CONTRIBUTIONS FOR AN ECONOMIC PERSPECTIVE ON SCHOOL CHOICE

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ABSTRACT

This paper provides an introduction to school choice analysis from the perspective of economics. The contributions from different fields and researchers are compiled and organized in a thematic manner. We first define the issue and highlight the advantages of an economic perspective. The brief history of the school choice debate is introduced and the most influential contemporary authors presented. We discuss several theoretical arguments both in favor and against school choice from the schools and districts perspective (supply side), and students-parents view (demand side). The most important results from existing experiments are also summarized. We conclude there are two fundamental issues the analysis should incorporate: how information about school choice is disclosed to parents and schools, and how a proper evaluation about the programs is necessary. About the latter, we emphasize the necessity to select a proper control group and allowing enough time go by before analyzing the effectiveness of the programs being evaluated.

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BACKGROUND

Defining School Choice

School choice refers to the freedom of parents and students to select the students' form of education. While few would argue that our children ought not to be taught at all, the question of *how* we education our children is a much more pressing issue. Proponents of school choice tend to agree that parents and students should have more answers available to answer this question. In contrast, those arguing against this system find that making more schooling options accessible creates some larger net cost. While there are numerous models across the international educational system that claim to offer some form of "additional school choice" over the status quo, how these plans contribute to choice, if they do at all, vary greatly. It is therefore prerequisite to understand the jargon of the school choice debate before reviewing various policy models. It is our goal to provide an overview of the contributions for an economic perspective on school choice.

Currently, the typical methods by which parents select schools are choosing where to live (this determines the public school district to which they are a part of) or to attend a private alternative. Students receive education in one of four ways. In scenario (1), students are presented with privately financed and privately provided education (like private schooling or home schooling). Alternatively, in a different scenario, (2), students benefit from public financing but receive privately provided education (as is the case in school vouchers or charter schooling). In a third scenario, (3), students receive private financing to attend a publically provided school (this is more likely the case in tertiary education than in primary or secondary education). Finally, in (4), students attend a publically financed and provided school, such as the traditional public school. When compared to the situation in (4), more school choice implies a weaker governmental role. In (4), the government finances students' education at public schools. The idea of offering more freedom in how parents select schooling for their children does not mean we should reduce the public endowment in any way (so long as we are careful to prevent financing from influencing provision) and thus a shift towards case (1) or (3) alone would not make sense. School choice can be offered by increasing private provision – a shift from (4) to (2) – or by a restructuring of the status quo of the public educational system – (4) to (4) – by creating some change that reduces current student and school restrictions. Regardless of whether we move from (4) to (2) or from (4) to (4) with restructuring, we maintain the idea of public provision, and thus are required to discuss the justifications for governmental intervention.

Justifications for governmental intervention in a market tend to come from two concepts: efficiency and equity. The efficiency argument relies on the existence of market failures; hence, the government is the appropriate agent to step in and improve efficiency. Two important potential market failures in education are the existence of externalities or incomplete information. Because a student's education increases their human capital (making them a more productive worker), education is commonly viewed as a positive externality. Given the education of a student creates an unrecognized or under-recognized benefit to society the government could justify intervention in the education market. A second important market failure is the problem of incomplete information. Parents and students are unable to measure properly the long-run value of education, which could lead to a less than optimal demand for education. The government's role is thus to provide the necessary level of education. The government can also justify intervention in the education market because of equity. This argument is rooted in the idea that inequity of family resources between families should be corrected (e.g., families with greater resources have a higher ability to finance a private alternative or to choose to live in a better school district). Hence, this justification is more closely related to issues of public financing than of public provision. Either an inefficient or an inequitable market could justify the existence of public financing, though the debate is more intense over the issue of public provision. This explains why reactions are generally milder when considering a restructuring in scenario (4) to (4) than in moving from (4) to (2).

Why an Economic Perspective

Economists are well equipped to solve a variety of problems using tools developed for use in economic analysis. For this reason, economists have a lot to offer the policy debate regarding school choice. A principal tool used in the literature surrounding school choice is an analysis of market structure. One cannot advocate a change in school choice opportunities without considering the effect such a change will have on the market structure for education. It is necessary to study this new system since changes in the market structure will influence parents and students' behaviors. This in turn will affect outcomes such as school achievement, productivity, and parental satisfaction. Economists are well practiced in studying how agents respond to market incentives so they can identify and measure the relationship between changes in the market structure and outcomes. This discussion of market structure considers not only the final good (education, as achieved through an interaction between students and schools) but also the labor market for teachers and school administrators. Teachers are the most important input in the production of education, and the market for teachers is strongly affected by the implementation of school choice programs, especially given concerns regarding the level of salaries at different schools. More generally, economists are well equipped to deal with a wide variety of supply side factors such as input costs, economies of scale, and school attributes which parents pay for. A study of how these inputs generate education is nothing more than a description of the production function for schooling. Since much of the funding for primary and secondary education comes from the public coffer, researchers are also frequently asked to discuss the efficiency of inputs used in the described production function. An economic approach to school choice also allows researchers a methodology for identifying the total effects of a policy change on society. Ideas like student segregation ("cream-skimming") require a generalized sample analysis. Focus on individual behavior is not sufficient given the asymmetry of the results may be large and variable with the socio-economic characteristics of the students. A general equilibrium model allows for an analytical structure that relates all students from all schools, and finds the total surplus of school choice for society.

Two Fundamental Notes About School Choice

Poorly informed parents and students will make decisions that differ from what a fully rational individual would make. This leads to an increase in the inefficiency of the educational system. If the market for education works well, then schools and school districts will have the appropriate incentives to collect and distribute *information* to its consumers. However, given the difficulty in quantifying the quality of schools, mentioned above, schools may attempt to falsify quality reports to make their school appear better than it is. Existing quality regulations prove schools indeed fall to this temptation.[2] Information also has implications with respect to inequality: lower income families have greater difficulty obtaining information regarding the

quality of schools. Consequently, they are more likely to make bad choices. Thus, a primary concern with information is making it available and accessible to everyone, with particular focus on those that would otherwise not have access to it.

There is also a fear that, given the quality of schools is difficult to measure, analysts will work with inaccurate information and thus advocate a school choice reform model that is unfounded. There is no simple *evaluation* of school choice experiments. Merrifield (2008) argues that existing small-scale experiments in the United States rarely do more than tweak the status quo – thus indicating results will have low significance – and ignore many of the potential issues that should arise under a system with greater school choice. He writes, "Several key aspects of market accountability are virtually absent from those programs: price change, easy market entry, and the profit motive, among others." Some of these topics are likely less frequent in the literature about school choice because these evaluations are more difficult to make. In section 4 we describe the underlying parameters that should be considered in an ideal evaluation scenario.

The next section describes the origin of school choice. Section 3 summarizes the arguments in favor and against school choice from both perspectives of students (as well as the parents) and schools (as well as the districts). In the following section, we describe the ideal evaluation scenario for a school choice experiment as well as the results from existing experiments. Section 5 concludes.

ORIGIN OF SCHOOL CHOICE

Many economists and non-economists have contributed to the debate surrounding the expansion of freedom of choice. Friedman (1955) was the first to propose reforms to increase school choice. He recognized that schooling created public benefits that outweighed individual costs and thus justified governmental intervention. An important contribution by Friedman was to recognize the necessity of differentiating public provision and public financing. Friedman suggested that school vouchers would separate public provision from public financing, giving parents more freedom over which schools their children attended, thus stimulating competition in the supply of education. Two other early researchers of school choice and educational vouchers are Jenks and Fantini, though the two have differing opinions as to how education should be provided. Jenks (1966) suggested that private schools would be a strong alternative to existing public schools. He stressed one of the principal failures of the public school district came from its bureaucratic system. Thus, he suggested the use of vouchers and private provision. He designed the Alum Rock experiment in California. The school was overregulated and so it achieved weak results. Fantini (1973) favored the public provision of education. His idea was to reform the public system to better accommodate students with different learning styles and interests. Initially his ideas were very influential. A more discriminating approach to use of vouchers was first proposed by Coons and Sugarman (1978). The two focused their attention on

equity and argued that education vouchers should be of different amounts, depending on tuition, family income, and the willingness of the family to invest in education. The main difficulty with this type of voucher is that it required a large amount of information.

Not all researchers have been narrowly focused on issues of financing. For example, Chubb and Moe (1990) provide a good overview of the effect of school choice on bureaucracy in public schools. They believe that school's ability to independent decision making is the most important reason for student achievement in schools. They propose a new system in which centralized bureaucracy is eliminated and more authority is given directly to schools, parents, and students. As more schools across the United States implemented school choice programs, researchers were able to perform a more technical analysis of school choice. Hoxby (2000), Greene and Forster (2002), West and Peterson (2006), Epple and Romano (2002), and Hanushek, Klain, Rivkin (2001) are some of the most influential contemporary authors. They provide valuable examinations of existing programs (their flaws and successes) through rigorous statistical analysis.

ECONOMIC PERSPECTIVE ON SCHOOL CHOICE – THEORY

There are numerous arguments both in favor of and against school choice. These arguments are categorized as supply side (schools and districts) or demand side (students and parents) arguments and are summarized below.

Favor – Supply Side

One argument in favor of expanding school choice is that the existing system is characterized by heavy regulations, which leads teachers and administrators to spend valuable time ensuring requirements are met. Peterson (1990) argues that teachers and administrators should be less concerned with paperwork and more focused on finding new teaching methods that would increase the quality of education and better meet students' needs. Additionally, since a less bureaucratic system allows for an increased independence of schools regarding curriculum, teacher contracts, and teaching techniques, there will also more flexibility in finding solutions that meet students' demands. McCluskey (2005) finds that the threat of school choice (through increased competition) is more efficient and effective than bureaucracy in regulating a school's behavior. Forster (2009) provides an interesting synthesis of studies on the impact of vouchers on public schools and finds that vouchers improved the quality of public schools in 16 of the 17 studies considered.

Others argue that increasing school choice will lead to a more efficient production of education (providing the same educational quality at a lower cost). Salisbury (2005) finds that existing programs dedicated to expanding school choice in Arizona, Milwaukee, Cleveland, Florida, Pennsylvania, Maine, and Vermont do not impose an extra financial burden, and

analyses of proposed school choice programs in Utah, South Carolina, New Hampshire, Baltimore, and Virginia indicate that those programs would save the local or state government money. Coulson (2008) finds that tuition tax credits (a method to expand school choice) in New York, Illinois, and Texas eventually save these states as much money in the long run as they cost to implement. Tuition tax credits have also been found to increase education quality; thus, such a program could lead to a more efficient production of education (Forster and D'Andrea, 2009).

Favor – Demand Side

Supporters of school choice also consider a range of potential benefits that such a market would provide students and teachers, one of which is better matching between students and schools. After an initial adjustment period, parents will identify a school capable of satisfying their students' needs. Advocates of school choice assume this will occur because parental participation will increase as freedom of choice expands. For example, under some school choice proposals, a student's residence would no longer restrict the number of schools in the city to which he could attend. Thus low-income parents with more limited housing options now have other alternatives to decide where their children go to school. Forster (2005) gives an important condition for parental participation: he shows that when providing opportunities to participate in a school choice program - such as a voucher - are not extremely difficult, parents are more likely to be involved in exploring school choice options.[3] This hypothesis is corroborated by the fact that parents do indeed make decisions on schooling that are sensitive to school performance (Greene, 2010).

Other arguments are focused on the advantages of biased financing. Programs in which the amount of funding a student receives is inversely related to his/her family's income allow for a more equitable opportunity for education. Peske and Haycock (2006) claim that a significant teacher quality inequality exists between higher-income and lower-income schools. Deming (2009) defends that the benefits of a better education extend beyond the classroom; for example, lottery winners who were allowed to attend better schools in the Charlotte-Mecklenburg school district committed fewer and less serious crimes than other low-income students who remained in the lower-quality school. Further, biased financing provides schools with a diverse student body. Exposure to students from different backgrounds has positive effects on students, particularly those in urban areas. Finnigan and Stewart (2009), supporters of interdistrict school choice, find that such a program increases minority enrollment in suburban schools; as a result, these students display greater professional aspirations and lower social isolation than students that remain in urban districts.

Against – Supply Side

Not every researcher agrees that school choice will improve the market for education, and some that criticize it do so because it will be a detriment to the supply of education. First, challengers of the school choice movement fear that such a system facilitates discrimination by schools. This comes in either the form of cream skimming or overspecialization. In the first case, cream skimming may occur if schools are given a say in the selection of students. For example, if schools are allowed to select students based on ability, competition leads to stratification by parental income and reduced student effort (MacLeod and Urquiola, 2009). Romano and Epple (2002) design alternative voucher schemes and conclude that in order to avoid cream skimming the voucher system should have two characteristics: the voucher should be variable with a student's ability and schools must accept the voucher as the only way to pay tuition (no "top-ups" from higher income families to ensure their students a place). In the latter case, since schools will exist in a free market – provided the quantity of schools is sufficiently large – the need to attract students may encourage unfocused curriculums that are biased towards a specific type of student, creating overspecialized schools (Fiske and Ladd, 2000).

Second, even with no discrimination by schools, it may still be difficult for students to find the best program to meet their needs. Students may not identify the best school for the form of education they desire immediately, or overzealous parents with low performing students may use the school as an excuse for lazy work, thus transferring these students from school to school indefinitely. Hanushek et al. (2001) find that students in schools with higher turnover are disadvantaged compared to students in schools with lower turnover.

Finally, implementing school choice programs is no small feat, even assuming that students can quickly identify the best school to fit their needs and that no discrimination occurs. Critics of school choice worry that the cost of such a reform will be extraordinarily high. While some small experiments have found school choice programs to be fiscally neutral at worse for state or local governments, these may not consider every cost associated with school reform. Wells (1993) shows that in addition to funding vouchers or tax-credits, other more difficult to measure costs exist. One such cost is that as parents move their children away from the neighborhood public school, transportation costs increase (students must travel further to get to school, implementation of a city-wide school bus route to cater to every student's needs is infeasible). Moreover, is expected that increased competition for students forces schools to collect more (costly) information that identifies and sells to potential buyers.

Against – Demand Side

Others that criticize school choice worry that it will negatively affect students in some way. Greater school choice could marginalize students with special needs. This argument is founded on the belief that schools will not be willing to invest in infrastructure that applies only

to a minority group of students. Existing special needs programs in school choice models – for example, the Georgia Special Needs Scholarship or Florida's McKay Scholarship Program – indicate that this concern may be unrealistic.[4,5] Other critics of school choice worry that parents and students will make decisions based on extracurricular factors. Cullen et al. (2006) discuss a parent choosing to send their child to a different school for safety reasons, or a student choosing to attend a different school for extracurricular activities. They acknowledge, "Although these reasons may lead to improved life outcomes in the long run, they are less likely to influence traditional academic achievement measures in the short run.". Nevertheless 85% of parents state they consider academic quality a very important factor in deciding where to send their children, this concern may be unfounded (Peterson, 1999).[6] Regardless, it does not seem unreasonable to think that some students may be tempted by extracurricular factors (for example, a star athlete electing to attend a school with a strong athletics program).

All these arguments in favor and against present valid concerns. The final outcome of a School Choice program will be a positive one if the benefits outweigh costs. To properly evaluate the programs it is important to set the background parameters one should not ignore. We turn to that discussion below.

ECONOMIC PERSPECTIVE ON SCHOOL CHOICE – PRACTICE

The Ideal Evaluation

There are certain prerequisites to establishing conclusive findings in school choice research. The choice of proper control groups and adequate sample time are two imperatives for an economic analysis of school choice. The existence of an appropriate *control group* is necessary to identify any causality between availability of school choice and increased school quality (Campbell and Stanley, 1963). Every student and teacher has his own unique characteristics; the same is true for every school, district, city, and state. Researchers can only perform statistical inference when granted a proper control group to which they can compare students who have access to school choice to those who do not, holding all other variables relatively constant. From a public policy perspective, this is extremely difficult to achieve. Because different districts and cities possess different traits, it is not appropriate for researchers to compare a city with a municipal-wide school choice program to a city without such a program. However, granting access to only a portion of a local student body, while holding other students in the status quo (a result achieved by lotteries) often produces cries of injustice by parents of students left unlucky in the lottery. Also worth noting is that in a system that utilizes random lotteries, it is also important to consider whether such a lottery produces a significant changes for families' budget constraints. A student from a high-income family could apply for a tuition voucher and have his application rejected, but that does not imply his access to a quality

education is limited in any way. Thus, the ideal evaluation must consider policy that is directed specifically at students that have the most potential to gain from such a reform.

Second, the ideal evaluation of a school choice program requires that a school choice program remain *active for years before results are considered*. Part of this is due to the fact that economists require a plethora of observations, given the array of cross-sectional variables affecting results. Moreover, parents and students may be slow to react to a policy change – or at least to reach market equilibrium. It will also take time for schools to identify their optimal strategies for recruiting students, and it will take time for parents and students to learn how to use the school choice system to maximize their education per their needs.

Important Results

First and foremost, the objective of increasing school choice is to improve student achievement. Various studies of school choice programs find a positive relation between increased freedom of choice and student achievement.[7] Greene et al. (1998) show that test results in Milwaukee indicate that after four years, students who were awarded vouchers through a lottery had reading scores 6 NCE points higher than students who applied for vouchers but did not receive them; voucher students also had math scores 11 NCE points higher.[8] Cowen (2007) considers a similar program in Charlotte and finds that after only one year of voucher program implementation, voucher students had reading scores 8 percentile points higher than the control group, and math scores 7 percentile points higher. Barnard et al. (2003) study the New York randomized voucher program and show voucher students had math scores 5 percentile points higher than the control group. Wolf et al. (2007) review the voucher program in Washington D.C. and suspect that achievement gains appear likely for voucher students, though the results were statistically significant with only 93% certainty. Howell and Peterson (2002) provide a more narrow study focused on black voucher students and were able to find with statistical significance that these voucher students had combined reading and math scores 9 percentile points higher than the control group. Thus in general, it appears that school choice programs have been able to increase student achievement.

Second, economic analysis can and should evaluate the impact of the government's role in education. This portion of the analysis ought to consider whether public financing under the reformed system is efficient and whether a more competitive market with funding programs for lower income families generates greater equity in education. Results indicate that school choice encourages academic improvement and increased school quality. The main concern is whether public financing of school choice programs impose additional costs on state governments. This does not appear to be the case. Aud (2007) reviews existing voucher and tax-credit scholarship programs and finds that school choice programs have saved the states $22 million and districts $421 million. She concludes that five of nine voucher programs saved the state money, and the remaining four had a fiscally neutral effect on the state budget. All of the tax-credit programs

considered produced costs for the state, but yielded higher savings for the public school districts. With respect to equity, school choice programs seem successful in reducing inequalities in the educational system. For example, Ladner and Burke (2010) show that the reforms in Florida have been closing the achievement gap for Hispanic students. We must also consider the impact of educational reform on the existing public system. In Milwaukee, public schools that faced voucher competition made greater academic gains than similar schools that did not face such competition. Hoxby (2001) proves that by subject, public schools under competition made gains greater than control schools by 3 percentage points per year in math, 5 points per year in science, 3 points per year in social studies, and 3 points per year in language. Greene and Forster (2002) found that schools with 100% of the student body eligible for vouchers made academic improvements 15 percentage points higher than schools with only 50% of the student body eligible for vouchers. Similar results were found in Florida schools facing the threat of vouchers (West and Peterson, 2006). The positive effect of school choice on public schools also extends on a larger scale to schools near other towns offering school choice programs. This was found in Maine and Vermont, in which public schools located near towns that began offering school voucher programs began to see academic improvements 12% higher than before the programs were established (Hammons, 2002).

There is no simple method for measuring parental satisfaction. Opinion surveys would allow us to assign some quantity to satisfaction, though it seems unreasonable to expect parents to identify to what degree their satisfaction has increased or decreased as a direct result of school choice. A more sensible proxy is to consider whether a parent's participation in school functions increases or decreases after implementation of school choice. Gleason (2010) found that parents of lottery winners that were offered admission to study at charter schools were significantly more likely to volunteer or attend school activities than parents of lottery losers. In contrast, the study found that parents of lottery losers were significantly more likely to be members of the parent-teacher association than would parents of lottery winners. It is expected that parents who are more satisfied with their children's schooling would be more likely to participate in voluntary roles, while those who are dissatisfied would participate in groups such as the "Parent-Teacher Association" to be more active in influencing school policy.

Another very important dimension one should take into account is what will happen with dropout rates under school choice programs. The problem starts at measurement: Forster (2007) mentions that school systems have different ways to account for this statistic, and even if one is to believe the results, it is often difficult to disseminate the reasons why students dropout. More research is necessary, but early work by Greene (2004) addresses the issue. He finds a 36% dropout rate from the Milwaukee voucher program, significantly lower than the 59% found under Milwaukee's selective public high schools, or the 64% for the Milwaukee's public schools as a whole. Lastly, researchers can examine the effects of freedom of choice on transmission of civic values in the classroom and social integration. Some critics of school choice believe that allowing parents and students greater choice in schooling will lead to higher segregation. Greene

(1998), based on evidence from the National Education Longitudinal Study (NELS) argues the opposite may be true.

CONCLUSION

We hope to provide a solid introduction to school choice analysis. We present an overview of school choice, a discussion of the tools economists use to analyze school choice, and an economic perspective on school choice research thus far from both a theoretical and empirical perspective.

Because economists typically have a difficult time persuading municipal school districts or state governments to undergo social experiments, existing analysis depends heavily on what policy reforms are available. The popularity of voucher programs indicates that these are the easiest or most likely reforms to pass (probably because they satisfy voters' desires for improved equity in education). Tax credits are less popular, though some programs have been around long enough for more thorough research to take place. Schaeffer (2007) suggests that tax credits may become more popular in the future because they are less likely to be challenged in court, less likely to find united opposition, and higher-income individuals are more likely to support them over vouchers.

Experiments typically establish a randomized system of rewarding public financing, thus allowing for a control group. This method should not change in future reforms given that random selection is a principal component of statistical inference. Results from the literature indicate that school choice programs have been able to increase student achievement and school quality while reducing inequalities in the educational system without additional costs on state governments. There also seems to be a positive external effect on the existing public schools that face voucher competition. Finally, there is increased parental participation as well as a significant fall in dropout rates. Though results are encouraging, researchers call for caution in the interpretation of these findings since the ideal evaluation of these programs require more time to go by. One additional area of research that deserves increase attention concerns *how* information is presented to parents and *how* parents use this information to make decisions. Greene et al. (2010) show that the form in which information is presented to parents has important effects on their choice of school, and emphasize that all information presented should be characterized as relevant and easy to comprehend. Poor presentation of information may inhibit students and schools from reaching market equilibrium, and will understate the influence of schooling reform.

ENDNOTES

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[2] A famous example is the "Texas Miracle;" Houston School Superintendent Rod Paige made his principals and administrators accountable for the performance of their students. Given hundreds of students per year

dropped out of Houston schools, principals and administrators responded to Paige's policy by reclassifying dropouts to improve their schools' numbers. In 2001, 463 students dropped out of Sharpstown High School, though none of them were listed as dropping out – every student either "transferred schools," "returned to their home country," or some other acceptable excuse. Please see http://www.cbsnews.com/stories/2004/01/06/60II/main591676.shtml for additional information.

[3] Opposing this condition, some programs, like the one in Washington D.C. were underfunded and required a tedious application process.

[4] The Georgia Special Needs Scholarship allows some students with special needs to transfer to another public school, public district, participating private school, or state school. Scholarships average about $6,000.

[5] The John M. McKay Scholarships for Students with Disabilities Program allows parents of children with special needs to change public schools if a parent is unsatisfied with their child's public school. The average scholarship in recent years has been over $7,000.

[6] Notice that this complaint also presumes that choosing a school for nonacademic reasons is inherently counterproductive. While such an act may ignore the primary objectives of school choice reform (that is, increasing school quality, increasing efficiency in the production of education, creating greater equity), it still may be the case that this choice leads to higher student accomplishment. For example, Coleman et al. (1982) argue that students who choose a school for religious reasons would form a supporting community of students and parents that share a common faith that generates social capital in the form of better networks for educationally productive relationships.

[7] Forster (2007) provides an interesting summary of these studies in table 2, page 39.

[8] The NCE, Normal Curve Equivalent, is a way of standardizing student test scores. A summary of the NCE system can be found at http://www.rochesterschools.com/Webmaster/StaffHelp/rdgstudy/nce.html.

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