Occasional Paper No. 84
National Center for the Study of Privatization in Education
Teachers College, Columbia University

School Choice and the Supply of Private Schooling Places: Evidence from the Milwaukee Parental Choice Program

Clive R. Belfield
(belfield@tc.edu)

Henry M. Levin
(hl361@columbia.edu)

Heather L. Schwartz
(hls2105@columbia.edu)

National Center for the Study of Privatization in Education
Teachers College, Columbia University,
New York NY 10027-6696
www.ncspe.org

***Abstract*:**
This paper reviews the research on school supply and reports on recent data from the Milwaukee Parental Choice Program (MPCP), to inform debates about school choice. The MPCP data indicate that about 30% of participating schools are secular, with the remainder religiously affiliated (although most of these religious schools are Catholic, this number is falling over time). About one-third of voucher students attended secular schools, another third attend Catholic schools (down from 48% in 1998), and the remaining third attend other religious schools. Increasingly, voucher student enrollments are a majority within their school: by 2001, 40% of participating schools have more than 80% of their students claiming vouchers. The supply of new schools appears elastic: 46% of participating schools were founded after the Program was introduced. Explaining this supply behavior in terms of school revenues is complex, however. Many schools report costs above the value of the voucher, and costs only weakly converge to the voucher amount. Plausibly, schools with higher proportions of voucher students do track their costs more closely to the value of the voucher. The implications of this evidence for school choice policies are discussed.

The Occasional Paper Series produced by the National Center for the Study of Privatization in Education promotes dialogue about the many facets of privatization in education. The subject matter of the papers is diverse, including research reviews and original research on vouchers, charter schools, home schooling, and educational management organizations. The papers are grounded in a range of disciplinary and methodological approaches. The views presented in this paper are those of the authors and do not necessarily represent the official views of the NCSPE.

If you are interested in submitting a paper, please contact:

National Center for the Study of Privatization in Education
Box 181, Teachers College,
525 W. 120th Street,
New York NY 10027-6696
www.ncspe.org
email: ncspe@columbia.edu

1. Introduction: The Importance of School Supply in Education Reform

In recent years, education reform in the U.S. has focused on increasing 'school choice'. Charter school regulations now exist in 36 states and the District of Columbia (Miron and Nelson, 2002). There are public school voucher programs in two states (Florida and Colorado) and two cities (Cleveland, OH, and Milwaukee, WI); school tax credits and deductions in 13 states (Belfield and Levin, 2003); and a national for-profit school sector has emerged (Levin, 2001). In addition, federal legislation in the 'No Child Left Behind' Act sets up expansion of school choice in the future.

Such reforms have been advocated by libertarians and conservatives as well as political liberals who believe that opening inner city schools to competition will improve them (see Friedman, 1962, 1993; Hoxby, 2003; Howell and Peterson, 2002; Sugarman and Kemerer, 1999). Proponents claim school choice as a "panacea": in liberating both suppliers of education (schools) and clients (students and their parents), choice will dramatically improve educational quality (Chubb and Moe, 1990).

Inquiry into parents' demand for private schooling is on-going, but research and evidence about school supply is considerably more limited.[1] Some studies have focused on individual schools or school types (Wells, 2002; Chubb, 2002), but there has been no systematic review and analysis of the supply function of schooling. Yet, when considering school choice policies and programs, the issue of supply is as important as that of demand. School choice programs rely critically on the availability of options for parents to choose among different schools.

Supporters of vouchers and school choice contend that the availability of publicly-funded vouchers will induce new schools to enter the marketplace to compete for students and existing schools to expand enrollments. A dynamic market will emerge in which the most attractive and effective schools will lead the way and serve as models for other schools that want to succeed. Amongst school choice advocates there is debate as to which types of schools will emerge (although a libertarian position would be that any new schooling will be revealed preferred). The first possibility – prompted in part by the perceived inefficiencies of government provision - is that for-profit or secular schools will come forward (Hoxby, 2003). The second possibility is that religious agencies will come forward to fulfill a demand for faith-based or community-centered schools (Coleman, 1988). In contrast, opponents of school choice argue that the school supply

[1] There is growing evidence that parents' and students' satisfaction levels rise as they become more active in choosing education (see Peterson and Hassel, 1998; Teske and Schneider, 2001; Witte, 1999). There is also some debate as to whether there is a large untapped demand by public school students for private school education (on high satisfaction levels with existing public schools, see Moe, 2001; on the waiting lists for private vouchers, see Peterson et al., 2002).

function is inelastic and that few offerings will emerge. Increasing choice will simply mean that fees at existing schools will go up (Molnar, 2001). An alternative strand of opposition speculates that any forthcoming supply of schools will either be of low quality or doctrinally inappropriate (Ladd, 2002).

Fundamentally, which private schools respond will alter the economic, political, legal, and social implications of school choice.[2] If for-profit private schools respond and these schools are more efficient than public schools, then tax savings may be realized (Epple and Romano, 1998). However, for-profit schools may attract strong ideological and political opposition. If religious schools are supply-responsive, then school choice programs may lead to further entanglements between Church and State (Kemerer, 2002). This last eventuality may be the most serious if some religiously affiliated or cult schools teach doctrines that undermine social tolerance and civic order. (Although others may see the expansion of faith-based schooling as a positive development; for a discussion see Sander, 2001).[3] Also, some schools may be more effective at raising academic achievement—on Catholic school effectiveness see Jepsen (2003); on public-private school effectiveness see McEwan (2000); on charter school effectiveness see Miron and Nelson (2002).

In relation to the debate over school choice, two aspects of private school supply are particularly important. First, public-private comparisons of achievement and civic attitudes rely on existing distributions of school types (i.e. by religion). If that composition changes, then it will not be legitimate to extrapolate from existing evidence to predict educational outcomes under expanded school choice. Second, one of the arguments for inner-city vouchers is that they would make it possible for eligible students to attend schools with much greater diversity across racial and socio-economic groups. However, supply responsiveness may occur either through expansion of places in existing heterogeneous schools or by the creation of new schools dedicated to voucher enrollees. This distinction is generally neglected in the literature, although it does have significant consequences. If new supply means new schools and not new places, segregation of students by racial, socio-economic, and religious dimensions may be preserved, or even sharpened.

[2] Legislation to encourage charter schools may create more school choice for families (see Gill et al., 2001). However, charter schools share many characteristics with local public schools, and so their expansion does not have the same implications as an expansion of private schools.

[3] The types of religious schools that would promote socially undesirable activities may be hard to identify. Coleman (1988) argues that private religious schools may effectively link generations of families and communities. Godwin et al. (2001) find that non-fundamentalist private schools promote slightly greater amounts of tolerance and support for democratic norms than public schools (see also Campbell, 2001). For a general discussion, see Levinson and Levinson (2003).

National figures for private schooling provide some context for existing supply. As set out in Table 1, from 1993 to 2000 the total number of private schools in the U.S. increased by 4.3 percent, and total enrollment in private schools increased by 6.7 percent.[4] In contrast, total enrollment at public schools increased by 2.3 percent over the 1990s (NCES, 1993). Although the growth rate of private school enrollment was triple that of public school enrollment, the 5.1 million private school students comprise only 11 percent of the nation's elementary and secondary students.

The private school sector has broadly maintained the same proportions of religious and secular schools throughout the 1990s. Religiously affiliated schools have consistently comprised 75-78 percent of all private schools and approximately 84 percent of enrollments. But the religious schools as of 2000 encompass a greater range of faiths as compared to 1993. Islamic and "Other Christian" schools far outpaced other school type growth rates. Islamic schools and enrollment, while still only 0.3 percent of the total private school population, more than doubled throughout the 1990s. Christian evangelical enrollment also grew at a rate above-average. Catholic schools, however, consolidated over the 1990s, yielding fewer schools but a slight increase in total enrollment.

Notwithstanding this aggregate picture, there has been limited investigation of the supply function for private schooling, and which types of school respond to new opportunities. This paper addresses this issue through the use of new data from the Milwaukee Parental Choice Program. We begin by setting out the ideas underpinning the discussion of the supply of private schooling. We formally define the supply curve; briefly consider the organizational advantages private schools may have which would affect supply; set out the policy instruments used to design a school choice program that would prompt new supply; and review extant evidence on the elasticity of private school supply. The main section of the paper presents detailed evidence on the changes in supply that have occurred during the operation of the Milwaukee Parental Choice Program. We examine the following: the characteristics of voucher-participating schools in terms of religious affiliation; how voucher students are distributed across the voucher-participating schools; how quickly private schools responded to the voucher opportunities; and characteristics of participating secular schools. Then, we consider the revenue function that private schools face under a voucher program, and present evidence on school costs and student composition. A final Section draws policy conclusions, focussing on what the private school sector would look like under a widespread voucher program.

[4] These increases may be overstated somewhat as NCES experienced lower survey response rates in 1993 than in 2000.

2. The School Supply Function

2.1 Identification of the Supply Curve

Basic economic theory can be used to define the supply curve and so to estimate the elasticity of supply. To empirically identify the slope of the supply curve for a given quality of private schooling, it is necessary to observe shifts in the demand curve, and to ascertain the size and nature of the shift. For example, a shift in the demand curve occurs if a voucher program is introduced. Other shifts may occur if there is an increase in religiosity, if the quality of public schools deteriorate, or if other forms of school choice are introduced.

Figure 1 shows a comparative static analysis in the market for private schooling. The initial equilibrium is the intersection of the demand and supply curves at point A. A voucher allocated to families who attend public schools will reduce the price of attending a private school by the value of the voucher (V). The new demand curve represents a shift to the right, and the new equilibrium is given at point B where the market price of private schooling is higher, and enrollments are increased. The size of the change depends on the slope of the supply curve, which is the variable to be estimated here.

Typically, voucher advocates assume that the supply of private schooling is perfectly elastic: any shift in demand will be absorbed without an increase in price. But, scarce resources such as teachers must be attracted from alternative endeavors, bidding up the prices of these resources, unless there is a complete transfer of these resources from public schools (i.e. perfectly flexible wage contracts and perfectly mobile capital). Equally implausible is the presumption that the supply curve is perfectly inelastic (i.e., any increase in demand is reflected in higher fees without higher enrollments).

Regardless of the degree of elasticity, it is unrealistic to assume that the supply responsiveness of private schooling is of homogeneous quality. A more sensitive depiction of the private schooling market is of multiple markets, such that the supply curve of private secular schools is distinct from the supply curve of religious schools. The supply of new places at existing schools should be distinguished from the supply of new schools. Most analysis of private schools focuses on Catholic schools, but Table 1 shows the growing importance of schools serving other faiths (it also shows the distinction between schools and places in schools). To some extent the markets for schools will be linked, insofar as secular private schools are (imperfect) substitutes for religious schools (and public schools are substitutes for each type of

private school). The elasticity of supply is therefore identifiable when there are shifts in the demand curve for all private schools or for specific types of schools.

2.2 Factors Influencing the Supply Curve

Several factors will influence the slope of the supply curve. For example, the supply curve will be more elastic in the long run than the short run; and supply responsiveness will be greater when an industry is operating at below-capacity. Also, characteristics that are specific to the private school market such as student effects and educational technologies will affect responsiveness.

The most important influence on the supply curve is the technology of private schooling and the elasticity of supply of inputs into private schooling. For example, private schools may possess certain advantages that allow them to expand their facilities or develop new sites relatively cheaply. Not for profit schools may also draw on subsidies from donors. Private schools can price student ability and price peer ability, e.g. by providing scholarships to low-income high-ability students, in a way that public schools cannot (Epple and Romano, 1998). Hence, private schools may employ better learning incentives (via scholarships) for students and their peers. Private schools also have advantages in that they can hire uncertified teachers and they face fewer government regulations (e.g. on admissions or assessment).

However, most research finds modest private school advantages: classroom-based private schools do not behave very differently from public schools and so their efficiency advantage is relatively small (see Benveniste et al., 2003; McEwan, 2003). Many parents are risk-averse, preferring similar schooling provision — at least as regards the curriculum — to what is available in public schools (Brown, 1992). Generally, one robust finding from the literature is that there are few economies of scale in schooling: it is unlikely that a private school will be able to expand enrollments into a large-scale educational corporation without sharply increasing unit costs (Andrews et al., 2002). Different types of school will also face different constraints on expansion. For-profit schools may find difficulties in establishing brand equity (Levin, 2001). Religious schools may have a strong advantage in raising funds, more easily obtaining both donations and in-kind resources (such as school facilities located in the church). Yet, a religious school that enrolled large numbers of non-religious students would have to pay higher salaries to its teachers as the religious mission of the school becomes less prominent (Chambers, 1987).

A second influence on the slope of the supply curve relates to the specific design of the school choice program. Voucher and school choice programs can be designed using three policy instruments: regulation, finance, and support services (Levin, 1991, 2002). A school choice

program that is "generous" across these instruments will increase supply by a relatively large amount. See Box 1 for details of how the policy instruments can be designed to be generous in encouraging suppliers and demanders.

If the amount of private schooling increases under a voucher program, then the supply curve is elastic to some extent. However, the stipulations of the program operate either on demand or supply, making inferences about elasticity complex. Some stipulations – such as lowering the costs of provision for private schools by reducing the regulatory burden – will shift the supply curve directly (making calculation of supply elasticity impossible). Other stipulations affect demand. However, if a voucher program is generous in financing the full cost of private school, and the equilibrium quantity of private schooling is not much increased, then this indicates inelastic supply.

Finally, students are not homogeneous: the average private school student may differ from the marginal student. When deciding to accept a voucher-eligible student, a school must consider the impact on other students (e.g. if the new student is sufficiently pious). These peer effects may be important, particularly for religious schools, and may mean that new supply responses are muted.

2.3 Research on Supply Responsiveness

As noted above, evidence on the supply responsiveness of private schools is limited.[5] Table 2 reviews studies that have estimated the supply elasticity of schooling using regression analysis. The results are mixed. Frey (1983) finds that whereas the elasticity of supply of private primary schooling is 0.2 (inelastic), the elasticity of supply of private secondary schooling is 2.0 (elastic). Using combined data for primary and secondary schooling, Brasington (2000) and Downes and Greenstein (1996) find highly inelastic supply curves, with income-elasticity estimates not significantly different from zero. Finally, from Goldhaber's (1996) estimation of the determinants of the private school enrollment rate it is possible to calculate several elasticities. However, one is not significantly different from zero, a second shows an elasticity of (at most) 1.2, and a third estimate is not precisely determined.

One relevant survey report summarizes findings from 500 private schools regarding their willingness to participate in a transfer program from over-crowded public schools (Muraskin and Stullich, 1998). Aggregate figures indicate that private schools may be supply-responsive: if the schools' current policies could be maintained, 77 percent said they would be (definitely or

[5] On very little evidence, Howell and Peterson (2002) speculate that a universal voucher program would attract 10-15 percent of all existing public school students, i.e. would double the current size of the private sector. See also the discussion by Hoxby (2003).

probably) willing to accept public school students. But, participation rates drop sharply if additional conditions are placed on the schools: if students were to be randomly assigned to the private school, participation falls to 36 percent; if state assessments were mandated, the rate falls to 33 percent; and if special needs students were to be accepted, the rate falls to 15 percent. For the religious schools, participation propensities were strongly influenced by whether or not a transfer student could be exempt from religious instruction: only 25 percent of schools would participate under such conditions.

However, a majority of surveyed private schools were not operating at full capacity and so may be able to respond to increases in short-term demand. Approximately two-thirds of private schools surveyed were operating at less than 80 percent capacity. The report estimated that the total private schools in the 22 districts could accommodate 185,000 additional students. Schools operating at lowest capacity levels (and thus potentially most responsive to increased demand) tended to be small, secular elementary schools with low tuition levels. Interestingly, 70 percent of private schools with tuition of $8,000 or more were operating at near full capacity whereas only 29 percent of schools charging tuition of $2,000 or less were operating at near full capacity. Supply responsiveness may therefore be greater at the low-price schools. However, a 20 percent increase in private school places nationally would only amount to one million enrollments (i.e., two percent of the public school population).[6]

3. Supply Responsiveness in the Milwaukee Parental Choice Program

3.1 Design of the School Choice Program

The Milwaukee Parental Choice Program (MPCP), a long-standing and large voucher program, is a useful case study for estimating the elasticity of supply of private schooling (see Witte, 1999; Rouse, 1998). It is also considered a generous voucher program according to the three policy design instruments: school eligibility and restrictions, finance, and support services.

Eligibility into the Program is limited to students in the Milwaukee public schools from low-income families. Initially, the Program was restricted to non-religious schools, but it was expanded in 1998 to religious schools. The number of schools participating in MPCP quadrupled

[6] Other studies and commentaries compare the sticker price fees at private schools to the average per pupil expenditure in the local public schools (Salisbury, 2003). Where the private school sticker price is below public school expenditures, under a voucher program it is concluded that the private school supply would be highly (perfectly) elastic. Such a conclusion critically depends on: (1) the accuracy of the sticker price to represent the cost of private schooling; (2) equivalent costs to educate the voucher student as to education the original private school student; and (3) surplus capacity of inputs into private schooling. Each of these assumptions is unrealistic.

once religious schools were allowed to join, and enrollment has grown steadily, from 341 students in 1991 to 11,156 in 2003.

As regards finance, the Wisconsin Department of Public Instruction pays participating schools the lesser of (a) the schools' per pupil operating and debt service cost or (b) the per pupil voucher cap.[7] The MPCP has raised the cap on its voucher amount from $2,446 in 1991 up to the current amount of $5,783. This cap amount for 2003 exceeds almost 40 percent of participating schools' per pupil operating plus debt service costs, suggesting that the voucher amount is generous.

In terms of support services, private schools participating in the Program are not required to bus voucher students. The Milwaukee Public School system will provide busing depending upon the location of the school relative to the voucher student's home. The reporting requirements for schools are also kept to a minimum; no testing of students is mandated, for example.

Given the generosity of the MPCP, a reasonably robust supply response may be expected.

3.2 Patterns of Private Schooling in Milwaukee

To determine the responsiveness of the private school sector to the increased demand via Milwaukee vouchers, we posed the following questions.

(1) What are the characteristics of voucher-participating schools, in terms of religious or other affiliation?

Table 3 shows the numbers of schools that participate in the MPCP, by religious orientation.[8] Before 1998, the MPCP consisted entirely of secular schools. Opening the program to religious schools in 1998 generated a sizeable increase in private school participation, as the number of participating schools immediately rose from 23 to 85. The figure has since grown to approximately 100 schools, where it appears to have stabilized.

Looking at the number of specific school types, Table 3 shows that opening MPCP to religious school participation has not displaced the secular schools within the program. The number of secular schools has in fact trended upward slightly to include 31 participating schools by 2002. In contrast, Catholic schools participation has declined in recent years from a high of 41

[7] The MPCP is unique amongst voucher programs as it reimburses participating schools for per pupil expenditures (up to the voucher cap) rather than for the tuition rate (PFAW, 2000).

[8] Two sources are available on participation in MPCP: the Wisconsin Department of Public Instruction and the Public Policy Forum in their annual census. There is a slight discrepancy between the numbers declared by these two sources, but this discrepancy does not materially alter the conclusions drawn here. We primarily use the Census data because it gives information on the religious orientation of the schools.

schools in 1998 to only 33 schools by 2002. This suggests relatively independent demand for secular versus religious schools as confirmed by the overall share of voucher students attending these schools. Participation of Christian schools (Evangelical and 'Other') has grown. One Jewish school and two Islamic schools also participate. These shifts in participation mean that, by 2002, there was a broader spread of religiously-oriented schools participating in MPCP than in 1998.

(2) How are voucher students distributed across the voucher-participating schools?

Table 4 shows which school orientations the voucher students attend. Since 1998, approximately one-third of voucher students have attended secular schools. Catholic school representation has decreased over time: there has been a drop from 48 to 38 percent of voucher students attending Catholic schools by 2002. A fairly stable percentage of voucher students have attended Christian evangelical (13-20 percent), Jewish (1 percent), and Islamic (3 percent) schools over time. However, "other Christian" schools saw a marked increase from two to ten percent of voucher enrollees from 1998 to 2002.

The concentration of voucher students within schools has risen over time for most school orientations. Increasingly, the voucher program predominantly serves a few schools and finances a high proportion of the students at those schools. Table 5 details the proportions of voucher students by the religious orientations of participating schools. Despite the increased supply of schools throughout the 1990s, voucher students increasingly tend to cluster at a small number of them. Participating secular schools have become increasingly voucher-concentrated: voucher students comprised 51 percent of total participating secular school enrollment in 1998 and 71 percent in 2002. Participating Catholic schools, in contrast, have the lowest concentration of voucher students; nevertheless, these schools show a 10 percent increase in concentration since 1998, such that 35 percent of participating Catholic school students had vouchers in 2002. Christian evangelical schools mirrored the secular school trend, and by 2002 71 percent of enrollees at these schools had vouchers. Interestingly, although "Other Christian" schools commanded an increasing share of voucher students from 1998-2002 (see Table 4), these schools tended to become less voucher-concentrated over time (see Table 5). This shows that the overall student population at "Other Christian" participating schools expanded more quickly than did voucher students. Finally, the two Islamic participating schools were the most voucher-concentrated, with 77-95 percent of enrollees holding vouchers.

Table 6 shows the numbers of schools where over 80% of students have vouchers. We define these as "voucher schools". Whereas in 1998, "voucher schools" were only 28 percent of

all participating schools, by 2002 they comprised 40 percent. Indeed, as of 2002, 12 participating schools are comprised entirely of voucher-funded enrollees. The composition of "voucher schools" by religious orientation is fairly consistent with the overall concentration of voucher students within participating schools. Secular schools represent the largest portion of "voucher schools" (17 out of 41 schools in 2002), but religiously-affiliated schools have shown a dramatic increase in "voucher schools". Catholic "voucher schools" has doubled over time, and Christian evangelical "voucher schools" increased from two in 1998, to nine in 2000. So despite an increased number of participating schools, a voucher student in 2002 is more likely to attend a "voucher school".

(3) How quickly did the private school sector respond to the voucher opportunities?

The growth of private schooling in Milwaukee was considerably above the national and state trend. Whereas from 1993 to 2000 the number of private schools in Wisconsin rose at a rate similar to the national average (from 954 to 991 schools, or 4 percent), the number of private schools in Milwaukee grew 18 percent (from 116 schools in 1993 to 137 schools in 2000). There was a corresponding increase of 16 percent in private school enrollment in Milwaukee compared to a 7 percent increase nationally. This is suggestive of a reasonably robust response to the opportunities created by the voucher program.

Table 7 shows the ages of the private schools participating in the program, by religious orientation. This more directly shows the link between MPCP and growth in participating private schools: 46 percent of the 105 private schools that have participated over time were founded after the MPCP started in 1991. The rate of change in supply is most accelerated in 1998-2003, when MPCP allowed religious schools to participate. This post-1998 acceleration may be due in part to the 1998 Wisconsin Supreme Court ruling, which increased the certainty of the program's continuation.

Table 7 also shows how supply responsiveness varies by religious orientation in terms of new school places. There has been a steady growth in the number of secular schools since 1990: of the 34 that have participated in the MPCP, 27 were founded after the commencement of the program. This response rate, which is sustained over the entire period 1990-2003, exceeds that of religiously affiliated participating schools. For religious schools, supply was responsive in the short run: from a base of 56 religious schools, 10 new schools opened in 1998-99. However, in the three subsequent years (2000-03), only five additional religiously-affiliated schools opened, suggesting that, after the initial fillip, the supply of religious private schools was relatively flat.

The responses of particular religions are also noteworthy: of the 35 Catholic schools that have participated in MPCP, only five had been founded since 1998. There were no new participating Jewish and Islamic schools founded after 1998. Given this disjuncture between the large short run response by religious schools and the relatively muted medium run response, any conclusion about the elasticity of supply via religious school start-ups must be hedged. Yet, as is clear from Table 4, religious schools continued to accommodate growing numbers of voucher students by absorbing them into existing schools. In this sense, the long run expansion of the private religious sector occurred primarily by making more places available in existing schools, whereas the private secular sector expanded both by making more places available and through the opening of new schools. However, some schools operating before the MPCP began may have received a windfall by declaring students already enrolled to be voucher-eligible. This is likely for schools that have not expanded total enrollments by the number of voucher recipients at the school.

(4) What are the characteristics of the secular schools?

Religious schools clearly have a cost advantage in the market in being able to draw on donations and resources. It is thus of interest to know which secular schools participate in MPCP, and what is distinctive about their provision.

The majority of the 31 secular schools that participated in MPCP since 1998 are not-for-profit and are not accredited. Only one secular school can be confirmed as for-profit[9]. Of the 21 secular schools for which we were able to obtain information, two were accredited, two additional schools were seeking accreditation, and the remaining 17 were not accredited.

Participating secular schools have a wide variety of missions and pedagogies. To the extent that secular schools have been the most responsive to MPCP (70.5% of secular school students have vouchers; 17 are "voucher schools"), their diversity of program offerings may reflect the diversity of MPCP parents' tastes. These school's disparate pedagogies including Afrocentric curriculum, Montessori, Waldorf, multiple intelligences, traditional education, technology-centric, school-to-work, and bilingual approaches. None of the secular schools serve students with special education needs (only one of the 113 total schools that have participated after 1998 does).

At least two of the secular schools have been subject to investigation, and an additional two schools closed after their MPCP applications were denied by DPI. Other changes in the

[9] It is possible that there are additional for-profit secular schools as there is no information about the profit type of nine out of the 24 secular schools that participated in 1998 or later.

supply of secular schools included the change of two into charter schools, and an additional three schools failing to file financial documentation in 2002 requisite to receive payment for enrolled voucher students.

3.3 Costs Analysis for Schools Participating in MPCP

School Budget Constraints

Basic economics suggests that a sufficient supply of new schools will be forthcoming if the profits (or surpluses) from operating a voucher school are high enough; it is simply a matter of how high such profits would have to be and whether the taxpayers are willing to pay them. However, data on the costs of private schooling are extremely difficult to obtain: there is only limited reporting of fees (and these are often 'sticker prices') and private schools receive charitable donations, share facilities (e.g., with churches), and receive in-kind contributions from parents. Without such information about the costs of private schooling, school districts may offer vouchers that are either overly generous, yielding rents to private schools, or insufficient, such that no new supply is forthcoming (see PFAW, 2000). Information from the MPCP does allow for some analysis of the budgetary decisions of schools that may enroll voucher students.

Formally, the introduction of the voucher program alters the revenue function for participating private schools. In MPCP, the school must declare its educational costs C to the Wisconsin Department of Public Instruction (DPI), which will meet these costs if they are less than the annually-adjusted voucher threshold amount CAP. These schools face a revenue function R:

(1) $R = Fx + Cv + D$

In (1), revenue is the sum of: average fees F times the number of fee-paying students x; declared costs C times the number of voucher students v; and any alternative endowments D (e.g. from charitable donations). The goal for each private school is to set F and C to maximize revenue.[10] However, although higher F will result in lower numbers of fee-paying students by a simple price effect, the impact of C on revenues is more complicated because voucher students impose peer effects on fee-paying students. Also, some schools report costs C that are greater than the threshold CAP.

[10] Strictly, the school is expected to report the average cost per student, but it may be reporting the marginal cost. This distinction should not affect the analysis.

Simple comparative statics allows for predictions regarding the relationships over time between C, x, and v; and data on these three variables is available. However, F is not uniformly available: the DPI does not collect data on actual fee amounts.

If C>CAP, raising C will not increase revenue for each voucher student. However, raising C will lead to lower v, because voucher parents will have to pay top-up fees to attend the school (although the payment of top-up fees is not allowed under MPCP, it is hard to enforce this rule). And, raising C is likely to lead to higher x, because fee-paying parents will anticipate that the increased C will be shared with them, as part of a rent-sharing arrangement. (Raising C could lead to lower x, if fees must follow C as per the MPCP rules; but this is unlikely, given that DPI does not collect data on actual fee amounts).

If C<CAP, then raising C will lead to increased revenues per voucher student. It will mean higher v, because voucher parents will anticipate a higher quality education (reflected in the greater resource amounts flowing from DPI). But raising C and raising v will also mean lower x because fee-paying parents perceive that more voucher students represent: (i) adverse peer effects; (ii) lower endowments for the school because of government crowding out; (iii) adverse impact on the school mission (e.g. if the school is religious and the voucher students are insufficiently pious); and (iv) overcrowding. (And, if fees must track with C (as per the MPCP rules), then increases in C will induce increases in F).

If a school starts the academic year under optimal conditions (F*, x*), then changing C where C<CAP – although it raises revenue per unit of v – will reduce x such that x<x*. However, not all schools face the pressures (i)-(iv) in equal measure, such that raising C will have an equivalent impact on x. Specifically, it will be easier for schools to raise C without adverse impact on x where: (a) they can attract peers of equivalent quality to the fee-paying students; (b) they rely less on endowments; (c) they do not have a precisely-defined mission (beyond a good quality education); and (d) where they are not at enrollment capacity.

Overall, therefore, it is anticipated that where C>CAP, raising C should cause v/x to fall. And, where C<CAP, raising C should cause v/x to rise; and this effect will be stronger depending on the characteristics of the school (a-d). Specifically, schools will raise C faster when the school: (1) has a high proportion of v (such that additional v students have less impact on peer quality); (2) is not religious; and (3) is only recently established (and therefore has had less opportunity to obtain endowments from alumni).

Evidence on School Enrollments and Costs

For the period 1998-2001, increasing numbers of schools reported costs above the threshold (C>CAP); some schools did report costs below the CAP, but very few of these served

students beyond 9th grade. However, as the lefthand panel of Table 8 shows, there is no clear evidence that schools tended to report C close to the CAP, or that they converged toward the CAP over time. In 1998, 32 K-8 schools reported costs on average $712 below the CAP; in 2001, the average difference was $710. As shown in the righthand panel of Table 8, schools with a majority of voucher students did show faster convergence (where C<CAP, they raised C faster; where C>CAP, they lowered C faster). However, the convergence is not clearly consistent over the years.

Table 9 compares the costs of K-8 participating schools by their religious affiliation or by the year in which the school was founded (the K-9 and K-12 school sample is too small for inferences). Again, schools did report costs that (weakly) converged towards the CAP over time, with faster convergence in schools with more voucher students. Of the various religious affiliations, secular K-8 schools most closely adhered to the CAP in accordance with the argument that these schools have fewer alternative sources of revenue. Catholic and Christian evangelical schools were least sensitive to the CAP. Table 9 also shows that schools started after 1998 tracked to the CAP more closely than their pre-1998 counterparts, at least when C<CAP. This too is plausible as the post-1998 schools are more likely to have been founded to serve students with vouchers. However, post-1998 founded voucher-majority schools with costs above the CAP showed little to no sensitivity to the CAP.

Table 10 shows the patterns of enrollment of voucher (v) students and non-voucher (x) students for schools with costs above and below the CAP. Again, the sample is restricted to K-8 schools. Overall, there is a negative (but weak) relationship between fee-paying and voucher enrollment: as v goes up, x tends to go down. This is plausible and indicates some substitution between the two types of student. Where C>CAP, it was expected that raising C should cause v/x to fall; however, the effect is not consistent, with the ratio of v to x sometimes rising and sometimes falling. At schools where C<CAP, raising C did cause v/x to rise as anticipated. In keeping with the theory that additional v students at voucher-majority schools have less impact on peer quality, voucher-majority schools tend to experience a larger average increase in v students.

4. Conclusion

This paper reviews the research on school supply and reports on recent data from the Milwaukee Parental Choice Program (MPCP), to inform debates about school choice. Several conclusions are notable.

First, the MPCP data indicate that about 30% of participating schools are secular, with the remainder religiously affiliated. When MPCP was first expanded to include religious schools in 1998, the number of participating schools quadrupled, from 23 to 85. Since then the number has leveled out at approximately 100 schools. Although most of the religious schools are Catholic, this number is falling over time, creating an expanded range of schooling options for families. The MPCP therefore promotes considerable freedom of choice for parents, both for religious and secular education.

Second, voucher student enrollments are increasingly a majority within their school: by 2001, 40% of participating schools have more than 80% of their students claiming vouchers. This consolidation of voucher students within schools may raise concerns about the sorting of students into particular communities, leading to social segregation. Consolidation may also place schools at risk by relying on one funding source: the Wisconsin DPI. Even if the annual budget allocations and the voucher amount remain stable, such voucher schools may be subject to regulatory capture.

Third, the supply of new schools appears reasonably elastic: 46% of participating schools were founded after the Program was introduced, and they are a mix of secular and religious schools. For some schools in existence before the introduction of MPCP, however, the voucher funding appears to act as a windfall payment (where fee-paying students have become voucher students). Moreover, although school supply response is reasonably robust, it is worth noting that the Milwaukee program is considerably more generous than other voucher programs (e.g. in Cleveland).

Fourth, explaining private school supply behavior in terms of revenue functions is complex. Ideally, the design of a school choice program should take account of the revenue functions facing schools, along with the willingness of families to pay. However, very limited, imprecise data is available on the budgets of private schools. Also, voucher students may create peer effects within a school that vary according to the characteristics of the school; these peer effects may impact significantly on all revenue sources for a school. This phenomenon may also be related to schools that are able to claim voucher funds for students who were previously fee-paying. Data from MPCP indicates that many schools report costs above the value of the voucher (suggesting that they subsidize these students from other revenue sources), and costs only weakly converge to the voucher amount. (Plausibly, schools with higher proportions of voucher students do track their costs more closely to the value of the voucher.)

Evidence from MPCP is relevant for predictions about the characteristics of an education system with a large-scale voucher program. Several types of supply—secular and religious (but

not for-profit)—are responsive to the voucher, suggesting that an expanded sector might have roughly the same composition of secular and religious schools as currently. However, the degree of responsiveness appears somewhat larger than typically emerges from general equilibrium models (see Nechyba, 2003). The religious schools represent a broader array of faiths; and the secular schools appear to offer diverse curricula, rather than to mimic public schools. These findings give credence to general equilibrium models that emphasize product differentiation in the choice of school. Given the expansion of schools rather than places, there may be questions about segregation by ethnicity, religion, or socioeconomic status. In addition, only one of approximately 100 participating schools in Milwaukee offer special education services, suggesting there may be very limited private school supply for students with special needs. Finally, the limited understanding of private school financing may cause problems in ensuring voucher students' access and in funding. In some areas of the country (e.g. rural) access to school may be constrained because of high costs that are not captured in the voucher value. And, in some cases, vouchers may offer windfalls to students who would have enrolled in private school regardless and therefore increase the funds required to operate a large-scale voucher program.

References

Andrews, M, Duncombe, W and J Yinger. 2002. Revising economies of size in American education: Are we any closer to a consensus? *Economics of Education Review*, **21**, 195-210.

Belfield, CR and HM Levin. 2003. The economics of tuition tax credits for US schools. *NTA Proceedings*, 95th Annual Conference on Taxation, 1-15.

Benveniste, L, Carnoy M, and R Rothstein. 2003. *All Else Equal. Are Public and Private Schools Different?* Routledge Falmer: New York.

Brasingston, D. 2000. Demand and supply of public school quality in metropolitan areas: the role of private schools. *Journal of Regional Science*, **40**, 583-605.

Campbell, DE. 2001. Making democratic education work. In Peterson, P.E. and D.E. Campbell (Eds). *Charters, Vouchers and American Education*. Brookings Institution: Washington, D.C.

Chambers, J. 1987. Patterns of compensation of public and private school teachers. In T James and HM Levin (Eds.) *Comparing Public and Private Schools. Volume 1*. New York: Falmer Press.

Chubb, J and T Moe. 1990. *Politics, Markets, and America's Schools*. Washington, DC: The Brookings Institution.

Chubb, JE. 2002. A supply-side view of student selectivity. In PT Hill (Ed). *Choice with Equity*. Stanford: Hoover Institution.

Coleman, JS. 1988. Social capital, human capital, and schools. *Independent School*, Fall, 9-16.

Dickman, A, Beardsley, J, Van Dunk, E, Velasco, D. 2000. *Exploring Parents' Educational Choices*. Milwaukee, WI: The Public Policy Forum.

Downes, T and S Greenstein. 1996. Understanding the supply decisions of nonprofits: modelling the location of private schools. *RAND Journal of Economics*, **27**, 365-390.

Epple, D and RE Romano. 1998. Competiton between private and public schools, vouchers, and peer group effects. *American Economic Review*, **88**, 33-62.

Frey, DE. 1983. *Education Tax Credits for Private Education. An Economic Analysis.* Iowa State University Press: Iowa.

Friedman, M. 1962. The role of government in education. In M Friedman. *Capitalism and Freedom.* Chicago: Chicago University Press.

Friedman, M. 1993. Public schools: make them private. *Education Economics*, **1**, 32-44.

Gill, B, Timpane, PM, Ross, KE and DJ Brewer. 2001. *Rhetoric versus Reality: What We Know and What We Need to Know About Vouchers and Charter Schools.* Washington, DC: RAND.

Godwin, K, C Ausbrooks, V Martinez. 2001. Teaching tolerance in public and private schools. Phi Delta Kappan, **82**, 542-546.

Goldhaber, D. 1999. An endogenous model of public school expenditures and private school enrollment. *Journal of Urban Economics*, **46**, 106-128.

Howell, WG and PE Peterson. 2002. *The Education Gap. Vouchers and Urban Public Schools.* Washington: Brookings.

Hoxby, CM (Ed.). 2003. *The Economics of School Choice.* University of Chicago and NBER Press: Chicago.

Jepsen, C. 2003. The effectiveness of Catholic primary schooling. *Journal of Human Resources*, **38**, 928-941.

Kemerer, F. 2002. The US Supreme Court's decision in Cleveland: Where to from here? Working Paper, www.ncspe.org.

Ladd, H. 2002. School vouchers: A critical view. *Journal of Economic Perspectives*, **16**, 3-24.

Levin, HM. 1991. The economics of educational choice. *Economics of Education Review*, **10**, 137–158.
Levin, HM. 2001. Thoughts on for-profit schools. Occasional Paper, National Center for the Study of Privatization in Education, www.ncspe.org
Levin, HM. 2002. A comprehensive framework for evaluating educational vouchers. *Educational Evaluation and Policy Analysis*, **24**, 159-174.
Levinson, M and S Levinson. 2003. "Getting religion": Religion, diversity, and community in public and private schools. In A Wolfe (Ed.). *School Choice. A Moral Debate*. Princeton: Princeton University Press.
McEwan, PJ. 2003. The potential impact of vouchers: an update. *Peabody Journal of Education*, forthcoming.
McEwan, PJ. 2000. Comparing the effectiveness of public and private schools: A review of evidence and interpretations. Occasional Paper, National Center for the Study of Privatization in Education, www.ncspe.org.
Miron, G and C Nelson. 2002. *What's Public about Charter Schools?* Thousand Oaks, California: Corwin Press.
Moe, TM. 2001. *Schools, Vouchers and the American Public*. Brookings Press: Washington.
Molnar, A. 2001. Calculating the benefits and costs of for-profit public education. *Education Policy Analysis Archives*, **9**, 15.
Muraskin, L and S Stullich. 1998. *Barriers, Benefits, and Costs of Using Private Schools to Alleviate Overcrowding in Public Schools*. US Department of Education, Planning and Evaluation Service.
National Center for Education Statistics. 1996. *Private School Universe Survey, 1993-1994.* Washington, DC: U.S. Department of Education Office of Educational Research and Improvement.
Nechyba, T. What Can Be (and What Has Been) Learned from General Equilibrium Simulation Modals of School Finance? *National Tax Journal*, **LVI**, 387-414.
People for the American Way (PFAW). 2000. The 40% surcharge. How taxpayers overpay for Milwaukee's private school voucher program. Working Paper, www.pfaw.org.
Peterson, PE and BC Hassel (eds). 1998 *Learning from School Choice*. Brookings Institution, Washington.
Peterson, PE, Campbell, DE and MR West. 2002. Who chooses? Who uses? Participation in a national school voucher program. In PT Hill (Ed). *Choice with Equity*. Stanford: Hoover Institution.
Rouse, CE. 1998. Private school vouchers and student achievement: an evaluation of the Milwaukee Parental Choice Program. *Quarterly Journal of Economics*, **CXIII**, 553-602.
Salisbury, D. 2003. What does a voucher buy? A closer look at the cost of private schools. *CATO Institute, Policy Analysis*, No. **486**.
Sander, W. 2001. The effects of Catholic schools on religiosity, education, and competition. Occasional Paper #32, www.ncspe.org.
Sugarman, SD and FR Kemerer (Eds). 1999. *School Choice and Social Controversy: Politics, Policy and Law.* Brookings Institute: Washington.
Teske, P and M Schneider 2001. What research can tell policymakers about school choice. *Journal of Policy Analysis and Management*, **20**, 609-632.
Wells, AS (Ed). 2002. *Where Charter School Policy Fails*. New York: Teachers College Press.
Witte, JF. 1999. *The Market Approach to Education*. Princeton University Press: Princeton.

Table 1
The Growth in Private Schooling Across the U.S., 1993-2000

Religious Orientation of Schools	Private school numbers			Private school enrollments		
	1993 - 1994	1999 – 2000	Percent change	1993 - 1994	1999 - 2000	Percent change
Non-Sectarian	5,542	5,890	6.3	718,661	808,101	12.4
Roman Catholic	8,331	8,102	-2.7	2,448,101	2,511,040	2.6
Christian Evangelical[a]	6,532	6,738	3.2	848,480	957,324	12.8
Other Christian[b]	3,457	4,976	43.9	429,412	631,322	47.0
Other Religious	1,540	702	-54.4	172,771	66,885	-61.3
Jewish	647	691	6.8	171,214	169,751	-0.9
Islamic	71	152	114.1	7,514	18,262	143.0
TOTAL	*26,093*	*27,223*	*4.3*	*4,836,442*	*5,162,684*	*6.7*

Source: National Center for Education Statistics, Private School Surveys 1993-1994, 1999-2000, Tables 1 and 2. *Notes:* (a) Christian Evangelical schools are: Assembly of God, Baptist, Brethren, Calvinist, Church of Christ, Church of God, Church of God in Christ, Episcopal, Latter Day Saints, Lutheran Church – Missouri Synod, Mennonite, Pentecostal, Presbyterian, Seventh-Day Adventist. (b) Other Christian schools are: Amish, Christian (unspecified), Disciples of Christ, Evangelical Lutheran Church in America, Friends, and Greek Orthodox, Wisconsin Evangelical Lutheran Synod.

Table 2
Parameter Estimates for Elasticity of Supply of Private Schooling

	Estimate	Data	
		Year	Source
Primary/Secondary	0.00	1979	California[a]
	0.01	1991	Ohio[b]
Primary	0.20	1968-78	NCES[c]
Secondary	2.00	1968-78	NCES[c]

[a]Brasington (2000). [b]Frey (1983). [c]Downes and Greenstein (1996).

Table 3
Schools Participating in Milwaukee Parental Choice Program

Religious Orientation of School	Number of Participating Schools per Academic Year					
	1997	**1998**	**1999**	**2000**	**2001**	**2002**
Secular	23	25	25	27	28	31
Catholic	N/a	41	39	38	37	33
Christian Evangelical	N/a	12	14	19	20	16
Other Christian	N/a	4	7	15	12	15
Jewish	N/a	1	1	1	1	1
Islamic	N/a	2	2	2	2	2
TOTAL	*23*	*85*	*88*	*102*	*100*	*98*

Source: Public Policy Forum Annual Census.

Table 4
Students Participating in Milwaukee Parental Choice Program

Religious Orientation of School	Voucher Enrollees as Percent of Total Voucher Enrollees per Academic Year					
	1997	**1998**	**1999**	**2000**	**2001**	**2002**
Secular	100.0	30.7	32.7	28.6	31.5	34.4
Catholic	N/a	48.0	48.4	40.8	41.8	37.8
Christian Evangelical	N/a	14.5	15.5	19.9	17.5	13.2
Other Christian	N/a	2.4	2.5	6.5	5.1	10.0
Jewish	N/a	1.3	1.0	0.9	0.8	0.9
Islamic	N/a	3.1	1.0	3.3	3.3	3.6
TOTAL ENROLLEES	*1,497*	*6,085*	*8,007*	*9,619*	*10,882*	*11,670*

Source: Public Policy Forum Annual Census and State of Wisconsin Department of Public Instruction.

Table 5
Concentration of Voucher Students within Participating Schools in Milwaukee Parental Choice Program

Religious Orientation of School	Voucher Enrollees as Percent of Total Enrollees at Participating Schools				
	1998	1999	2000	2001	2002
Secular	51.4	59.8	61.6	66.7	70.5
Catholic	25.6	28.3	31.5	36.5	35.4
Christian Evangelical	58.6	64.3	71.6	69.9	70.9
Other Christian	79.3	40.8	57.5	25.8	40.9
Jewish	44.4	45.1	49.4	50.0	56.1
Islamic	95.3	86.1	77.6	76.7	82.5

Source: Public Policy Forum Annual Census.

Table 6
Schools where Voucher Students Comprise 80 Percent or More of School Population

Religious Orientation of School	Number of Schools with at least 80 Percent Voucher Enrollees				
	1998	**1999**	**2000**	**2001**	**2002**
Secular	14	13	17	15	17
Catholic	4	3	6	10	8
Christian Evangelical	2	4	9	6	9
Other Christian	1	0	6	4	6
Jewish	0	0	0	0	0
Islamic	2	1	1	1	1
TOTAL	*23*	*21*	*39*	*36*	*41*
PERCENT OF TOTAL PARTICIPATING SCHOOLS	*28%*	*23%*	*39%*	*35%*	*40%*

Source: Public Policy Forum Annual Census.

Table 7
Age of Participating Schools in MPCP

Religious Orientation of School	Number of Participating Schools By Year in which Founded			
	Pre-1990	**1990-1997**	**1998-1999**	**2000-2003**
Secular	7	10	9	8
Catholic	28	2	3	2
Christian Evangelical	11	1	5	0
Other Christian	9	2	2	3
Jewish	1	0	0	0
Islamic	1	1	0	0
TOTAL	*57*	*16*	*19*	*13*

Source: Public Policy Forum Annual Census.

Table 8
Costs Declared Per Academic Year by Schools Participating in MPCP

	Any voucher students (v>0%)				Majority of students are voucher students (v>50%)			
	1998	**1999**	**2000**	**2001**	**1998**	**1999**	**2000**	**2001**
CAP ($)	4,894	5,106	5,326	5,553	4,894	5,106	5,326	5,553
Cost differences:								
C<CAP:								
Mean (CAP - C[K–8])	712	1058	802	710	576	795	359	436
Mean (CAP - C[9–12])	–	–	–	–	–	–	–	–
Mean (CAP - C[K–12])	171	207	–	360	171	–	–	–
C>CAP:								
Mean (CAP - C[K–8])	-861	-1,563	-1,307	-1,209	-407	-1,663	-1,181	-845
Mean (CAP - C[9–12])	-1,455	-994	-1,234	-1,073	–	-811	-280	-224
Mean (CAP - C[K–12])	-482	-630	-854	-385	-247	-608	-854	-506

Sources: WI Department of Public Instruction and Public Policy Forum Annual Census.

Table 9
Cost Differences by Religious Affiliation or Year Founded for K-8 Schools Participating in MPCP

	Difference between CAP and C ($)							
	Any voucher students (v>0%)				Majority voucher students (v>50%)			
	1998	1999	2000	2001	1998	1999	2000	2001
C<CAP:								
Secular	138	452	25	309	68	281	25	190
Catholic	899	1,195	1,040	973	1,167	1,068	391	480
Christian evangelical	584	1,092	895	564	201	1,005	683	513
Christian other	–	164	229	525	–	164	34	327
Jewish	–	–	–	–	–	–	–	–
Islamic	640	1,257	744	381	640	1,257	744	381
Founded prior to 1998	762	907	457	777	447	737	271	430
Founded in or after 1998	85	991	1,167	606	85	1,510	166	331
C>CAP:								
Secular	-1,168	-1,732	-958	-762	-382	-2,071	-839	-316
Catholic	-565	-1,260	-803	-1,053	-514	-1,260	-1,184	-1,338
Christian evangelical	-1,606	-1,954	-1,679	-839	-105	-1,981	-1,415	-664
Christian other	-399	-2,043	-1,823	-2,190	-488	-1,165	-2,181	-2,190
Jewish	-1,806	-2,294	-3,428	-5,178	–	–	–	-5,178
Islamic	–	–	–	–	–	–	–	–
Founded prior to 1998	-1,806	-1,437	-1,732	-1,506	-588	-1,459	-1,727	-1,747
Founded in or after 1998	-1,424	-2,390	-1,029	-1,094	-437	-2,897	-1,353	-1,094
CAP	*4,894*	*5,106*	*5,326*	*5,553*	*4,894*	*5,106*	*5,326*	*5,553*

Sources: WI Department of Public Instruction and Public Policy Forum Annual Census.

Table 10
Enrollment Patterns for K-8 Schools Participating in MPCP

	Any voucher students (v>0%)			Majority of students are voucher students (v>50%)		
	1999	**2000**	**2001**	**1999**	**2000**	**2001**
C<CAP:						
Average change in v as C increases	15	16	9	24	26	15
Average change in x as C increases	-2	-10	-17	-2	-9	0
C>CAP:						
Average change in v as C increases	12	15	4	17	18	6
Average change in x as C increases	26	-8	2	15	-3	4

Sources: WI Department of Public Instruction and Public Policy Forum Annual Census.

BOX 1
Policy Instruments to Design a Generous Voucher Program

Eligibility:
A generous voucher program in terms of eligibility would allow:
(1) all students to participate (regardless of income or locality)
(2) all types of school to participate (regardless of mission, pedagogy, curriculum, and academic performance)
(3) schools to choose their students based on independent criteria
(4) students to use a voucher for their entire K-12 schooling

Finance:
A generous voucher program in terms of finance would:
(1) offer a high-value voucher comparable to the amount a student would receive in public school
(2) establish a voucher cap that equals or exceeds many area private school tuition rates
(3) allow families to pay more than the voucher

Support Services:
A generous program in terms of support services would entail:
(1) subsidized transportation to any school
(2) no information requirements mandated by schools
(3) no test score accountability for participating schools

FIGURE 1
Identification of the Supply Curve Using Variation in Demand