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Market-Based Reforms in Urban Education

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Introduction and Overview

Educational outcomes for many economically disadvantaged and minority students living in large U.S. cities are unacceptably low. Drop-out rates are high and test scores are low, especially for those students living in areas of concentrated poverty. Moreover, test scores for urban youth typically decline relative to national norms as they continue through school. Yet without a good education, students have little hope of participating fully in the economic and civic life of our increasingly knowledge-based and globally competitive society. Not surprisingly, reform of urban education is high on the country's domestic policy agenda.

Among the many ideas for reforming urban education are those that fit loosely under the rubric of market-based reforms. Included among these ideas are various forms of public school choice, charter schools, voucher programs, and use of education management organizations (EMOs). Defining the full set of market-based reforms with any precision is complicated by the fact that many such reforms do not rely exclusively on market arguments for their rationale, and many are market oriented only in a partial sense. In addition, the reforms just mentioned leave out other options that arguably fit more clearly in a market-based reform strategy such as greater use of pricing to allocate teachers among schools.

The Market Framework

Given these difficulties of definition, I approach the task of evaluating market-based reform strategies for urban areas by organizing this paper around the three main components of a market – demand, supply, and pricing. The demand category includes reforms that increase the educational choices available to families and children. Supply-related responses affect the types of schools that deliver education in urban areas. Pricing describes reforms designed to increase the extent to which prices are used to balance supply and demand in education markets.

Traditional urban education systems are not particularly market oriented along any of these three dimensions. Consider first the demand side of the market. Many families

have traditionally had significant choice over the schools their children will attend, but the choices have been constrained in ways not typical of other markets. Most obviously, the choice among public schools has been linked to the family's decision about where to live, a decision that gives wealthy families more choice than poor families. A 1993 survey indicated that among those parents with children in public schools 60 percent with incomes of \$50,000 or more said that school quality was a factor in choosing a residence (cited in Viteritti, 1999, p. 11). Clear evidence that families pay attention to school district boundaries in making their residential decisions also emerges from studies highlighting the higher housing prices that families are willing to pay to live in the attendance areas of elementary schools with strong educational outcomes than in others (Black, 1999). Although relatively wealthy suburban dwellers often have many choices among school districts, low-income families living in large cities typically have few options. For example, in the suburban area around Chicago, families can choose among 95 high schools, most of which are operated by different districts, while in the city a single district operates all 63 high schools.

In addition, the options available to families are biased in favor of public schools over private schools. Because a family has the alternative of sending its children to a free public school, the rational family will choose the private school only if the *additional* benefits of the private school over and above those of the public school exceed the cost of the private school. Importantly, the ability of families to choose through either the residential choice or the private school mechanism is more readily available to high than to low-income families. As a result, many disadvantaged families in urban areas have little choice over the schools their children attend.

With respect to the supply side, most students have access to a single type of supplier, typically a public school that enjoys relatively little autonomy. Only about 11 percent of all children attend private schools, almost 80 percent of which are religious schools (*Condition of Education* 1999, p. 124). Aside from the private schools, the elementary and secondary education system has made very little use of private firms to deliver basic education services and historically has not given public schools the autonomy to behave like private suppliers.

Finally, consider the role of prices. Outside of the private school sector, prices play little or no role in elementary and secondary education. That is, prices in the form of tuition and fees have typically not been used either to allocate students among schools or as a signal to establish new schools. Instead students have traditionally been assigned to schools based on where they live, and new schools have been built more in response to political and budgetary considerations than in response to excess demand for a certain type of school. It is also worth noting that prices are underutilized in the market for teachers. While market forces in general, including prices (that is, salaries) are used to influence the distribution of teachers among districts, price differentials play little or no role in allocating teachers among schools within districts. Instead the single salary schedule for teachers has generated a situation in which the more senior and/or more able teachers have incentives and opportunities to transfer out of schools serving large proportions of disadvantaged students and to move to schools with higher performing students. Although not generally included in discussions of market based reforms in education, the use of price incentives to influence the distribution of teachers receives some brief attention in this paper.

Implicit in any market place is the concept of competition. In private sector markets, where consumers are free to choose among suppliers, competition for customers provides a strong incentive for suppliers to provide high quality outcomes at low prices. Analogously, a major goal of market-based reforms in the education sector is to introduce more competition as an incentive for improved performance. However, it is worth noting that the competitive pressures of private sector markets generate winners and losers, with losers going out of business. One has to wonder whether it is appropriate to organize the delivery of education in such a way that it inevitably will create losers as well as winners. Generating losers seems undesirable for a service such as education for which the public benefits are sufficiently large to justify public funding and making school attendance compulsory.

Policy Implications

Evidence from other countries, most notably New Zealand and Chile, as well as limited indirect evidence from this country, suggests that large-scale market driven

reforms will not solve the problems of distressed urban schools, especially those schools serving the most disadvantaged students. To the contrary, such reforms are likely to exacerbate the problems of the most distressed schools and to reduce the quality of education for the students they serve. Consequently, any significant use of market based reforms would require the use of additional strategies designed to address the problems of the schools that cannot compete effectively in the market environment.

More appropriate than large-scale market-based reform would be judicious movement in the direction of the market along one or more of its three dimensions as part of comprehensive reform packages. There are good reasons to expand parental choice, especially for economically disadvantaged families. The challenge for urban policy makers is to balance the benefits of parental choice against other values that justify the use of public funding for education and to build in appropriate safeguards to protect other values jeopardized by market forces. To achieve these ends, some constraints will inevitably need to be placed on parental choice. One strategy for achieving that end within the public school system is to introduce some form of controlled, or managed, choice. In such a system, student assignments to schools would be based largely on parental and student preferences, but attention would also be paid to social considerations such as the ethnic or socioeconomic mix of the schools.

In addition, a case can be made for more options and flexibility on the supply side not only as a way to expand choice for families but also as a means of injecting new ideas and vitality into the education system. Crucial to such options, however, is a system for holding schools accountable to assure that public funds are being used appropriately.

Finally, more use of prices in urban education is not appropriate, in my view, as a mechanism for allocating students among schools. However it could be used more effectively than is now the case in the allocation of teachers among schools.

Demand -- Parental choice

Parental choice can be expanded by breaking the link between residential location and schooling, by reducing the current bias toward public schools, or by otherwise increasing the options available to parents. To break the link between residential location and

schools, families can be given a choice of public schools within a school district or a choice of schools in other school districts as well. To reduce the current bias toward public schools, education vouchers could be provided to families to lower the net cost to them of private schools and even religious schools, and tuition tax credits could be designed to achieve the same end. To provide families with more options, charter schools, magnet schools or theme schools of various types could be expanded.

Many states and their urban areas already have some of these newer forms of choice. As of October 2000, 37 states had laws enabling charter schools, 32 had either mandatory or voluntary open enrollment policies, and four had some form of tax credit or tax deduction for education. Most striking is the rapid growth in charter schools. Starting from 2 in the 1992-93 academic year, the number of charter schools grew to 1,484 by September 1999 (U.S. Department of Education) and to 1700 by 2000. At the city level, 38 percent of the respondents to a recent survey of the Council of Great City Schools indicated that open enrollment was part of their overall reform strategy. Only two cities, Milwaukee and Cleveland have publicly funded voucher programs, although a number of others including New York, Dayton, Ohio, and Washington, D.C. have privately funded school voucher programs. Florida is currently the only state with a publicly funded voucher program.

Choice and Competition

Central to the case for large scale market-based reform of education is the belief that expanding choice will increase the productivity of the schools by forcing them to compete for students. Many proponents of choice start from the conviction that the education system is bureaucratic and wasteful, especially in urban areas that are not subject to the competition among school districts that exists in suburban areas (see Chubb and Moe, 1990, Brandl 1998). By analogy to the private sector, if power were shifted to parents and to schools, whether they be public or private, competitive pressures would eliminate bureaucratic waste. A key element of this argument focuses on funding as a source of pressure. If families had more choice over the school their child attended and funding were tied to students, schools would no longer have a captive clientele and thus would have no guaranteed funding. The resulting competition for students and funding

would, in turn, improve the education system by forcing the schools to be more responsive to parental wishes and to use their resources more efficiently.

To some supporters of expanded choice, this argument for expanding choice is both central to the debate and patently obvious. To them the success of the private sector of the economy is *prima facie* evidence that choice would improve public education as well. Others among us would like to see more evidence of the power of competition to generate effects of this type in the education sector before placing our faith in large scale market-based reforms.

Evidence from the U.S. and Chile. At this point we have very little direct evidence from the United States about the effects of competition on the productivity of the system as a whole. The recent voucher experiments have been far too small to generate much pressure on the traditional public schools, and evidence is only beginning to emerge from the charter school movement in states such as California, Arizona, and Michigan where charter schools are now common. Anecdotal and interview data suggest that some school districts or schools have been responding to the establishment of charter schools in positive ways (Rofus 1998, Gresham, Hess, Maranto, and Milliman 2000, and Hess, Maranto and Milliman, 2000). For example, some school districts have set up after-school or all-day kindergarten programs, established new magnet schools, changed curriculum, empowered teachers or changed principals. In addition, some principals appear to have promoted experimentation in teaching or pursued other forms of behavior that could be viewed as positive. For a number of reasons, however, including the small size of charter schools relative to a rapidly growing student population, many school districts have not responded at all.

In terms of effects on outcome measures such as test scores, a recent statistical analysis of Michigan charter schools convincingly shows either no effects or negative effects of competition from charter schools on the test scores of children in the public schools located within five miles of the charter schools.¹ Although these findings could change as more charter schools are established and existing charters expand and mature,

¹ This study is convincing because of the attention it pays to various statistical problems including the possibility that the location of charter schools may be influenced by the performance of the public schools. To deal with this simultaneity problem, the author takes advantage of the role of public universities in chartering charter schools to develop an exogenous instrumental variable.

they highlight the fact that there is currently little direct evidence in the U.S. to support the view that expanding school choice is likely to improve educational outcomes in the traditional public schools.

An alternative and more ambitious approach to measuring the systemic effects of choice and competition on the productivity of the education system emerges in research by Caroline Hoxby. In contrast to the studies of small and recently introduced voucher or charter school programs, her research draws on forms of choice and competition that are widespread and that have been in place for a long period of time. Her strategy is to make use of the variation across school districts in the amount of competition they face naturally from public schools in other districts or from private schools to draw inferences about the effects of competition on overall school achievement per dollar of expenditure. Because she reports quite large and positive impacts of competition, her analysis is widely cited by supporters of more educational choice.

In an article forthcoming in the most prestigious economics journal, Hoxby concludes that metropolitan areas with many competing school districts have higher test scores and lower costs than metropolitan areas that are more concentrated and hence less competitive. In two other studies, Hoxby (1995,1996), measures the effect on public schools of competition from private schools and concludes again that such competition increases the achievement of students in the public schools. If her conclusions are valid, they are potentially important as an indication of the positive outcomes that might ultimately arise from a large scale expansion of choice. However, for reasons I explain more fully in the appendix, I believe that it is premature to accept her results at face value. Though clever, the statistical approach she relies on in the first paper raises some unanswered questions, and her papers on private school competition have been challenged by other researchers using better data and alternative methods who have found no positive effects on public school achievement from competition from private schools.

Alternative evidence on the same issue emerges from Chile, which under a military government in 1980 dramatically decentralized its education system and introduced vouchers. At that time the government started funding both public and private schools based on student enrollments multiplied by a per pupil voucher. Both religious and non-religious schools were free to enter the education market. After the reforms, enrollments

increased significantly in private schools and declined in public schools. Cultural and political differences between Chile and the United States notwithstanding, Chile's experience is useful for the U.S. debate because of the boldness of the reforms and the sustained period in which they have been in place. Fortunately the reforms have recently been subject to careful analysis and evaluation. (McEwan, 2000 and McEwan and Carnoy, 2000).

If competition increases achievement, one would expect the public schools in Chilean municipalities with large increases in private enrollment shares to exhibit greater gains in achievement than those subject to less competition from the private schools. However, that would only be true if the analyst is able to control fully for all the factors that determine the growth of private schools in a municipality that might be correlated with students' achievement. Well aware of these methodological problems, Patrick McEwan used panel data and a statistical strategy of "differences-in-differences" to sort out the effects.² His conclusions are at best mixed. His preferred estimates suggest that 15 years of competition led to modest gains in achievement of about 0.16 to 0.2 standard deviations among some public schools in Santiago, Chile's capital, but small negative effects which are home to three-quarters of the country's population (MacEwan, 2000, p. 137). He concludes that the results "neither refute nor provide strong support for the view that competition will lead to the improvements in the quality of public schools" (MacEwan, 2000, p. 152). In contrast to these mixed results for the effects of competition, McEwan finds much more consistently positive results on achievement from targeted investments of teacher training and class room materials. For these types of relatively inexpensive investments he estimated gains in achievement of 0.1 to 0.2 standard deviations.³

The Uneven Playing Field of School Choice. My reading of this evidence is that while competition may well exert some positive effects on some public schools, we do not yet have sufficient evidence to claim large and consistent effects. From my own work on New Zealand, I believe that such benefits are most likely to emerge when competition

² This statistical strategy involves comparing changes (that is differences) in test scores in one period to changes in test scores in the previous period. The advantage of this approach is both controls for unobserved determinants of achievement that are constant over time for individual schools and for unobserved time trends in each school's achievement. McEwan, 2000, p. 137.

among schools occurs on a level playing field. A level playing field is one in which schools start out with a relatively comparable mix of students and compete for the same types of students. That conclusion seems to be consistent with McEwan's findings for Chile given that the positive gains in achievement generated by competition in Santiago seem to be driven by schools serving children from families in the middle levels of educational achievement. However, in many situations the playing field of school choice is decidedly not level. Schools serving more affluent students and high performing students would have a competitive advantage relative to those that have historically served poor students. As a result, instead of improving the schools serving poor and minority students, large scale market based reforms are likely to exacerbate their problems which is what happened in New Zealand.

The playing field is not level because of the tendency of many parents to judge schools largely by the composition of students in the school and therefore to choose schools with students from more affluent and educated backgrounds. Peers matter to parents for a number of reasons. They matter to some parents because of the potential positive spillover effects on motivation and learning from having their children in classrooms with other high-achieving and highly motivated students. Conversely, if a child is in a classroom with students who are unmotivated and low achieving that child may pick up some of the bad habits of her fellow students. How large such spillovers are in practice, and indeed whether they are necessarily positive, has been the subject of extensive, but not fully decisive, research (Jencks and Mayer, 1990). What matters for parental decisions, however, is not that the peer effects be large and positive in fact but that the parents believe that they are.

A related reason the composition of a school's students matters to parents has to do with the differences in school processes and school climate in schools serving students of different backgrounds. Studies in New Zealand document, for example, how schools serving low-income students have to spend much more time and effort establishing basic student routines such as getting students to show up for class with the materials they need and inspiring them to do their homework compared to schools serving middle-class students. In addition they must devote more time to pastoral and disciplinary activities

³ The annual costs of these investments are estimated to be \$26 per pupil.

(Thrupp, 1997). As a result, students in schools serving large proportions of disadvantaged students may suffer. Added to these considerations in the U.S. context would be concerns about safety within the school.

A third reason that parents may seek out schools with more affluent students is that such schools are likely to be more successful than other schools in attracting the most capable teachers. Given the single salary schedule for teachers, the main way teachers within a school district can improve situation is by moving to schools in which the students are easier to teach. As a result, the typical situation is for the new and inexperienced teachers to fill the slots in the lowest performing schools and for those who are most capable to leave those schools for higher performing schools. Finally, parents may seek schools with more affluent students because such schools are likely to have access to more resources in the form of greater parental contributions both in the form of money and volunteer activities.

Evidence from many areas including Scotland, New Zealand, and Chicago support this claim that parents have a strong tendency to choose schools based in part on the peers in the school. Survey evidence from Scotland, where parents have a statutory right to make requests for placements in a school other than the designated neighborhood school shows that parents who exercised choice “more often selected schools with higher mean socioeconomic status and higher mean levels of achievement” (Willms and Echols, 1993, p. 49). In New Zealand, where parents have had extensive choice of school since 1991, the evidence suggests that parents have been attempting to move their students up the decile ranking of schools, where low-decile schools are those that serve large proportions of disadvantaged and minority students and high-decile schools serve more affluent and white students (Fiske and Ladd, 2000, ch. 7). In Chicago, where high school students can choose among more than 60 high schools and where more than 50 percent of the students exercise the right to choose, school choice has led “to dramatically increased sorting by ability. High ability students are much more likely to opt out of their neighborhood school and virtually all travel involves attending a school with higher ability peers.” (Cullen, Jacob, Levitt, 2000, p. 1-2.)

Adverse Impacts on the Schools Left Behind. Because families make choices in these ways, the challenges facing the schools not chosen by large numbers of parents,

which are typically those serving the most difficult-to educate students, are increased. The best evidence about the impacts of choice on the schools and students left behind comes from New Zealand. Beginning in the late 1980s, New Zealand dramatically restructured its education system by transferring operating authority from the Department of Education, which was abolished, to school-specific elected boards of trustees dominated by parents. While this initial reform was driven primarily by a populist/democratic vision of strengthening the voice of local communities in the running of the schools, the election of a conservative pro-market National Government in 1991 altered the reform in the direction of market-based principles by introducing full parental choice of schools and forcing schools to compete for students.

Despite some obvious differences between the U.S. and New Zealand, the countries are sufficiently similar, especially if one focuses on the urban rather than rural areas, for the reforms to generate lessons for this country. New Zealand has a similar cultural heritage, it is the size of the median American state (the relevant policy making unit in the U.S.), and it has a significant minority population of Maori and Pacific Islanders who, like African-Americans and Hispanics in the United States, tend to perform less well in the education system than their white counterparts.

The impacts on the New Zealand reforms were mixed.⁴ Parents quickly embraced the right to choose and exercised it to an extent that substantially altered enrollment patterns in the major urban areas. Although competition for students may well have benefited some schools and some students, including some disadvantaged students who moved to better schools, some schools found it difficult to keep or attract students and ended up with even larger concentrations of dysfunctional, costly-to-educate students than they had before the reform. Because they were also losing funding and staff they found it difficult to serve their students. New Zealanders refer to these schools, many of which were located in the poorest sections of urban areas, as downwardly spiraling.

This outcome reflects in part some policy decisions that restricted the choices of low-income families. These decisions included the lack of transportation subsidies in urban areas, allowing schools to charge activity fees (albeit non compulsory), and, in the

⁴ The absence of national tests makes it impossible to determine the effects of the reform on student achievement.

spirit of self-governing schools, granting oversubscribed schools the power to set their own enrollment policies (see below for further discussion). Even more important than these policy decisions, however, was the tendency just described of parents to use the composition of a school's student body as a proxy for the quality of the school. This behavior meant that schools with more affluent and more white students were deemed to be of higher quality than those with more poor and more minority students. As a result, schools with large initial proportions of disadvantaged students found it difficult to compete effectively for students. Despite their autonomy and the strong incentives they faced to improve the quality of education they provided, such schools were doomed to be unsuccessful in the new educational market place (Ladd and Fiske, forthcoming). Not surprisingly, the gap in grades on school leaving exams between the successful and the unsuccessful schools increased.

The market solution for the downward spiraling schools would be to let them fail and to shut them down. However, closing such schools is not a viable alternative in a compulsory education system unless the students have somewhere else to go and unless the political will is there to do so. For a few years, the New Zealand government tried to ignore the problem and to let market forces do their work. However, significant pressure from the media highlighting these "forgotten schools" finally forced the government to acknowledge that many students were worse off than they had been before the reforms and to intervene. Given the country's market-oriented philosophy, the Ministry of Education chose a minimalist form of intervention, one that focused on improving the management of the schools by bringing in new principals or beefing up the managerial skills of the existing principals. Only now, ten years into the reforms, has the ministry finally recognized that the challenges of these schools require more direct forms of intervention that focus more directly on teaching and learning.

The bottom line is clear: Large scale expansion of parental choice is not a panacea for urban schools and will exacerbate the problems of the schools at the bottom.

Non-Market Arguments for Expanding Choice

Despite the negative effects of large scale market-based reforms on the schools at the bottom, a number of powerful arguments can be made for expanding parental choice

of schools, some of which have little to do with the market place. One of the most compelling is that the freedom to choose is a cherished value in the United States. Given that we generally permit people to choose where to live and where to work, it is reasonable to ask why we do not give them more control over where their children go to school. This argument is particularly compelling for urban minority families and economically disadvantaged families since they have the least choice in the traditional system and their children end up in the lowest performing schools. Howard Fuller of Marquette University, a former superintendent of schools in Milwaukee, eloquently gives voice to this view as he makes the case for school choice as a means of empowering urban minorities. As he states: “This is a debate about power. .. This is about whether parents of low-income African American children should obtain a power that many critics of the choice movement exercise every day on behalf of their own children.” (Fuller, 2000, p. 1) Many African Americans apparently agree with him as is evident from polls showing strong support among African Americans for voucher programs.⁵

Expanded choice may also promote important educational goals. Clearly, the traditional view that one size fits all when it comes to education is clearly no longer accepted. Research shows that children differ in their learning styles and that people are increasingly recognizing that alternatives are needed for those who do not function well in the traditional public education system. Thus choice would allow families to make a better match between the needs of their children and what a school has to offer. A quite different form of this argument draws on the communitarian literature to highlight the positive role that communities may be able to play in delivering quality public services (Brandl, 1998, Witte, 1996). According to this view, by choosing schools for their children, families will create communities of shared values that will lead to greater cooperation and effort toward the ultimate goal of better education. Supporters of this view point to the shared community values within U.S. Catholic schools as an explanation of their greater

⁵ I have had difficulty finding current and consistent data on the trends in black support for vouchers over time. A 1997 report on the Phi Delta Kappa/Gallup poll indicated that 62 percent of black respondents in contrast to 47 percent of white respondents supported a proposal in which the government paid all or a part of the tuition for students who chose to attend nonpublic schools. The most recent poll shows sharply lower support for vouchers, using different wording, among all respondents (down from 44 percent in 1997 to 39 percent in 2000) but does not break responses down between white and blacks.

effectiveness relative to comparable public schools (see, for example, Bryk, Lee, and Holland, 1993).⁶

Choice undoubtedly confers benefits on the choosers. Multiple studies show that parents who exercise choice are more satisfied with their new schools than are the non-choosers. For example, a far greater percentage of private school parents (over 80 percent) are very satisfied with various aspects of their child's school than is the case for public school parents (50 to 60 percent). And parents of children in chosen public schools are likely to be more satisfied than parents of children in assigned public schools (about 63 percent to about 55 percent) (Henig, 1999, p. 74 based on 1993 data from the 1997 *Condition of Education*.) Evidence from charter schools provides a similar picture. More than 4000 student survey responses from 39 charter schools in ten states show that 61 percent of the students thought their teachers were better in the charter school and about 50 percent said they had more interest in school work (with 35 percent saying no change, and 7.7 saying less interest) (Vanourek et al, 1998, p. 189). Finally, all the voucher experiments, some of which are discussed below, show evidence of greater parental satisfaction with the new schools. In the fifth year of the Milwaukee voucher program for example, more than three quarters of choice parents gave their child's school a "grade" of A or B. In Washington, D.C. 46 percent of the parents of the choice students gave their school an A grade in contrast to an estimated 31 percent of all public-school parents. Satisfaction levels were higher with all the major components of the school: the academic program, school safety, parental involvement, and class size (Wolf, Howell and Peterson, 2000, p. 38).

Of course some of this increased satisfaction may reflect not the specific policies of the schools but rather a different, more congenial or more motivated, set of peers in the new schools. To the extent that families are searching for schools in which their children will have higher SES peers, their behavior complicates the policy discussion because not all families can achieve that end. Nonetheless, it is hard to argue that that low-income

⁶ Expanding choice of schools could also promote some non-education goals. For example, by breaking the link between residential location and place of residence, a system of expanded choice might reduce the extent of residential segregation in urban areas. Some families who now choose to live outside the city to take advantage of better suburban schools might well choose to move to the city under an expanded choice option (Nechyba).

families should be denied opportunities to benefit from such choices simply because they are poor.

Policy Implications

Because the freedom to choose is not the only value at stake, education policy makers need to weigh the benefits of expanding choice to the choosers against the interests of other stakeholders in the system. Among those other stakeholders is the general public, which accrues benefits that justify public funding of education in the first place and making it compulsory. The problem is that these broader interests may be undermined by unrestricted choices for individuals. Thus, the challenge for policy makers is to expand choice in such a way that these other values are not compromised. In addition, if the purpose of an expanded system of choice is to meet the needs of disadvantaged families, the system must be carefully designed to assure that they, rather than only the more advantaged families, benefit from the reform. At a minimum, that would require paying for the costs of transportation for poor, if not all, children and the provision of information about schooling choices to all families, policies that can be costly (Levin, 1998).

Though important, those types of policies are not sufficient to assure a level playing field because of the tendency for families to use the mix of students in a school as a proxy for school quality and because of the public benefits of education. Hence policies are also needed to support the schools that are left behind and, in situations where individual choice undermines broader goals, to constrain choices in ways that promotes the overall public interest.

The evidence from New Zealand demonstrates quite clearly that governance changes in the form of more parental choice of schools is not a panacea for urban school systems, especially for the most distressed schools and their students. Indeed it is likely to be quite harmful to those schools. One lesson from New Zealand is that any expansion of options on the demand side requires a part B to the plan in the form of an explicit strategy to focus on the educational problems of the schools that, through not fault of their own, cannot compete effectively. The New Zealand experience provides little guidance on the appropriate form of this intervention other than showing it needs to be substantial and

sustained and that it must focus not on management and governance but rather on the fundamental determinants of teaching and learning. One key aspect of such a strategy would presumably be close attention to the quality of the teachers in those schools, an issue to which I return below.

Because families make decisions in part based on the mix of students in a school, a system of full parental choice would inevitably lead to greater ethnic and socioeconomic polarization of enrollment patterns among schools and would result in some schools being oversubscribed at the same time that others had excess capacity. From a societal perspective the greater polarization is not desirable, and from a practical perspective some way would have to be found to allocate the scarce spaces in the popular schools. The best solution is to introduce some form of managed or controlled choice. Under this approach, students would be assigned to schools based on their preferences in a way that balanced their interests against the interests of other students and the community as a whole. One can imagine a system of controlled choice that sought to maintain a reasonable racial balance among the schools, as was the case in Cambridge, Massachusetts, or one that sought to maintain a reasonable socioeconomic mix as eloquently advocated by Richard D.Kahlenberg in his forthcoming book, *All Together Now: Creating Middle Class Schools through Public School Choice* (Brookings Institution Press).

Supply – Providing More Options Within the Public School System

Many urban school systems already provide various options on the supply side, but not all of these options should be included under the rubric of market-based reforms. For example, many urban districts have set up magnet schools that differ in significant ways from other public schools. However, these differences typically were designed primarily to serve as a means of reducing segregation without relying on forced busing. Magnet schools are often located in predominately minority areas and, before their conversion, served mainly minority students. By making them into magnet schools, often with a particular theme such as science or art or with a particular program such as the International Baccalaureate, policy makers were trying to make them more attractive to white students. As schools of choice, magnet schools have a flavor of market-based

reforms, but they differ from the reforms discussed here in that their basic programs are dictated by higher level policy makers rather than by the schools themselves. The central notion of market based reforms is that the schools themselves are making their own decisions in response to the demands of current or potential students.

Site-Based Management

One strategy for providing more flexibility on the supply side is to grant existing schools more operational autonomy. This type of reform could well be part of a market-based reform strategy: If schools are to compete effectively for students, they must be given the flexibility to change their programs to respond to the demands of their customers. Market-based logic, however, is not the only rationale for giving schools more authority to manage their own affairs. Such a strategy would also be consistent with other reform strategies, including standards-based reform, that requires more flexibility at the school level so that schools can respond to outcomes-based incentives. In addition, decentralizing authority to schools could be based on a populist rationale that has more to do with a political objective of empowerment and equity for disadvantaged groups than with market incentives. The failure of education systems to meet the needs of significant segments of the population provides support for the view that school systems run by large professional bureaucracies lose touch with the communities they serve. One solution to this problem would be to decentralize authority to the school level.

Decentralization of authority has taken various forms in the U.S. In some models, school principals are given more authority over budget, staffing and program design. In others, decision making is delegated to teachers and on-site educators. Finally, in some models power is shifted to communities in the form of parent and community representatives (Hansen and Ladd, 1999, p. 152). This third form is best exemplified by the 1988 Chicago reforms which shifted power from professional educators to school site councils dominated by parents and community representatives with significant control over budgets, management, program design, and personnel, including the right to hire and fire principals (Shipps et al, 1998, p. 1).

Evaluation of such programs has been hampered by the multiplicity of objectives and practices that have been pursued, and by the fact that in many cases the transfer of

authority has been quite limited. Studies show few or no benefits in the form of a greater focus on teaching and learning (Hess 1993, Weiss and Cambone, 1994) and little effect on student achievement (Summers and Johnson, 1996). In Chicago, where the changes were most extensive, the effects on student achievement were mixed at best. Some schools appeared to have improved performance, some remained unchanged, and some performed worse (Bryk et al, 1998).

New Zealand's Experience with Self-Governing Schools.

Additional evidence on the effects of shifting power to schools comes from New Zealand where, as mentioned earlier, authority to run schools was transferred in 1989 from the erstwhile Department of Education schools to parent-dominated boards of trustees in each school. In the new environment the schools were provided funding from the government essentially on a per pupil basis (but with more money for schools with large concentrations of difficult-to-educate students), and were given the authority to hire and fire principals, teachers and other staff, to set the curriculum within the context of national curriculum guidelines, and to raise revenue in the form of (noncompulsory) fees from parents or from foundations and businesses. Schools that were undersubscribed relative to the physical capacity of the school had to accept every student who applied, but, in the spirit of self-governance, schools that were oversubscribed were given the authority to draw up “enrollment schemes” to guide the selection process. In many, but not all, cases these schemes included reference to some geographic catchment area defined by the school; others essentially called for the principal to decide who was admitted; and still others admitted students on a first-come, first served basis. Not surprisingly, many schools adopted schemes that allowed them to opt for the students who were easiest to teach and to leave the others – those with learning or behavior problems, those from disadvantaged homes, those with limited English – to be dealt with by less popular schools.

There is little doubt that New Zealanders preferred this new arrangement to the centralized and bureaucratic system it replaced. Fiske and Ladd (2000) report that virtually no educators they interviewed in their study of the New Zealand reforms wanted to go back to the old system. Three observations of the decentralized governance system are worth highlighting for policy makers in U.S. urban areas.

First, the system of full parental choice of school that was introduced in 1991 quite rapidly became a system in which schools did much of the choosing. By 1997, the proportion of students in primary schools with enrollment schemes exceeded 50 percent in both the Auckland and Christchurch urban areas and was 24 percent in the slower growing Wellington area. At the high school level, by 1997, the proportion of students in schools subject to enrollment schemes exceeded 55 percent in Auckland and Christchurch and was close to 50 percent in Wellington (Fiske and Ladd, 2000, ch. 8). Consistent with the discussion above about the uneven playing field of school choice, the most popular, and hence oversubscribed, schools tended to be the schools serving the more affluent and the more white students. The shift to school choice had two undesirable effects. First it meant that some children had trouble finding any school to attend. Second, it gave the oversubscribed schools a clear educational advantage over the other schools both because they were able to select the students who were easier to teach and because they had the luxury of tailoring a coherent educational program to the needs of those students. By contrast, the undersubscribed schools had to spread themselves quite thinly to try to attract as many students as possible.

A second observation is that some schools struggled mightily under the new system. Evaluations of the governance and management performance of the New Zealand schools indicate that the schools serving the largest proportions of disadvantaged students tended to have the greatest problems of governing themselves. Compared to schools serving affluent students, such schools were five times more likely than to be out of compliance with legal requirements. They also had less effective systems for assessing and monitoring student progress, for managing staff and finances, and exhibited less effective leadership and vision (Fiske and Ladd, 2000, Table 4.4).

Finally, the new system did not generate much innovation. Several factors account for this outcome. The main one is that the incentive system of the competitive model established in New Zealand did not encourage schools to look for niche markets. The strategic objective in most cases was to maximize the number of students – at least up to a school's capacity – and thereby to maximize funding, which was closely tied to enrollment, and, once at capacity, to gain control of the mix of students. As a result, schools turned out to be more interested in offering broad traditional programs aimed at

attracting as many students as possible than in designing a program targeted to particular types of students and families. Another explanation is that while the original architects of the New Zealand reforms envisioned that each school would have its own unique educational vision and objectives as embodied in its school charter, the state quite quickly made it clear that local goals would be secondary to those imposed from the center (Fiske and Ladd, 2000).

None of these outcomes in New Zealand is inevitable in that different policy decisions related to enrollment policies for oversubscribed schools, support services, and funding strategies could affect them. The point is that policy attention is required if other outcomes are desired.

Charter Schools and Education Management Organizations.

In the U.S. context, charter schools represent the full embodiment of the concept of self-governing schools within the public system. Such schools are public in that they receive public funding and are ultimately accountable to the same public authority – typically a school district or a state department of education – as other public schools. What differentiates charter schools is that they are not operated directly by the government. Rather, many of them are established and managed by voluntary associations of parents, educators, citizens and others who come together around a common vision of education. Some charter schools are sponsored by preexisting organizations such as community groups, teachers' unions, churches, and even private businesses. Although in some cases regular public schools have converted to charter status, the majority of charter schools are started from scratch. Each school has a charter and is exempt from the need to follow many of the usual rules and procedures imposed on other public schools.

To many people a charter school represents a way for small groups of local people with a shared educational vision to experiment with new ideas. That is the way charters started out in many states. Increasingly, however, the charter schools are being managed by larger for-profit firms. Charter school laws in at least 12 states allow for management by for-profit firms⁷ and as of 1997, 10 percent of the 750 charter school operation were

⁷ These states are Arizona, California, Colorado, Connecticut, Illinois, Kansas, Louisiana, Massachusetts, Michigan, Minnesota, New Jersey and North Carolina.

run by for-profit ventures, referred to as Education Management Organizations (Litvan, Investor's Business Daily, 1997). EMO management of charter schools is most common in Michigan where seventy percent of the 138 charter schools were managed by EMOs in 1998-99, up from 50 percent the year before. The large representation of EMOs in Michigan reflects the rules governing charters in that state. As is true in many states, Michigan offers very limited start up funding for charter schools. EMOS can help new schools to gain access to private capital. In contrast to other states, charter schools receive full funding, roughly equal to the per pupil revenue received by traditional public schools. In addition few of Michigan's charter schools are chartered by school districts. This fact increases the administrative autonomy of the schools and limits the influence of teachers' unions. Finally, the charter schools do not have to make contributions to the Michigan Public School Employee Retirement system on behalf the teachers employed by the EMO (Arson, Plant, and Sykes, 2000, p. 54)

Having started as recently as 1992, the charter school movement is still too young and too varied from one state to another to make many generalizations about how well it is working. In particular, it is not yet possible to determine whether the charter schools are successful on average in increasing achievement and in promoting innovation or to sort out the extent to which they leads to undesirable sorting of students.

With respect to student achievement levels, I know of no formal statistical studies of student performance in charter schools relative to an appropriate control group that would allow the researcher to predict how charter school students would have done had they remained in a traditional public school. To be sure, in their new book, *Charter Schools in Action*, Finn, Manno and Vanourek provide some "evidence" of achievement gains in charter schools from multi-state studies and from state accountability reports, but none of the few studies cited would pass a rigorous test. Also, without looking at the full universe of charter schools, or alternatively a random sample of that universe, it is difficult to draw conclusions about the overall impacts of the program. My guess is that, as was the case in the Chicago Public School system's decentralized system, some of the charter schools are doing a better job with their students, some about the same, and some a worse job than the public schools would do.

Among the EMOs, the Edison company is the largest for-profit manager of charter schools. Its latest annual report claims increases in student achievement and high levels of satisfaction for student, parents, and teachers. Both teachers' unions have taken issue with the report. The National Education Association (NEA) acknowledges that Edison is the only for-profit venture to show an improvement in student learning, but claims that the results are more mixed than Edison's report indicates: "A more objective analysis of the available data shows that student achievement in a couple of the Edison schools is quite good, in most it is average and in a couple very disappointing." (Ref. Needed.) In its analysis of Edison's performance, the American Federation of Teachers compared Edison schools in eight states with public schools that had similar demographics with less positive results (ref. Needed.). Recognizing the importance of valid measures of its success, Edison has recently commissioned RAND to evaluate its schools over the next three years.

That independent evaluation is certainly needed and will provide valuable information about Edison's performance. However, it will not answer a larger set of policy questions related to the use of EMOs. These questions include the following: How can the public be assured that EMOs will not put profit making ahead of the interests of children? How much relative influence will parents and teachers retain in schools run by large, private sector companies? Is management by private sector bureaucracies better than management by public agencies, including school boards? Should EMOs, as managers of charter schools, be permitted to keep secret their expenditure of public funds simply because they are private firms, or should they be required to report their expenditure like other public sector organizations (Arson, Plank, Sykes, 2000, p. 55) .

The potential for innovation is one of the main arguments for charter schools. Unconstrained by the bureaucracy of the traditional public schools, the charter schools have the freedom to experiment with new approaches to education. Despite these hopes for charter schools, the amount of innovation appears to be relatively modest, especially with respect to teaching and learning. Observations of charters in Michigan, for example, show a mixed picture. Some charter schools are pioneering distinctive curricular themes such as African-centered education but continue to teach it in traditional ways. Some schools are experimenting with new technologies, some are trying to connect schools and workplaces in novel ways, and some are using whole-school reform models that combine

sets of research tested program elements. However, most of the Michigan charter schools are using traditional approaches to curriculum and instruction, some of which are based on standard curriculum packages supplied by commercial publishers, or management companies (Arson, Plank, and Sykes, 2000, pp. 49-50). In Arizona, the key characteristic is variation among schools in the types of curricula they use such as back-to-basics, Montessori programs, bilingual, arts-based, and Waldorf programs. As investigators of the Arizona system have noted, “While charter schools have not yet invented new modes of education, they have made relatively unusual options more available to parents” (Gresham et al, 2000, p. 754).

One of the concerns about charter schools was that they might disproportionately serve white and economically advantaged students. The aggregate data on charter school enrollments does not bear out this concern. However, as emphasized by Amy Stuart Wells and her colleagues (2000), disaggregated data by state, district, and neighborhood indicate that the individual schools typically are not very diverse. The more the data are broken down, the more racially and socioeconomically segregated the charters schools appear to be, with many of them being primarily minority schools. This outcome is not surprising given that “the vast majority of charter schools are created to serve students from a particular cultural or geographic community or those who share a similar educational philosophy or view or parental involvement” (Wells et al., 2000, p. 219). In addition, these authors find some evidence that within the poor communities the relatively more advantaged of the disadvantaged are enrolling in the charter schools.

Whether these findings are cause for concern is subject to debate. One of the key unanswered questions is whether the educational benefits emerging from school communities with shared values, especially for those disadvantaged students not well served by the traditional public school system, is sufficiently great to offset any adverse social effects of the limited diversity within schools. Of course that question presumes that there are benefits for the disadvantaged students that choose charter schools. Wells and her colleagues also provide some disturbing evidence that students of color are frequently enrolled in impoverished charter schools or in those with the least challenging curriculum (Wells et al, 2000, p. 173), but much more research on this issue is needed.

Recent research uncovers important differences in enrollment policies between “market-oriented” and non-market oriented charter schools, differences that are highly relevant to the debate about the role of EMOs. In preliminary research on the 21 charter schools in Washington, D.C., researchers have found that the seven market-oriented charter schools (mainly identified as those that are part of a multi-school system that extends outside the District) differ in their enrollment policies from the 14 that are more community oriented. The share of special education students to all students is 14.6 percent in the community oriented schools but only 5.3 percent in the market-oriented schools. Similarly, the share of students on free and reduced price lunch is 79.1 percent in the community-oriented charter schools but only 62.7 percent in the market-oriented schools. (Lacireno-Paquet et al., 2000). These differences provide some support for the concern that profit-oriented EMOs will seek to make profits by minimizing the costly-to-educate students they serve. The downside of that strategy is that such students may well then become disproportionately concentrated in the traditional public schools.

The single greatest challenge for the U.S. charter school movement is accountability. Scholars on both sides of the charter school debate have looked at accountability and found it wanting (Finn et al. 1997 and UCLA Charter School Study, 1998.) A good accountability system is essential for assuring that taxpayer dollars are being spent in the public interest . To some advocates of charter schools the combination of parental choice and the charter renewal process provide adequate accountability. Parental choice provides accountability through the power for parents to remove their children from a school that is not meeting their needs. But this form of accountability focuses on the benefits to individuals and ignores any of the public benefits of education. Accountability also comes through the chartering and renewal process. Ideally, the chartering agency will approve only those applications that meet high quality standards.

The power to revoke school charters has been used in a few cases on the grounds of financial mismanagement and educational inadequacies but is likely to be too crude a tool for true accountability. One of the problems is that most states or other chartering agencies have not specified clearly enough up front the standards for charter renewal. In states with sophisticated test-based accountability systems, charter schools can be held accountable for the tested areas along with other schools. But even this approach may not

be sufficient since the public has an interest in assuring good processes as well as good outcomes and in strengthening the link between the two. Although a healthy and safe school environment is not a measure of educational outcomes, it is of considerable importance to the public. In addition the public has an interest in assuring that a school is complying with the terms of its charter.

Much work remains to be done to develop adequate methods for holding charter schools accountable. The most appropriate approach in my view would include site visits by an external evaluation agency, building on the models used in England, New Zealand and, most recently, Massachusetts.⁸ Under the New Zealand approach, which is the one with which I am most familiar, charter schools would be periodically inspected by an independent agency that would review the schools' operations and evaluate the school relative to the standards spelled out in the school's charter. The advantage of using an external review office of this type is that it can hold schools accountable for processes as well as for outcomes and, during the start up years of a charter school, can help the school's operators understand where they are falling short. This approach to accountability works quite well in New Zealand largely because of the independence of the review office, the high quality of its professional staff, and its strong leadership (Fiske and Ladd, 2000 and forthcoming.). Although this approach will not solve all accountability issues, it could provide a useful complement to the current system of accountability in the U.S. that is either undeveloped or, in my view, likely to rely too heavily on student test scores.

Policy Implications

Central to efforts to loosen up the supply side of public schooling is the view that individual schools are the key building block of an education system. Many of the reforms are designed to give schools more authority to craft their programs in ways that respond to the needs and desires of their "customers" and to use resources more efficiently. Several policy conclusions emerge from this discussion.

One is that schools should not be given unlimited power over all the decisions that affect them. In particular, on the grounds of assuring fair access to all students, schools

⁸ For a description of the Massachusetts model, see Finn, Manno, and Vanourek, 2000, ch.6. .

that are oversubscribed should not be given the power to choose which students will be admitted. Thus, in the same way the consumer choices need to be constrained in ways that assure that public as well as private interests are served, schools also need to be constrained. That constraint could come in the form of requiring all oversubscribed schools to admit students by random ballot, or, based on the same logic discussed earlier, of assigning students to schools based on a system of controlled choice.

Another is that any form of decentralized management, whether it be within the traditional public school system or in the form of charter schools, requires support for the schools either from the central office or from some new institution set up for that purpose. The level of support needed will vary from school to school, with some schools requiring more support than others. Schools will make much better use of their autonomy if they are not required to reinvent wheels in areas such as finance, property management, and professional development. In addition some schools, especially those serving low-income students, are likely to require major support in order to remain viable institutions.

As schools are given more autonomy, the importance of a good accountability system increases. For the reasons discussed above in connection with charter schools but which apply more generally to decentralized of authority to schools, neither parental choice nor systems based on test scores alone are sufficient. Though implementing the site-visit approach described above could be quite costly, a good system of accountability is essential not only to assure wise use of public funds but because many of the students served in charter schools are among the most vulnerable and should not remain in a charter school that is not meeting its charter responsibilities to serve them.⁹

The use of EMOs raise many thorny policy issues related largely to their profit-making orientation. While it may be difficult to resolve some of those policy issues until school systems have more experience with EMOs, policy makers should in the meantime be vigilant in demanding rigorous evaluations by independent, high quality research groups. In addition both traditional public systems and charter schools need to pay close attention to the nature of the contracts they enter into with EMOs. As was well publicized at the time, the city of Baltimore's contract several years ago with Education Alternatives

⁹ Costs will vary depending on the approach used. A recent estimate suggests that the cost to Massachusetts of a site visit to a charter school with 250 students is about \$17,000.

Inc.(EAI) was seriously flawed. One egregious flaw of the original contract was that it called for the district to provide EAI with the average cost per pupil for the district as a whole despite the fact that EAI was managing elementary schools which are less costly than high schools and was serving a below average proportion of the costly-to-educate special needs students. It appears that the state of Maryland may have written a similarly flawed contract with Edison to run three schools in Baltimore that the state has taken over.¹⁰

A final policy conclusion relates to charter schools. I believe that charter schools can serve a useful role in the education system, but that role will be best served if charters remain on the fringe of the education system rather than becoming the norm. When charter schools are limited in number, they can be given the flexibility to be innovative, to offer alternative educational environments and to take risks. Some new schools will be successful; other will not. The risks to the public or to individual children of such schools are not large when they are limited in number because the government can assure that if a charter school does not meet the needs of a particular child that child will have a guaranteed place in a traditional public school. Such a guarantee would seem to be important in a compulsory education system.

Furthermore, if charter schools operated on the fringes of the state system, chartering agencies could, in principle, assure that the founders of each school have the managerial capacity, fiscal responsibility and educational experience to have a reasonable chance of succeeding while resisting in the sort of heavy-handed regulation that would defeat the purpose of establishing charter schools in the first place. In addition, as long as charter schools are relatively few in number, fair access can be assured by requiring schools to allocate their scarce places through some form of random balloting. Finally, the potential costs of a quality accountability system provides an additional argument for keeping charter schools on the fringe of the traditional education system (Fiske and Ladd, forthcoming).

¹⁰ See Darcia Harris Bowman, "Private Firm Tapped to Fix Md.Schools," *Education Week*, February 9, 2000 and Kalman R. Hettleman, "A Fair Test of State Privatization/", *Education Week*, September 13, 2000.

Supply -- Public Funding for Private Schools

An alternative way of loosening up the supply side is to permit public funds to be used for private schools through the use of vouchers or tuition tax credits.

Are Private Schools More Productive Than Public Schools?

Central to many supporters of voucher programs is the belief that private schools are more productive than public schools in the sense that they produce higher achievement at lower cost. If private schools do not produce higher achievement, it is hard to make the case that voucher programs for poor students will improve their educational outcomes. However, even with no advantage with respect to achievement, public funding for private schools could be an attractive policy option to the extent that it reduced the total costs of education. Hence, it is useful to examine the evidence on private schools both with respect to achievement and with respect to costs.

Private High Schools. Most of what is known about the efficacy of private schools relates to high school students. The reason is that most of the studies rely on national data sets such as the High School and Beyond or the National Educational Longitudinal Survey which begins to track students only at the high school level. In addition, many of the studies focus exclusively on Roman Catholic schools, which represent the largest share of private schools and which, because of their location in urban areas and their relatively low tuitions, are most readily available to disadvantaged and income minority students in urban areas.

In the early 1980s, James Coleman and others (Coleman, Hoffer and Kilgore, 1982) used the High School and Beyond data to conclude that students in Catholic high schools outperformed their public school counterparts. That conclusion was challenged on the grounds that it did not fully account for the differences in who enrolls in Catholic schools, a problem referred to as “selection bias.” Since then a flood of new research has addressed this issue. Many of the recent studies show that Catholic schools appear to have little or no effect on student achievement but do have positive effects on the probability that students will graduate from high school and will attend college (Evans and Schwab

(1995), and Neal (1997) and Grogger and Neal, 2000.). In general, the benefits seem to be greatest for urban minorities.

Even these more recent studies are open to question because of the difficulty of solving the selection problem in a fully convincing manner. Even if the researcher controls statistically for a large number of characteristics that might affect a family's decision to send a child to a Catholic school, the possibility remains that the choice is influenced by some unobserved characteristics of the family that would also affect educational outcomes. If that is the case, the estimated effects of Catholic schools would be biased upward. Researchers have used many different "instrumental" variables to try to solve these problems, where an appropriate instrument is correlated with the decision to choose a Catholic school but is not a direct determinant of educational outcomes. Many of the studies have used some function of whether a student is Catholic or the proportion of the county that is Catholic for this purpose, but others have argued against that approach on the grounds that Catholicism is a direct determinant of educational outcomes (Figlio and Stone, 1999). In their own work, Figlio and Stone use a more complex set of instruments to look at private schools more generally. Although they report somewhat smaller positive overall effects on educational attainment than other studies, they find higher test scores in math from attending religious schools for the subgroup of African Americans in big cities.¹¹

Private Elementary Schools – Low-Income Students. Compared to the large amount of research on Catholic high schools, only a few studies focus on elementary schools. One credible study addresses the selection problem by comparing fourth grade gains in a sample of low-income Catholic schools to first grade gains. The study finds net gains in math and reading but only for white students in urban schools. (Christopher Jepson, cited in McEwan survey, p. 16). .

¹¹ The authors use as instrumental variables reflecting (1) state labor laws such as "duty to bargain" or "right to work" laws; 2) interactions between these variables and the median income in the county and (3) interactions between these interactions and the student's family's socioeconomic status. These instrumental variables or various subsets of them meet the criteria of being highly correlated with a student's selection of public or private school and yet have no direct affect on a student's achievement. The authors justify the state labor laws as instruments on the grounds that the state policies affect the actual or perceived distribution of performance, but not its mean level. The interactions allow for a differential response to these differences among families with different income. (Figlio and Stone, 1999, p. 121-122.)

Most of our knowledge about the effects of private schools at the elementary level emerges from evaluations of the publicly funded Milwaukee Parental Choice program and of privately funded programs in Dayton, Ohio, Washington, D.C. and New York City. All of these programs restrict vouchers (or "scholarships" in the current lingo) to elementary school children (and in D.C. to middle schools students) from low income families. Studies of these four programs provide the most reliable evidence because of their quasi- or true experimental study designs.¹²

Three separate statistical studies of the publicly funded Milwaukee voucher program have generated three different conclusions about its effects on academic achievement. The first study by Witte, Stern, and Thorn (1995) concluded there were no significant achievement gains for those students who exercised the voucher to attend a private school. A subsequent study by Greene, Peterson and Du (1997) concluded that by the third and fourth years of the program, students exhibited quite large achievement gains in both math and reading (of the order of 0.1 to 0.5 standard deviations). Looking at the same data a third time, Cecilia Rouse (1998) found statistically significant gains in math but none in reading.

Of the three studies the one by Rouse appears to be the most reliable largely because she was able to build on and improve upon the research methodologies of the two previous studies. Because the Milwaukee voucher program was not a true experiment -- that is, one in which the participants are randomly selected to receive a voucher -- the researchers had to determine the appropriate group of students to whom the students who exercised choice through the voucher program should be compared. Witte and his colleagues used as the control group a random sample of all students in the Milwaukee public schools and also a separate sample of low-income students. Greene and his colleagues, in contrast, exploited the quasi-experimental nature of the program and used as the control group those students who applied for the program but who, through a random lottery process, were not accepted by their specific schools of choice.

Recognizing the limitations of both the random sample of public school students and the unsuccessful applicants as control groups, Rouse used both of them but augmented

¹² Evaluations of programs in San Antonio, Indianapolis, and Cleveland can be found in Peterona and Hassel, 1998.

the analysis by controlling for student characteristics that did not change over time.¹³ The analysis of achievement gains was also complicated by the fact that many students who were given vouchers did not exercise them and by the non-random attrition of students from the sample over time. Rouse's careful sensitivity analysis to differing ways of dealing with these statistical problems provides added confidence for her conclusion that private schools *may* confer some academic advantages over public schools for urban minority children at least in mathematics. Gains in achievement, however, are by no means guaranteed.

The Milwaukee program has received attention because it was the first publicly supported voucher program. One must be careful in generalizing from the Milwaukee experience, however, since the program was small and only secular private schools were eligible to participate during the years it was evaluated.¹⁴ More recent studies of additional privately funded voucher programs in Dayton, Ohio, Washington, D.C. and New York City provide additional new information on how voucher programs affect academic achievement.

In contrast to the Milwaukee program, each of these programs was set up as a true experiment with random assignment of children into the treatment group or into the control group. Participating families filled out baseline surveys of background information and, in principle, all children, including both those in the treatment group and in the control group, were tested annually for the purposes of the evaluation. In contrast to Milwaukee, the private funding of these programs makes it possible for students to use their vouchers in religious as well as secular schools. Although the experimental design of these programs solves the control group problem, it does not avoid some of the other problems that arose in the Milwaukee evaluation, including, for example, the fact that not all students exercised their option to use a voucher and that some students disappeared from the sample. Indeed the problem of sample attrition is likely to be even greater with these subsequent studies because the testing of students is done on Saturdays by the evaluators rather than by the school district as in Milwaukee's publicly funded program.

¹³ The technical term for the procedure she used is individual fixed effects.

¹⁴ No data have been made available for evaluation purposes since 1995.

Enticing students, especially those not given vouchers and those who were given vouchers but did not use them, to come to the testing sessions presents a substantial challenge.

The impacts of these three voucher programs on the achievement of choosers during their first two years have been summarized in a recent paper by Paul Peterson and various coauthors (2000). The researchers conclude that there were large positive gains of about 0.33 standard deviations for African Americans but no statistically significant gains for white or Hispanic students.¹⁵ The gains for African-Americans emerged both in reading and in math but differed somewhat across the three sites, with the gains being largest in Washington D.C. Although the researchers had previously reported declines in achievement for those African Americans using vouchers to attend middle schools in Washington, D.C., gains in the second year of the program were sufficiently large to generate large two years gains compared to the control group. Finally in their summary they claim that "students' initial abilities and family background generally do not influence the results, because student were randomly assigned to test and control groups. Furthermore, all results take into account initial ability levels."

Despite the experimental design of the three studies, one should be cautious about accepting the results at face value. Of particular concern is that a large proportion of students offered scholarships did not use them. In Washington D.C. for example only 53 percent of the students used the scholarship during the first year of those program. Given that the scholarship did not cover the full cost of most private schools it is reasonable to assume that the users come from more somewhat more affluent or educated families than those who did not use them.¹⁶ Large attrition (up to 50 percent) at subsequent follow-up sessions compounds the problem, especially since it is not likely to be randomly distributed among the users of vouchers, those who could have used them but did not, and those who were in the control group.¹⁷ As a result, some of the statistical benefits of the

¹⁵ To emphasize the policy significance of this gain, the authors compare it to the gains found in the Tennessee class size experiment and claim that it exceeds those gains by 50 percent.

¹⁶ In the New York program, scholarship users had mothers with somewhat higher educational attainment and lived in families with higher incomes (about \$2700 higher compared to an average annual income of \$10,400). The most frequently cited obstacles preventing parents from sending their children to the preferred schools included cost, transportation problems.

¹⁷ . In the New York program, the second year testing sessions were attended by 69 percent of the students offered vouchers and 62 percent of the students in the control group. The users of vouchers were told that the renewal of their vouchers were conditioned on participation in the program. The members of the control

original random assignment design are lost. In light of these problems, the authors have been much too cavalier in dismissing the role of family background and initial abilities as a contributor to the positive findings for African Americans.¹⁸ Together these concerns are likely to lead to an overstatement of the achievement gains from the voucher program.

These concerns are reinforced by the distancing of Mathematica Policy Research from the Peterson et al summary of the voucher results. Since Mathematica worked with the Peterson group on the New York study, its views are highly relevant. According to Mathematica, the new two-year study of low income students in grades 3-6 in New York City who received vouchers to attend private schools "shows no significant differences in test scores between the scholarship and the control group." (Mathematica web page). Further, Mathematica reports that there were no gains for Latino students in any grade and gains for African Americans only in the 6th grade. Despite no gains in other grades, the 6th grade gains in reading but not in math for African Americans were sufficiently large to generate modest positive gains when the results were averaged across all grades. This inconsistency across grades leads Mathematica to suggest caution in interpreting the results for African Americans.

The relative costs of private schools. Even if private schools do not generate greater achievement, they could still be more effective than public schools if they were less costly to operate. One supporter of voucher programs asserts that many private schools cost about 50-60 percent less than public schools (Hoxby 1998, in McEwan, p. 25), but presents no data to support her assertion. The measurement of true costs is complicated by the fact that proxies for costs such as tuition payments or expenditures by the school are unlikely to account for all costs (see Levin 1998). Private schools receive additional resources in many forms such as special fees and donations of money and time. In addition religious schools receive support in the form of church subsidies, teachers working at below-market wages, and donations of land and buildings. Comparisons

group were compensated for their expenses and told that they could automatically reapply for a new lottery if they participated in the follow up sessions. (Peterson et al. p. 19).

¹⁸ Controlling statistically for initial test scores is not sufficient when there are differences along other dimensions. Mathematica reports for example that scholarship users had mothers with somewhat higher educational attainment and lived in families with higher incomes (about \$2,700 higher, with an annual average income of about \$10,400). The most frequently cited obstacles preventing parents from sending their children to the preferred school included cost, transportation problems, and lack of space at the school. (Mathematica press release).

between public sector and private sector costs are further complicated by the fact that public schools typically serve a greater proportion of students who need costly services in the form of special education or vocational education. In sum, very little is known about the true costs of providing education in private schools, and hence care should be taken in making any claims about the efficiency of private relative to public schools. From the narrower perspective of the government, however, the cost of providing vouchers to students so they can attend private schools may appear relatively low since the parents would typically be paying part of the tuition. Working in the other direction, however, is the possibility that some of the voucher funds would go to families who already had their children in private schools. The net budgetary impact would then depend on how many children used the voucher to switch from public to private school and how many students currently in private schools used the voucher.

Policy Implications

The policy implications of these findings are not clear. Taken at face value, the Catholic school studies suggest that if existing private high schools have excess capacity, a voucher program that enabled low-income students to attend a Catholic high school could well increase the average educational attainment of those students.¹⁹ Similarly, the voucher experiments suggest that if the relatively inexpensive private elementary schools in an urban area have excess capacity, a means-tested voucher program that enabled low-income elementary school students to attend those schools might increase the achievement of some students. The evidence suggests, however, that on average any achievement benefits at the elementary level are likely to accrue only to African American students with none accruing to Latino students. These differential effects by race clearly complicate the policy discussion.

The more difficult question is what would happen if such programs were expanded. All of the voucher programs were tiny. The Milwaukee program never had more than 1000 students during the time covered by the studies, the New York program

¹⁹ Although the research focuses on high schools, most researchers are not careful to sort out whether the students in their sample were in Catholic schools throughout their schooling or just for their high school years. For policy purposes the distinction matters. To attain gains at the level found in the literature, students might have to go to Catholic elementary and middle schools as well as to high schools.

offered scholarships to about 1300 students, the Dayton program to 515 public school students (and to another 250 students already enrolled in private schools) and the Washington D.C. program to 460 students (Peterson et al, 2000). Their small size means first that the departure of the students with vouchers exerted little or no impact, either positive or negative, on the schools left behind. Second it means that the number of students participating in the programs was small relative to the available spaces in the private schools. If the programs were to expand, any existing excess capacity in private schools would soon be used up, and many low-income families with vouchers either would not be able to exercise choice or would be forced to choose among new schools that were newly established in response to the voucher program.

Thus the nature of the supply response is hard to predict, yet it is crucial to any discussion about the effects of a large publicly funded voucher program. Support for voucher programs in the U.S. has to rest on the untested belief that new private schools would be established and that these would be of the same quality or better than existing private schools.(Hill, 1999). Given the absence of U.S. evidence on the potential supply response, once again I turn to the international evidence. Some insight emerges from New Zealand where there was little or no expansion of supply in response to parental choice. A major reason was that the government continued to own the schools and, for budgetary reasons, was reluctant to build new schools or to expand existing schools when there was excess capacity elsewhere in the system. The best example of a start up in the New Zealand system was a school that catered to relatively wealthy families who could afford to pay the capital costs of starting a school. Thus, the New Zealand experience highlights the high, and potentially wasteful, capital costs involved in setting up new schools.

Insights about the quality of new private schools emerge from the Chilean experience. The voucher program in that country led to a large expansion of non-religious and profit-maximizing voucher schools. Careful analysis of fourth grade achievement data shows that these new private schools were marginally less effective than public schools in producing Spanish and mathematics and were even less effective when they were located outside the capital city. Evidence also suggests that the gap can be explained in part by different resources in private schools, such as a greater percentage of teachers with short term contracts (McEwan and Carnoy, 2000 p. 227). How directly transferable these

finding are to the U.S. can be debated. Nonetheless they provide an appropriate cautionary note to those who support vouchers in the belief that they would generate a supply of high-quality new private schools.

Market Prices and Alternative Mechanisms

Markets require a mechanism to deal with situations in which the demand for a particular item exceeds its supply. The standard mechanism is price. When the demand for good wine, for example, exceeds the supply, the price will rise to clear the market. The rise in price will induce consumers to buy a bit less and the suppliers to supply a bit more, so that the quantity that consumers choose to buy end up equal to what producers supply. Even in markets in which supply is fixed, price plays a crucial role in allocating the limited supply among demanders. When the consumer item in question is places in a desirable school, the balancing of supply and demand is considerably more complicated.

In a system of publicly funded compulsory education in which every child is entitled to a quality education, pricing is an inappropriate method of allocating students among schools because of its adverse distributional effects. Historically, the allocation challenge has been met by assigning students to schools based on where they live. The proscription of prices has been carried over to the charter schools, which are not allowed to charge tuition. Most states solve the allocation problem by requiring oversubscribed charter schools to select students by random ballot.²⁰ With voucher programs, in contrast, prices generally do play a role in determining which students attend a particular private school. In the various publicly or privately funded voucher programs in the U.S. the size of the voucher typically falls short of many private school tuitions, and the private schools are permitted to charge tuition in excess of the amount of the voucher. These additional charges undoubtedly prevent some families from taking advantage of the voucher program and could help to explain the fact that only about half of the families receiving vouchers in the privately funded voucher programs in cities such as New York, and Washington, D.C. were able to use them to enroll their children in private schools

²⁰ Cite some ways to get around that practice. See Wells et al. 2000.

Theoretical work by the Epple and Romano (1998) provides an abstract model that is useful for understanding the implication of pricing and other aspects of voucher programs. Their main findings are that the introduction of a voucher program that subsidizes tuition at private schools is likely to have negative effects on two groups of students: the low-ability and low-income students who remain in the public schools and some of the students who switch from the public to the private sector. The first group is made worse off by the departure of high-ability students which reduces the quality of the public schools. The second group of students is worse off in the Epple-Romano model because they would have preferred to stay in the public school, which is free, but are induced by the decline in public school quality to switch to the private school. Any gains in achievement for this group are more than offset by the payment of tuition to the private school.

Negative impacts arise for large numbers of children in the context of this abstract model because of its assumption that the quality of a school is determined in part by the average ability of the students in the school. This assumption is a simpler version – and therefore for tractable for an analytical model -- of the behavior that I described earlier to discuss the uneven playing field of school choice. Given the various simplifying assumptions of the model including that children are differentiated only by ability and their family's income, the model predicts that the introduction of a tuition voucher program will generate a hierarchy of schools. At the bottom will be a set of public schools serving the lowest-ability peer group and the private schools will be ranked by the average ability of their students. The introduction of a voucher program is beneficial for some low-income students in that it allows them to enroll in the higher quality schools. At the same time, students with low ability and low income remain in the public sector and, because of the outflow of higher ability students, end up worse off than they would be in the absence of the voucher program.

In subsequent work the authors have determined the conditions that would be needed to reduce the negative distributional effects of a voucher program (citation needed to their new paper). Their basic conclusion is that the only way to do so would be to force the private schools serving voucher-supported students to submit to two major constraints on their behavior: any oversubscribed school would have to accept students by random

ballot and no school would be allowed to charge more than the amount of the voucher. Stated differently, participating schools that were oversubscribed would be permitted to use neither prices nor their own preferences as a method of rationing the limited places in their school. These restrictions could well keep most private schools from participating or, alternatively, and more likely would lead private schools to pressure policy makers to remove these constraints.²¹

Interestingly these are the constraints that typically apply to charter schools and that make them more attractive than voucher programs to some observers (Hassel, 1998). With such constraints, public funds end up being used either to pay directly for the education of disadvantaged students or to pay for the attendance of wealthier students at schools that are open to the disadvantaged. In that way everyone continues to be guaranteed the same free public education whether it be in a public, charter, or private school.

Market Prices and Teacher Labor Markets

Although prices are not appropriate as a way of allocating students among schools in a compulsory education system, greater use of market pricing may well be desirable in other aspects of the urban education system. The most obvious place for greater use of market prices, in my view, relates to teachers. This is not the place to rehearse the case for higher teacher salaries in general or to present the arguments for and against a merit-based or competency based salary schedule. Both of those raise a series of complex issues well beyond the scope of this paper (Hansen and Ladd, 1999, pp. 171 –174). Instead, I simply would like to suggest that there could be a much greater role for prices in allocating teachers among schools within urban school districts.

The process that currently distributes teachers among urban schools is an institutional process rather than a market process. A major part of this process is the internal transfer process. Although this process differs among districts, it can be characterized generally as follows. The district sets up a transfer pool made up of teachers within the district who voluntarily request a transfer to a different school as well as those

²¹ New Zealand's experience with its Targeted Individual Entitlement voucher program is fully consistent with this assertion. Policy makers initially intended for participating schools to select students randomly but

who are involuntarily transferred because of demographic or other changes at their current school that make them redundant. The district typically requires school with vacancies to hire from the transfer pool before making new hires, and gives any teacher not selected by the right to select which vacancy to fill. The typical outcome is that the schools which are viewed as better teaching environments end up with more experienced and higher-quality teachers while the schools with more difficult teaching environments have more vacancies and are more likely to fill their vacancies with involuntary transfers or inexperienced new hires.

The setting for this outcome is both the single salary schedule and the fact that many teachers prefer to teach in schools where the students are more motivated. A logical market-based solution would be to pay high quality or master teachers (as measured in some independent manner) differentially high salaries to induce them to teach in the lowest performing schools. Given the recognized importance of teacher quality to student achievement, this type of market based reform could potentially do more to improve educational outcomes for disadvantaged students than any of the other reforms currently included under the rubric of market based reforms.

Conclusion

Any education system has a multitude of stakeholders with differing interests. The government has broad goals such as educating citizens and training workers, while students, teachers, administrators, local communities, future employers, and other stakeholders all have their own claims on the system. Each of these stakeholders has legitimate interests, but these interests may clash and those who manage the system need to find ways of balancing them.

The problem with large-scale market based reforms is that they rely too heavily on the competitive market place to balance interests and, in the process, privilege the interests of individual parents and children relative to broader public interests. A related problem is that they create losers, among both schools and students. Yet some of the concepts underlying education markets, such as consumer choice, flexibility for schools, and incentives for them to find new and better ways to educate children are worth

the private schools insisted on the right to select their own students (Fiske and Ladd, 2000, p. 301). .

pursuing. The challenge for urban policy makers is to find ways to introduce more choice, flexibility, and incentives while at the same time promoting the public interests that provide the rationale for a publicly funded and compulsory education system.

REFERENCES

Arson, David, David Plank, and Gary Sykes. (no date). *School Choice in Michigan: The Rules Matter*. Michigan State University.

Black, Sandra. 1999 "Do Better Schools Matter? Parental Valuation of Elementary Education," *Quarterly Journal of Economics*.

Brandl, John. 1998. "Governance and Educational Quality." In Paul E. Peterson & Bryan C. Hassel, editors, *Learning from School Choice*. Brookings Institution Press.

Bryk, Anthony S., Valerie E. Lee and Peter B. Holland. 1993. *Catholic Schools and the Common Good*. Harvard University Press.

Bryk , A.S., Y.M. Thum, J.Q. Easton, and S. Luppescu. 1998 *Academic Productivity of Chicago Public elementary Schools: A Technical Report*. Chicago: Consortium on Chicago School Research.

Chubb, John and Terry Moe. 1990. *Politics, Markets, and America's Schools*. Washington: D.C.: Brookings.

Cullen, Julie Berry, Brian A. Jacob, and Steven D. Levitt. 2000. "The Impact of School Choice on Student Outcomes: An Analysis of the Chicago Public Schools." National Bureau of Economic Research, Working Paper.

Epple, Dennis and Richard Romano. 1999. "Educational Vouchers and Cream Skimming." (Work in progress)

Finn, Chester, E., Jr. , Bruno V. Manno, and Gregg Vanourek. 2000. *Charter Schools in Action: Renewing Public Education*. Princeton, N.J.: Princeton University Press.

Evans, William and Robert Schwab. 1995. "Finishing High School and Starting College: Do Catholic Schools Make a Difference?" *Quarterly Journal of Economics*.110(4), 941-974.

Fiske, Edward B. and Helen F. Ladd. 2000. *When Schools Compete: Performance-Based Reform in Education*. Washington, D.C.: Brookings.

Fiske, Edward B. and Helen F. Ladd. Forthcoming. "The U.S. Charter School Movement: Lessons from New Zealand's Experience with Self-Governing Schools and Parental Choice." Forthcoming in conference volume edited by Paul Peterson and David Campbell.

Fuller, Howard. 2000. "The Continuing Struggle of African Americans for the Power to Make Real Educational Choices" Released at the Second Annual Symposium on

Educational Options for African Americans. The Center for Education Reform, Washington, D.C.

Green, Jay. P., Paul E. Peterson, and Jiangtao Du. 1998. "School Choice in Milwaukee: A Randomized Experiment." In Paul E. Peterson & Bryan C. Hassel, editors, *Learning from School Choice*. Brookings Institution Press.

Gresham, April, Frederick Hess, Robert Maranto, and Scott Milliman. 2000. "Desert Bloom: Arizona's Free Market in Education," *Phi Delta Kappan*, vol. 81, no. 10 (June), pp. 751-757.

Grogger, Jeffrey and Derek Neal. 2000. "Further Evidence on the Effects of Catholic Secondary Schooling." Brookings-Wharton papers on Urban Affairs.

Hassel, Bryan. 1998, "The Case for Charter Schools" in Paul Peterson and Bryan Hassel, eds. *Learning From School Choice*. Washington, D.C.: Brookings.

Henig, Jeffrey R. 1999. "School Choice Outcomes." In Stephen D. Sugarman and Frank R. Kemerer, editors. *School choice and Social Controversy*. Washington, D.C.: Brookings Institution Press. Pp. 68-110.

Hess, Frederick, Robert Maranto and Scott Milliman. No date. "Coping with Competition: How Schools Systems Respond to School Choice."

Hoxby, Caroline Minter. 1995. *Do Private Schools Provide Competition for Public Schools?* NBER working paper 4978, revised. Cambridge, MA: National Bureau of Economic Research.

Hoxby, Caroline Minter. 1996. "The Effects of Private School Vouchers on Schools and Students." In H. F. Ladd, editor, *Holding Schools Accountable: Performance-Based Reform in Education*. Washington, D.C.: Brookings.

Hoxby, Caroline Minter. Forthcoming. "Does Competition Among Public Schools Benefit Students and Taxpayers? Evidence from Natural Variation in School Districting." *American Economic Review*. (Web version cited in text).

Jencks, Christopher and Susan Mayer. 1990. "The Social Consequences of Growing Up in a Poor Neighborhood." In *Inner-City Poverty in the United States I*, edited by Laurence E. Lynn Jr. and Michael G. H. McGreary, 111-186. Washington, D.C. :National Academy Press.

Lacierno-Paquet, Nalalie, Thomas T. Holyoke, Jeffrey R. Henig, and Michele Moser. 2000. "Creaming the Top or Cropping the Bottom: An Analysis of the "Creaming" of Student Populations by Charter Schools". Presented at APPAM Conference, Fall 2000.

Ladd, Helen F. and Edward B. Fiske. Forthcoming. "The Uneven Playing Field of School Choice: Evidence from New Zealand." *Journal of Policy Analysis and Management*.

Ladd, Helen F. and Janet Hansen, eds. 1999. *Making Money Matter: Financing America's Schools*. Washington, D.C.: National Academy Press.

Levin, Henry M. (1998). "Educational Vouchers: Effectiveness, Choice, and Costs." *Journal of Policy Analysis and Management*, vol 17, no. 3, pp. 373-392.

MacMillan, Patrick. 1999. "Competition, Parental Involvement, and Public School Performance." Ph.D. Dissertaton, Stanford University.

Mathematica Policy Research Inc. 2000. "Voucher Claims of Success Are Premature in New York City." Press release on Mathematica web page.

McEwan, Patrick J. 2000. *The Impact of Vouchers on School Efficiency: Empirical Evicence from Chile*. Ph.D. Dissertation, Stanford University,

McEwan, Patrick J. "The Potential Impact of Large-Scale Voucher Programs" Occasional Paper No. 2. National Center for the Study of Privatization in Education, Teachers college, Columbia University.

McEwan, Patrick J. and Martin Carnoy. 2000. "The Effectiveness and Efficiency of Private Schools in Chile's Voucher System." *Educational Evaluation and Policy Analysis*. Vol.. 22, no. 3, pp. 213-239.

Neal, Derek. 1997. "The Effect of Catholic Secondary Schooling on Educational Attainment." *Journal of Labor Economics* 15 (January, Part 1): 98-123.

Nechyba, Thomas. 1996. "Public School Finance in a General Equilibrium Tiebout World: Equalization Programs, Peer Effects and Private School Vouchers" (Published reference needed)

Peterson, Paul E. et al. 2000. (William G. Howell, Patrick J. Wold, Paul E. Peterson and David E. Campbell). "Test-Score Effects of School Vouchers in Dayton, Ohio, New York City, and Washington, D.C.: Evidence from Randomized Field Trials." Paper prepared for the annual meetings of the American Political Science Association, Washington, D.C., Sept 2000.

Rofus, E. 1998. "How Are School Districts Responding to Charter Laws and Charter Schools? A Study of Eight States and the District of Columbia." Berkeley: Policy Analysis for California Education, Graduate School of Education, University of California.

Rouse, C.E. 1998. "Private School Vouchers and Student Achievement: An Evaluation of the Milwaukee Parental Choice Program." *Quarterly Journal of Economics*.

Shipp, D., J. Kahne and M. A. Smylie. 1998. "Legitimacy and Professionalism in Chicago's Layered School Reform or Been Down So Long, It Looks Like Up To Me". Paper presented at the Annual Meetings of the American Educational Research Association, San Diego, CA. April 1998.

Summers, A. and A.W. Johnson. 1996. "The Effects of School-Based Management Plans." In *Improving American's Schools: The Role of Incentives*. Washington, D.C.: National Academy Press.

Thrupp, Martin. 1997. "School Mix and the Outcomes of Educational Quasi-Markets." In *Education Policy Analysis in New Zealand: The 1990s and Beyond*, edited by Mark Olssen and Kay Morris Matthews. Pp. 372-90. Palmerston North, NZ. Dunmore Press.

UCLA Charter School Study. (Amy Stuart Wells).

U.S. Department of Education, National Center for Education Statistics. 1999. *The Condition of Education*. Washington, D.C.: USGPO.

Viteritti, Joseph. P. 1999. *Choosing Equality: School Choice, the Constitution, and Civil Society*. Washington, D.C: Brookings.

Wells, Amy Stuart, Jennifer Jellison Holme, Alejandra Lopez, and Camille Wilson Cooper. 2000. "Charter Schools and Racial and Social Class Segregation: Yet Another Sorting Machine?" In Richard D. Kahlenberg, editor *A Notion at Risk: Preserving Public Education as an Engine for Social Mobility*. New York: The Century Foundation Press.

Willms, J. Douglas and Frank H. Echols. 1993. "The Scottish Experience of Parental School Choice." In E. Russell and R. Rothstein, editors, *School Choice: Examining the Evidence*. Washington, D.C.: Economic Policy Institute..

Witte, John. 1996. "School Choice and Student Performance." In Helen F. Ladd, editor, *Holding Schools Accountable: Performance- Based Reform in Education*. Brookings Institution Press.

Witte, John F., Troy D. Stern, and Christopher A. Thorn. 1995. "Fifth-Year Report: Milwaukee Parental Choice Program." University of Wisconsin mimeo, December.

Wolf, P., W. Howell, and P. Peterson. 2000. "School Choice in Washington, D.C.: An Evaluation After One Year." Program on Education Policy and Governance. Harvard University.

Appendix

Estimating the Effects of Competition on Public School Outcomes

As discussed in the text, Caroline Hoxby’s research on the effects of competition through the traditional modes of competition among private schools or from private schools on public school quality is potentially very important for the debate about newer forms of choice and competition. In this appendix, I raise some questions about her conclusion that competition increases the achievement of students in public schools.

Competition Among Public Schools

By far the most interesting and provocative research on the effects of competition among public schools on student achievement is Caroline Hoxby’s paper, “Does Competition Among Public Schools Benefit Students and Taxpayers?” (*American Economic Review*, forthcoming). As mentioned in the text, the paper provides empirical evidence in support of the view that more competition among school districts in a metropolitan area generates higher student achievement (and also lower expenditures). At the risk of doing an injustice to Hoxby’s rich and creative analysis, I explain in this appendix why I remain skeptical of her findings. My focus here is on her findings related to student achievement.

Her approach can be described in simplified form as follows:

$$\text{Achievement} = f(\text{Competition, Other Determinants}) \quad (1)$$

where Achievement refers to the achievement of students living in the metropolitan area (measured by test scores and other outcome measures for a sample of individual students in the area), Competition refers to the amount of competition among school districts within the metropolitan area, and Other Determinants refer to a multitude of other factors that affect achievement, some of which are measured at the level of the students and some at the metropolitan area). She estimates this equation using data from several sources that she matched geographically at the school district or metropolitan area level. The achievement data come from two national samples, the National Education Longitudinal Survey (NELS) for 8th, 10th, and 12th grade test scores and from the National Longitudinal Survey of Youth (NLSY) for other outcome measures.

Central to the analysis is how Hoxby makes operational the concept of competition among districts within metropolitan areas. Although she describes several measures, her preferred measure is defined as 1 minus the Herfindahl index of enrollment shares. The Herfindahl index (H) is calculated as the sum across all districts of the square of the enrollment share in each district within the metropolitan area. Thus, for example, if a metropolitan area has only one district (as is the case for Miami-Dade), the enrollment share in that district is 1 and the index of competition is 0 ($=1-1^2$). If a metropolitan area had 10 districts, each of which has 10 percent of the students, the index of competition

would be $s 0.90 (1-10(0.1)^2)$. The index of competition can range from 0 (no competition) to 1 (perfect competition) and in her sample of 316 metropolitan areas has a mean of 0.69 and a standard deviation of 0.27. In reporting effect sizes, Hoxby simulates the effect of moving from no competition to full competition.

When Hoxby estimates equation (1) by the standard method of ordinary least squares, she finds that competition has no statistically significant effect on student achievement²² She argues, however, that that result is incorrect because it does not account for the potential for reverse causation. To explain the idea of reverse causation she provides that following example:

Consider an educational market that contains a district that has, for idiosyncratic reasons, a highly productive administration. Other districts will want to consolidate with the productive district so that its talented administrators can serve more students. But, such consolidation will lessen the degree of observed choice. Similarly, households with school-aged children will want to move into the highly productive district, exchanging places with households that do not have any school-aged children. But, such moves will lessen the degree of observed choice or any measure of choice that is sensitive to how many children each district serves (p. 9).

She then concludes that this reverse causation will bias downward (toward zero if the true effect is positive) the estimates of the effect of choice on achievement (and also on productivity which is measured as achievement relative to spending). Her solution to this problem is to introduce an “instrumental” variable (or variables) to eliminate the problem of reverse causation. The goal of this statistical technique is to replace the problem variable (the index of competition) with a clean version of that variable, one that has no reverse causation built into it. For this purpose Hoxby uses the numbers of rivers and streams in each metropolitan area as instruments. In effect, she uses for the final analysis only that portion of the variation in competition across areas that is correlated with the rivers and streams in each metropolitan area. Any findings about the effects of competition on achievement that emerge from that analysis thus occur only because of the correlation between rivers and streams and student achievement.

To be a good instrument, a variable has to meet two criteria: 1) it has to be correlated with the variable of interest (in this case the index of competition) and 2) it cannot, according to any plausible theoretical model, be a direct determinant of student achievement. Hoxby makes a plausible case that her rivers and streams variable meet these criteria. Most people would agree with her, I think, that it is hard to tell a plausible story of how rivers and streams would influence student achievement directly and she provides empirical evidence in her appendix Table 2 to support her claim that they are correlated across metropolitan areas with her index of competition. .

²² According to Hoxby’s table 4, based on the OLS specification, competition has small negative but statistically insignificant effects on eighth grade reading and 10th grade math scores, and statistically significant negative effects on 12th grade reading scores.

Using rivers and streams as an instrumental variable, she concludes that competition has a large and positive effect not only on student achievement but also on other educational outcome variables. Her results imply that metropolitan areas which have full competition would have 8th and 10th grade reading scores that are about 1/3 of a standard deviation higher than those in areas with no competition.²³

I am skeptical of her results for two main reasons.

First, I do not find Hoxby's example (cited in full above) very convincing as a story of potential downward bias in the estimated coefficient of the competition variable. Also I find it confusing since it seems to imply that the productive district is initially large. If the productive district within the metropolitan area were initially small, growth in that district would increase, not reduce, the measured degree of competition. More generally, I see little or no reason to predict a relationship between the average level of student performance in an entire metropolitan area and the movement of students among districts. Note that if the movement of students among districts that Hoxby describes is more common in metropolitan areas in which achievement is already high relative to other areas, the bias would go in the other direction. In such areas, any efforts of parents to move their children to even more productive small districts would lead to a higher level of measured competition and higher achievement which would generate an upward bias in the OLS estimates. In general, I would find her story more convincing if her analysis were at the district rather than at the metropolitan level.

The interpretation is further complicated by the fact that although she is using cross sectional data the story of reverse causation has to be a story of adjustments over time. I do not deny the possibility of some form of reverse causation even at the metropolitan level that could potentially bias the estimated coefficient. My priors, however, are that the bias is likely to be small. For that reason, I would place more weight on the simple ordinary least squares estimates than does Hoxby.

Second, I have some reservations about the appropriateness of rivers and streams as instruments. The interpretation Hoxby would like to give to her analysis is that the number of rivers and streams in an area affects educational outcomes only through their correlation with the index of competition and, to her credit, she provides some partial tests in support of that hypothesis. However, there are other possible explanations for her results. The number of rivers and streams in a metropolitan area could well be correlated with some other variable—such as, for example, the presence of colleges and universities in a metropolitan area or the years since Anglo-American settlement -- that could also be correlated with student achievement.²⁴ Because Hoxby provides no data in the paper on

²³ Impacts on 12th grade scores are even larger, but without some discussion of drop-out rates I do not know how to interpret the 12th grade results.

²⁴ Years since Anglo-American settlement was mentioned by Cecilia Rouse in her critique of Hoxby's paper in the appendix of a survey paper on competition and school efficiency. (Rouse and McLaughlin, 1998) . She notes that that variable enters one of Hoxby's expenditure equations with a negative sign and is worth exploring further.

the numbers of rivers and streams by metropolitan area (or for that matter of her index of competition) it is not possible for me or any other researcher to look more closely at these key variables. Given the likely regional differences in the presence of rivers and streams, the fact that Hoxby included in the achievement equation indicator variables for the nine census tract regions helps somewhat to alleviate my concern, but, given the relatively large sizes of those regions, does not do so completely.

In sum, Hoxby's analysis is sophisticated and ambitious. Nonetheless, questions both about whether there is indeed a serious problem of reverse causation and about the use of rivers and streams as an instrumental variable lead me to be more comfortable with the ordinary least squares results at this point than with the results that rely on rivers and streams. Those OLS results imply that competition within metropolitan areas has essentially no effect on average student achievement.

Competition from Private Schools

Hoxby (1995 and 1996) has also argued that competition from private schools exerts a positive effect on student achievement in the public schools. Other researchers, however, have found no such effects (see, for example Sander's study of private school competition in Illinois). Here I briefly summarize a recent study by Patrick MacMillan (2000) that casts additional doubt on the conclusion that competition from private schools exerts a positive impact on the achievement of students in the public schools.

MacMillan contributes to this literature by highlighting the importance of collective parental pressure operating through a "voice" mechanism on schools and examining the extent to which parental pressure and competition from private schools are complements or substitutes. He hypothesizes that collective parental pressure on schools exerts a positive impact on student achievement. The question then is how competition from private schools interacts with parental voice. Theoretical predictions are unclear. By giving parents the power to withdraw their child from a school, competition from private schools could enhance the power of parental voice within the public schools or, alternatively, it could reduce it if the more active and involved parents choose to leave or because fewer parents remain. The actual impact is an empirical question.

Using data from the first wave of NELS with data on eighth graders from 738 public schools supplemented with other data on counties and school districts, MacMillan estimates the impact of collective parental pressure, the effects of private school competition, and the interactions between the two on student achievement in the public schools. He uses as his measure of parental pressure the percent of parents who are active in a school's parent-teacher association (PTA). Recognizing that the amount of parental

involvement could be influenced by the performance level of students in the school, he uses parental participation in other, non-school, organizations as an instrument in his estimation process. Based on this sensible approach, he concludes that parental pressure represents an important channel through which parents have a positive impact on school quality.

In striking contrast to Hoxby, he finds that competition from private schools has a negative or zero effect on public school test performance. This result occurs because greater access to private schools (throughout the school district) weakens the positive impact of collective parental pressure at the school level. In other words, parental pressure and competition are substitutes in the education production process.

MacMillan's approach differs from Hoxby's in a number of ways. First and most important, his analysis includes measures of parental involvement. Second, her analysis is at the level of the individual while his is at the school level. Third, she used the NLSY data set with data from the late 1970s while he used NLSY data from the late 1980s. Fourth, the students in her sample were slightly older. Fifth, he used a different strategy for addressing the problem of reverse causation (that is, that the amount of competition from the private schools might be influenced by a school's achievement level). In particular, he used various county-level variables such as the income level, percent of adults with college degrees, the percent black, and percent catholic as instruments to "clean" the private school competition variable. Importantly, however, his attempts to modify his approach (but using the NELS data throughout) to be more similar to Hoxby's along each of these various dimensions did not change his results. Thus, he presents quite a compelling case that competition from private schools does not generate higher achievement within the public schools.