2002, n=673; in 2003, n=658; in 2004, n=697; in 2005, n=712; in 2006, n=713; in 2007, n=720.

Figure 2 graphs the distribution of teachers across the school system using the mean and coefficient of variation of the adequacy ratio. These measures remained relatively flat between 2002 and 2004 then rose sharply in 2005, declined slightly in 2006, and again rose in 2007. The difference in the means of the first three and last three years of the study could simply be measurement error; that is, changes in the data format did not allow the adequacy ratio to be adjusted for varying enrollment size. However, while this is a major limitation in terms of comparing trends from 2002 to 2004 with trends from 2005 to 2007, patterns within each set of three years should be consistent. It is important to note that while schools increasingly tended to have an adequate number of core teachers, the gaps between schools on this measure

Figure 2 | **Distribution of School Adequacy Ratios, 2002-2007**



Notes: CV = coefficient of variation. The number of schools varied from year to year, as follows: in 2002, n=861; in 2003, n=873; in 2004: n=1,099; in 2005, n=1,121; in 2006, n=1,231; in 2007, n=1,318.

seemed to be increasing two years after the assumption of mayoral control of the schools.

Because the employment of an adequate number of teachers does not necessarily speak to the opportunities afforded to children, the study also examined changes in the percent and distribution of core courses taught. The table below contains the mean and coefficient of variation of the percent of core courses taught between 2005 and 2007. There was a decline in the percent of core courses taught from 84% in 2005 to 65% in 2006. This decline was accompanied by an increase in the variation in the distribution, suggesting a widening of the gap between schools and the type of curriculum offerings available. By 2007, the percentage of the curriculum devoted to core courses increased to 77%, which while higher than the previous year, was still lower than the percentage in 2005. In addition, the coefficient of variation also declined, suggesting more horizontal equity among schools on that measure.

Table | **Distribution of the Percent of Core Classes Taught by Schools, 2005-2007**

Percent of Core Courses	Year		
	2005	2006	2007
Mean	83.98	64.90	77.28
Coefficient of Variation	0.115	0.351	0.161
N	1,122	1,232	1,318

### Summary and Conclusion

This article analyzed the equity and adequacy of the New York City Schools after its 32 decentralized community school districts were recentralized into 10 administrative regions in 2003. Looking at measures of performance after the initial implementation of mayoral control, there tended to be a general increase in the percentage of students who were considered proficient in English language arts. Moreover, this improvement did not come at the expense of increased gaps among

schools. This pattern suggests that there may have been key benefits to centralization as indicated by the advocates of greater mayoral control. However, the spike in improvement and subsequent dips give pause to accepting that explanation fully. Because the initial sharp rise occurred shortly after implementation of mayoral control and the recent inauguration of the new mayor, it is not clear how much of the improvement merely reflected the novelty of the approach.

Weiler (1990) argued that decentralization is an example of political expediency where the benefits of increased accountability, efficiency, and responsiveness are more rhetoric than reality. A similar prognosis may be made of the patterns found in the question regarding the increased adequacy of the resources provided to New York City schools after recentralization. In the years immediately following implementation of mayoral control, there was little change in the mean number of schools that employed an adequate number of full-time-equivalent core teachers. This fact coupled with the sharp rise in this ratio was promising if it was not merely reflecting a change in the measure of that ratio. If the changes were indeed valid, this was supportive of the mayor's claims that increased control would allow for a more efficient and adequate allocation of resources. However, the bad news was the widening gaps between schools, as evidenced by a rising coefficient of variation for this distribution. If overall improvement came at the expense of those schools that were previously not well-served by the system, then that should give policymakers pause on continuing down that path.

The provision of an adequate number of teachers and the relative performance of children may be considered inputs and outputs into the education system, respectively. In addition to looking at those factors, this study also looked at the throughput of core curriculum offerings in between 2005 and 2007. Over this short time period, changes were inconsistent where a rise in the percent of core courses initially fell but rose again. The only encouraging result was that an increase in the mean was associated with a decrease in the coefficient of variation. In the end, the results of the analysis of the equity and adequacy of NYC public schools in the years immediately preceding and during mayoral control offered mixed results.

### Endnotes

<sup>1</sup> Thanks to Andrew Barron for his assistance with data gathering for this study.

<sup>2</sup> General information about New York City Schools, including demographic information, may be found at the New York City Department of Public Education web site: <http://schools.nyc.gov/AboutUs/default.html>.

<sup>3</sup> By 2002, the aftermath of the September 11, 2001, terrorist attack decreased opposition to mayoral control on the part of teacher unions, and the increased lobbying efforts on the part of advocates of mayoral control came together to give Mayor Bloomberg a decisive victory.

<sup>4</sup> The 2010 consultant report by Odden, Fermanich, and Picus is an extension of that approach.

<sup>5</sup> Tying notions of adequacy to academic standards set by state policymakers is consistent with trends in the legislative and judicial arena, including litigation in New York State (Campaign for Fiscal Equity 2000), Ohio (Ohio Coalition for Equity and Adequacy 2003) and Kentucky (Rose v. Council for Better Education 1989).

<sup>6</sup> Hereafter, all references to teachers are to full-time-equivalency teachers.

<sup>7</sup> Schools not listed as part of a district within New York City were excluded from the analysis.

<sup>8</sup> This is consistent with the approach of Odden, Goetz, and Picus (2010,146-147) whose recommendations for an adequate number of core FTE teachers were based in part on the organizational level of the school.

<sup>9</sup> If schools did not fall clearly into these categories, they were grouped where they fit most appropriately. For example, schools that ranged from K-5 were categorized as elementary schools, and schools that had grades ranging from 7-8 were categorized as middle schools. Schools serving grades that had overlapping categories (e.g., PK-8) were categorized based on the number of grades in one category and the highest grade served. Thus, schools serving PK through 6 were grouped with other elementary schools. Alternative schools that spanned grade levels labeled "UE" (ungraded elementary) were excluded from the analysis.

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