A WIN-WIN SOLUTION

The Empirical Evidence on School Choice

THIRD EDITION

GREG **FORSTER**, Ph.D.

April 2013

THE FRIEDMAN FOUNDATION
FOR EDUCATIONAL CHOICE
edchoice.org

About the Friedman Foundation for Educational Choice

The Friedman Foundation for Educational Choice is a 501(c)(3) nonprofit and nonpartisan organization, solely dedicated to advancing Milton and Rose Friedman's vision of school choice for all children. First established as the Milton and Rose D. Friedman Foundation in 1996, the Foundation continues to promote school choice as the most effective and equitable way to improve the quality of K-12 education in America. The Foundation is dedicated to research, education, and outreach on the vital issues and implications related to choice in K-12 education.

A WIN-WIN SOLUTION

The Empirical Evidence on School Choice

THIRD EDITION

GREG **FORSTER**, Ph.D.

April 2013

Table of Contents

Executive Summary 1

Introduction 3

- Choice in Education 4
- Why Science Matters – the "Gold Standard" and Other Methods 4

Part I: Academic Outcomes of Choice Participants 6

- The Importance of Random Assignment – the Gold Standard 7
- What the Gold-Standard Studies Show 7
- Off the Gold Standard 9

Part II: Academic Outcomes of Public Schools 10

- What the Studies Show 11
- Alternative Theories 12

Part III: Fiscal Impact on Taxpayers 14

- Measuring Fiscal Impact 15
- What the Studies Show 16

Part IV: Racial Segregation in Schools 18

- Measuring Racial Segregation 19
- What the Studies Show 20

Part V: Civic Values and Practices 22

- Measuring Civic Values and Practices 23
- What the Studies Show 23

Conclusion: Remarks on School Choice 26

- Universal Choice Could Deliver an Education Revolution 27
- Yes, Choice Improves Schools 27
- Choice Could Work Much Better…If We Let It 27
- Only Universal School Choice Can Sustain Dramatic Change 27

References 29

Notes 31

About the Author 33

List of Tables

Empirical Studies on School Choice 2

Table 1: Academic Outcomes of Participants 8

Table 2: Academic Outcomes of Public Schools 13

Table 3: Fiscal Effects on Taxpayers 17

Table 4: Racial Segregation in Schools 21

Table 5: Civic Values and Practices 24

Executive Summary

This report surveys the empirical research on school choice. It provides a thorough overview of what the research has found on five key topics:

- Academic outcomes of choice participants
- Academic outcomes of public schools
- Fiscal impact on taxpayers
- Racial segregation in schools
- Civic values and practices

The evidence points clearly in one direction. Opponents frequently claim school choice does not benefit participants, hurts public schools, costs taxpayers, facilitates segregation, and even undermines democracy. However, the empirical evidence consistently shows that choice improves academic outcomes for participants and public schools, saves taxpayer money, moves students into more integrated classrooms, and strengthens the shared civic values and practices essential to American democracy.

These results are not difficult to explain. School choice improves academic outcomes by allowing students to find the schools that best match their needs, and by introducing healthy competition that keeps schools mission-focused. It saves money by eliminating administrative bloat and rewarding good stewardship of resources. It breaks down the barriers of residential segregation, drawing students together from diverse communities. And it strengthens democracy by accommodating diversity, de-politicizing the curriculum, and allowing schools the freedom to sustain the strong institutional cultures that are necessary to cultivate democratic virtues such as honesty, diligence, achievement, responsibility, service to others, civic participation, and respect for the rights of others.

The size of the benefit provided by existing school choice programs is sometimes large, but is usually more modest. This is not surprising because the programs themselves are modest—curtailed by strict limits on the students they can serve, the resources they provide, and the freedom to innovate. Only a universal school choice program, accessible to all students, can deliver the kind of dramatic improvement American schools desperately need in all five of these important areas.

Key findings:

- Twelve empirical studies have examined academic outcomes for school choice participants using random assignment, the "gold standard" of social science. Of these, 11 find that choice improves student outcomes—six that all students benefit and five that some benefit and some are not affected. One study finds no visible impact. No empirical study has found a negative impact.

- Twenty-three empirical studies (including all methods) have examined school choice's impact on academic outcomes in public schools. Of these, 22 find that choice improves public schools and one finds no visible impact. No empirical study has found that choice harms public schools.

- Six empirical studies have examined school choice's fiscal impact on taxpayers. All six find that school choice saves money for taxpayers. No empirical study has found a negative fiscal impact.

- Eight empirical studies have examined school choice and racial segregation in schools. Of these, seven find that school choice moves students from more segregated schools into less segregated schools. One finds no net effect on segregation from school choice. No empirical study has found that choice increases racial segregation.

- Seven empirical studies have examined school choice's impact on civic values and practices such as respect for the rights of others and civic knowledge. Of these, five find that school choice improves civic values and practices. Two find no visible impact from school choice. No empirical study has found that school choice has a negative impact on civic values and practices.

Empirical Studies on School Choice

	Positive Effect	No Visible Effect	Negative Effect
Academic Outcomes of Choice Participants	11	1	0
Academic Outcomes of Public Schools	22	1	0
Fiscal Impact on Taxpayers	6	0	0
Racial Segregation in Schools	7	1	0
Civic Values and Practices	5	2	0

Note: Shows the number of empirical studies with each type of finding. The first row includes all studies using random-assignment methods. Other rows include all studies using all methods.

Introduction

School choice programs allow parents to choose what schools their children will attend, public or private, using public funds. They are among the most prominent and successful reforms in the education field. There are now 41 school choice programs in 22 states and Washington, D.C. More than 250,000 students use these programs to attend private schools.[1]

The most well-known form of school choice is school vouchers, which give parents the ability to redirect their children's education funding to a participating private school for tuition support. More recently, education savings accounts have introduced an innovation to this model, allowing parents to use redirected funds for other educational services and expenses in addition to tuition costs; this further improves the reward for good stewardship of resources by schools, because parents can select schools for price as well as for quality. An alternative approach, tax-credit scholarships, gives donors a tax credit if they donate money to organizations that support private school scholarships.

Perhaps the most important question about school choice is how it impacts academic outcomes, both for the students who use it and in the public schools at large. Defenders of the government school monopoly claim choice does no good for the students who use it, and harms public schools by "draining money" or by "creaming students"—that is, skimming off the best students who rise to the top and would be sought by private schools. School choice proponents, on the other hand, argue choice improves academic outcomes both for the participating students and for public schools at large. They say choice saves money for public school budgets rather than "draining" money, and sends all types of students to private schools rather than "creaming." They also point to the benefits of allowing each student to find the right school and the healthy incentives created by competition.

School choice also raises other important policy questions. In addition to the impact on school finance, which is part of the debate over how choice affects public school outcomes, there is the question of whether and how much taxpayers benefit from school choice through improved stewardship of resources. Opponents of choice frequently have charged that it will exacerbate racial segregation in schools (which is already at epidemic levels in the government monopoly system) whereas supporters say choice is a tool for breaking down segregation. And opponents argue private schools will not teach students the civic values and practices upon which democracy depends, such as respect for the rights of others and civic knowledge. Meanwhile, supporters say choice strengthens those same democratic values and practices.

A large body of empirical evidence examines these questions using scientific methods. Twenty years ago, before this body of evidence existed, there was some excuse for making policy based on speculation, anecdotal observation, and intuition. Today, the effects of these programs are known, and there is no longer any excuse for policymakers and opinion leaders to be ignorant of the facts.

This report reviews the available empirical studies on the five policy areas previously described. For participant effects, a large body of studies using the "gold standard" method of random assignment is available, so this report reviews that evidence. For the other questions, it reviews all available empirical studies using any scientific method. It also discusses the most important methodological issues confronted by research on this subject, and some of the larger implications of what the research finds.[2]

This report is the third edition in a series, and the earlier editions contain information that may be of interest to the reader of this report. The first edition was published in January 2009.[3] That report included only the research on how school choice impacts public schools; its discussion of the methodological issues involved in that research was more detailed than the overview provided here. The second edition was published in March 2011.[4] That version added the research on participant effects, and also provided more methodological detail than is included here. Readers seeking more extended methodological discussions may wish to consult those editions.

This edition brings the research reviews on academic effects up to date as of early January 2013, and adds reviews of the research on the fiscal, racial, and civic

impact of school choice. Previous editions bore the title "A Win-Win Solution" because the evidence on academic effects shows positive results both for participants and for public schools. This edition looks beyond those two constituencies to consider three ways in which school choice affects the democratic polity. Thus, school choice is not merely a win-win, but actually a "win-win-win" solution.

Choice in Education

Americans expect and demand the right to select their own goods and services in every area other than K-12 education, including everything from food, housing, clothing, transportation, and medical care to magazines, haircuts, dry cleaning, and video games. If the government tried to assign people to live in certain neighborhoods or shop at certain grocery stores, Americans would howl in protest. They even expect and demand choice when it comes to education outside of K-12 schools—everywhere from colleges to trade schools to tutoring services. But when it comes to K-12 education, the American idea that people should have stewardship over their own lives and choose for themselves rather than have government dictate what they receive is not embodied in public policy.

The arguments typically used to defend this lack of choice are empirically false or poorly reasoned. For example, teachers' unions claim that choice "drains money" from public schools. But how would Americans respond if they were told that from now on they would have to receive all their medical care from a doctor assigned to them by the government, rather than from their current family doctor, on grounds that their choice to seek care from their current doctor "drains money" from the budget of the doctor chosen by the government?

Meanwhile, the idea that school choice might improve public schools is dismissed as ideological claptrap. In fact, the empirical evidence consistently shows that it is the case, and the reasons are not hard to explain. One reason choice would improve public schools is that it allows parents to find the right particular school for each individual child. Every child is unique and has unique educational needs.

But probably the most important reason school choice would improve public schools is because it gives parents a meaningful way to hold schools accountable for performance. Under the current system, if a school isn't doing a good job, the only ways to get a better school—purchase private schooling or move to a new neighborhood—are expensive and impractical. These options are especially difficult for low-income and disadvantaged students.

Thus, in the absence of parental choice, schools lack the healthy, natural environment of client empowerment that is essential to producing better performance in most other types of service institutions. Hospitals know they must do a good job or lose patients. Professionals like doctors and lawyers must provide good services or lose clients. Stores must provide good value or lose customers. This system is so critical to keeping institutions mission-focused that we take it completely for granted—everywhere but in K-12 schooling.

It is widely agreed that monopolies generally provide poor quality because nothing bad will happen to them if they don't serve their clients well. When they get bad service, customers say, "I'll take my business elsewhere" because they know this is what will prompt better service. They do this to nonprofit institutions the same way they do it to businesses because they know it's not the presence or absence of profit that creates better performance but the presence or absence of client choice.

The failure of education policy to embrace the American principle that people should have stewardship over their own lives and make their own choices is a great hindrance to reform. One way opinion leaders can rectify this problem is by making the public aware of the large body of empirical research that examines how choice impacts participants, public schools, and the civic community at large.

Why Science Matters – the "Gold Standard" and Other Methods

There is no such thing as a "scientifically right" education policy. Science cannot identify what education policy is most fitting to the intrinsic nature of the human person,

or most aligned with America's ideals of freedom and democratic self-rule. To answer those questions, one needs other kinds of knowledge—knowledge about the nature of human life, the meaning of freedom and democracy, and the historic self-understanding of the American people.[5]

However, abstract ideas and history are not by themselves an adequate basis for public policy. The public hears competing claims about the real-world effects of education policy in the concrete world of the here and now. It wants—and rightly so—to know which claims are true and which are false. That is an empirical question, and addressing such questions is the special right and duty of science.[6]

When evaluating the effectiveness of an education policy, it is especially important to rely on empirical research of high scientific quality. The student outcomes that education reforms are designed to promote are affected by many different influences—including demographic factors (income, race, family structure, etc.), school factors (type of school, teacher quality, etc.) and intangibles such as the level of enthusiasm parents and teachers invest in a child's education. The job of social science is to disentangle the influence exercised by each of these factors as well as possible with the available evidence.

A study that uses good research methods can overcome these problems and provide reliable information about what is influencing student outcomes. But if scientific procedures are not rigorously followed, or if people make judgments without first examining the science, it's easy to draw the wrong conclusions about what factors cause what outcomes.

The gold standard for empirical science is the method known as "random assignment," in which subjects are randomly divided into a treatment group that will receive the treatment being studied (such as school choice) and a control group that will not receive it. Because the two groups are separated only by a random lottery, they are likely to be very similar in every respect other than the treatment.

There is a substantial body of random-assignment research on the academic achievement of students who are offered school choice, which is reviewed in the next section of this report. (See that section for more about the importance of this method, and its results in studies of choice.)

Where a significant body of random-assignment studies exists, priority should be given to those studies when considering the evidence. Their methodological superiority should be taken into account; it would make no sense to act as though they were no more reliable than any other kind of study.

But although it may be the best kind of research, the gold standard of random assignment is not the only kind of research worth considering. Where it is not possible to conduct a random-assignment study, other kinds of research methods can produce useful information that sheds light on important policy questions.

The next best research method is to track year-to-year changes in outcomes for individual students. Tracking individual students over time removes from the analysis most, though not all, of the influence of unmeasured factors. If a student is advantaged in a way that is not measurable, that advantage will typically be present in the student's outcomes for both year one and year two of the study; thus the change in outcomes between year one and year two will mostly be from other factors—though unmeasured factors will still exert some influence on the level of year-to-year change. Removing the influence of unmeasured factors allows the analysis to isolate the impact of the factors that are being measured, such as the offer of school choice.

If it is not possible to track individual students, good research still can be conducted by tracking year-to-year changes in individual schools. It is reasonable to expect that the unmeasured advantages of the students in a given school will be similar from year to year. If a school had highly advantaged students last year, it probably will still have highly advantaged students this year. Mobility among the student population will create some change in student characteristics from year to year, but not so much that we cannot learn from school-level studies.

PART I

Academic Outcomes of Choice Participants

There have been 12 studies using random-assignment methods to examine how school choice affects the academic outcomes of participants.[7] These studies consistently find that school choice benefits students. Six of them find that choice had a positive impact across all students participating. Another five find that choice had a positive impact on some student groups and no visible impact on other students. One study found no visible impact from choice. None find that choice had a negative effect.

The Importance of Random Assignment – the Gold Standard

When examining academic effects of school choice on participants, this report focuses on studies using random-assignment methods. These studies separate subjects into "treatment" and "control" groups randomly. Random assignment generates high confidence that factors other than the one being studied—the "treatment"—are not influencing the results.

The special value of random-assignment research is that it removes not only the influence of observable factors, such as demographics, but also the vast array of unobservable factors that researchers know influence education but cannot directly measure. For example, it is widely agreed that one of the key drivers of student outcomes is parental motivation; parents who highly value the education of their children are an important positive influence on outcomes. Random assignment assures high confidence that differences in factors such as this are not influencing research results.

Unfortunately, it is usually not possible to conduct random-assignment research on education policy. However, school choice has been one of the rare exceptions. When there are more applicants for a choice program than there are available slots, a random lottery is often used to determine who may participate. This creates a naturally occurring random-assignment research design. Students who win the lottery and are offered choice can be compared to students who lost the lottery and were not offered choice. If any systematic (i.e., non-random) differences between the outcomes of the two groups are observed, those differences can be attributed to the offer of choice, because nothing separates the groups but the offer of choice and randomness.

Because random assignment is so preferable, it should be given priority whenever a large body of random-assignment studies exists. It would make no sense to ignore the difference between the proven reliability of gold-standard studies and studies that are more methodologically limited.

What the Gold-Standard Studies Show

There had been 10 random-assignment studies of academic effects of school choice on participants when the last edition of this report was published in 2011. Readers seeking a descriptive overview of those studies should consult that edition. Two additional studies have been published since then. These 12 studies consistently find a positive impact from school choice.

Among the 10 studies reviewed in the previous "Win-Win" report, six find a positive impact for all students, and three find a positive impact for some student groups (black students in some studies; students leaving especially bad public schools in others) with no visible impact on other groups. Probably the most plausible hypothesis to explain the studies finding benefits for some groups but not others is that these student groups were served more poorly in their public schools and thus stood to gain the most from the opportunity to choose a new school.

The remaining study, a reanalysis of data from a previous study, found no visible impact from choice. However, the authors, Alan Krueger and Pei Zhu, introduced methodological changes that violated the normally accepted rules of social science. They changed the way students were classified by race. When student self-identification is absent, the generally accepted method is to use the race of the father; Krueger and Zhu classified a student as black if either parent was black. Further undermining the legitimacy of their method, they made this change only for black students rather than following the same classification method with all students. Krueger and Zhu also added students with significant missing data to their data set, and failed to

control for the students' baseline scores (a standard step in scientific education analysis). Unsurprisingly, through these manipulations they were able to lower the variable for statistical significance below the conventional threshold for recognizing a finding.[8]

In a devastating rejoinder, Paul Peterson and William Howell (authors of the original study) published a series of 120 reanalyses of their data set, each using a different set of specifications. These analyses demonstrated that the positive finding for black students is robust across numerous different assumptions about racial identification. Howell and Peterson show that the positive effect disappears only if the analysis incorporates Krueger and Zhu's exact combination of arbitrary racial redefinition, students with missing data, and exclusion of baseline scores. Leave out any two of these three and the results are positive.[9] The Krueger-Zhu statistical model must be regarded as discredited.

As noted previously, two new random-assignment studies on the academic effects of participants have been released since the last edition of this report. One is a reanalysis of Howell and Peterson's New York City data. In 2003, a team of researchers led by John Barnard reanalyzed these data using a different statistical method; like Howell and Peterson they found academic gains for a subset of students, in this case students whose public schools had been particularly low-performing. This 2003 reanalysis was included in the last edition of the "Win-Win" report. A 2010 study, not included in the last edition, makes a further revision to that reanalysis's statistical method. This reanalysis, conducted by a team of three researchers including Barnard and another researcher from the 2003 team, tests the sensitivity of the result to different methodological assumptions. Using these alternate methods, it confirms the 2003 finding of academic gains from school choice among students from low-performing public schools.[10]

In the second new study, Matthew Chingos and Peterson examined the long-term results of a privately funded voucher program serving low-income elementary school students in New York City in the late 1990s. Black students who were offered vouchers in elementary school were 20 percent more likely to attend college within three years of the age they would be expected to graduate high school, 25 percent more likely to attend college full-time, and 130 percent more likely to attend a selective four-year college. They found no visible impact on the student population as a whole; the impact was visible for black students.[11]

TABLE 1 Academic Outcomes of Choice Participants

Location	Author	Year	Results			
			Positive Effect		No Visible Effect	Negative Effect
			All Students	Some Students		
New York	Chingos & Peterson	2012		X		
New York	Jin et. al.	2010		X		
D.C.	Wolf et. al.	2010	X			
Charlotte	Cowen	2008	X			
New York	Krueger & Zhu	2004			X	
New York	Barnard et. al.	2003		X		
New York	Howell & Peterson	2002		X		
D.C.	Howell & Peterson	2002	X			
Dayton	Howell & Peterson	2002		X		
Charlotte	Greene	2001	X			
Milwaukee	Greene et. al.	1998	X			
Milwaukee	Rouse	1998	X			

Note: This table shows all empirical studies using random-assignment methods.

Off the Gold Standard

A great deal of empirical research has compared public and private school impacts on test scores using methods other than random assignment. This research question actually goes all the way back to the origins of modern education science. The Coleman Report, produced by James Coleman for the U.S. Congress in 1966, attempted to identify input and quality factors in public schools that impacted student performance. Using the cruder statistical methods of the time, Coleman was unable to identify any factors that had an impact. In his subsequent research, however, Coleman found one school quality factor he could tie to better outcomes: Private schools performed better than public schools.[12]

Since then, education researchers using better data and methods have demonstrated that a number of school variables, most notably teacher quality, have a large impact on student outcomes. But comparisons of public and private school performance have always been an important presence in the education research field.

Identifying all the non-gold-standard research that has been done on this question over the years would be too cumbersome to do here, and there is no need given the substantial and growing body of random-assignment studies. But it is worth noting that, like Coleman's, most of the studies that rise to a reasonable level of scientific quality have found in favor of private schools.

Some studies simply have conducted "descriptive" comparisons, gathering information about outcomes without the availability of statistical methods that would establish a causal link between the public/private variable and the outcomes. Other studies have attempted to establish causality. This requires a method that accounts for the fact that a direct comparison between public and private schools is comparing students with dissimilar family backgrounds—"choosers" and "non-choosers." There are various methods for doing this.

One is instrumental variable analysis, which uses proxy measurements to estimate the probability that a student is in private school. A 1997 study by Derek Neal used an instrumental variable technique to calculate the probability that a student would be in a private school and found that students more likely to be in private school were less likely to drop out.[13] The limitation of this method is that the instrumental variable is never more than an imperfect proxy.

Another approach is to compare the experiences of the same students in public and private schools. A 2003 study by Jay Greene and Greg Forster found that disabled students using Florida's voucher program for children with special needs got better services and had better outcomes in private schools than those same students had received in public schools.[14] This method is much better for purposes of measuring the impact of vouchers on those students. However, it limits the generalizability of the finding to others.

Still another approach is to use "matched" samples, in which students with similar observable characteristics (such as demographics and initial test scores) are matched to one another, then tracked and compared over time. The School Choice Demonstration Project (SCDP), a research consortium sponsoring numerous studies on school choice programs, conducted a study of matched samples in Milwaukee in which voucher students were matched to similar public school students. Few visible differences were found in test scores until the fifth year of the study, and changes to the state testing policy that year make the results difficult to interpret.[15] The SCDP did find that students using vouchers to attend high school were more likely to graduate, more likely to attend college, and more likely to stay in college than their matched public school counterparts.[16] The limitation of this method is that it only matches students by observed characteristics, not the unobserved ones (such as parental motivation) that are the core of the methodological problem.

PART II

Academic Outcomes of Public Schools

Twenty-three empirical studies have been conducted on how school choice programs impact academic outcomes in public schools.[17] Of these studies, 22 find that choice improves academic outcomes at public schools. The one remaining study found that choice had no visible impact on public schools. No empirical study has ever found that choice had a negative impact on public schools.

For academic outcomes of public schools, this report looks at empirical studies using all methods. It is not possible to conduct random-assignment research on how choice impacts public schools. Random assignment is possible only in studies of participants because of the naturally occurring opportunity to conduct a random lottery when there are more applicants to a choice program than there are slots available. There is no naturally occurring equivalent that would permit random-assignment research methods in studying the effects of choice on public schools. One must therefore turn to other evidence.

Fortunately, this question has been studied only more recently and the amount of evidence is manageable. It is also of good methodological quality—increasingly so over time. The last decade has seen major improvements in the quality of studies on this question, to the point where some studies approach the confidence level of gold-standard random assignment.

It is also important to bear in mind that these studies are examining a different kind of question from those examining impact on participants. The absence of random assignment is not as great a problem here. There is no act of parental choice that needs to be overcome methodologically. "Choosers" and "non-choosers" are not being compared. All the relevant students are non-choosers. The only comparison is between schools exposed to choice and schools not exposed—which is usually an easier methodological barrier to overcome.

What the Studies Show

There had been 19 studies of academic effects on public schools when the last edition of this report was published in 2011. Readers seeking a descriptive overview of those studies should consult that edition. One additional study has been published since then. These studies consistently find that school choice improves public schools.

Among the 19 studies reviewed in the previous report, 18 find a positive impact. Significantly, the one study to find no visible impact was also the only study conducted on a program that intentionally protects public schools from the impact of the program. Thus, it does not detract from the research consensus that choice improves public schools.

Six studies examine Milwaukee's voucher program; all six find a positive impact on public schools. Milwaukee's voucher program is available to all students who meet an income restriction, so research methods in Milwaukee cannot compare "public schools with vouchers" to "public schools without vouchers." They instead compare public schools with many students eligible for vouchers to public schools with fewer students eligible for vouchers. In one case, where individual student data were available, researchers used the number of nearby private schools participating in the voucher program as a measurement of voucher impact. These methods are like testing the effectiveness of a medicine by comparing the effects of a large dose to the effects of a small dose, rather than to the effects of not taking it at all. The research will tend to make the effect of vouchers look smaller than it really is. But it is the best that can be done given the absence of a better control.

Eleven empirical studies have been conducted on how two voucher programs and one tax-credit scholarship program in Florida have affected academic outcomes at public schools. All 11 unanimously find that choice has improved Florida public schools. One of these programs made all students at underperforming schools eligible for vouchers, so researchers were able to measure the impact of vouchers in two ways: comparing performance at the same school before and after voucher eligibility, and comparing very similar schools that were just over or just under the threshold for voucher eligibility. Researchers also were able

to measure the impact of "voucher threat" at low-performing schools that were in danger of becoming eligible for vouchers. For the other two programs (a voucher program for students with special needs and a tax-credit scholarship program for low-income students) researchers used methods similar to those used in Milwaukee.

Six studies have been conducted on the impact of school choice programs in other places (Maine, Vermont, Ohio, Washington, D.C., and San Antonio, Texas). Five of these studies find that choice improves public schools; one finds that it made no visible difference to public school outcomes. The outlier study finding no impact is a study of the federal voucher program in Washington, D.C. This is the nation's only school choice program with a "hold harmless" provision that allocates additional money to the public school system to "compensate" for the loss of students. This is intended to insulate the public school system from the impact of school choice. Thus, the absence of a visible effect in this study does not detract from the research consensus in favor of a positive impact on public schools.

One new study has been released since the last edition of this report. Matthew Carr examined the impact of Ohio's EdChoice voucher program on public schools. The EdChoice program provides vouchers to students attending public schools rated as D or F by the state for three consecutive years. Carr found that schools eligible for vouchers made greater year-to-year test score improvements even compared with low-performing schools labeled as failing by the state that were not eligible for vouchers. Carr uses a fixed-effects model to factor out differences between schools other than voucher eligibility.[18]

Alternative Theories

As the first studies on how school choice affects public schools emerged, some speculated that the improvements they found in public schools might be caused by other factors besides a positive impact from school choice. Subsequent research rigorously tested these alternative hypotheses and found them to be unsupported. These theories were more extensively discussed in the original 2009 edition of this report. A brief summary of the issues appears here.

One theory speculates that the worst students may be more likely to use school choice, leaving behind the better students in public schools. According to this theory, rather than "creaming" the best students, choice "dredges" the worst. As it happens, the direct evidence on this question (what little is available) supports neither the creaming nor the dredging hypothesis; choice participants appear to be similar to other students.[19] Also, nine studies of Florida's voucher program targeting underperforming schools show that it improved those schools simply by threatening them with vouchers.[20] It is also worth noting that a number of studies have tracked the achievement of individual students rather than whole schools and still found that school choice improves outcomes for students who remain in public schools.

Another theory speculates that because choice improves schools' per-student finances (see the next section for discussion of this) the positive effects of choice could result from this fiscal benefit. Of course, this would not be an argument against choice even if it were true. However, as noted earlier, the evidence in Florida shows a positive voucher effect even when no students actually changed schools simply as a result of the threat of vouchers.

Two alternative theories focus on voucher programs targeting underperforming schools in Florida and Ohio. One speculates that these programs produce a "stigma effect"—schools assigned failing grades by the state improve to remove the stigma of being labeled as failing, rather than responding to vouchers. But stigma cannot explain the positive findings for Milwaukee, Florida's two other programs, or the century-old "town tuitioning" voucher systems in Maine and Vermont. Also, seven studies have used various methods to check for the possibility of a stigma effect. All found that vouchers had a positive impact independent of any stigma effect.[21]

The final alternative theory is the "regression to

the mean" or "mean reversion" hypothesis; low-performing schools are more likely to improve than get worse simply because they can't get much worse than they already are. However, as with the stigma hypothesis, regression to the mean cannot explain the positive findings for Milwaukee, Florida's other programs, and town tuitioning vouchers in Maine and Vermont. Also, seven studies have examined this theory using various methods. All found no effect from regression to the mean.[22] Perhaps most important, four of the studies examining these programs use a method known as regression discontinuity; all four confirmed the positive effect from the voucher program. A regression discontinuity design excludes regression to the mean because the schools in the treatment group (high-scoring F schools) and the control group (low-scoring D schools) begin with very similar test scores.[23]

TABLE 2 Academic Outcomes of Public Schools

Location	Author	Year	Results		
			Positive Effect	No Visible Effect	Negative Effect
Florida	Chakrabarti	2013	X		
Florida	Winters & Greene	2011	X		
Ohio	Carr	2011	X		
Florida	Figlio & Hart	2011	X		
Milwaukee	Greene & Marsh	2009	X		
Ohio	Forster	2008	X		
Florida	Forster	2008	X		
Milwaukee	Chakrabarti	2008	X		
Florida	Chakrabarti	2008	X		
Milwaukee	Chakrabarti	2007	X		
Florida	Rouse et. al.	2007	X		
Milwaukee	Carnoy et. al.	2007	X		
D.C.	Greene & Winters	2006		X	
Florida	Figlio & Rouse	2006	X		
Florida	West & Peterson	2005	X		
Florida	Greene & Winters	2004	X		
Florida	Chakrabarti	2004	X		
Milwaukee	Greene & Forster	2002	X		
San Antonio	Greene & Forster	2002	X		
Maine	Hammons	2002	X		
Vermont	Hammons	2002	X		
Milwaukee	Hoxby	2001	X		
Florida	Greene	2001	X		

Note: This table shows all empirical studies using all methods.

PART III

Fiscal Impact on Taxpayers

There have been six empirical studies examining the fiscal impact of school choice on taxpayers. All six of these studies find that school choice saves money for the public. Two studies examine every school choice program in the nation for all the years they've existed, making the research in this area an especially comprehensive overview of the issue in question.

Measuring Fiscal Impact

This report covers all empirical studies of actual school choice programs. It does not cover analyses that predict fiscal impact in future years using economic modeling; such analyses are not empirical studies. Analyses of this kind are familiar to policymakers and opinion leaders through the widespread use of legislative "notes" and comparable analyses to predict the impact of legislation. These analyses are legitimate and important insofar as legislators and the public must have some basis on which to evaluate legislative proposals, and empirical data from the future are unfortunately not available. However, empirical research on actual program effects is preferable to modeling that predicts the future.

The public spends money on schools at all three levels of government—federal (10 percent), state (47 percent), and local (44 percent)—but significant fiscal impact from school choice occurs only at the state level.[24] School choice does not have much immediate impact on federal and local taxpayer funding for schools, because funding at those levels is not highly sensitive to changes in school enrollment. Federal funding mainly flows through Title I for low-income students and special-education programs; Title I allocates funds based on the demographics of the school district, and federal special-education spending was reformed in 1997, specifically to disconnect funding formulas from enrollment levels (to avoid creating a financial incentive to place students in special education). Meanwhile, local funding typically comes from property taxes. Small amounts of federal and local funding do vary with enrollment, but these are too complex and too small as a percentage of education spending to be worth tracking.[25]

By contrast, school choice has a major impact on state funding. Spending on schools has been migrating toward the state level over time, to the point where education is now a very large portion of most state budgets, sometimes even reaching a majority of the state general fund.[26] This change has been driven primarily by concerns over equity in funding between districts. Because of those concerns, almost every state funds schools based on their enrollment levels, allocating a base amount per student to each district (usually with some adjustments for local conditions). Most states have two major systems for funding schools; a "formula funding" system that distributes the majority of spending based on number of students and a separate fund for capital expenses such as building costs. Meanwhile, almost all school choice programs are enacted at the state level.

As a result, school choice creates both savings and costs for state budgets. When a student uses school choice, the state must cover that student's cost to the choice program, but it also spends less on public schools by an amount equal to one student. The net impact of school choice is determined by which of these is greater, the savings or the cost. For example, if a state contributes $5,000 per student out of the total spent in public schools, and it offers vouchers equal to $4,000 per student, every student who uses the program will save state taxpayers approximately $1,000.

There will be a small amount of variation in both figures. Some students will not use the full voucher amount, thus reducing the program cost. Savings in public school spending also will vary from student to student as a result of state funding formulas that adjust spending somewhat based on local conditions in each district.

This report looks only at fiscal impact on taxpayers. Another relevant issue is its fiscal impact on public schools. Despite claims that choice "drains" money, choice programs historically have made public schools better off financially; one study estimated the total positive impact of school choice on local district finances at more than $421 million.[27] When a student leaves a public school using a choice program, the school loses all the costs associated with educating

that student but not all the funding. As has been noted already, almost all federal and local education spending does not vary with enrollment, so those funds stay when students leave. This means public schools are left with more money to serve the students who remain. This is one possible explanation for the positive impact choice has on public school outcomes.

A recent empirical study on schools nationwide supports these findings. Benjamin Scafidi examined school finances in every state and found that out of a total of $12,450 spent per student in 2008-09, 64 percent ($7,967) was made up of variable costs that change with the number of students enrolled. This means school choice programs would produce significant financial windfalls for local schools as long as they redirected less than that amount per student. While local taxpayers wouldn't immediately benefit greatly because property tax levels are not sensitive to enrollment changes, local schools would benefit a great deal because they would have more money to spend per student.[28] Of course, it is possible that if school choice were generating large expenditure savings for local schools, local governments may eventually recover some of those savings for taxpayers by lowering property taxes.

What the Studies Show

The first fiscal analysis to measure the impact of a school choice program on taxpayers was conducted by Susan Aud and Leon Michos. They examined the federally funded school voucher program in Washington, D.C. This program is fiscally unique in a number of ways. It is the only federally funded school choice program; more important, it is the only school choice program in the nation that intentionally insulates public schools from the positive impact of school choice. The method for doing so is fiscal—the federal government allocates funds to city schools to "compensate" them for students who use vouchers.

Aud and Michos found that as a result of the federal subsidies attached to the program, it saved city taxpayers $8 million per year as of 2006. However, using the city's per-student funding formulas, they also calculated that the program would save city taxpayers more than $258,000 per year even without the federal subsidy. They had sufficient data on voucher-using students to track funding adjustments for student grade level, English-language learners, and special-education and low-income subsidies.[29]

Aud provided another study of fiscal impact on taxpayers in 2007, in a study that examined the impact of every school choice program in the nation from 1990 to 2006. Because the first modern school choice program was created in 1990 and the only two prior programs (century-old voucher programs for small towns in Maine and Vermont) are designed to be revenue neutral, Aud's study was effectively calculating the full impact of school choice throughout its existence.

In such a comprehensive study—examining 19 programs over 16 years—Aud was not able to make as many detailed adjustments for the impact of student demographics on funding levels. She therefore made conservative assumptions and limited her calculation of reduced school costs to "instructional" expenses. This will tend to underestimate the savings from school choice significantly.

Nonetheless, Aud found that choice programs had saved state taxpayers more than $22 million. As noted above, she also found that local school districts had benefitted from reduced spending demands of more than $421 million. These local benefits occurred when reduced costs from students using choice were greater than reduced per-student revenues.[30]

Fiscal analyses are not just conducted by academic social scientists; states conduct them for a variety of purposes. The first of two publicly available fiscal analyses of school choice programs conducted by a state was released in 2008 by Florida's Office of Program Policy Analysis and Government Accountability. It found that Florida's tax-credit scholarship program saved the state $39 million in fiscal year 2007-08 because reduced education costs were greater than foregone tax revenue by $1.49 per student.[31]

As part of the School Choice Demonstration Project, Robert Costrell conducted exceptionally detailed analyses of the fiscal impact of the Milwaukee voucher program. Costrell continually updated and refined his analyses over multiple years, producing a number of reports. In addition to the detailed calculations involved in accounting for student demographics and the like, the Milwaukee voucher program contains a unique funding system—known locally as "the funding flaw" and strongly opposed by local leaders in the school choice movement—that transfers the local savings generated by the program from city property taxpayers to the rest of the state (both through reduced property taxes in other areas and in savings on state taxes). This increases the complication of tracking its fiscal impact.[32]

Costrell's work represents the most meticulous and comprehensive fiscal analysis ever conducted on a school choice program—probably on any education program, possibly on any government program in any area. His final analysis found that Milwaukee vouchers were saving $37 million per year as of 2009. Without the "funding flaw," that would be the end of the story. However, the program also was transferring money from local property taxpayers to the state. The "funding flaw" took an additional $45 million from Milwaukee property taxpayers, allowing property taxpayers outside Milwaukee to save $52 million total and generating $30 million in total savings on state taxes.[33]

Florida's Legislative Office of Economic and Demographic Research produced the second state-published fiscal analysis of a school choice program in 2012. The results of the analysis were published with only a sparse supporting narrative explaining the method, which limits the reader's ability to assess its methodological quality. However, it is still worth noting. The office found that Florida's tax-credit scholarship program was saving the state $23 million per year as of 2011-12.[34]

The most recent fiscal analysis was published by Patrick Wolf and Michael McShane in 2013. Examining the federally funded Washington, D.C. voucher program, they found that each participating student would have cost taxpayers $14,939 per year to educate in D.C. public schools, compared to voucher expenses of $7,500 per student. They estimate that, from 2004 to 2009, the program saved taxpayers a total of about $135 million.[35]

TABLE 3 Fiscal Effects on Taxpayers

Location	Author	Year	Results		
			Positive Effect	No Visible Effect	Negative Effect
D.C.	Wolf & McShane	2013	X		
Florida	LOEDR*	2012	X		
Milwaukee	Costrell	2010	X		
Florida	OPPAGA**	2008	X		
Nationwide	Aud	2007	X		
D.C.	Aud & Michos	2006	X		

Note: This table shows all empirical studies using all methods.
*LOEDR stands for Legislative Office of Economic and Demographic Research (State of Florida).
**OPPAGA stands for Office of Program Policy Analysis and Government Accountability (State of Florida).

PART IV

Racial Segregation in Schools

There have been eight studies using valid empirical methods to examine how school choice affects racial segregation in schools. Seven of these studies find that school choice moves students into less racially segregated classrooms. The remaining study finds that school choice has no net impact on racial segregation. None find that choice increases racial segregation.

The issue of school choice and racial segregation involves a number of interlocking societal concerns. Public schools are intractably segregated by race because students are assigned to schools based on where they live, and school choice has the potential to break down these residential barriers. Even so, many people have difficulty giving the evidence on this question a hearing. Space does not permit a discussion of the issues here, but they are reviewed in an earlier report entitled "Freedom from Racial Barriers," and interested readers can consult that publication.[36]

Measuring Racial Segregation

Unfortunately, most research on school segregation is compromised by inadequate definitions of segregation. Researchers typically use the racial makeup of a larger administrative unit—such as a school district, a municipality, or a system of private schools—as the standard against which segregation in individual schools is measured. This problem is present, for example, in commonly used segregation measures such as the Index of Dissimilarity, the Index of Exposure, and the Gini Index. All this approach really does is measure the evenness of the racial distribution within the chosen administrative unit. It ignores any segregation caused by the structure of the administrative unit itself. Much of the segregation in the public school system occurs because school districts and municipal boundaries themselves are segregated, so studies using this approach effectively mask the real level of segregation.

Greene provides an instructive example that shows how this problem undermines the validity of such measures of segregation. In studies using the prevailing method, a school that is 98 percent white is considered perfectly integrated if it is in a school district that also is 98 percent white. The school receives this perfect score even if the 98-percent-white school district is right next door to another district that is 98 percent minority. Clearly, this should be considered segregation, but the prevailing method masks segregation when it occurs at the district level. Greene issues a concise verdict on what studies like this really are saying: "The schools are well integrated, given that they are horribly segregated."[37]

Another common problem in the existing research on school segregation is the failure to compare similar grade levels. Elementary schools tend to be more segregated than secondary schools because they draw from a smaller geographic area. Private schools are more likely than public schools to be elementary schools, so a comparison of all public schools and all private schools will create a false impression of greater segregation in private schools. To get an accurate picture of segregation levels, researchers must compare elementary schools to elementary schools and secondary schools to secondary schools. It also is important not to compare student populations comprising only pre-kindergarten or kindergarten students, as access to and voluntary participation in these grade levels is heavily uneven.

This report reviews all available studies using valid empirical methods. The best way to measure segregation is by comparing schools to the racial composition of the larger metropolitan area in which they are situated. By looking at the whole metropolitan area rather than a particular administrative unit such as a school district, researchers can detect levels of segregation most studies miss. A second-best way employed by some studies is to measure the occurrence of racial homogeneity—for example, measuring the percentage of schools that are more than 90 percent white or more than 90 percent minority.

The studies reviewed below, although they use valid empirical methods, do not answer all questions relevant to school choice and segregation. In particular, in every case except one, the available evidence is only descriptive. Researchers working through the School Choice Demonstration Project received access to data on voucher students in Milwaukee that were broken down to the individual level and matched to their public and private schools, enabling that study to examine causal relationships in the relevant variables. In other cases,

it must be remembered that many factors are at work in determining segregation levels in public and private schools, and the extent to which school choice programs change the racial composition of schools over time cannot yet be measured empirically.

However, the descriptive evidence available in these cases is enough to show the impact choice has on the school environments of participating students. Also, these studies do measure something important: whether choice transfers students from more segregated to less segregated schools, or vice versa. These studies further provide a baseline against which popular claims can be evaluated. Widespread claims that private schools participating in choice programs are heavily segregated should be examined against this evidence.

What the Studies Show

Eight empirical studies have examined segregation levels in public schools and choice-participating private schools without falling afoul of the methodological problems described previously. One study, the only study able to use individual student data to examine causal effects, finds no net effect. The remaining seven studies, using descriptive data, find that school choice moves students from more segregated public schools into less segregated private schools.

Greene, Jonathan Mills, and Stuart Buck conducted the one study using causal analysis as part of the School Choice Demonstration Project. They were able to track individual students from school to school, with racial data on all the students and schools. They found that schools' racial composition differed substantially from the racial composition of the greater Milwaukee metro area in both Milwaukee public schools and voucher-participating private schools, so both can be considered segregated. However, neither system is particularly better; statistical tests found no significant differences between segregation levels in public and voucher-participating schools. Moreover, they found that students switching schools in Milwaukee was having no net effect on segregation levels in Milwaukee schools; this was true for students switching from public to private schools using vouchers, and it was also true of other forms of school-switching.[38]

It is important to note that the School Choice Demonstration Project could look only at the current impact of the Milwaukee voucher program. However, that program was created in 1990 and could have had a sizeable impact on segregation in its first decade or more, leading to a relatively stable status quo where segregation has equalized and the program has no further ongoing effect. When the U.S. Department of Education began tracking private school racial composition in 1994, Milwaukee private schools were 75 percent white; by 2008, they were 35 percent white.[39] This seismic shift was the result of the voucher program. One thing the voucher program facilitated was the creation of new private schools that are predominantly minority, so it is possible that segregation levels were always equal between public and private schools, and the voucher program simply shifted some of the heavily minority segregated schools to the private sector. Still, the large shakeup in both sectors suggests it is at least as likely that old barriers may have been broken down. In the absence of historical data on the race of individual voucher participants, that is as much as can be said.

Two of the descriptive studies of the Milwaukee voucher program were conducted by Howard Fuller and George Mitchell. In the first study, they compared Milwaukee public elementary schools to Catholic elementary schools participating in the voucher program. They found that 58 percent of public elementary students and 38 percent of Catholic elementary students attended schools that were racially homogeneous (more than 90 percent white or 90 percent minority).[40] In the second study, Fuller and Mitchell compared Milwaukee public schools to all private schools participating in the voucher program. They found that in public schools 54 percent of elementary students and 37 percent of secondary students attended racially homogeneous schools. Students attending private schools in the voucher program were less likely to be in racially homogeneous schools; Fuller and Mitchell's data tables indicate that, overall, 50 percent of elementary students and 16 percent of secondary students in voucher-participating private schools were in racially homogeneous schools.[41]

In a third Milwaukee study, Fuller and Deborah Greiveldinger compared racial enrollments in Milwaukee public schools with those of private schools participating

in Milwaukee's voucher program. They found that in Milwaukee public schools 58 percent of elementary students and 44 percent of secondary students were in racially homogeneous schools. Voucher students attending private schools were less likely to be in racially homogeneous schools; the data tables indicate 50 percent of elementary students and 29 percent of secondary students were in racially homogeneous schools.[42]

Forster conducted a fourth Milwaukee study. He calculated a "segregation index" measuring the difference between the racial composition of each school and the racial composition of the school-age population in its metropolitan area (as defined by the federal Office of Management and Budget). He then used linear regression to compare segregation levels in public schools and voucher-participating private schools within the city of Milwaukee, applying statistical controls for school level (elementary or secondary) to ensure appropriate comparisons. Forster's regression analysis found that voucher-participating private schools were 13 points less segregated than Milwaukee public schools on the segregation index. This would be equal to the difference between a school that was 60 percent white and a school that was 73 percent white, if both were in a city that was 50 percent white.[43]

Greene examined the Cleveland, Ohio voucher program. Examining elementary and middle schools, he found that 19 percent of voucher recipients attended private schools that fell within 10 percentage points of the racial composition of the metropolitan area, compared with 5 percent of Cleveland public school students. He also found that 61 percent of public school students attended racially homogeneous schools (over 90 percent white or 90 percent minority), compared with half of voucher recipients.[44]

Forster conducted a second study of the Cleveland program, applying the same segregation index as in his Milwaukee study. He compared segregation levels in public schools and voucher-participating private schools within the city of Cleveland, comparing both with the racial composition of school-age children in the greater metro area. His regression analysis found that voucher-participating private schools were 18 points less segregated than Cleveland public schools on the segregation index. This would be equal to the difference between a school that was 60 percent white and a school that was 78 percent white, if both were in a city that was 50 percent white.[45]

Greene and Marcus Winters analyzed the federal voucher program in Washington, D.C. They found that in public schools the percentage of students who were white differed from the percent white of the metro area by an average of 40 points, compared with 34 points for private schools participating in the voucher program. They also found that 85 percent of public school students attend racially homogeneous schools (more than 90 percent white or 90 percent minority), compared with 47 percent of students in participating private schools. When the definition of "racially homogeneous" was made stricter, such that schools needed to be 95 percent white or 95 percent minority to qualify, the gap widened. While 84 percent of public school students attended racially homogeneous schools by that definition, 43 percent of students in participating private schools did so.[46]

TABLE 4 Racial Segregation in Schools

Location	Author	Year	Results		
			Positive Effect	No Visible Effect	Negative Effect
Milwaukee	Greene et. al.	2010		X	
Milwaukee	Forster	2006	X		
Cleveland	Forster	2006	X		
D.C.	Greene & Winters	2005	X		
Milwaukee	Fuller & Greiveldinger	2002	X		
Milwaukee	Fuller & Mitchell	2000	X		
Milwaukee	Fuller & Mitchell	1999	X		
Cleveland	Greene	1999	X		

Note: This table shows all empirical studies using all methods.

PART V

Civic Values and Practices

There have been seven empirical studies examining how school choice affects civic values and practices, such as toleration for the rights of others. Five of these studies find that school choice has a positive impact on these civic concerns. The remaining two studies find that school choice has no visible impact on them. None find that choice has a negative impact on these values and practices.

Measuring Civic Values and Practices

Research on how education impacts civic values and practices has measured a wide range of variables, including tolerance for the rights of others, civic knowledge, civic participation, volunteerism, social capital, civic skills, and patriotism. The largest existing review of the research comparing public and private schools on these issues, Wolf's "Civics Exam," found that it overwhelmingly points to either no difference or a positive impact from private schooling on these measures, even in studies that use methods to compensate for the "selection bias" of families selecting into private schools. Readers interested in a thorough overview of that research should consult that paper.[47]

This report looks only at empirical studies of school choice programs, as opposed to the broader universe of studies that compare public and private schooling generally. These studies tend to be methodologically superior, as better ways of accounting for selection bias are often available with choice programs. In four cases, gold-standard random-assignment methods were employed.

This report looks at all empirical studies of civic values and practices using all methods, not just the random-assignment studies. This is not the practice it followed for studies of academic effects. There are a smaller number of random-assignment studies for civic values and practices than is the case with academic effects, and it's dangerous to rely on too small a universe of studies. Moreover, no new random-assignment studies of civic values and practices have been released for more than 10 years; excluding a recent reanalysis of old data, described below, the most recent random-assignment findings were published in 2002. Therefore, one should not expect a significant body of random-assignment studies will be built up over time, as is occurring for the studies on academic effects.

One study, examining a privately funded voucher program in San Francisco, has been excluded because it is only a descriptive comparison of the voucher-using and non-voucher-using populations. That study found no visible difference in tolerance for the rights of others between the two populations. However, as a descriptive analysis, this cannot explain much about whether the voucher had an impact, as distinct from other factors.[48]

It was appropriate to include descriptive studies in the review of research on racial segregation because descriptive information about the racial makeup of schools provides insight into an important question: what impact school choice has on students' school environments. If choice is moving students from more segregated schools to less segregated schools (or vice versa) it is highly desirable to know that. Here, the descriptive information does not contribute to the relevant policy questions.

The most widely studied topic in this field is tolerance for the rights of others. Researchers generally use the same method to measure this topic, with only small variations. Students are asked to identify their least-liked group of people. Students typically name a variety of groups ranging from neo-Nazis and the KKK to those who disagree with them on passionate political issues (for example, pro-lifers name pro-choicers and pro-choicers name pro-lifers) to disliked religious minorities such as evangelical Christians. Students are then asked a battery of yes-or-no questions on whether their least-liked group should be permitted to have or do certain things. Examples include voting, organizing a march, or having a book in the library sympathetic to their point of view.

What the Studies Show

One of the first empirical studies of school choice's impact on civic values and practices was conducted

by Wolf, Peterson, and Martin West. They studied students who applied for vouchers in a privately funded voucher program in Washington, D.C. in the late 1990s (not to be confused with the federally funded program created in D.C. in 2004). Applicants were offered vouchers based on a lottery, allowing the researchers to use a random-assignment method. They found that voucher students were more likely to say they would "definitely permit" their least-liked group to perform civic actions like give a speech in their community or run for president.[49]

Another early study, by Peterson and David Campbell, examined the results of a nationwide privately funded voucher program in the early 1990s. This study measured levels of both tolerance and civic knowledge and was able to employ a random-assignment method. It found no visible difference in either tolerance or civic knowledge between the voucher and non-voucher student groups.[50]

Campbell conducted a separate analysis of data from this nationwide program. He found that students offered a voucher scored higher than their non-voucher counterparts on political tolerance but the same in civic knowledge. His original analysis was unable to use a random-assignment method.[51] However, he was later able to refine his method to confirm the finding using random assignment.[52]

Howell and Peterson analyzed random-assignment data from a privately funded voucher program in Washington, D.C. They found no visible effect on tolerance for the rights of others between the voucher and non-voucher student groups.[53]

Two recent studies by David Fleming examine data from the School Choice Demonstration Project in Milwaukee. These are not random-assignment data, as was noted previously in regard to the academic findings of the School Choice Demonstration Project. This should be borne in mind when interpreting the findings. Nonetheless, in the field of civic values and practices where fewer random-assignment studies are available and new ones do not seem likely to be forthcoming, other evidence is worth considering.

Fleming examined the impact of school choice on the civic involvement of families, rather than just students. School choice does not just impact students; it also changes the role of the family in the life of society because it puts parents in charge of education. Fleming found that in families using Milwaukee vouchers, as compared with a matched sample of public school families, parents were more likely to be actively involved in their children's schools, parent-teacher organizations, and other education groups.[54] He also found parents were more likely to see a connection between education and the civic institutions of society, to say that their children were learning how government works, and to be involved themselves in civic activities.[55]

TABLE 5 Civic Values and Practices

Location	Author	Year	Results		
			Positive Effect	No Visible Effect	Negative Effect
Nationwide	Campbell	2013	X		
Milwaukee	Fleming	2012	X		
Milwaukee	Fleming	2011	X		
D.C.	Howell & Peterson	2002		X	
Nationwide	Campbell	2002	X		
Nationwide	Peterson & Campbell	2001		X	
D.C.	Wolf et. al.	2001	X		

Note: This table shows all empirical studies using all methods.

CONCLUSION

Remarks on School Choice

Universal Choice Could Deliver an Education Revolution

If school choice is so great, why are the public school systems in cities and states with choice still showing little to no overall improvement? Milwaukee public schools were widely dysfunctional in 1990 when the voucher program was enacted, and they remain widely dysfunctional today. There has been no "Milwaukee Miracle."

But the absence of a dramatic "miracle" is not a valid reason to conclude that choice isn't helping. The government monopoly school system is so tenaciously resistant to change that it's unreasonable to expect miraculous results from any education reform.

Yes, Choice Improves Schools

The overall performance of a school system is affected by countless factors. Some of these factors, such as political policymaking, can change quickly and dramatically. Others, such as demographic factors, are highly stable.

As a result, the overall performance of a school system can never by itself provide a reliable guide to whether any one factor (such as school choice) is having a positive effect. If a man with asthma starts taking a new medication, and at the same time takes up smoking, his overall health and ability to breathe may not improve, but this has no bearing on the question of whether the medicine is helping.

The only way to know whether choice is having a positive impact is to conduct empirical research using high-quality scientific methods. That's the whole purpose of using scientific methods—to isolate the impact of choice from the impacts of all the other factors that influence academic outcomes, so it can be measured accurately.

Given the remarkably unanimous research on the impact of choice everywhere it is allowed to affect public schools, it is clear it is having a positive effect. It is wrong to say choice must be doing no good simply because a lot of public schools are still failing. Claims that choice "doesn't work" directly contradict a clear consensus in the scientific evidence.

Choice Could Work Much Better… If We Let It

And yet, while it might be unreasonable to expect miracles, there is still an urgent need for larger improvements than choice is now delivering. Are the results of today's programs the best that school choice can do? Or is it reasonable to expect more?

The positive impact of school choice programs identified in the empirical research is sometimes large, but it is more often modest in size. That is hardly surprising, given that existing choice programs are also modest in size. If modest programs produce modest benefits, not dramatic benefits, is the logical conclusion to deny that these programs have any benefits and give up on them? Or to expand them until they are large enough to have a dramatic impact?

Existing school choice programs are hindered in a number of ways, such as:

- limits on the number of students they may serve;
- limits on the types of students they may serve;
- limits on the purchasing power they are allowed to provide;
- limits on families' ability to supplement that purchasing power; and
- limits on how students may be admitted to participating schools.

An earlier report, "The Greenfield School Revolution and School Choice," discusses the significance of these limitations in more detail.[56]

Only Universal School Choice Can Sustain Dramatic Change

Ultimately, the only way to make school reform work on a large scale is to break the government monopoly

on schooling. The monopoly isn't just one powerful obstacle to reform among many; it's what makes all the many obstacles as powerful as they are. The monopoly ensures that no meaningful accountability for performance can occur, except in rare cases as a result of herculean efforts. The monopoly empowers a dense cluster of rapacious special interests resisting all efforts to improve schools.

The monopoly creates an environment where the urgent need for change can't be made a tangible part of the daily cultural life of the school. Institutional culture in the existing system is hostile not just to this or that reform, but to reform as such, because the monopoly excludes the only institutional basis for making the need for change seem plausible and legitimate: the prospect of losing the institution's client base and the funding that goes with it. When any institution has a captive client base, support for innovation vanishes. Reform requires people and institutions to do uncomfortable new things, and change will not occur until discomfort with the status quo becomes greater than the discomfort of the change. An institution with captive clients can continue to function into the foreseeable future, more or less as it always has, without change. Why not just continue doing things in the way that feels comfortable and natural?

Worst of all, the monopoly pushes out educational entrepreneurs who can reinvent schools from the ground up. Only a thriving marketplace that allows entrepreneurs to get the support they need by serving their clients better can produce sustainable innovation. In any field of human endeavor, whether education or medicine or politics or art or religion or manufacturing or anything else, entrepreneurs who want to strike out in new directions and do things radically differently need a client base. There need to be people who will benefit from the new direction and support it. And that client base must be robust on three dimensions: size, strength, and suffrage. There must be enough supporters, they must have enough ability to provide support, and they must have enough freedom to decide for themselves what to support.

The government school monopoly crowds out this client base. School choice has the potential to solve this problem by providing enough families (size) with enough dollars (strength) and enough choice (suffrage) to support educational entrepreneurs. Unfortunately, existing school choice programs fall short on all three dimensions. Only universal choice can open the door to the full-fledged revolution in schooling America needs for the new century.

References

Empirical Studies Covered in this Report:

Academic Outcomes of Participants

John Barnard, Constantine Frangakis, Jennifer Hill, and Donald Rubin, "Principal Stratification Approach to Broken Randomized Experiments: A Case Study of School Choice Vouchers in New York City," *Journal of the American Statistical Association*, June 2003.

Matthew Chingos and Paul Peterson, "The Effects of School Vouchers on College Enrollment: Experimental Evidence from New York City," Brookings Institution and Harvard University, August 2012.

Joshua Cowen, "School Choice as a Latent Variable: Estimating the 'Complier Average Causal Effect' of Vouchers in Charlotte," *Policy Studies Journal*, May 2008.

Jay Greene, "Vouchers in Charlotte," *Education Next*, Summer 2001.

Jay Greene, Paul Peterson, and Jiangtao Du, "Effectiveness of School Choice: The Milwaukee Experiment," *Education and Urban Society*, February 1999.

William Howell and Paul Peterson, "The Education Gap: Vouchers and Urban Schools," second edition, Brookings Institution, 2006.

Hui Jin, John Barnard, and Donald Rubin, "A Modified General Location Model for Noncompliance with Missing Data: Revisiting the New York City School Choice Scholarship Program using Principal Stratification," *Journal of Educational and Behavioral Statistics*, April 2010.

Alan Krueger and Pei Zhu, "Another Look at the New York City School Voucher Experiment," American Behavioral Scientist, January 2004 (see also Paul Peterson and William Howell, "Voucher Research Controversy," *Education Next*, Spring 2004).

Cecilia Rouse, "Private School Vouchers and Student Achievement," *Quarterly Journal of Economics*, May 1998.

Patrick Wolf, et. al., "Evaluation of the D.C. Opportunity Scholarship Program: Final Report," U.S. Department of Education, June 22, 2010.

Academic Outcomes of Public Schools

Martin Carnoy, et. al., "Vouchers and Public School Performance: A Case Study of the Milwaukee Parental Choice Program," Economic Policy Institute, 2007.

Matthew Carr, "The Impact of Ohio's EdChoice on Traditional Public School Performance," *Cato Journal*, Spring/Summer 2001.

Rajashri Chakrabarti, "Closing the Gap," *Education Next*, Summer 2004.

Rajashri Chakrabarti, "Impact of Voucher Design on Public School Performance: Evidence from Florida and Milwaukee Voucher Programs," Federal Reserve Bank of New York Staff Report #315, January 2008.

Rajashri Chakrabarti, "Can Increasing Private School Participation and Monetary Loss in a Voucher Program Affect Public School Performance? Evidence from Milwaukee," *Journal of Public Economics*, June 2008.

Rajashri Chakrabarti, "Vouchers, Public School Response and the Role of Incentives: Evidence from Florida," *Economic Inquiry*, January 2013.

David Figlio and Cecilia Rouse, "Do Accountability and Voucher Threats Improve Low-Performing Schools?" *Journal of Public Economics*, January 2006.

David Figlio and Cassandra Hart, "Does Competition Improve Public Schools? New Evidence from the Florida Tax-Credit Scholarship Program," *Education Next*, Winter 2011.

Greg Forster, "Lost Opportunity: An Empirical Analysis of How Vouchers Affected Florida Public Schools," Friedman Foundation for Educational Choice, March 2008.

Greg Forster, "Promising Start: An Empirical Analysis of How EdChoice Vouchers Affect Ohio Public Schools," Friedman Foundation for Educational Choice, August 2008.

Jay Greene, "An Evaluation of the Florida A-Plus Accountability and School Choice Program," Manhattan Institute, February 2001.

Jay Greene and Greg Forster, "Rising to the Challenge: The Effect of School Choice on Public Schools in Milwaukee and San Antonio," Manhattan Institute, October 2002.

Jay Greene and Ryan Marsh, "The Effect of Milwaukee's Parental Choice Program on Student Achievement in Milwaukee Public Schools," School Choice Demonstration Project, Report 11, March 2009.

Jay Greene and Marcus Winters, "Competition Passes the Test," *Education Next*, Summer 2004.

Jay Greene and Marcus Winters, "An Evaluation of the Effects of D.C.'s Voucher Program on Public School Achievement and Racial Integration after One Year," Manhattan Institute, January 2006.

Christopher Hammons, "The Effects of Town Tuitioning in Vermont and Maine," Friedman Foundation for Educational Choice, January 2002.

Caroline Hoxby, "Rising Tide," *Education Next*, Winter 2001.

Cecilia Rouse, Jane Hannaway, Dan Goldhaber, and David Figlio, "Feeling the Florida Heat? How Low-Performing Schools Respond to Voucher and Accountability Pressure," National Center for Analysis of Longitudinal Data in Education Research, November 2007.

Martin West and Paul Peterson, "The Efficacy of Choice Threats within School Accountability Systems: Results from Legislatively Induced Experiments," *Economic Journal*, March 2006.

Marcus Winters and Jay Greene, "Public School Response to Special Education Vouchers: The Impact of Florida's McKay Scholarship Program on Disability Diagnosis and Student Achievement in Public Schools," *Educational Evaluation and Policy Analysis*, June 2011.

Fiscal Impact on Taxpayers

Susan Aud, "School Choice by the Numbers: The Fiscal Effect of School Choice Programs, 1990-2006," Friedman Foundation for Educational Choice, April 2007.

Susan Aud and Leon Michos, "Spreading Freedom and Saving Money: The Fiscal Impact of the D.C. Voucher Program," Cato Institute and Friedman Foundation for Educational Choice, 2006.

"The Corporate Tax Credit Scholarship Program Saves State Dollars," Florida Office of Program Policy Analysis and Government Accountability, Report 08-68, December 2008.

Robert Costrell, "The Fiscal Impact of the Milwaukee Parental Choice Program: 2010-2011 Update and Policy Options," School Choice Demonstration Project, Report 20, December 2010.

"Revenue Estimating Conference," Florida Legislative Office of Economic and Demographic Research, March 16, 2012, p. 456, line 55.

Patrick Wolf and Michael McShane, "Is the Juice Worth the Squeeze? A Benefit/Cost Analysis of the District of Columbia Opportunity Scholarship Program," *Education Finance and Policy*, Winter 2013, pp. 74-99.

Racial Segregation in Schools

Greg Forster, "Segregation Levels in Milwaukee Public Schools and the Milwaukee Voucher Program," Friedman Foundation for Educational Choice, August 2006.

Greg Forster, "Segregation Levels in Cleveland Public Schools and the Cleveland Voucher Program," Friedman Foundation for Educational Choice and Buckeye Institute, August 2006.

Howard Fuller and Deborah Greiveldinger, "The Impact of School Choice on Racial Integration in Milwaukee Private Schools," American Education Reform Council manuscript, August 2002.

Howard Fuller and George Mitchell, "The Impact of School Choice on Racial and Ethnic Enrollment in Milwaukee Private Schools," Institute for the Transformation of Learning, December 1999.

Howard Fuller and George Mitchell, "The Impact of School Choice on Integration in Milwaukee Private Schools," Institute for the Transformation of Learning, June 2000.

Jay Greene, "The Racial, Economic and Religious Context of Parental Choice in Cleveland," paper presented at the Association for Public Policy Analysis and Management meeting, November 1999.

Jay Greene, Jonathan Mills, and Stuart Buck, "The Milwaukee Parental Choice Program's Effect on School Integration," School Choice Demonstration Project, Report 20, April 2010.

Jay Greene and Marcus Winters, "An Evaluation of the Effects of D.C.'s Voucher Program on Public School Achievement and Racial Integration After One Year," Manhattan Institute, January 2005.

Civic Values and Practices

David Campbell, "The Civic Side of School Reform: How Do School Vouchers Affect Civic Education?" Center for the Study of Democratic Politics, April 16, 2002.

David Campbell, "The Civic Side of School Reform: Private Schools, School Vouchers and Civic Education," unpublished manuscript, provided by the author via email on January 24, 2013.

David Fleming, "Choice, Voice and Exit: School Vouchers in Milwaukee," paper delivered at the national conference of the American Political Science Association, September 1-4, 2011.

David Fleming, "Privatization, Political Learning and Policy Feedback," paper delivered at the national conference of the American Political Science Association, August 30-September 2, 2012.

William Howell and Paul Peterson, "The Education Gap: Vouchers and Urban Schools," second edition, Brookings Institution, 2006.

Paul Peterson and David Campbell, "An Evaluation of the Children's Scholarship Fund," Harvard University, 2001.

Patrick Wolf, Paul Peterson, and Martin West, "Results of a School Voucher Experiment: The Case of Washington, D.C. after Two Years," Harvard University, 2001.

Notes

1. "The ABCs of School Choice," Friedman Foundation for Educational Choice, 2013 edition.

2. The body of research on school choice is very widely and actively discussed; the community of professional social scientists focused on school choice research is large but not too large for easy communication; and all of the research has occurred since the rise of the internet. Thus, while the possibility can never be absolutely ruled out, it is very unlikely we have overlooked any studies. (The exception to this is fiscal analyses, which might plausibly have been conducted by economic researchers not connected to the education research community.) To help ensure our review was comprehensive, we reviewed all entries in the Education Resources Information Center (ERIC) database pertaining to school choice from 2006 to the present. We originally selected the year 2006 because in one of our five policy areas (racial segregation) we did not know of a research review more recent than that year. (Subsequently we discovered that the 2010 School Choice Demonstration Project study on segregation includes such a review.) Studies of programs outside the U.S. were not included in our review because the education systems of other countries work very differently than those of the U.S., especially in the area of school choice.

3. Greg Forster, "A Win-Win Solution: The Empirical Evidence on How Vouchers Affect Public Schools," Friedman Foundation for Educational Choice, January 2009.

4. Greg Forster, "A Win-Win Solution: The Empirical Evidence on School Vouchers," Friedman Foundation for Educational Choice, March 2011.

5. Two illuminating books on the historic American understanding of education as it relates to the principles of human personhood, character, freedom, and democracy are James Davison Hunter, "The Death of Character," Basic Books, 2000; and Charles Glenn, "The Myth of the Common School," Institute for Contemporary Studies, 2002.

6. Of course, what counts as "science" and how we carry it out are themselves moral and cultural questions, so science and civilization are ultimately interdependent. But that is a topic for another day.

7. Following a common practice, I count Howell and Peterson's 2002 findings as three studies because they provide three separate data analyses for three separate programs in three separate locations. See William Howell and Paul Peterson, "The Education Gap: Vouchers and Urban Schools," second edition, Brookings Institution, 2006.

8. Alan Krueger and Pei Zhu, "Another Look at the New York City School Voucher Experiment," *American Behavioral Scientist*, January 2004.

9. Paul Peterson and William Howell, "Voucher Research Controversy," *Education Next*, Spring 2004.

10. Hui Jin, John Barnard, and Donald Rubin, "A Modified General Location Model for Noncompliance with Missing Data: Revisiting the New York City School Choice Scholarship Program using Principal Stratification," *Journal of Educational and Behavioral Statistics*, April 2010, pp. 154-173.

11. Matthew Chingos and Paul Peterson, "The Effects of School Vouchers on College Enrollment: Experimental Evidence from New York City," Brookings Institution and Harvard University, August 2012. The rate at which black students attended college within three years of expected high school graduation increased by 7.1 percentage points, the full-time rate increased by 6.4 percentage points, and the rate at which they enrolled in selective four-year colleges increased by 3.9 percentage points (from a baseline of 3 percentage points, hence a 130 percent increase).

12. Paul Peterson, "A Courageous Look at the American High School," *Education Next*, Spring 2010.

13. Derek Neal, "The Effects of Catholic Secondary Schooling on Educational Achievement," *Journal of Labor Economics*, January 1997.

14. Jay Greene and Greg Forster, "Vouchers for Special Education Students: An Evaluation of Florida's McKay Scholarship Program," Manhattan Institute, June 2003.

15. John Witte, et. al., "MPCP Longitudinal Educational Growth Study: Fifth Year Report," School Choice Demonstration Project, Report 29, February 2012.

16. Joshua Cowen, et.al., "Student Attainment and the Milwaukee Parental Choice Program: Final Follow-Up Analysis," School Choice Demonstration Project, Report 30, February 2012.

17. Following a common practice, I count as multiple "studies" any study that provides separate data analyses for separate programs in separate locations. Three of the publications reviewed here provide separate analyses for two programs and are thus counted as two studies each, or six total studies.

18. Matthew Carr, "The Impact of Ohio's EdChoice on Traditional Public School Performance," *Cato Journal*, Spring/Summer 2001, pp. 257-284.

19. Howell and Peterson, "The Education Gap," pp. 61-65; and Wolf, et. al., "Evaluation of the D.C. Opportunity Scholarship Program."

20. For details see the 2009 and 2011 editions of this report.

21. For details see the 2009 and 2011 editions of this report. The new study of Ohio's EdChoice program by Matthew Carr, discussed above, is one of these seven studies; the other six are discussed in the earlier reports.

22. For details see the 2009 and 2011 editions of this report. The new study of Ohio's EdChoice program by Matthew Carr, discussed above, is one of these seven studies; the other six are discussed in the earlier reports.

23. For details see the 2011 edition of this report.

24. *Digest of Education Statistics*, 2011 edition, National Center for Education Statistics, 2012, table 180.

25. Susan Aud, "School Choice by the Numbers: The Fiscal Effect of School Choice Programs, 1990-2006," Friedman Foundation for Educational Choice, April 2007.

26. Aud, "School Choice by the Numbers."

27. Aud, "School Choice by the Numbers."

28. Benjamin Scafidi, "The Fiscal Effects of School Choice Programs on Public School Districts," Friedman Foundation for Educational Choice, February 2012.

29. Susan Aud and Leon Michos, "Spreading Freedom and Saving Money: The Fiscal Impact of the D.C. Voucher Program," Cato Institute and Friedman Foundation for Educational Choice, 2006.

30. Aud, "School Choice by the Numbers."

31. "The Corporate Tax Credit Scholarship Program Saves State Dollars," Florida Office of Program Policy Analysis and Government Accountability, Report 08-68, December 2008.

32. For more on the funding flaw see Robert Costrell, "Update on the Fiscal Impact of Milwaukee Vouchers," Jay P. Greene's Blog, December 15, 2008 (http://jaypgreene.com/2008/12/15/update-on-fiscal-impact-of-milwaukee-vouchers/).

33. Robert Costrell, "The Fiscal Impact of the Milwaukee Parental Choice Program: 2010-2011 Update and Policy Options," School Choice Demonstration Project, Report 20, December 2010.

34. "Revenue Estimating Conference," Florida Legislative Office of Economic and Demographic Research, March 16, 2012, p. 456, line 55 (http://edr.state.fl.us/Content/conferences/revenueimpact/archives/2012/pdf/impact0316.pdf).

35. Patrick Wolf and Michael McShane, "Is the Juice Worth the Squeeze? A Benefit/Cost Analysis of the District of Columbia Opportunity Scholarship Program," *Education Finance and Policy*, Winter 2013, pp. 74-99.

36. Greg Forster, "Freedom from Racial Barriers: The Empirical Evidence on Vouchers and Segregation," Friedman Foundation for Educational Choice, October 2006.

37. Jay P. Greene, "Choosing Integration," in "School Choice and Diversity: What the Evidence Says," ed. Janelle Scott, Teachers College Press, 2005, p. 30.

38. Jay Greene, Jonathan Mills, and Stuart Buck, "The Milwaukee Parental Choice Program's Effect on School Integration," School Choice Demonstration Project, Report 20, April 2010.

39. Greg Forster and James Woodworth, "The Greenfield School Revolution and School Choice," Friedman Foundation for Educational Choice, June 2012, p. 20.

40. Howard Fuller and George Mitchell, "The Impact of School Choice on Racial and Ethnic Enrollment in Milwaukee Private Schools," Institute for the Transformation of Learning, December 1999.

41. Howard Fuller and George Mitchell, "The Impact of School Choice on Integration in Milwaukee Private Schools," Institute for the Transformation of Learning, June 2000.

42. Howard Fuller and Deborah Greiveldinger, "The Impact of School Choice on Racial Integration in Milwaukee Private Schools," American Education Reform Council manuscript, August 2002.

43. Greg Forster, "Segregation Levels in Milwaukee Public Schools and the Milwaukee Voucher Program," Friedman Foundation for Educational Choice, August 2006.

44. Jay Greene, "The Racial, Economic and Religious Context of Parental Choice in Cleveland," paper presented at the Association for Public Policy Analysis and Management meeting, November 1999.

45. Greg Forster, "Segregation Levels in Cleveland Public Schools and the Cleveland Voucher Program," Friedman Foundation for Educational Choice and Buckeye Institute, August 2006.

46. Jay Greene and Marcus Winters, "An Evaluation of the Effects of D.C.'s Voucher Program on Public School Achievement and Racial Integration After One Year," Manhattan Institute, January 2005.

47. Patrick Wolf, "Civics Exam: Schools of Choice Boost Civic Values," *Education Next*, Summer 2007 (unabridged version). This researcher is aware of one additional study more recent than Wolf's literature review; see Russell Sobel and Kerry Campbell, "Does School Choice Increase the Rate of Youth Entrepreneurship?" *Economics of Education Review*, 2008, pp. 429-438.

48. Paul Peterson, David Campbell, and Martin West, "An Evaluation of the Basic Fund Scholarship Program in the San Francisco Bay Area, California," Harvard University, January 2001.

49. Patrick Wolf, Paul Peterson, and Martin West, "Results of a School Voucher Experiment: The Case of Washington, D.C. after Two Years," Harvard University, 2001.

50. Paul Peterson and David Campbell, "An Evaluation of the Children's Scholarship Fund," Harvard University, 2001.

51. David Campbell, "The Civic Side of School Reform: How Do School Vouchers Affect Civic Education?" Center for the Study of Democratic Politics, April 16, 2002.

52. David Campbell, "The Civic Side of School Reform: Private Schools, School Vouchers and Civic Education," unpublished manuscript, provided by the author via email on January 24, 2013.

53. Howell and Peterson, "The Education Gap," pp. 130-132.

54. David Fleming, "Choice, Voice and Exit: School Vouchers in Milwaukee," paper delivered at the national conference of the American Political Science Association, September 1-4, 2011.

55. David Fleming, "Privatization, Political Learning and Policy Feedback," paper delivered at the national conference of the American Political Science Association, August 30-September 2, 2012.

56. Forster and Woodworth, "The Greenfield School Revolution and School Choice."

About the Author

Greg Forster, Ph.D., is a senior fellow with the Friedman Foundation for Educational Choice. He conducts research and writes on school choice policy. Forster has conducted empirical studies on the impact of school choice programs in Milwaukee, Ohio, Florida, and Texas, as well as national empirical studies comparing public and private schools in terms of working conditions for teachers, racial segregation, and teacher and staff misconduct. He also has conducted empirical studies of other education topics, including charter schools, accountability testing, graduation rates, student demographics, and special education.

Forster's research has appeared in the peer-reviewed publications "Teachers College Record" and "Education Working Paper Archive," and his articles on education policy have appeared in the *Washington Post, Wall Street Journal, Los Angeles Times, Philadelphia Inquirer, Education Next, Chronicle of Higher Education*, and numerous other publications. He is co-author of the book "Education Myths: What Special-Interest Groups Want You to Believe about Our Schools and Why It Isn't So," from Rowman & Littlefield. Forster is also a contributor to Jay P. Greene's Blog (jaypgreene.com).

Commitment to Methods & Transparency

The Friedman Foundation for Educational Choice is committed to research that adheres to high scientific standards, and matters of methodology and transparency are taken seriously at all levels of our organization. We are dedicated to providing high-quality information in a transparent and efficient manner.

All individuals have opinions, and many organizations (like our own) have specific missions or philosophical orientations. Scientific methods, if used correctly and followed closely in well-designed studies, should neutralize these opinions and orientations. Research rules and methods minimize bias. We believe rigorous procedural rules of science prevent a researcher's motives, and an organization's particular orientation, from pre-determining results.

If research adheres to proper scientific and methodological standards, its findings can be relied upon no matter who has conducted it. If rules and methods are neither specified nor followed, then the biases of the researcher or an organization may become relevant, because a lack of rigor opens the door for those biases to affect the results.

The author welcomes any and all questions related to methods and findings.

THE FRIEDMAN FOUNDATION FOR Educational Choice

One American Square
Suite 2420
Indianapolis, IN 46282
(317) 681-0745
edchoice.org

facebook.com/**edchoice**
twitter.com/**edchoice**