5

Thorough and Efficient Private and Public Schools

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THE CONSTITUTIONS OF many states require schools to be "thorough and efficient," or use words to similar effect.[1] The constitutional language is well chosen since it appears to ask of schools that they operate at the highest level of productivity (that is, that they provide the highest-quality schooling at the lowest price) for all students in the state. But many state courts have interpreted these clauses differently. When schools are found to be less than "thorough and efficient," they have ordered as a remedy not more efficient operations but a higher level of expenditure instead. Such a remedy assumes existing schools to be efficient already and inadequate only in that they have limited resources. Yet it remains unclear whether increases in financial support, even substantial ones, can by themselves bring school

1. Elena Llaudet provided extensive research assistance for this paper.

performance up to the desired standard (Burtless 1996; Berry 2006).

In considering the connection between expenditure and school performance, much can be learned by examining the quality of schooling in the private sector. Private schools currently educate over 11 percent of students in the United States. They spend considerably less per pupil than public schools do. Yet the average performance of their students is as high or higher than that of students attending public schools. In this paper I identify various factors that could account for greater private school productivity, placing emphasis on the educational role played by "co-producers," that is, family, peers, and students themselves. In conclusion, I suggest that public schools, in order to become genuinely "thorough and efficient," need to attend to the lessons provided by private schools.

The Private School Market

Many well-educated opinion leaders, when thinking of private schools, speak of New England's Andover and Exeter, or Washington, D.C.'s St. Albans and Sidwell Friends, that is, exclusive, expensive, quite secular institutions that serve the nation's economic, political, and social elite. If they did not attend such schools themselves, their impressions have been formed by reading J. D. Salinger's *The Catcher in the Rye* or by viewing such films as *Dead Poets Society* or *Finding Forrester,* fictional insights into the educational world of the privileged.[2]

2. The examples are taken from Howell, Peterson with Wolf and Campbell (2006), the source for other details provided in this paper that are not otherwise attributed.

Mainly Religious Schools

Yet according to the U.S. Department of Education's Center for Education Statistics (2005a), most of the more than six million students, or 11.6 percent of those enrolled in school, attend a much less well-endowed private school, one that is likely to have a religious affiliation.[3] Forty-seven percent of private school students attend Catholic schools; another 15 percent are enrolled in Evangelical Protestant schools; 4 percent go to Lutheran schools; 16 percent to other religious schools (Jewish, Episcopal, Presbyterian, Islamic, Greek Orthodox, and others); and just 17 percent attend a nonsectarian private school, whether an exclusive one or simply a local Montessori or Waldorf school or one that is seeking to preserve a particular ethnic tradition. Altogether, secular private schools serve less than 2 percent of the school-age population, while schools with a religious affiliation serve about 9 percent.

Whether sectarian or not, private schools in the United States face potent competition, perhaps more so than entities, for-profit or nonprofit, in any other industry. Admittedly, small technology firms fear the market power of Microsoft, Intel, and Google. And many small-town businesses have not been able to survive the overwhelming retail power exercised by such giants as Wal-Mart or Target. But private schools face a stronger competitor, namely, the public school system, which has not only captured close to 90 percent of the schooling market but operates with massive subsidies from the government, allowing it to offer most services free of charge. Further, there is a set of in-

3. Throughout this paper, we will report data from various sources and years, making the assumption that variation from year to year is minor enough to be ignored for the purposes of this paper. Data reported in this sentence are projected enrollments for 2005. The percentage falls to a little more than 10 percent if preschool enrollment is excluded.

stitutions—teacher unions, school board associations, schools of education—that fight aggressively to preserve the public school's market position. Above all, the quasi-monopolistic position that public schools enjoy is indisputably legitimate, free of the threat of antitrust lawsuits that leaders in the technology and retailing sector must take into account (Moe 2001).

Only certain kinds of private schools have survived such exceptional competition. Some are prestigious, exclusive ones that cater to those who can afford the $15,000 to $40,000 annual tuition that must be paid out of after-tax income. But most private schools serve those who have strong religious commitments or those who feel their values and beliefs are not adequately respected by the public school system. Many of these private schools were formed in the nineteenth century by Roman Catholics, who wanted their children's education to be infused with their church's religious beliefs and traditions. Catholics took particular umbrage at the fact that students in public schools were asked to pray Protestant prayers and read from a Protestant version of the Bible. To protect their children from such influences, Catholics set up an alternative, low-cost system of education staffed mainly by members of religious orders who swore lifelong oaths of poverty (Ravitch 1974). On a smaller scale, members of conservative Lutheran synods, most especially the Wisconsin and Missouri Synods formed by immigrants from Germany, created their own schools not only for doctrinal reasons but also because they wished to provide children instruction in their treasured German language (Peterson 1985).

Throughout the twentieth century, Catholic and Lutheran schools began to lose market share. The price of tuition rose as women became less willing to take vows of poverty and labor costs began to rise. And as doctrinal and linguistic considerations declined in significance, fewer church members were willing to make the substantial financial sacrifice to pay for tuition

when a free public school was readily available nearby. Yet the size of the private sector remained quite constant. As the number of Catholic and Lutheran schools waned, they were replaced by those formed by Evangelical Protestants. At first, these schools were little more than a knee-jerk response to the racial and social turmoil brought about by the desegregation of southern schools. However, they gradually acquired a broader mission, the preservation of a culture that objected to the increasing secularization of the public school system (no more daily prayers, Bible reading, or Christmas pageants) and to its more permissive approach to sexuality (explicit sex instruction, tolerance of homosexuality, and provision of contraceptives).

So the preservation of distinctive religious and cultural traditions remains the driving force in private education today. This becomes evident when school vouchers that reduce the cost of private schooling are made available to low-income families. In prior research, my colleagues and I discovered that Catholics and Evangelical Protestants, especially when actively engaged in their parish or church, were more likely to apply for a school voucher, more likely to accept a voucher when offered one, and more likely to keep their child in the private school of their choice over time. In summarizing our findings, we observed that

> while much of the public debate over school choice focuses on the possibility of social stratification, the reality of student differentiation looks quite different, at least in small targeted voucher initiatives. Far more important [than class distinctions] are a family's religious identity and level of engagement. On reflection, one should not be particularly surprised by these findings. Most private schools in the United States have always been religious. Meanwhile, public schools . . . must remain strictly secular. Families that prefer to have their child educated in a religious environment can be expected to be among the first to seek and make use of vouchers. (Howell, Peterson, with Wolf and Campbell 2006, 213–214)

Other data on private schools are consistent with these results. For example, a survey of principals conducted by the U.S. Department of Education (2003a, 10) found that those working in the private sector are much more likely than are public school principals to say that "religious development or multicultural awareness" is one of the three most important goals for their school. Sixty-four percent of private school principals stated this as one of their top goals, as compared with just 11 percent of public school principals.

Cost-Sensitivity

Despite the religious commitment of many of those who send their children to private schools, the schools themselves cannot be indifferent to economic considerations. Their clientele is often only of moderate income, and school tuition and fees are not tax deductible. If schools charge too much, they risk pricing themselves out of existence, no matter how sincere the religious convictions of their clientele. As a result, the average amount paid by students attending private schools in 2000 was only $4,689, a remarkably low number when one considers that public schools receive per-pupil funding of roughly twice that amount (U.S. Department of Education 2005b).[4] Presumably, private schools would charge more if they felt the market would bear it. But since parents always have the option of sending their child to a free public school, private schools must be realistic about the price they can set for the services they render.

Price sensitivity is greatest among low-income families, of course. Most simply cannot afford a private school. But when school vouchers are made available to this population and tuition costs are paid by the government, then the demand for pri-

4. In 1999–2000 the average private school tuition was $4,689, while per-pupil expenditures in public schools were an average of $8,149.

vate schooling expands fairly quickly. In Milwaukee it took only eight years after their constitutional status was clarified for all the vouchers available at the time—enough to serve 15 percent of the city's public school population—to find takers. Yet when a voucher covers only half the tuition, only about a third to half of those who express an interest in the option of sending their children to a private school exercise it when the opportunity arises (Campbell, West, and Peterson 2005). Clearly, the demand for private schooling fluctuates rapidly with the price of the service.

Educational Expenditures in Public and Private Schools

Because most private schools charge only a modest tuition, private schools spend considerably less per pupil than the amount spent by public schools. According to information reported by the U.S. Department of Education (2005b), average public school expenditures in 2003 were $9,929 per pupil, while private school expenditures were only $5,634 per pupil.[5] In other words, private schools spent per pupil only 57 percent of what public schools did. With their more substantial resources, public schools offer a broader range of services. They also have a more elaborate administrative structure; provide many students free transportation to school; design specialized educational services for those with mild, moderate, and severe disabilities; and arrange alternatives for those whose native tongue is other than English.

5. In this U.S. Department of Education report, per-pupil expenditures were calculated using enrollment figures from table 3 and total expenditures from table 30. Data on private school expenditures are estimates. Total expenditures for public schools include current expenditures, interest on school debt, and capital outlay.

Some might feel that such services are irrelevant to the quality of education a child receives and should not be included in any public-private comparisons. If that is so, then it is not clear why the public expenditure takes place. But even when such expenditures are stripped from comparisons with private schools, differences remain considerable, at least in the several big cities for which information is available. My colleagues and I (Howell, Peterson, with Wolf and Campbell 2006, 92) were able to obtain fairly comparable data from both public and Catholic schools in three New York City boroughs—the Bronx, Brooklyn, and Manhattan. We deducted from the public school ledger all costs that most private schools do not incur—among others, all monies spent on transportation, special education, school lunches, and other ancillary services. We even excluded the very substantial costs of the bureaucracy that manages the operations of the public schools at the city, borough, and district level. All these deductions constituted no less than 40 percent of total public school costs. But even after the expenditures for all of these items were subtracted, New York City's public schools still spent more than twice the amount spent by the Catholic schools. We obtained similar results in Washington, D.C., and Dayton, Ohio.

Because of their more limited resources, private schools have less elaborate facilities. In the evaluation of three school voucher programs in New York, Washington, D.C., and Dayton, Ohio, it was possible to compare parental judgments of the physical plant of public and private schools attended by comparable students. In those cities children attending public schools were more likely to attend a school that had a nurse's office, a cafeteria, a library, a gymnasium, an art program, and a computer laboratory. (I will draw on information from these evaluations throughout this paper, referring to them as the "three city study." Because the evaluations were randomized field trials, they provide comparable data about public and private schools.

For a full discussion of the methods used and the full set of findings, see Howell and Peterson, with Wolf and Campbell (2006).

Quite apart from their inferior facilities, private schools pay their teachers considerably less. Public school teachers reported their 2000 earnings to be, on average, close to $43,000 a year, while private school teachers said their earnings were, on average, less than $30,000 (U.S. Department of Education 2005b, table 76). Perhaps because of their lower salaries, the private school workforce turns over more quickly, leaving teachers less experienced than those working in the public sector. Twenty-four percent of private school teachers had fewer than three years of experience, as compared with just 13 percent in the public sector. Nearly 30 percent of public school teachers had more than twenty years of experience, as compared with just 18 percent of private school teachers. Also, private school teachers were slightly less likely to be teaching in the same school from one year to the next. While 85 percent of the public school teachers had remained in the same school in 2001 as in 2000, the last year for which this information is available, in private schools the percentage was just 79 percent (U.S. Department of Education 2005b, tables 67 and 74).

Salaries of private school principals also trail their public school counterparts. Their average salary in 2000 was little more than $43,000 yearly, while that of public school principals was over $66,500, a better than 50 percent pay differential (U.S. Department of Education 2005b, table 84). This, despite the fact that private school principals tended to be somewhat more experienced. In 2000 the average principal in the private sector had served in that position for more than ten years, as compared with fewer than nine years for principals in the public sector.

In sum, private schools would certainly be judged fiscally "inadequate" by those state courts that have reached such conclusions in suits concerning public schools. As compared with

the public sector, private schools have less elaborate facilities, their teachers are less experienced, and both their teachers and principals are less well paid.

How, then, do private schools convince families that their education is worth the difference in cost between the free public school and the tuition the private school charges? In making the case to parents, the school's religious identity and contrasting set of cultural values are certainly critical. But that would hardly suffice if students in private schools were not also receiving comparable instruction in reading, writing, arithmetic and other basic subjects. As much as parents may wish to preserve certain values, they cannot be expected to ignore their child's need to acquire basic educational skills. To make sure their schools are educationally comparable to the public schools in their community, private schools have found a kitbag of productivity-enhancing tools that public schools would be well advised to emulate.

Organizational Solutions

The most easily adopted, though probably not the most important, of the productivity-enhancing tools used by the private sector are simple organizational ones. As compared with public schools, private schools tend to be smaller, are run with less administrative complexity, impose fewer transfers on the child as he or she ages, and have smaller, or at least equally small, classes.

School Size

Private schools, on average, are about a third the size of those in the public sector. According to U.S. Department of Education (2004) data, the average private school in the United States en-

rolls 184 students as compared with 573 students in the average public school. Among elementary schools, the average private school enrolls 160 students as compared with 436 students in the average public school. In central cities similar differences are observed. In our three-city study, private school parents estimated an average of 278 schoolmates at their child's school, as compared with an estimate of 450 fellow students at the public schools (Howell and Peterson 2006).

The smaller size of the private school is very likely to enhance productivity. Although some have argued that larger schools are more efficient and can provide a broader curriculum, most studies have found smaller ones to be more educationally effective. (For a summary of the existing research on the effects of school size, see Chubb and Peterson 2005.) Principals can maintain tighter supervision over staff and students, a sense of community is more easily created, and social control can be established through informal networks rather than by means of bureaucratic regulation.

Administrative Simplicity

It is not only because private schools are smaller that bureaucratization is reduced but also because most private schools operate with greater independence and autonomy (Chubb and Moe 1990). Many private schools are incorporated independently as nonprofit institutions, with their own board of trustees, to whom the head of the school reports. Relations between heads and employees are handled informally. Hardly any private school head must negotiate salaries with representatives of employee organizations.

The one set of schools administered within a larger-scale institutional structure is operated by Catholic archdioceses. In this system the central office, though it retains ultimate control,

devolves most decisions to the school level. With few constraints, school heads determine policies governing student admission; the hiring, compensation, and retention of teachers; and the allocation of fiscal resources. Although needy Catholic schools may receive some financial assistance from the archdiocese, most schools are expected to find, on their own, the bulk of the resources necessary to maintain their operations.

The greater administrative simplicity in the private sector is evident from teacher reports about their working conditions. According to a U.S. Department of Education survey (2005b, table 73), "routine duties and paperwork interfere with my job of teaching" is said to be the situation for 71 percent of public school teachers but for only 45 percent of private school teachers. Also, private school teachers were much more likely than were their public school colleagues to feel they had "a lot of influence" on such school policies as setting standards for student performance, establishing curriculum, and setting discipline guidelines.

Two-Tier versus Multi-Tier System

Private schools prefer the traditional two-tier division between elementary and high school to the three-tier system that has become increasingly popular in the public school system. As shown in table 5.1, no less than 27 percent of public school students are enrolled in middle school, but the institution is almost nonexistent in the private sector. Even the separation between elementary and high school is not always maintained in the private sector, since 26 percent of students in private schools attend what the U.S. Department of Education labels "combined" schools, which either extend beyond eighth grade and admit students before seventh grade or have ungraded classes.

As popular as the middle school has become, the old-fash-

Table 5.1 Percentage of Schools and Enrollment in Public and Private Schools by Grade Span, 2003–2004

	Public schools		*Private schools*	
	Schools (%)	*Enrollment (%)*	*Schools (%)*	*Enrollment (%)*
Elementary	57	44	68	60
Middle	15	27	1	0[a]
Secondary	21	26	8	14
Junior high	1	1	0[a]	0[a]
Combined	7	3	23	26
Total percentage:	100	100	100	100
Total number:	94,420	54,055,110	28,783	5,303,806

Notes: Elementary schools are considered to be those with at least one grade lower than five and no grade higher than eight. Middle schools are considered to be those with no grade lower than five and no grade higher than eight. Secondary schools are considered to be those with no grade lower than seven and at least one grade higher than eight. Junior high schools are considered to be those with a seven-to-nine grade span, and they are also included as secondary schools. Combined schools are considered to be those with at least one grade lower than seven and at least one grade higher than eight and schools with only ungraded classes.
[a] Negligible amount.
Source: U.S. Department of Education 2004.

ioned two-tier system appears to be more educationally productive. Most scholarly studies find that young adolescents learn more if they attend K–8 schools rather than middle schools (e.g., Moore 1984; Becker 1987; Simmons and Blyth 1987; Wihry, Coladarci, and Meadow 1992; Franklin and Glascock 1998; Offenberg 2001; and Baltimore City Public School System 2001). For example, a recent study of Milwaukee's public schools found that students in K–8 schools outperformed those in middle school (Cook 2005). The study was undertaken when it was discovered that families were preferring private and charter schools over public middle schools, an important fact in this city, where 30 percent of the students are attending either charter schools or

private schools with a government-funded voucher that covers their tuition. Faced with these findings and this heavy competition, public schools in Milwaukee are gradually reverting to the K–8 format.

Class Size

Despite their limited fiscal capacities, private schools appear unwilling to make sacrifices in classroom size. Although researchers disagree about whether students learn more in smaller classes (e.g., Hoxby 2000; Krueger 1999), private school leaders have organized their schools on the assumption that smaller classes are better. Rather than pay teachers higher salaries, they use their scarce dollars to hire more staff and thus keep classes as small as those in the public sector, perhaps even smaller. According to one government report (U.S. Department of Education 1997), the average class size of schools in 1994 was just twenty in private schools, as compared with twenty-three in public schools. According to another, the pupil-teacher ratio in 2002 was roughly the same—about sixteen students—in the two sectors (U.S. Department of Education 2005b, table 64). In a national evaluation of a voucher program that my colleagues and I conducted, parents reported an average of twenty students in the classroom of the private school, as compared with twenty-four in the public school classroom (Howell and Peterson 2006, 100).

It is not clear whether private school administrators find smaller classes more educationally effective or whether they just find them a valuable marketing tool. But in the trade-off between employee salaries and the size of the pupil-teacher ratio, they seem to prefer more staff to higher-paid staff.

In summary, private schools have several organizational characteristics—smaller school size, administrative simplicity, a

broader age-structure, and smaller class sizes—that enhance their productivity. Yet no one of these policies, nor all of them together, provides the most important mechanism for achieving high levels of educational efficiency. Most important is the greater ability of the private sector to enlist the services of others in the provision of educational services, a practice we will characterize as "co-production."

Co-Production

Co-production takes place whenever a product is created or a service is performed by those who do *not* receive monetary reimbursement as well as by those who do (Ostrom et al. 1982). A pervasive fact of modern life, co-production is found in both the public and private sectors. In the public sector, examples are readily identified. Safety is preserved by paid police and fire officials but also by watchful citizens. Streets are kept clean not only by paid sanitary engineers but also by ordinary citizens who throw their trash in publicly provided barrels. In the private sector, groceries are distributed by paid clerks but also by shoppers who put groceries in their carts. Similarly, gasoline is pumped by drivers, cash is retrieved by ATM cardholders, and soft drinks, junk food, and newspapers are all retrieved by inserting coins in vending machines. Indeed, a well-known principle of efficient retailing is shifting the cost of (co-) production from paid employees to unpaid customers.

To achieve efficient co-production, firms must attend to the interests and concerns of those *not* paid for their services. If ATM cards are not easy to use, customers will wait for the teller. If trash barrels are not emptied by paid employees, unpaid pedestrians will discard their junk promiscuously. If groceries are not attractively displayed by store employees, customers will not buy them.

Education that takes place in schools is co-produced by those who do *not* receive monetary reimbursements for their services as well as by those who do. Paid for their services are teachers, principals, maintenance personnel, bus drivers, and the myriad other specialized personnel needed to maintain complex, modern school systems. They are motivated to provide educationally relevant services in part by the wages and salaries they receive. If shirking is excessive, an employee can be asked to leave.

No less important are educational co-producers who cannot be asked to leave, even if they are low performing. (To simplify the presentation, I will, from this point on, refer to paid personnel as producers and to unpaid personnel as co-producers.) The most important co-producer is the student himself or herself. Peers, parents, relatives, neighbors, and friends, too, are co-producers. Altogether, the actions of the co-producers are almost certainly more important for educational production than are the actions of paid producers.

To enlist cooperative behavior from co-producers, private schools must consider their incentives and concerns. To engage students in their own education, these incentives may be both intrinsic and extrinsic and both long-range and immediate. Extrinsic incentives are generally regarded as the most effective for most producers, but it is often assumed that when it comes to educating themselves, students respond (or at least should respond) mainly to intrinsic ones, such as the love of learning, or if extrinsic, to long-term ones, such as the opportunity to go to college or to enter the workforce as a highly skilled, well-paid worker. Thus, much attention is given to the ways of encouraging students' love of learning, by enhancing their self-esteem, or by providing entertaining, enjoyable educational experiences in an attractive setting. To encourage attention to the long-term consequences of education, teachers emphasize the importance of finishing high school and pursuing a college degree.

Such intrinsic or long-term extrinsic incentives may work for some students, especially those who find it easy to learn and who are surrounded by co-producers (parents, peers, and others) ready and willing to reinforce the messages teachers convey. But for those students not so privileged, intrinsic incentives may need to be supplemented by short-term, extrinsic incentives, such as requiring a minimum level of performance (both in deportment and accomplishment) for a student to remain at the school, or to be promoted to the next grade at the end of the year, or eventually, to graduate. Other co-producers are also responsive to these extrinsic incentives.

Co-Production in Public and Private Schools

Generally speaking, private schools are better designed than public schools to motivate co-producers, whether parents, peers, or students themselves. For one thing, parents must pay money to send their children to private schools. Once a financial sacrifice has been made, the family has a strong incentive to make sure its resources are well spent, and parents can be expected to be more engaged with their child's education. Even a young child may appreciate whether or not the family is making a financial sacrifice on his or her behalf. As one public school parent (herself a public school teacher but one who had attended private school) reported in a focus group conversation:

> Last year one of the little boys in my daughter's class was a trouble-maker, was serving after-school detention. And he was just being a little pill. And I looked at him, and I said, "Joshua, you're lucky, when I was in second grade, if I would have had detention, I would have had to have written one thousand times. "I will behave." He looked at me and said, "Well, I wouldn't do it." I said, "Well, my parents were paying $300 a month to send me to school. . . . " And he looked at me and

> said, "Yeah, if my Mom was paying $300 a month, I would have to do what I was told." (Howell, Peterson, with Wolf and Campbell 2006, 111–112)

Apart from family expectations, a student at a private school must meet the school's own expectations in order to remain there. First, the student must meet the disciplinary standards of the school. Tardiness, excessive absenteeism, fighting, cheating, disruption of the classroom's educational climate, and destruction of school property can all be grounds for suspension and eventual expulsion. Young children, as long as they are well behaved, may not need to meet any particular academic standards, but in most private schools older students will also be expected to exhibit good study habits, do their homework, complete term papers, and perform satisfactorily on tests. Otherwise, they may not be invited to return the following academic year. In all these respects, standards at public schools, though not entirely absent, are generally much lower.

Peer Culture

Just as the school's expectations will create incentives for each student, so will school expectations shape the peer culture within a school. In private schools the fact that students are expected to adhere to the school's disciplinary code and to perform at least at a satisfactory level affects not just each student individually but the general culture in the school. But when peer culture is shaped by policies that rely on intrinsic incentives (such as making learning fun and enjoyable), as is often the case in public settings, then peer groups, as co-producers, can become highly variable, sometimes as much of a negative as a positive influence on learning, especially in urban settings where schools serve a low-income, minority population.

In our three-city study of public and private schools, my col-

Table 5.2 Social Problems at Public and Private Schools Serving Participants in School Voucher Experiments in Three Cities[a]

	The percentage of parents who say a problem at their child's school is "very serious"	
Social problem	*Private school (%)*	*Public school (%)*
Fighting	32	63[b]
Truancy	26	48[b]
Tardiness	33	54[b]
Destruction of property	22	42[b]
Cheating	26	39[b]

[a] New York City, Dayton, and Washington, D.C.
[b] $p < .01$
Source: Howell and Peterson (2006, 111).

leagues and I asked parents questions about the educational climate at their schools. Parents were asked if fighting, truancy, tardiness, destruction of property, and cheating were a "very serious problem" at their child's school. As shown in table 5.2, low-income, inner-city parents were much more likely to report that these were serious problems if their child attended a public school rather than a private school. For example, 63 percent of parents in public schools reported fighting as a "very serious problem" if their child attended a public school, but only 32 percent of private school parents gave a similar report. The difference cannot be attributed to the parents answering the question because in our study both public school and private school parents had applied for school vouchers, though only the latter won the lottery.

A national survey conducted by the U.S. Department of Education shows findings consistent with these. Forty-one percent of public school teachers report that the "level of student misbehavior in this school interferes with my teaching," but only 25

percent of those in private schools report this as a problem. Student tardiness and class cutting is said to interfere with teaching by 32 percent of public school teachers but only by 15 percent of those in private schools. Seventeen percent of teachers in public schools, but only 4 percent in the private sector, report "student disrespect for teachers" as a "serious problem" at their schools (U.S. Department of Education 1997).

Importantly, private schools achieve a more productive educational climate without dismissing large numbers of children. In our three-city study, parents reported very few instances of expulsion from school, less than 1 percent of all children, the same percentage in the private as in the public sector. Nor did we see higher rates of student mobility from one school to another in the private than in the public sector (except for the higher percentage of public school students moving from elementary to middle school). We also did not find, in most cases, systematic differences in student suspension rates. Generally, the likelihood that a child would be suspended varied between 5 and 10 percent in both sectors. (However, among older students in Washington, D.C., we discerned higher suspension rates in the private sector.)

Apparently, students, at least if they enter private schools as young elementary students, adapt to the expectations of a school, especially when it is clear that they will otherwise be suspended or expelled. The dismissal of even one child sends a strong signal to everyone else in the school. Just as it takes but one rotten apple to spoil a barrel, so the barrel can be preserved simply by tossing out the one bad apple. And private schools have strong monetary incentives to try to keep as many of their students as possible. For that reason alone, actual exercise of the big stick is rare.

Social Capital

When a school has a healthy educational climate, that fact provides the preconditions for building a strong, educationally supportive community among the parents and friends of the school. Such communities generate what has become known as "social capital," the networks of relationships that yield positive benefits for the community over and above the contributions of any particular individual (Putnam 2001). Those who have studied Catholic schools closely have attributed their academic strength in good part to their supportive social context (Coleman and Hoffer 1987). In the view of Bryk and his co-authors (Bryk, Lee, and Holland 1993, 314):

> Catholic schools work better not because they attract better students (which is somewhat true) or because they have more qualified faculty (which does not appear to be the case). In general, these "inputs," or what economists call "human capital," are quite ordinary. Rather, Catholic schools benefit from a network of social relations, characterized by trust, that constitute a form of "social capital." . . . Trust accrues because school participants, both students and faculty, choose to be there.

Parental Communication and Involvement

Perhaps it is the social capital that comes from private school networks that accounts—at least in part—for the greater engagement of families in their children's education. According to a U.S. Department of Education survey of teachers (2005b, table 73), private school teachers are much more likely to have strong parental support for what they do. No less than 84 percent of private school parents report they receive "a great deal of support from parents for the work I do." Only 58 percent of public school teachers say they receive the same level of support.

Admittedly, parents who pay for their child's education can be expected to be more motivated to assist in the child's instruc-

tion. But even if a parent is not inclined to participate, private schools have incentives to do everything they can to make sure parents become as engaged as possible. They need to establish records of accomplishment, if they are to remain viable institutions. To do that, they need to engage parental co-producers as much as possible. Not surprisingly, nationwide surveys provide ample evidence that private schools, as compared with public schools, communicate more extensively with parents, contacting and involving them in a wide variety of ways (Vaden-Kiernan 2005). In another U.S. Department of Education survey of parents (2005b, table 25), those with children in private school were much more likely to report that they volunteered in school, attended a class event, attended a general school meeting, and attended a parent-teacher conference. For example, 69 percent of the private school parents said they volunteered at school, as compared with just 38 percent of the public school parents. Attending a class event was reported by 86 percent of the private school parents, as compared with 68 percent of the public school parents.

The high involvement and communication between private schools and families could be in part a function of the greater resourcefulness of such families. However, in our three-city study of similar groups of families, my colleagues and I found that those with children in private schools, as compared with those with children in public schools, were more likely to receive a newsletter from the school, participate in instruction, speak to classes about their jobs, receive notes from teachers, be informed about their child's progress halfway through the grading period, participate in parent-teacher conferences, attend open houses, and be notified about their child if there was a behavioral problem. (See table 5.3.) That sharp differences could be observed, although the two groups of families were otherwise much the same, only underlines how much greater emphasis the

Table 5.3 Parental Outreach at Schools Serving Participants in School Voucher Experiments in Three Cities[a]

	Percentage of parents who answer "yes"	
Outreach	*Private school (%)*	*Public school (%)*
Parents receive newsletters about school.	88	68[b]
Parents participate in instruction.	68	50[b]
Parents receive notes from teachers.	93	78[b]
Parents are notified when child sent to office for first time because of disruptive behavior.	91	77[b]
Parents speak to classes about their jobs.	44	33[b]
Parents are informed about student progress halfway through the grading period.	93	84[b]
Regular parent-teacher conferences are held.	95	90[c]
Parent open houses are held at school.	95	90[c]

[a] New York City, Dayton, and Washington, D.C.
[b] $p < .01$
[c] $p < .05$
Source: Howell and Peterson (2006,106).

private school places on the involvement of parents in the educational process.

Homework

Perhaps the most direct way of involving co-producers in the educational process is to ask students to do a substantial amount of homework. From the point of view of the school, this form of education is low cost (though it does require that teachers check and grade the homework). Perhaps it is for this reason that teachers in private schools are much more likely to assign homework. When similar groups of families were compared in our three-city study, 72 percent of private school parents said their child did at least an hour of homework every night, as compared

with only 56 percent of public school parents. Also, 90 percent of private school parents said the homework was "appropriate" for their child, as compared with 72 percent of public school parents. Anecdotal information from the evaluation was consistent with these quantitative data. For example, one focus group conversation yielded this exchange:

> MOTHER: My kids never even had homework in the public schools.
> MODERATOR: You're saying no homework. . . .
> MOTHER: No, he didn't even have a concept of how to come home every day and do homework.
> MODERATOR: But now. . . .?
> MOTHER: He has homework every day. I look in his bag. His teacher writes notes. They have a homework book where they have to write their homework in a book. I have to sign the book every day.

Clearly, this school, by asking parents to sign off and therefore take responsibility for the child's homework, is making every effort to enlist co-producers into the educational production process.

Significance

The debate over public school adequacy, with its heavy emphasis on financial considerations, assumes that the critical factors affecting educational adequacy can be altered by fiscal policy. With more money, schools can pay their teachers and principals more; they can build new, more sophisticated buildings; they can feed children breakfast, lunch, and an after-school snack; they can transport children near and far to settings considered most educationally appropriate; and they can supply nursing and other medical services, as well as a plethora of focused services for those eligible for bilingual or special education.

Most of these strategies for achieving educational adequacy

are unavailable to all but the most exclusive private schools. The rest, operating on budgets little more than half the size of those in the public sector, must find low-cost or costless ways to enhance learning, if they are to achieve some degree of adequacy. Some of these tools are simple organizational devices. Keep the school small, reduce bureaucracy, and until they reach high school, do not ask students to change schools as they grow older. But more important than any of those organizational strategies, it is the private school's ability to enlist the help of co-producers—students themselves, their peers, their parents, and others in their lives—that is the secret to its success.

In private schools students are given strong, immediate incentives to adopt educationally appropriate behavior and to focus on their studies. If they are to stay in the school, they must avoid becoming a discipline problem, and, as they grow older, they often must reach at least a minimal standard of achievement. By giving the same incentives to all its students, the school creates a peer group that learns self-discipline and appropriate learning habits. For most students, then, the peer group in a private school is an educational asset, not a liability. Parents are given a strong incentive to participate in their child's education by asking them to pay for it. When one pays for something, one acquires ownership in the activity. And by asking parents to pay, the school forces itself both to listen to and communicate its expectations to its clients, if only to maintain enrollment. Homework assignments, compulsory teacher-parent conferences, extensive communications between home and school: all reinforce and sustain the family as educational co-producers.

With students, peers, and families all contributing to the education process, it matters less that teachers are less well paid, less experienced, less credentialed, perhaps even less able, than their public school peers. However important the teacher is to a child's educational success—and there is plenty of evidence that

teachers are the most important educational element that can be *purchased*—enlisting the active, positive engagement of co-producers is even more crucial. At least that is what one concludes when one looks at the evidence on student achievement in public and private schools.

Student Achievement

Despite levels of financial inadequacy that would provoke severe sanctions from many state judges who have ruled on adequacy lawsuits, private school performance, as shown by students who attend their schools, is not obviously deficient. Instead, students who attend private schools perform at a higher level than do students attending public schools. Whether or not their higher performance can be attributed to the private school—or to the students themselves—has been a matter of considerable disputation. Still, when all is said and done, few doubt that private schools do at least as well as the public schools at educating the children entrusted to their care.

Recent NAEP Findings

The most recent evidence on private school performance comes from a report issued by the U.S. Department of Education (2005a). Based on standardized tests administered to a national sample of both public and private schools, the National Assessment of Educational Progress (NAEP), also known as the nation's report card, provides information, by combining data for the years 2000 and 2003, on the educational achievement of students in fourth and eighth grades.[6] As shown in table 5.4, in

6. The National Assessment of Educational Progress (NAEP) achievement data for private schools are spotty; if information on private school performance is not reported in this paper, it is because NAEP did not have an adequate sample and chose not to report the information.

Table 5.4 Private School Performance Advantage: Difference in Performance of Students in Private and Public Schools on National Assessment of Educational Progress, Combined Results for 2000 and 2003.

The private school performance advantage was . . .

	Fourth grade		*Eighth grade*	
	In test-score points	*In s.d.*	*In test-score points*	*In s.d.*
Math	10	0.36	16	0.44
Reading	19	0.51	21	0.60
Science	15	0.44	17	0.47
Writing	13	0.36	18	0.47

By race/ethnicity, fourth grade, math, 2003

	In test-score points	*In s.d.*
White	5	0.18
Black	5	0.18
Hispanic	10	0.36
Asian	4	0.14

By parent's highest level of education, eighth grade, reading, 2003

	In test-score points	*In s.d.*
Less than high school	18	0.51
Graduated from high school	15	0.43
Some education after high school	11	0.31
Graduated from college	16	0.46

Notes: s.d. = standard deviation, N/A = not available.
Sources: U.S. Department of Education (2005a, 2003b).

all comparisons, whether in math, reading, writing, or science, students in private schools were performing at a higher level. In fourth grade, private school students performed 10 test-score points higher in math and 19 points higher in reading, differences that are about 36 percent and 51 percent of a standard deviation, respectively. Since one standard deviation is about the difference between a fourth grader and an eighth grader, private school students in fourth grade were about one to two years ahead of their public school peers.[7] This difference was also observed for students in other grades and subject levels.

For the most part, these differences were fairly constant among types of private schools. In nearly all comparisons Catholic and Lutheran schools performed at or above the private school average. In some instances Evangelical Protestant schools performed below the private school average, though still above the public school average. In fourth grade math, for example, Evangelical Protestant schools scored ten points above the public school average but four points below the private school one. Similar results were obtained in fourth grade writing achievement.[8]

But according to the NCES study (Braum and others 2006), the private school advantage disappears once statistical adjustments are made for student characteristics. Among 4th graders, a 4.5-point public school advantage was detected in math, while in reading parity between the sectors was observed. After the same adjustments were made for 8th graders, private schools

7. The standard deviation for the 2003 NAEP for fourth graders was 0.28 in mathematics and 0.37 in reading (U.S. Department of Education 2003b).

8. The NAEP report refers to Evangelical Protestant schools as "Conservative Christian" schools. In our view this is a misnomer, since Catholic and Lutheran schools classified separately in the NAEP report are also Christian. "Evangelical Protestant" better captures the distinctive religious heritage of the many schools often characterized as "Christian."

retained a 7-point advantage in reading but achieved only parity in math.

Although this seems to indicate that private schools are no more effective than public ones, the analysis from which these results are derived depends on measures of student characteristics that inconsistently estimate student background in the public and private sectors. Using the same data but substituting better measures of student characteristics, Elena Llaudet and I (2006) identified a consistent private school advantage.

The most serious flaw in the NCES study is its reliance on student participation in four federal programs—Title I, free lunch, programs for those with Limited English Proficiency, and special education for the disabled—as information about the students' background characteristics. Reliance on that participation information inconsistently classifies public and private school students as disadvantaged, because public and private schools have quite different obligations and incentives to classify students as participants. As a result, NCES undercounted the incidence of disadvantage in the private sector and overcounted its incidence in the public sector.

For example, if a public school has a schoolwide Title I program, which is permitted if 40 percent of its students are eligible for free or reduced-price lunch, then every student at the school—regardless of poverty level—is said to be a recipient of Title I services. By contrast, private schools cannot directly receive Title I funds nor can they operate Title I programs. Instead, private schools must negotiate arrangements with local public school districts, which then provide Title I services to eligible students. Many private schools lack the administrative capacity to handle these complex negotiations or do not wish to make available services that they will not administer, making private school participation haphazard. In the 2003–04 school year, only 19 percent of private schools were reported by the U.S.

Department of Education (DOE) to participate in Title I, compared to 54 percent of public schools. Similar problems bedevil the use of participation in the other three federal programs as well.

To check the sensitivity of NCES results to the use of this inconsistent classification scheme, Llaudet and I estimated program effects with a model that excluded the variables that measured participation in federal programs but included measures of the following background characteristics: race, ethnicity, gender, parents' education, location of the school (regionally and by urban, suburban, or rural area), absenteeism at school, availability of a computer in the home, the number of books in the home, frequency with which a language other than English is spoken at home, and teacher reports of whether the child suffers from a profound or moderate disability.

Results from this model reveal a consistent private school advantage. In 8th grade math, that advantage was 5 test points, in reading it was 11 points. Among 4th grades in math, the private schools outperformed the public schools by 2 points, while in reading the private sector had an 8-point advantage.

The results for Catholic schools using the alternative models are very similar to those of the private sector as a whole. Lutheran schools are estimated to have a larger advantage in math and a similar one in reading when compared to the results of the private sector taken together. And Evangelical Protestant schools are found to perform at a similar level to public schools in math but at a higher level in reading.

Systematic Comparisons

Although based on an improved model, these results cannot be taken as definitive because the data on which they were based

were collected at a single point in time, making it extremely difficult to estimate how much a student was learning. For better estimates one needs to turn to other research that dates back to the seminal work of James S. Coleman and his colleagues.

Under the auspices of the Department of Education, the Coleman team, in 1980 and 1982, directed the "High School and Beyond" survey collected from a cross-section of United States high school students. By testing a national sample of students in public and private schools in two waves, the Department of Education generated data on the determinants of academic gains in high school from a student's sophomore to senior years. The Coleman research team (Coleman, Hoffer, and Kilgore 1982; Coleman and Hoffer 1987) found that students in private schools performed at a higher level than did students in public schools, even after observable family background characteristics were taken into account.[9]

Critics, however, pointed out flaws in the data collected and the procedures used to evaluate them. In a 1985 issue of *Sociology of Education,* three particularly well-crafted essays reported, analyzed, and interpreted the data. The authors of these essays disagreed about whether the data showed that private schools had significant effects on student achievement. Thomas Hoffer, Andrew Greeley, and James Coleman (1985) found that private schools had substantial, positive effects on student test performance, while Douglas Wilms (1985) found trivial effects, if any. Christopher Jencks (1985) mediated the conflict, reaching Solomonic conclusions somewhere in the middle. Debate on the issue has continued along much the same lines since the Coleman research. Later studies have come to rival conclusions, some showing positive private school effects on students, others showing no such effects.

9. The following discussion follows closely that presented in Howell and Peterson, with Wolf and Campbell (2006).

There is one point, however, on which most researchers agree: private schools help close the education gap between ethnic groups. Surveying the literature on school sector effects and private school vouchers, Princeton University Economist Cecilia Rouse (2000, 19) says that "the overall impact of private schools is mixed, [but] it does appear that Catholic schools generate higher test scores for African-Americans." Similarly, University of Wisconsin economists Jeffrey Grogger and Derek Neal (2000, 153) conclude that "urban minorities in Catholic schools fare much better than similar students in public schools" while the effects for urban whites and suburban students generally are "at best mixed."[10]

The first scholarly recognition of the private school contribution toward the closing of the test-score gap was contained in the *Sociology of Education* disputation. The Coleman research team found strong positive effects on low-income, minority students. Catholic schooling increased minority test scores by an estimated 0.15 standard deviation yearly, nearly three times as much as the estimated effect on white students (Hoffer et al. 1985, tables 1.7 and 1.8, 80–81).[11] Jencks showed that Wilms's data, despite its exclusion of dropouts, also contained positive (though not statistically significant) effects of attending a Catholic school on African Americans' reading scores. Taking all the evidence from both studies into account, Jencks (1985, 134) concluded, "the evidence that Catholic schools are especially helpful

10. The findings presented in this paper come from analyses conducted on the National Educational Longitudinal Study.

11. These are the estimates of effects when controlling for background characteristics and years in Catholic school. Effect size is estimated from information provided in Jencks, who estimates an annual effect size of Catholic schools for all students of around 0.05 in math and reading but does not estimate an effect size for black or minority students, separately. Hoffer et al., however, estimate effects on minorities that are about three times those for whites.

for initially disadvantaged students is quite suggestive, though not conclusive."

Later studies have generally affirmed the Coleman team's findings. In an analysis of the National Longitudinal Survey of Youth, Derek Neal (1997) found that students who attend Catholic schools are more likely to graduate from high school and college and score higher on standardized tests. The effects, Neal notes, are the greatest among urban minorities. Catholic schools also have a significant, positive effect on black earning potential, but not on that of whites. In separate studies David Figlio and Joseph Stone (1999, 133) as well as William Evans and Robert Schwab (1993) reached similar findings for African Americans. They also found that the effect of Catholic schools was particularly large in central cities. In Figlio and Stone's words: "The estimated treatment effect is more than twice as large for African Americans in big cities than for African-Americans in general." (Other studies finding positive educational benefits from attending private schools include Coleman et al. [1982], and Chubb and Moe [1990]. Critiques of these studies can be found in Goldberger and Cain [1982].)

These findings from national surveys indicate that private schools can help close the education gap. They are supported by results from a randomized experiment, the three-city study that my colleagues and I conducted. We found positive private school effects on the educational performance of African Americans but found little effect, one way or another, on the performance of other groups. African American students, after attending private schools for three years, reached, on average, a performance level somewhere from one to two years higher than a comparable group of African American students who remained in public schools.

That similar differences were not always observed for groups from other ethnic backgrounds is to be expected. Private

schools, to survive, do not need to realize higher levels of achievement as long as they are offering something else that parents desire. In a market environment where the competitor is able to offer similar services free of charge, private schools, to attract a clientele, must keep costs low but still match public schools on achievement, and offer something else besides, usually an education that comports more closely with the family's values. To make sure students learn, private schools place high expectations on students and their families. Interestingly enough, such policies have the biggest positive benefit on the educational experience of African American students. In a school that insists on student self-discipline, family engagement, and appropriate behavior by peers, African American students are the ones who benefit the most, simply because in a public setting those elements of co-production are especially hard to realize.

Conclusions: The Road to Adequacy in Public Education

For those concerned about adequacy in public education, there is much to be learned from the private sector. Even if we assume that, for the white majority, the rate of learning in the private sector is only just as good, and not greater, than the rate of learning in the public sector, productivity is higher in the private sector because private schools are doing equally well at little more than half the cost. Any automobile maker who could do the same would drive the competition into oblivion. Only the public schools' access to government subsidies prevents the same from happening to them. When the public and private schools are put on a more similar financial footing, as in Milwaukee, Wisconsin, a steady flight to the private sector takes place. That public schools fiercely fight all voucher initiatives only reveals that they are aware of this.

But can any of the productivity-enhancing elements in the private sector be exported to the public one? Is there a way of achieving more adequate public education other than pursuing a financial strategy that has so far proven illusory? Certain organizational steps can easily be taken—indeed, they are already being undertaken in places where public schools are facing strong competition. In Milwaukee, the most competitive environment in the United States, middle schools are being phased out, elementary schools are expanding up through eighth grade, high schools are being divided into smaller units, and authority is being decentralized to the building level.

All these are important first steps, but can public schools do a better job of enlisting the help of educational co-producers? Here, the place to begin is with the students, who need to be given strong incentives to learn. Ideally, attendance at desired public schools should depend on self-discipline and, as a child grows older, on educational achievement. Short of that, students should not be promoted from one grade to the next unless they reach a stated level of proficiency. Students should reach a certain level of achievement in a range of subjects before they are given their high school diploma. And high school examinations should be subject-based, comprehensive, and allow for a range of achievement beyond the bare minimum. Results should be incorporated into high school diplomas and, if the student so authorizes, scores should be made available to employers and institutions of higher learning. Then, the higher-performing students will be given incentives to reach still higher levels of accomplishment.

All these steps will affect students, peers, and families alike. With goals well specified, achievement rewarded, failure penalized, and peers who interfere with the learning process removed from the educational setting that most students enjoy, the conditions for learning in public schools will be greatly enhanced.

All this can be done at a minimum cost, well within the budgets of almost all school systems.

Courts cannot mandate these reforms, of course. The search for adequate education cannot be legalized. But once courts understand that co-producers play a key, if not the primary, role in the educational process, then financial issues that are currently given preeminence will be placed in appropriate perspective.

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