

Best practices in policy analysis: the case of school reform

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Introduction

One of the goals of public policy programs in the U.S. today is to train students in the area of policy analysis. While public administration typically is concerned with the implementation or management of public programs, policy analysis aims to employ social science research tools in a way that produces information relevant for policy choices. Critical for understanding policy analysis is to understand that it is an *ex ante process*; prior to making a decision to adopt a policy, analysis helps to provide information about both anticipated and unanticipated consequences that may result from a policy.¹ These choices may be made by managers of organizations or elected officials, among others. Overall, the policy analyst's responsibility is to provide sufficient information to the client so that a fully informed policy decision can be made.

1. Defining the issue

For many years, students in primary and secondary schools in the U.S. have performed at levels below their counterparts in many other countries. For example, the OECD's Program for International Student Assessment (PISA) results from 2000 show that the U.S. scores 493 which slightly exceeds the 456 international average. Similarly, The Third International Math and Science Scores (TIMSS) places the U.S. 15th in math among all countries that participated. Note that Romania participated in the PISA exam in 2000. Its math score was 426 with an average participating country score of 456. Romania ranked 26 among participating countries on TIMSS in overall math scores. Its math score of 475 was just slightly above the average of 467 of all participating countries.²

Policymakers around the world are concerned about educational rankings of primary and secondary schools as they assume that these rankings reflect the underlying quality of schooling in a country. In reality, there are many dimensions of school quality but test scores are easily quantifiable and evidence suggests that they are correlated with school quality (Hanushek and Kimko, 2000). Furthermore, empirical evidence also suggests that the quality of schooling today influences the growth rate of the economy in the future. It should come as little surprise, therefore, that political leaders and policymakers focus on international rankings of education across the countries.

¹ In contrast, an *ex post* analysis of the effects of a policy is known as policy evaluation.

² Statistically, the Romanian score was neither higher nor lower than the international average.

The first step in policy analysis entails defining the issue or problem.³ The broad issue to be analyzed in this paper is educational quality. Fundamentally, the issue for consideration is how to improve educational outcomes or school quality. For many years, the traditional assumption was that educational quality is related to the resources devoted to schooling. Under this assumption, improved educational quality and outcomes merely required increasing resources.⁴ This led scholars to examine the empirical evidence concerning the causal relationship between funding and outcomes. Mixed findings regarding this relationship have led to alternative solutions to improved school outcomes. Before considering these findings and the alternatives, however, the policy analysis process outlined above will be used to think more clearly about educational quality.

2. Conceptual examination

Using rigorous social science methods, the policy analyst must ask why a policy is necessary or why the alternative is expected to be better than the existing policy. What evidence exists to suggest that the alternative is not only conceptually better than the status quo but also can be demonstrated empirically to be superior? With answers to these questions, the policy analyst can present a soundly reasoned alternative to the political leaders or administrators for consideration. It is important to note that the policy analyst does not make a decision about policy. Rather, the analyst presents the best evidence possible to the decision maker.

In the U.S. currently, most students at the primary and secondary levels of education attend schools that are operated by local governments and financed by a combination of local and state financing.⁵ Students enroll in schools depending on the jurisdictional boundaries defined by their residential location. The level of spending per pupil differs both across these localities and across states. The spending differences have provided a natural laboratory for policy scholars in the U.S. to examine whether increases in the level of expenditures per pupil lead to increased student achievement. Stated in a policy analytic manner, are increases in expenditures the policy solution to poor performing schools?

Conceptually, it appears logical that increasing resources to a school, at the margin, should enhance the quality of the instruction and, therefore, quality of output. Whether this actually occurs must be addressed empirically. To answer the question, a large body of literature has developed that looks at expenditures as an input into the production of educational outcomes. These studies have examined achievement across states, across times, and across localities within states and across times. Summaries of this literature can be found in Hanushek (1986) and Hoxby (2004). Taken together, the studies fail to demonstrate a significant, systematic relationship between per pupil expenditures and student achievement.⁶ In some cases, the studies suggest that expenditures increase achievement, in some instances, expenditures decrease achievement, and in others, there is no significant relationship between expenditures and student achievement.

In terms of our approach to policy analysis, the findings concerning educational funding and quality provide an impetus for moving to the third step in the policy analysis process, conceptual consideration of policy alternatives. Since simply providing additional funding into traditional public education regimes does not appear to consistently produce its desired effect, policy scholars must address why the expected relationship does not hold. In so doing, alternatives to the status quo should be considered. The process of examining alternatives also involves additional analytical steps.

³ Many authors describe steps in policy analysis. Two outstanding examples can be found in Bardach (2005) who outlines eight steps for policy analysts and Weimer and Vining (2005).

⁴ These resources include school operating expenditures, teacher salaries, and pupil-teacher ratios, among other things.

⁵ The federal government finances some portion of schooling but it represents less than 10% of schools' revenues.

⁶ Policy scholars have devoted a great deal of attention to explaining why expenditures may not increase achievement. Among the many reasons examined is a fixed salary schedule for teachers existing in the U.S.

3. Alternative policy considerations

What alternatives to the current educational environment should be considered?

Extensive work by policy scholars has caused school reform advocates in the U.S. to shift their attention from spending levels to other aspects of the provision of schooling. Some reforms now focus on improving teacher quality. Under this policy alternative, basic structures for school provision remain constant but new methods of training and compensating teachers are introduced. Another reform policy currently under consideration and is school choice. .

Under public school choice programs, students are not restricted to attending the school in their neighborhood.⁷ Rather they can choose among a set of schools within a larger local school district's jurisdiction. These schools of choice typically have governance and operating arrangements that are more flexible than the traditional public school.

Another reform under experimentation in the U.S. is to allow students to choose not only among public schools but also to choose to attend a privately operated school that is funded through public sources. Historically, in the U.S., private schools have been completely separate from public schools. No public funds have gone to private schools and these schools have operated with relatively little regulation from the public sector. Curriculum and pedagogical decisions have remained under the jurisdiction of the private schools.

A limited number of local communities are now allowing students to choose to attend either a public or private school.⁸ If the student attends publicly operated schools, all costs are covered through public funding. If the student chooses a privately operated school, some portion of the charges will be covered by public funds. Local communities that have introduced the new option for school choice are doing so because they expect the private schools to be more effective in producing student learning than the public schools.

In order to understand the conceptual reasons lending support to school choice proponents, let us consider a hypothetical situation. First, assume we have two systems of schooling as have existed historically in the U.S. A family chooses to enroll its children in the local publicly operated school that is entirely financed by taxpayer funds or it enrolls its children in the privately operated school at which the family must pay fees to cover the cost of tuition and other operating expenses of the school. Under this system, the private schools must offer something to families that they consider superior to the public system otherwise the family would be unwilling to pay the cost of the private school when it can receive the public schooling for no additional tax cost to itself. The private schools may offer more personalized attention to the children, or it may offer a different curriculum (such as religious instruction which is constitutionally prohibited in U.S. public schools) than is available in the public schools. If parents desire higher test scores, then we would expect the private schools to deliver superior scores relative to the public schools.⁹

4. Empirical evidence

⁷ One example of these choice programs in the U.S. is magnet schools that are designed to emphasize special aspects of education such as math and science or performing arts. Another type of public school choice is charter schools. In these schools, the public pays for the schools but they may be operated by public or private owners. A contract between the operator and public school district specifies particular aspects of the schools' governance.

⁸ One state also has approved legislation to provide students with choice among both public and private schools with taxpayer funding of either choice.

⁹ This discussion ignores the debate about whether standardized test scores are a good measure of student's educational achievement.

The U.S. evidence relating student performance to school type (public or private) over the past two decades supports this conceptual expectation.¹⁰ On average, students in private schools outperform students in public schools. However, these studies also illustrate that the strongest determinant of student performance is not school type but family socioeconomic characteristics. In other words, the factors that contribute the highest explanatory power for the variance in student achievement are parental income, occupation, and educational attainment. Because private schools in the U.S. have historically charged fees to families, we might expect that these socioeconomic factors would influence who chooses to attend the private schools. Measuring the effects of attending private schools on student achievement requires that we correct for these possible biases by first accounting for those persons who select into the private schools.

Several studies have addressed this possible bias and the results described above continue to hold. However, other important information has also emerged from these empirical studies in the U.S. The students showing the most significant advantages to enrolling in private schools in the U.S. are minority and inner-city students. These students tend to have higher achievement scores when enrolled in private (mostly Catholic) schools than when enrolled in the public schools. Even more robust across studies, minorities in private, Catholic schools perform better when measured in terms of high school graduation rates and college attendance rates than this group performs when enrolled in public schools (Evans and Schwab, 1995; Neal, 1997).

Most notable from the U.S. results is that white, suburban children do not perform significantly different on standardized exams whether they are in private or public schools. Put in context of school enrollment decisions in the U.S., this should not be surprising. Families choose their public school for the most part based on residential location. Upper-income households, who can afford to pay the double price of public and private schooling, can move to the location that offers them the best public schools. The students from these households perform well whether enrolled in public or private schools.

Now let us return to the policy analysis question. Would student achievement in the U.S. be increased if we alter policy to provide taxpayer funding of students who enroll in privately operated schools? In spite of the evidence that we have in the U.S. relating to performance differences, as policy analysts we are unable to predict that overall achievement scores in U.S. schools would rise if we allowed students to attend private schools at taxpayer expense.¹¹ This forecasting problem is created by the fact that currently less than 12% of all primary and secondary students in the U.S. attend private schools. Expanding private enrollments to a larger segment of the population requires “out of range” forecasting and may result in quite different outcomes than identified above.

In order to accurately predict policy consequences, the school reform proposed above requires that we seek evidence outside the U.S. In other words, the experiences of the U.S. have been conducted on a scale that is too small to allow us to generalize to the larger population that would be affected by a major reform allowing students to choose to attend private schools and receive taxpayer funding in the school chosen. However, other countries provide excellent case studies for the purposes of this analysis.

Many countries around the world have dramatically larger populations of students enrolled in private schools than are enrolled in the U.S. In several developing countries, private schools offer essentially the only option for providing education. In these instances, private schools fill a gap that the public sector cannot fill. In these countries, it is also true that the governments often do not have sufficient administrative or financial resources at their disposal to offer schooling on a publicly financed basis. The developing countries often do not have the administrative infrastructure to collect revenues or to provide public services such as education. Countries in the earliest stages of

¹⁰ See Neal (2002) for a summary of this literature.

¹¹ Carolyn Hoxby makes important arguments that allowing students more choice over schools to attend would increase performance at all schools because the schools would have to compete for enrollment.

development generally exhibit higher demands for publicly provided water or health services than they exhibit for education. In these countries, the private sector is the only feasible supplier of education.

From a policy analysis perspective, however, these countries do not constitute the correct comparison group. Developing countries, by definition, do not have populations similar to that found in the U.S. Because evidence from around the world suggests that family socioeconomic variables are highly significant in explaining student achievement, it is important to look at countries whose level of economic development is more similar to that of the U.S. Ideally, we also would like to compare countries whose population has the ethnic diversity found in the U.S. and the income variance similar to that of the U.S. Because of limitations imposed by the availability of data, we will merely choose a variety of democratically governed countries with highly developed economic systems.

Perhaps most appropriate for our comparison group, several Western European countries have the type of school systems under consideration in this policy analysis. In other words, several countries in Western Europe allow students to choose the type of school in which to enroll and provide public funding for the school of choice. In Belgium, Denmark, The Netherlands, Germany, Ireland, Spain, Luxembourg, Austria, Finland, and Sweden, private education is grant-aided either partially or fully. Other developed countries, including New Zealand, some provinces of Canada, and France, offer a variety of subsidies to privately operated schools but the subsidies are partial only and the subsequent student enrollment rates are much more similar to that currently found in the U.S.

To help put the public-private school issue in an international context, consider the PISA 2003 results. As part of its survey, PISA categorized schools according to those that are (1) government schools, both publicly financed and operated; (2) government-dependent schools, or those schools that are privately operated but receive more than 50% of their funding from government sources; and (3) government-independent schools, or those that are independently operated and privately financed. Controlling for no inputs but looking by school type, the literacy score averages for the 40 OECD countries range from 466 to 504. The lowest reading literacy score by school type was the government schools. The government-dependent schools had a score of 489 and the highest score was for the government-independent schools.

Just as in the U.S., scholars who use PISA data are examining whether the differences in student achievement by school type can be attributed to socioeconomic differences of the students who enroll in these schools. Using the same categories as described above, the occupational index of parents of the participating students in government schools and government-independent schools was qualitatively the same at 45 and 47. Those schools that receive no public funds, i.e., the government-independent schools consistently attracted higher socioeconomic students with an occupational index for those parents equal to 57.¹²

While these averages may be indicative of differences in achievement by school type in the developed world, Woessmann (2007) and others have more rigorously analyzed the PISA data to control for additional factors that might influence student achievement. Consistently, the manner in which schools are operated and funded is a factor in explaining student outcomes. Generally, higher private school enrollments are positively associated with student achievement across OECD countries.¹³

The empirical evidence, considered broadly, certainly insinuates that public funding of private schools can lead to improved educational quality. It might be helpful at this point to consider some specific countries on a more in-depth basis. Recently, Woessmann (2007) has provided such an in-depth analysis of German schools and attempted to control for the selection of students into school type. However, Germany, like the U.S., has relatively small numbers of students enrolled in private schools. On the other hand, Belgium and The Netherlands have private school funding policies; furthermore, in these countries families have exercised the private school choice to a high degree. In The Netherlands, approximately 70% of the students at the primary and secondary levels of schooling

¹² Higher scores in this index represent occupations of higher socioeconomic status.

¹³ Woessmann also finds that institutional factors such as centralized exams positively affect student achievement.

enroll in schools in the private sector. Similarly, in Belgium, around 70% of secondary students are enrolled in privately operated schools. Because of the high usage of public funding for private education, these two countries may offer great insight into our consideration of school and merit additional consideration.

Belgium has funded all public schools and approved private schools since 1914.¹⁴ The state does exercise regulatory authority over the private schools especially relating to its curriculum and the language of instruction for the schools. Legislation passed in 1959 emphasized that parents be allowed to choose the school their children attend. Since the passage of that law, government funds have been allocated to schools on an enrollment basis, and all schools, publicly and privately operated, that received public funds are prohibited from charging tuition.

It is most interesting to note Belgium's ranking in the TIMSS survey. According to the 2003 results, Belgium students rank number 6 among the approximately 45 participating countries in overall mathematics achievement. Belgium is exceeded only by the Asian countries of Singapore, Korea, Hong Kong, Chinese Taipei, and Japan in math outcomes. Again, we must ask if the results can be attributed to selection of students that attend the schools or to institutional structures. In a detailed study using student-level results from an earlier math and science study,¹⁵ Toma (1996) examined the Belgium schools in some detail. She was able to control at some detail for school type. In addition, the parental education levels, occupational status, and characteristics of the schools and teachers were included. As a bonus, these data also allowed identification of the classroom peers of the students.

Controlling for the effects of family, school, and peer inputs, students in privately controlled by publicly funded schools in Belgium perform at higher levels of achievement in math than do those in the regular public schools. In this country that ranks extremely high in terms of overall scores, there continues to be a significant advantage to students enrolling in the private schools. The results are especially relevant for the U.S. policy consideration because a significant majority of students attend the private schools.

The Netherlands provides a similar story to Belgium. The TIMSS survey that ranked Belgium number 6 in mathematics achievement in 2003, also placed The Netherlands as number 7 in the world again lagging the Asian countries. In tests of the final years of secondary school by TIMSS in 1995, The Netherlands ranked the highest of 21 countries in math and science (Patrinos, 2002, p. 6). Like Belgium, The Netherlands has had a long history of private education supported by public funding. Indeed, people in The Netherlands are constitutionally guaranteed the right to choose the type of school in which they enroll their children. Religious debates in the 1800s are largely responsible for the constitutional guarantee and even though religion-affiliated schools have declined over the past one hundred years, they remain an important part of the private school landscape in The Netherlands.

Again similar to Belgium, there have been detailed analyses of student-level achievement in The Netherlands. Following the literature of the U.S., some of the attention has focused on whether students in private Catholic schools, fully funded with public money, perform at statistically higher levels than students in other Netherlands schools. The answer is yes. Again, attention has been given to whether the performance advantage might be attributed to the selection of "better" students into Catholic schools. A notable finding by Levin (2004) is that the Catholic bias in The Netherlands works is downward for the Catholic schools rather than upward biased. In particular, it is weaker students on average who choose to enroll in Catholic schools and they still outperform the average student enrolled in other school types, *ceteris paribus*.

¹⁴ See Toma (1996) for a more detailed discussion of Belgium and the systems of four other countries.

¹⁵ The data were from the second wave of the international math and science study (SIMSS).

Conclusion: the policy decision

Having defined the issue, considered it conceptually, examined alternative ideas theoretically, and observing the evidence, it is time to make a policy decision. Should the U.S. consider a policy reform that expands enrollments in private schools by introducing public funds into those schools?

First, as a summary thus far, the school effectiveness literature contains a great deal of evidence suggesting that, worldwide, private schools offer advantages over public schools in terms of standardized achievement test scores.¹⁶ Based on the information available at this point, public funding of private schools does not appear to erase their performance advantage although examples exist to illustrate that it is possible to do so. In particular, countries such as France apparently impose sufficient regulations on the private schools to accompany the funding that advantages to privately operated schools have been eliminated.¹⁷ In countries with less regulatory rigidity, the advantage of private schools over public ones persists even as numbers of students and the socioeconomic composition of students attending the private schools change following the introduction of public funds.

Strictly from an efficiency perspective, the policy option of expanding private enrollments through public funding seems appropriate. As an exercise in policy analysis, however, one must proceed with caution. The political climate in the U.S. is such that a policy change of this magnitude will generate high volumes of discussion and lobbying both in favor and in opposition to a reform proposal. Small-scale changes such as have been implemented thus far may be the only feasible way to introduce a policy change of this magnitude.

Finally, the policy advice provided depends upon the client for which the advice is intended. If the client is an elected legislative body, the political considerations may outweigh any efficiency considerations. On the other hand, a nonprofit advocacy group may wish to have evidence that provides it ammunition as it goes to the public and the legislature to make its case. Ultimately, the policy analyst seeks the best answer he or she can provide with the recognition that clients often want answers that serve their goal rather than the "truth."

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¹⁶ The efficiency advantages may be greater in absolute terms for developing countries than for developed ones. See Toma (2005).

¹⁷ See Toma (1996) for more details on the French system.

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