

INCREASING CHOICE IN THE MARKET FOR SCHOOLS: RECENT REFORMS AND THEIR EFFECTS ON STUDENT ACHIEVEMENT

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Increased parental school choice has become a popular education reform strategy, but evidence of its effectiveness in improving student achievement is mixed. In this paper, we examine the rationale for school choice, obstacles to fulfilling its theoretical promise, and results observed to date. We supplement our discussion with data from a survey of Milwaukee principals. Survey findings suggest that school leaders feel competitive pressures from certain types of schools but tend to respond by improving their marketing efforts rather than their educational programs.

Keywords: education policy, school choice, charter schools, private school vouchers

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I. INTRODUCTION

With the release of *The Role of Government in Education* in 1955, Milton Friedman ushered in one of the fiercest debates in the history of American education. He proposed a system of parental choice that he argued would bring the virtues of the free market into the public school system and enable the government to “... serve its proper function of improving the operation of the invisible hand without substituting the dead hand of bureaucracy” (Friedman, 1955, page 144). Friedman’s reasoning was seductively simple. By providing families with funds to cover expenses at their choice

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of a government-approved, privately operated school, the state could generate healthy competition between schools that would increase and improve the schools available to families.

John Chubb and Terry Moe breathed new life into Friedman's work in the late 1980s, arguing that private schools were more responsive to children's needs than public schools (Chubb and Moe, 1988). Privately operated schools, they said, were accountable to the demands of consumers in the educational marketplace, while public schools were entwined in the conflicting interests of constituency groups, politicians, and other democratic forces. Thanks in part to Friedman and Chubb and Moe's work in establishing a conceptual foundation for school choice, the American educational landscape is now dotted with programs aimed at increasing parental discretion over how and where children are educated. The last 20 years have introduced the country to thousands of publicly funded, privately operated charter schools, private school voucher initiatives in several cities and states, and an eclectic mix of inter-district and intra-district choice programs that enable families to select among traditional public schools.

As school choice opportunities have grown in number and breadth, so too have the arguments made in their defense. Initially embraced by market-oriented political conservatives, choice now enjoys a more diverse political coalition, as a "second generation" of the debate has emphasized the posited unfairness of a system in which choice is available only to those able to pay for private schools or live in desirable areas (Viteritti, 2003). Today's school choice programs, and particularly those serving urban students, often create unlikely political coalitions, with conservative small government advocates working alongside liberal civil rights leaders to increase parental choice in education. Yet for all of the seeming theoretical and political promise of school choice policies, the results of empirical tests of their effectiveness have been decidedly mixed.

This paper opens with an overview of the types of choice available to American families and the prevalence of each of these choice programs today. We then discuss the theory behind choice and competition positively affecting student outcomes. Here, we distinguish between potential "demand side" benefits that arise through consumer choice in an educational marketplace and "supply side" benefits that arise through the increased school-level autonomy and the easier entry of new schools that often accompanies choice policies and programs. After surveying the literature on the effects of choice and competition on student outcomes, we revisit the theory behind school choice and consider some barriers to effective choice that might explain the mixed results observed thus far. As some evidence of these barriers, we then describe the findings of a survey that we administered to all principals in the Milwaukee Public Schools, a metropolitan area with some of the oldest and most extensive choice programs in the United States. We refer to Milwaukee throughout this paper, partly to give context to the survey findings and partly to provide a particularly interesting local example of how school choice can reshape an educational setting.

II. THE TYPES AND PREVALENCE OF SCHOOL CHOICE IN THE UNITED STATES

Parental choice is so deeply engrained in American schooling that it is difficult to imagine an education system without it. Perhaps if the federal government determined where each family lives and offered no alternative to the local public school then we might approximate a choice-free system, but this type of thought experiment is absurdly detached from reality. The relevant question is not whether school choice is present in an area but which types of choice are available and their prevalence.

The most widely available types of school choice relate to residential school choice and the availability of private schools. In terms of the former, families can sort themselves into the communities that best satisfy their preferences (Tiebout, 1956). This sorting happens not only across cities and towns but also within them, as families choose to live within school zones linked to desirable neighborhood public schools. Private school choice is similar in some ways to residential school choice. For example, this type of choice typically requires some degree of expendable resources. For families to choose where to live, they must not be constrained by prohibitively high property values, rental prices, taxes, moving costs, or other costs associated with selecting an alternative location. For families to choose private schooling for their children, they typically must cover the tuition costs. The prevalence of residential school choice is difficult to quantify, though it is clear that finding suitable public schools is a common consideration in relocation. The U.S. Department of Education estimated that approximately 10.5 percent of American students in grades PK–12 in the fall of 2010 attended a private school (National Center for Education Statistics, 2010).

In addition to residential and private school choice, families in some parts of the country can choose schools through formal local, state, or federal policies. Charter school laws, which vary widely by state, allow for publicly funded, privately operated schools that families can select outside of their zoned schools. They promise greater school-level autonomy in exchange for greater accountability. Charter school enrollment has grown steadily over the past 20 years, with roughly 1.4 million students (approximately 3 percent of all students) now enrolled in one of the country's nearly 5,000 charter schools (Christensen, Meijer-Irons, and Lake, 2010).

Private school vouchers that enable families to cover some or all of private school tuition costs entail another policy strategy for increasing school choice; this approach is closer to Friedman's initial vision. The Alliance for School Choice (2010) reported that there were nine active voucher programs during the 2009–10 school year. There were nine other scholarship tax credit programs that offered tax credits to individuals and corporations who donated to nonprofit organizations providing scholarships to tuition-paying private school families (Alliance for School Choice, 2010).

Although charter schools and private school voucher programs receive the most public attention, a vast assortment of other policies increase parental discretion over how their children are educated. Home-schooling is an often-overlooked example. Figures from the National Center for Education Statistics indicate that approximately 1.5 million

American students between the age five and 17 are schooled at home (National Center for Education Statistics, 2009). This magnitude is virtually equal to the nationwide charter school enrollment. Furthermore, most states have enacted inter-district or intra-district open enrollment policies that enable children to attend traditional public schools other than those to which they are assigned geographically. These policies differ across states and are sometimes targeted to disadvantaged students or those in low-performing schools (Education Commission of the States, 2010).

Perhaps no American city has embraced school choice as enthusiastically as Milwaukee. A diverse Midwestern city of approximately 600,000 people, Milwaukee has a poverty rate that ranks among the highest in the country (U.S. Census Bureau, 2010) and a graduation rate that ranks among the lowest (Editorial Projects in Education Research Center, 2010). Policymakers have made choice central to the schools' turnaround strategy. Parents of the roughly 130,000 school-age children in Milwaukee utilize both formal choice policies, like charter and voucher policies, and informal choice opportunities, like residential school choice, to choose from a vast assortment of traditional public, charter, and private schools.

Started in 1990, the Milwaukee Parental Choice Program (MPCP) was the country's first voucher program to provide urban parents with public funding sufficient to cover the full tuition costs of private schools (Witte et al., 2008). Today, nearly 20,000 students attend a qualifying private school through MPCP (Wolf, 2010). Another 17,000 students attend public charter schools in Milwaukee, with these schools varying in the degree to which they are operated by the Milwaukee Public Schools (MPS). The "Chapter 220" program, which promotes school integration by enabling minority children from Milwaukee to attend suburban schools and white students from the suburbs to attend Milwaukee schools, accounts for the enrollment of 3,000 additional Milwaukee students (Kisida et al., 2008). Even many of the 82,000 students in non-charter MPS schools arrived at those schools through choices other than residential choice. Rather than simply assigning children to their nearest public schools, MPS encourages families to rank their top three choices from a collection of neighborhood public schools, specialty schools, partnership schools (for those at high risk of dropping out), and more. When faced with oversubscription at particular schools, the district uses lotteries to determine which students will attend which schools.

Choice and competition are central to the Milwaukee educational experience for both families and school leaders. It is perhaps the richest setting we have for studying and evaluating choice as a reform strategy.

III. WHY ONE MIGHT EXPECT CHOICE AND COMPETITION TO IMPROVE STUDENT ACHIEVEMENT

School choice enjoys a rich, voluminous literature, and much of this work outlines the theory behind why choice should be a positive force in education. Market theories are particularly common, since the defining characteristic of a school choice reform strategy is its treatment of families as consumers and the corresponding accountability

of schools to their enrolled — and potentially enrolled — families. In this section, we delve into the arguments for why choice might improve educational outcomes, distinguishing between the forces that come from the demand side (school choosers) and those that come from the supply side (schools). That line is often blurry, but it is nevertheless useful in defining the ways in which choice and competition may improve student outcomes.

A. Demand Side Forces for School Improvement

Demand-side arguments for school choice rely heavily on the view that parents are uniquely familiar with their children's needs and concerned about their children's well-being. Choice-based reform strategies attempt to harness this familiarity and concern into a positive educational force. Consider that we might expect families to seek out the "best" possible school for their children. In this case, we are not talking about legitimate differences between schools that differently meet students' idiosyncratic needs (that will be considered later). Rather, if some schools are simply more effective than others, then we should expect concerned parents to prefer these schools, all else being equal, over their less effective peers. If per-pupil funding follows children into the schools that they attend, schools that are in high demand will thrive with students and funding while schools that experience low levels of demand may succumb to closure if they cannot improve and thus increase their appeal to families. This competitive pressure can be constructive if it leads to schools working harder or better focusing their current efforts for desirable student outcomes.

A related positive force comes from the improved student-school matching that choice policies encourage. Many educational scholars have argued that students respond differently to particular educational settings, making it difficult to claim any single educational model as the one best solution (Delpit, 1996). In theory, if there are sufficiently diverse options available, choice policies should enable families who believe that their children function best in highly structured environments to choose different schools from those who function best in more open, child-centered environments. Choice thus offers both short-term and long-term benefits. In the short term, if parents make these judgments reasonably, we should expect a better sorting of students across schools. In the long term, if there is free entry of schools into the area, the services offered across the schools available should better match the needs and desires of families in that area.

Choice might also have positive demand-side effects simply because people like having choices. Psychologists have long noted people's tendency to value chosen alternatives more highly because they were chosen. In one famous study, Brehm (1956) demonstrated that individuals who only mildly preferred their choices of a gift to the next-best alternative (based on their original ratings of the items) dealt with the potential discomfort by convincing themselves, after the fact, that their selected gifts were highly superior to the unselected gifts. The simple act of choosing a school then might contribute to a family's satisfaction with that school. If increased parental satisfaction has a net positive effect on children, perhaps by making parents more eager to work

constructively with schools, then the act of families choosing schools might be inherently beneficial to students.

B. Supply Side Forces for School Improvement

The demand side of choice and competition — the choosers themselves — are only part of the logic that makes choice a potentially valuable reform strategy; the supply side also plays an important role. Disentangling supply- and demand-side forces is useful but difficult, since, as in all markets, the observed products are a function of the interaction of supply and demand. Reforms that increase parental choice often simultaneously reshape the conditions under which schools operate. This reshaping, which is most commonly felt through the removal of bureaucratic requirements and regulations, aims to ensure that the supply of schools is sufficiently diverse to make choosing between them a potentially relevant mechanism for change.

A simple “bargain” resides at the heart of the charter school concept: in exchange for increased autonomy over school operations, charter schools will agree to more stringent accountability than that experienced by the traditional public schools (Miron and Nelson, 2002). The form and extent of this autonomy varies considerably across states and authorizers, but charter schools typically have greater school-level discretion over instruction, personnel, curriculum, budgeting, and other important decisions and operations. Private schools typically enjoy even greater flexibility in these areas and less accountability.

Decentralized decision-making itself might be beneficial to students. School personnel in many instances can be better situated and more motivated to respond to the particular needs of their students and communities than more distant bureaucratic leaders (Chubb and Moe, 1988). This local control could lead to more efficient, locally appropriate use of resources, better alignment and camaraderie among the school personnel, and improved responsiveness to opportunities and challenges.

Increased school-level autonomy also offers benefits through its potential for attracting highly capable school leaders. Potentially innovative school leaders might be unmoved by the opportunity to work with district-hired colleagues to execute superintendent-defined procedures that support a state-selected curriculum. The opportunity to build a charter or private school from the ground up, however, might be enough to attract some of these innovative leaders from other fields into education.

Creating flexibility for innovative people to design and run schools not only may benefit the students in those schools but also may benefit the education system more generally. An important part of the rationale behind charter schools is that they can serve as laboratories for innovation capable of generating and testing ideas that are unlikely to emerge under direct bureaucratic control of districts (Lubienski, 2003). If these ideas and their successes and failures are effectively communicated across schools, we should expect indirect benefits for students attending schools that might be less experimental but nevertheless interested in adopting strategies proven effective in other schools.

These supply side influences, as we have labeled them, often accompany consumer-driven, competition-based school choice policies. The supply side is important because

choice policies can only be meaningful when there is a diverse set of school options available. Granting schools flexibility in designing their programs encourages a diverse set of schooling options to become available. Increasing the degree of parental school choice also might improve the moral and political legitimacy of unconventional (but potentially effective) pedagogies and practices. In the absence of formal choice policies, in which case families sending their children to public schools are essentially restricted to the neighborhood school, it may be difficult or inappropriate to require those families to attend a school with an unconventional approach. Offering these pedagogical extremes as one of many choices to presumably caring and informed parents is arguably more legitimate — and almost certainly more politically palatable — than requiring all of the students in an area to attend such a school. Thus, this degree of innovation may only arise in situations of greater parental choice.

IV. THE EFFECTS OF SCHOOL CHOICE PROGRAMS ON STUDENT OUTCOMES

For all of the theoretical promise of school choice, evaluations of choice policies and programs have produced mixed results. This literature should be read with a critical eye due to both the many difficult methodological issues present and the ideological nature of some of the work. While there are isolated (and sometimes very impressive) success stories, school choice reforms have not proven to be unambiguously effective on the whole. In this section, we survey prior research on the effects of charter schools on the students in these schools, the effects of voucher programs on students participating in these programs, and the effects of choice programs and competition more generally on the traditional public schools. We focus on academic effects, particularly as they are measured with standardized tests. In the subsequent section, we discuss possible explanations for the mismatch between school choice's theoretical promise and mediocre measured results.

A. The Effects of Charter Schools on Their Students

Studies of the academic effects of charter schools on their students have used an assortment of methods to address the selection bias problem inherent in studying students whose families chose the school that their child would attend. Perhaps the most ambitious study to date is by Center for Research on Education Outcomes (CREDO), which obtained data on over 70 percent of students in charter schools nationwide across 15 states and Washington, DC (CREDO, 2009). The CREDO researchers used demographic data and prior test scores to create “virtual twins” for charter students within the traditional public schools that fed these charter schools. When comparing these charter school students to their matched twins on math and reading growth, the CREDO study found mildly negative effects of charter schools relative to traditional public schools, with scores 0.01 standard deviations lower in reading and 0.03 standard deviations lower in math, on average. This headline finding, however, masks a more nuanced story in the data wherein negative results came largely from high school stu-

dents and students in their first year in a charter school. Students in charter elementary and middle schools, charter students in their second and third years, and low-income charter students, among others, gained more than their matched twins. Still, across the board, only 17 percent of charter schools produced results superior to what would have been expected from traditional public schools, while 37 percent produced worse results and the rest seemed to have no effect one way or the other.

The CREDO study's findings, while criticized for potentially not adjusting enough for selection bias (Hoxby, 2009), are consistent with other large-scale studies of charter school performance. State-level studies using student fixed effects have tended to find average effects ranging from slightly positive to modestly negative on charter school students' reading and math growth, with examples coming from Texas (Hanushek et al., 2007), North Carolina (Bifulco and Ladd, 2006), and Florida (Sass, 2006). Like the CREDO study, many of these studies contain more nuanced stories about charter performance, which includes evidence that charter school performance distributions have thicker tails than traditional public schools (e.g., Hanushek et al., 2007) and charter school performance tends to be weaker in the schools' initial year(s) than it is in subsequent years (e.g., Sass, 2006; Booker et al., 2007). One important methodological limitation of most of the studies utilizing student fixed effects is that the identification of these charter school effects comes from year-to-year changes in achievement gains for students who have attended both traditional public schools and charter schools. If students who transfer into and out of charter schools differ from those who stay in one sector or the other — which seems likely given that mobile students often differ on both observable and unobservable characteristics from those who do not (Xu, Hannaway, and D'Souza, 2009) — then these results cannot be generalized to all charter school students. Additionally, the disruptive nature of these school transfers could compromise the studies' internal validity (Bifulco and Bulkley, 2008).

Another group of studies of charter school performance have yielded much more encouraging results. These studies utilize the random lotteries commonly used to select which students can attend oversubscribed charter schools. By comparing the gains of lottery "winners" and "losers," these studies can credibly estimate the effect of attendance at that particular charter school (as opposed to some defined alternative) on student outcomes. By using lottery results to instrument for charter school attendance, these studies can estimate the treatment-on-the-treated effect in addition to the intent-to-treat effect. These studies have tended to focus on charter schools in relatively vibrant urban areas like New York (Hoxby and Murarka, 2009), Chicago (Hoxby and Rockoff, 2005), and Boston (Kane et al., 2009). They have found resoundingly positive effects. The Boston study, for example, demonstrated that these charter schools raised math scores by a stunning 0.54 standard deviations per year in middle school. The Chicago and New York findings were more modest but still statistically and economically significant. An important limitation of these studies is that they include only schools with oversubscribed lotteries, which are likely the most desirable and perhaps strongest schools in their respective areas. This limitation presents substantial external validity concerns. If nothing else, however, these findings suggest that a cadre of urban charter

schools is producing excellent results. This result is consistent with the findings of a study of the highest-profile urban charter management organization, the Knowledge Is Power Program (KIPP), which produced evidence of enormously positive effects (Tuttle et al., 2010).

In summary, the existing literature on charter schools' impact on student achievement suggests little difference between charter and traditional public school performance on the whole, but a more nuanced story of successes and failures underneath the surface.

B. The Effects of Voucher Programs on Voucher Recipients

Much like the charter school literature, the literature on private school vouchers does not conclusively link the use of vouchers to improved academic performance.

The Milwaukee Parental Choice Program (MPCP), established in 1990, was the first major private school voucher program in the United States. Today, up to \$6,442 per year is available to Milwaukee residents who meet program criteria, including household income below maximum levels, and wish to attend a participating private school (Wisconsin Department of Public Instruction, 2010). A recent evaluation of the program matched randomly selected MPCP participants to students in the Milwaukee Public Schools based on student addresses, prior test scores, and various demographic characteristics (Witte et al., 2010). Comparisons of the MPCP and MPS groups' two-year math and reading achievement gains uncovered few, if any, meaningful differences. This finding was consistent with a report issued by the same group the previous year that identified little difference between the voucher and public school groups in their one-year gains (Witte et al., 2009). These were not the first evaluations of the MPCP. Several studies released in quick succession in the late 1990s and early 2000s yielded different results because of different methodological decisions and control group definitions (Zimmer and Bettinger, 2008; Molnar, 1999). Unlike John Witte's comparison of voucher students to a random selection of MPS students, which found little evidence of the MPCP's success (e.g., Witte, 2001), Greene, Peterson, and Du's (1999) work using voucher applicants whose requests were denied as their control group found evidence of large positive math and reading effects. An additional study by Rouse (1998) suggested small positive effects of the MPCP on math gains but no effect on reading gains.

Studies of other publicly funded voucher programs have produced similarly mixed results and similarly lively exchanges between researchers. Evaluations of the Cleveland Scholarship and Tutoring Program, for example, suggest a wide range of academic effects depending on the samples, control groups, and methods used (Metcalf et al., 2003; Peterson, Howell, and Greene, 1999; Belfield, 2006). In Washington, DC, where the country's first federally funded private school voucher program was established in 2003, a recent evaluation of the program's first three years found evidence of reading gains but no math gains for those randomly selected to receive a voucher when measured against those not selected to receive one (Wolf et al., 2009). Prior studies of the D.C. Opportunity Scholarship Program by the same group showed no math or reading effects but some indications of greater satisfaction among voucher winners (Wolf

et al., 2008; Wolf et al., 2007). On the whole, the frequent presence of null or mild effects, coupled with the difficulty of identifying the causal effect of these programs on participating students' achievement, make it difficult to label these publicly funded voucher programs an unqualified success (Zimmer and Bettinger, 2008; Lubienski, Weitzel, and Lubienski, 2009).

C. The Effects of Choice and Competition on Students in Traditional Public Schools

A policy that increases school choice and competition might positively influence student achievement even if we do not observe particularly large gains for the students participating in the program. For example, the presence of competitive schools might cause local public schools to work harder or more effectively to improve the outcomes of their students. In fact, to the extent that this is the case, it can artificially suppress the measured direct effects of these programs on their participants. Many of these estimates use students in local traditional public schools as a control group. Hoxby and Murarka discussed this general-equilibrium effect challenge with respect to measuring charter school impacts and warned, "In the long run, researchers will find that the equilibrium problem is extremely hard to address" (Hoxby and Murarka, 2006, p. 4). However, even if these indirect effects of competition on traditional public schools are problematic for researchers attempting to discern the effects of school choice reforms, they could be beneficial to schools.

A few studies have considered the effects of "Tiebout choice," which refers to school choices made as families select where to live. One notable but controversial attempt to identify the effects of increased Tiebout choice on overall student achievement (or school productivity) was by Hoxby (2000). She proposed measures of the number of small and large streams in an area as instruments for the degree of Tiebout choice in a metropolitan area. She argued that areas with more dense concentrations of streams will generally have more school districts nearby — and thus more Tiebout choice available — than areas with fewer streams. If the only way in which the number of streams in an area affects student achievement is through its influence on the number of school districts available to families, then this instrument offers promising estimates of an effect that is otherwise difficult to measure. Hoxby's estimates suggested that greater Tiebout choice was associated with greater school productivity (student outcomes divided by per-pupil spending). Using alternative measures of the number of streams in an area, however, Rothstein (2007) found a weaker relationship between the instrument and the degree of Tiebout choice and argued that Hoxby's results were highly sensitive to instrument specification.

Other studies have examined the effects of charter school and voucher presence on the local traditional public schools' academic achievement. Imberman (2008) also opted for an instrumental variables strategy, using the availability of 30,000 to 60,000 square-foot buildings and the number of shopping centers and strip malls near public schools as instruments for charter school competition (since these buildings are likely locations

for charter schools). He reported evidence that increased charter school presence in an area is associated with a decline in test scores in the area's public, non-charter elementary schools, especially in the year after charter penetration increases (but less so in later years). Other studies, however, have suggested positive effects or no measureable effects. For example, Sass (2006) and Booker et al. (2008) found positive effects of charter competition on public school math gains. Bifulco and Ladd (2006) and Bettinger (2005) found generally null effects. Several other studies have examined the relationship between the presence of voucher programs and achievement in the traditional public schools. Gill and Booker (2008) summarized these findings as providing "reason for cautious optimism," as some contain evidence of positive effects while none contain evidence of highly negative ones. However, the general-equilibrium effects of choice are difficult to isolate and the research literature is far from consistent or convincing.

V. RECONCILING PROMISING THEORY WITH INCONSISTENT RESULTS

Although there are striking success stories amid the studies measuring the effects of school choice and competition on student achievement, these limited successes do not measure up to the theoretical promise of these reforms. Why is this? In this section, we reexamine the theory behind school choice and describe how the inconsistent estimates of its effects to date could result from failures to satisfy the assumptions underlying these theories.

One core assumption for an educational marketplace to function optimally is that all of the participating actors are fully informed about the market. Full information is important on both the demand and supply sides of choice. On the demand side, if families choose schools based on incomplete or inaccurate information, they might choose lower-functioning schools than they would have chosen with complete information. In this case, market pressures would not necessarily encourage low-performing schools to improve their performance or succumb to closure. There is some evidence that parents' information about schools is limited. For example, in Milwaukee, Van Dunk and Dickman (2002) found severe limitations in the extent to which nonwhite and less educated Milwaukee parents were informed about schools. In one particularly rigorous study of school choosers, Hastings and Weinstein (2008) randomly assigned families in different Charlotte-Mecklenburg schools to receive different types of information as they selected their children's next schools. They found that families receiving basic test score information about available school options were significantly more likely to choose higher-performing schools and to opt out of their guaranteed default schools.

Information affects school leaders' decision making as well. In order for school choice to function optimally, suppliers (i.e., school leaders) must be well informed about the marketplace. Ideally, schools will know which schools are successful, what makes them successful, and what they can do to make their own schools more successful. If a leader of a failing school knows that a neighboring school is performing well and receiving much greater demand from parents — but does not know what the school is doing to generate that success and demand — it will be difficult for that leader to learn

from the market and improve his or her own school. Recently, there has been increased attention on disseminating the lessons learned from highly successful schools of choice (e.g., Merseeth et al., 2009).

Obtaining information, both for families and for schools, can entail substantial search costs. If data are difficult to find or interpret, then search costs might be greater than the benefits of conducting the search. Where search costs are high and cutting corners becomes desirable, schools might see greater benefits to marketing themselves to prospective students than to improving their programs and hoping that information about the improvement somehow reaches school choosers. Lubienski (2007) analyzed school marketing materials from a highly competitive local education market in Michigan (in addition to interviewing several principals). He found that public schools often disseminated information about school inputs and outputs that we typically regard as important, like instruction and academic achievement. However, this material was typically found in annual reports that schools were required to distribute — not in their discretionary marketing materials. In discretionary materials, schools tended to make less substantive, more symbolic or emotional appeals, drawing attention to logos and marketable themes rather than direct evidence of their performance.

Another important assumption underlying school choice is that families can reasonably access the schools made available to them. Although a school choice program that enables a family to choose from dozens of local schools is theoretically appealing, the benefits of choice will be lost if a family cannot get their children to those schools. Transportation issues can be difficult. It is much simpler and cheaper to arrange bus transportation for neighborhood students to the local public school than it is to transport children across a city, county, or state in accordance with parental choices. Teske, Fitzpatrick, and O'Brien (2009) reported the results of a survey administered to 600 relatively low-income parents of K–12 children in Denver and Washington, DC. Respondents included school choosers and those sending their children to local public schools. Of these respondents, 38 percent reported that transportation issues influenced their school choices, and 27 percent named a school that they would have preferred for their children but did not choose because of transportation concerns. Transportation is not the only barrier to school access. Voucher programs that cover less than full tuition, for example, might not make schools affordable for some of the disadvantaged families that the vouchers were created to benefit.

Where we see families choosing schools that seem markedly less desirable than other available schools, it might be that these families make their selections with incomplete or inaccurate information, cannot secure transportation, or fall victim to some other type of market failure. Alternatively, it might be that they value school characteristics that we do not expect or observe. Surveys of school choosers consistently find that parents of all socioeconomic classes report deeply valuing the academic quality of their children's schools (e.g., Armor and Peiser, 1998; Kleitz et al., 2000). However, there is some evidence of differences between families' stated and revealed preferences. One study monitored a publicly available website, www.dcschoolsearch.com, to examine which school characteristics are most salient as families research schools of interest

(Schneider and Buckley, 2002). The researchers found that users tended to gravitate toward schools with fewer Black students as they continued their searches, despite finding no significant change in the academic performance of the schools that they viewed over time. If these website users were filtering out less personally appealing options as they continued their searches, then this tendency to move toward schools with similar academic characteristics but fewer Black students might reflect strong racial preferences in school choice.

Not all “surprising” interests, or private interests, need to be anywhere near this sinister. In his book “Seeing Like a State,” Scott (1998) explored the distance between policymakers and their constituents. He argued that policymakers’ distance forces them to use oversimplified metrics in order to understand and evaluate situations in practice. Unable to speak with every student, parent, or teacher in every school to evaluate the quality of schools available, the policymaker can, however, issue a single examination that generates data, narrow as it may be, to improve the policymaker’s understanding. The “simplifying fiction,” Scott wrote, “. . . is that, for any activity or process that comes under its scrutiny, there is only one thing going on” (Scott, 1998, p. 347). Although a math and reading score might be informative, it says little about students’ emotional maturity, scientific understanding, social consciousness, physical well being, and perhaps even their true math and reading capabilities. In other words, families might be actively choosing — and the educational marketplace could be operating efficiently — even when an examination of a small set of metrics indicates that this is not the case. Perhaps the “underperforming” charter schools appearing in the lower tail of academic performance distributions are desirable for legitimate reasons that are not captured by standardized tests (or other easily gathered measures).

Other issues on the “supply side” of choice also could lead to underwhelming or unexpected results. For example, prohibitive barriers to entry — whether in financing, authorizing, or any other step of the school provision process — could compromise the quality or diversity of options available to parents. Additionally, charter school authorizers have the difficult task of holding schools accountable without encroaching on their autonomy. To the extent that schools cater to their authorizers’ desires or performance criteria at the expense of their students’ needs (e.g., by engaging in excessive test preparation), there could be indirect accountability pressures that make schools less willing to experiment with new ideas.

VI. A SURVEY OF MILWAUKEE PRINCIPALS: DATA AND METHODS

While substantial research effort, a subset of which we have reviewed above, has explored both the effectiveness of school choice programs and the demand side mechanisms of choice, less research has focused on the supply side Lubienski (2007), provides one example of a notable exception). To begin to understand how schools compete in a marketplace with abundant school choice — and what might be responsible for failures in these marketplaces — we worked with the Milwaukee Public Schools (MPS) to survey principals in May 2010. Of the 156 MPS principals, 143 (93 percent) filled

out the survey, though response rates for individual items were sometimes lower. The survey asked principals to reflect on myriad aspects of their work ranging from personnel management to budgeting background and future career plans. A section of the survey focused on principals' perceptions of school choice and competition between schools. Given that choice and competition are so central to life in MPS, we suspect that these principals are particularly attuned to the competitive environment in which they operate and the possible consequences of this choice and competition on their educational programs.

MPS principals believe that their schools do compete for students. Figure 1 shows how these MPS principals responded to a question regarding the extent to which their schools compete for students with other schools. Of the principals who responded to this question, 45 percent reported "a lot" of competition, 30 percent reported "some" competition, 14 percent reported "a little" competition, and 11 percent reported no competition at all. We then regressed the reported extent of competition on a number of school characteristics to determine which factors predict the extent of competition. As indicated in Table 1, these responses are consistent across schools of different grade levels, demographics, and academic performance — and with different combinations of variables included in the model (except for some evidence that schools with higher proportions of special education students are more likely to sense competition, controlling for these other characteristics). Table 2 shows that the distance to other schools or, similarly, the number of schools within a geographic radius within the metropolitan

Figure 1

Distribution of Responses on Extent of Competition Perceived by School Leaders

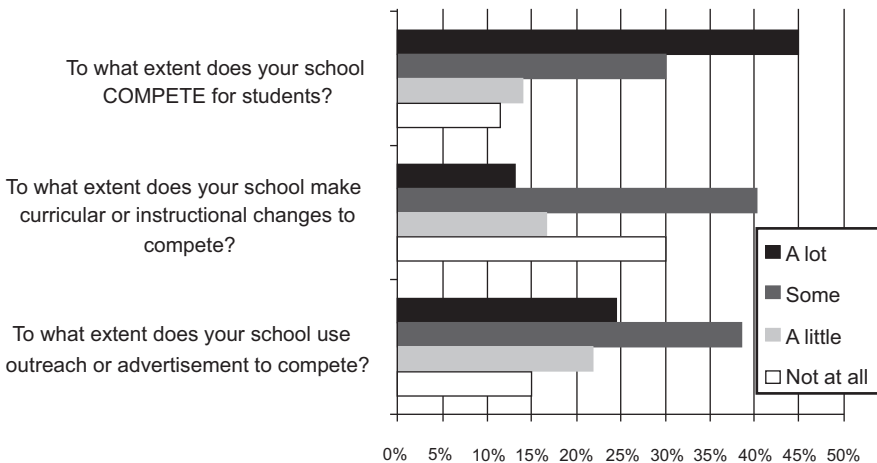


Table 1
Predicting Extent of Competition Perceived by School Leaders

Variables	Reported Extent of Competition for Students			
	(1)	(2)	(3)	(4)
Combined Elementary/Secondary School	- 1.073* (0.600)	- 1.139* (0.609)	- 1.012* (0.604)	- 0.846 (0.611)
Middle School	- 0.0732 (0.523)	- 0.173 (0.538)	- 0.149 (0.531)	0.190 (0.549)
High School	0.0697 (0.295)	- 0.120 (0.368)	0.0928 (0.379)	- 0.195 (0.540)
Enrollment		0.000358 (0.000388)	0.000267 (0.000386)	0.000780 (0.000476)
Percent Black		0.000231 (0.00316)	- 0.00215 (0.00335)	- 0.00500 (0.00379)
Percent Free/Reduced Lunch			0.0135+ (0.00706)	0.00861 (0.00995)
Percent Special Ed.				0.0429** (0.0203)
Percent Minimal Math Proficiency				0.00803 (0.0110)
Percent Basic Math Proficiency				- 0.0409 (0.0257)
Constant	3.073	2.883	1.975	1.744
Observations	103	103	103	101
R-squared	0.033	0.041	0.077	0.149

Notes: Standard errors are in parentheses. ** p<0.01; * p<0.05; + p<0.10.

area is also not predictive of principals' report of competition. This last finding suggests that measuring competitive pressures by proximity to schools may not capture the true competitive forces within a school choice system.

While most principals report competing for students, few report that they compete by making curricular or instructional changes that might appeal to parents. Instead, they are considerably more likely to report competing through outreach and advertisement. Figure 1 shows evidence of this. A fourth of principals report "a lot" of outreach and advertising, compared with 13 percent reporting a lot of instructional or curricular change. While 15 percent report no outreach or advertising to compete for students, 30 percent report no instructional or curricular change. In analyses mirroring those

Table 2

Predicting the Extent of Competition as a Function of Distance to Other Schools

Variables	Reported Extent of Competition for Students				
	(1)	(2)	(3)	(4)	(5)
Schools within 1 mile	0.0162 (0.0192)				
Schools within 2 miles		0.004 (0.007)			
Schools within 5 miles			-0.002 (0.002)		
Average Distance				-0.002 (0.070)	0.034 (0.075)
Miles to closest school					0.197 (0.166)
Observations	106	106	106	106	106
R-squared	0.007	0.000	0.006	0.000	0.015

Notes: Standard errors are in parentheses.

reflected in Table 1, we find reasonably consistent responses across school types. One (weakly) significant difference is that schools with higher proportions of Black students are less likely to make curricular or instructional changes in response to competition, controlling for the other school-level characteristics.

In addition to asking principals about the extent to which their schools compete for students and their strategies for attracting students, we asked each principal to identify the school that is his or her school's primary competitor. We created comparison measures between the surveyed school and all other schools serving overlapping grades and used a conditional logit model to better understand which schools compete against each other. We modeled whether the principal identifies a school as its primary competitor as a function of geographic distance, the difference between the schools along a number of dimensions, and the absolute values of these differences. Table 3 presents these results.

School leaders feel competition from schools that are geographically closer to their own schools. This result is strong and consistent, as indicated by the first row of Table 3. They also feel competition from schools that are similar in test performances and those that score somewhat higher on these tests. This propensity to compete with similar schools is also seen along other dimensions. In racial composition, schools are more

Table 3
Predicting Principal Identification of Primary Source of Competition
(Models Include School Fixed Effects)

Variables	Odds Ratios				
	(1)	(2)	(3)	(4)	(5)
Distance Between Schools	0.481*** (7.054)	0.487*** (-7.086)	0.512*** (-6.213)	0.512*** (-6.156)	0.486*** (-6.107)
Difference in Math Scores		0.0962*** (-3.299)	0.208** (-2.075)	0.318 (-1.540)	0.485 (-0.910)
Difference in Mean Math Scores (Abs. Value)		0.0723*** (-4.507)	0.182*** (-2.622)	0.291** (-1.982)	1.005 (0.00722)
Difference in Percent Black			0.954 (-1.186)	0.950 (-1.241)	0.926 (-1.554)
Difference in Percent White			0.881*** (-2.581)	0.903** (-2.001)	0.868** (-2.342)
Difference in Percent Hispanic			0.939 (-1.552)	0.931* (-1.707)	0.901** (-2.053)
Difference in Percent Black (Abs. Value)			0.999 (-0.0570)	0.999 (-0.0408)	1.000 (-0.0213)
Difference in Percent White (Abs. Value)			0.921*** (-2.651)	0.939** (-2.050)	0.936* (-1.946)
Difference in Percent Hispanic (Abs. Value)			0.972* (-1.681)	0.973 (-1.555)	0.971 (-1.578)
Difference in Percent Free/ Reduced Lunch				1.070*** (2.896)	1.085*** (3.053)
Difference in Percent Free/ Reduced Lunch (Abs. Value)				0.933*** (-2.739)	0.932** (-2.528)
Difference in Enrollment					0.997*** (-3.921)
Difference in Enrollment (Abs. Value)					0.997*** (-3.431)
Observations	5,961	5,817	5,817	5,817	5,817

Notes: Z-statistics are in parentheses. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

likely to compete with schools that are more similar and somewhat higher in their percentage of white students. In student poverty, schools are more likely to compete with schools that are both more similar and somewhat lower in their percentage of students eligible for the subsidized lunch program. In enrollment, schools are more likely to compete with schools of similar size and those that are somewhat larger.

Overall, the survey results provide suggestive evidence that school leaders feel competition but that they respond to this competition by trying to influence the information available to families instead of trying to adjust their offerings to better serve student needs. The results also suggest that while geographic distance is a strong predictor of which schools school leaders identify as competitors, it is not necessarily a valid proxy for the strength of competitive pressures that schools feel. Finally, the results suggest that schools sense competition from similar schools as measured by student test performance, race and poverty status, as well as enrollment size. Within this range of similar schools they are more likely to compete with schools that have higher test performance, more white students, and fewer students eligible for subsidies.

VII. DISCUSSION

Perhaps no educational reform effort in the country today receives as much attention from the media, public, policymakers, and researchers as school choice. Yet for all of this attention — and for all of the theoretical reasons to expect school choice policies to produce markedly better student achievement gains — the effects of these programs seem underwhelming. Large-scale studies tend to estimate only modest benefits, if any, to participating in school choice programs and, more generally, the evidence of the effects of competition on the school system remains inconclusive.

Still, dismissing these reform efforts as misguided is perilous for many reasons. First, the effects of these policies are notoriously difficult to measure, which adds uncertainty to our understanding of the policies' true influences. Second, even when studies find little effect on average gains from these programs, these headline findings tend to obstruct more interesting, nuanced, and potentially valuable findings from view. Third, our ability to observe the benefits of these programs is constrained by what is observable, and conventional measures of these programs' effectiveness might not capture the policies' true benefits (or costs). Finally, although considerable research has focused on measuring the impacts of these programs, we still have a great deal to learn about what prevents school choice programs from having their intended effects — and what policymakers might do to address these barriers.

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