

EDUCATION VOUCHERS: GLOBAL EXPERIENCE AND INDIA'S PROMISE

Despite Herculean efforts by the Indian government, our education system has failed to provide access to all and good quality of education to those who are in the school. Over the years, different approaches have been tried to address these problems but none have worked well. The reasons for the failure are many but the result is that we have a two-tier system of government and private schools with all the attendant social, political and economic problems. Those who can afford, go to private schools; those who cannot, go to government schools. The children of the poor have no option but poorly functioning government schools. This gross inequality of schooling opportunities is the result of our current approach to education.

In this study we offer education vouchers as a tool to change the way education for the poor is financed by the government. We first discuss the current ideas of reform, outline a new reform agenda in which education voucher is one ingredient, and then narrate the experience of eleven countries that have implemented education vouchers. Some of the lessons from these experiments are highlighted and a list of Frequently Asked Questions concludes the study.

I. CONVENTIONAL REFORMS

The Right to Education Bill 2005 is the latest effort by the government and education experts to bring elementary education to all. There are a few good ideas in the Bill, but the basic approach represents outdated thinking and is completely disconnected from

the ground realities of today's India. It attempts to move the country towards a Common School System, where the government will decide which school the student should attend, with the ultimate goal being that all students from a given area attend the same 'common' school.

The Common School System is a system that many western countries established more than a century ago. Has nothing changed in our understanding of how to provide quality education in a century? Should we look at what these countries had done a century earlier or what they are doing today to improve their education system? They are, in fact, moving away from the regimented, bureaucracy-ridden system that has come to represent the interests of teacher unions and administrators rather than of students. Let's learn from their mistakes, not repeat them.

Another common proposal is to increase government expenditure on education to about 6 percent of GDP. The almost doubling of government expenditure on education is bound to have some positive impact. The question is whether the impact would be in any way proportionate to the increase in spending. It is evident that unless we reform the delivery system, the extra money is unlikely to match our expectations of improvement.

Many of the countries that achieved high literacy rates in the post-war era have rarely spent anywhere close to the 6 percent of their GDP. South Korea has spent about 3.2 percent; Japan spends around 3.8 percent, and China 2.6 percent. Student expenditure in the United States is one of the highest but student performance is far below the world

standard. International evidence suggests that it is not how much the government spends but how it spends that determines the quality of education.

Geeta Gandhi Kingdon's study of Uttar Pradesh (in 1996) documents that expenditure per student in private unaided schools was Rs 999, in private aided schools Rs 1827, and in government schools Rs 2008. The learning achievement was however in the direction exactly opposite to the amount of spending. The government spends more than twice that of private unaided schools and provides half as much education. Similar results have been found in Delhi (Tooley and Dixon 2005) and Punjab (Mehta 2005).

Looking at the quality of government schools one may surmise that we do not spend enough money on them. But the reality is quite different: the Bangalore Municipal Corporation spends Rs 1,700 per student per month in municipal schools! We spend a great deal, just don't get results.

II. A NEW AGENDA FOR REFORMS

The success of India's economic reforms suggests one important way to improve our education system: delicense, deregulate, depoliticise, decentralise. Make schools and colleges accountable not to education bureaucrats (licensors) but to parents and students (customers). Increase choice and competition in education as we did in the economy.

High prices in terms of tuition fees and donations and long queues for admissions are

signs of shortages. The same paucity of supply existed for consumer goods before the 1991 liberalisation. We abolished the license-permit-quota raj in the industry and ended the shortages. But the same license-permit-quota raj stifles our education system.

EDUCATION REFORMS

- ✓ Remove the license-permit raj to expand the supply of education
- ✓ Decentralise and depoliticise decisions about syllabi, textbooks, and examinations
- ✓ Grant financial autonomy to government schools and colleges
- ✓ Link government grants with performance for all education institutions
- ✓ Establish independent rating, certification, and accreditation agencies
- ✓ Fund students, not institutions: Help the poor by scholarships, vouchers, and loans
- ✓ Allow for - profit educational institutions
- ✓ Pass private university bill
- ✓ Declare education an 'industry,' where edupreneurs have access to credit and venture capital

To start a new school, one must first acquire an Essentiality Certificate (EC) from education authorities. In evaluating the application, the authorities take into account the number of existing schools in the area and whether there is extra demand for education. These licensing procedures are as cumbersome as they are unnecessary.

In addition to the Essentiality Certificate, the government has detailed specifications for

classroom size, playground facility, hiring, firing, and salaries of staff and teachers. Undoubtedly all these regulations are well intended. But the outcomes more often are perverse. Deepalaya, a school for slum children in Delhi, has been refused recognition by the government for more than 10 years on the grounds that it does not pay the stipulated salary to its teachers. The small private and NGO schools for the poor cannot afford to pay these salaries. Most of them get their teachers to sign for the government-required amount while actually paying what they can. Deepalaya refuses to be dishonest. And so it cannot get government recognition. Its students register at other recognised schools to appear for board examinations. Does this serve the interests of the poor students? All the evils of the license-permit-quota raj that we experienced in the industrial sector still haunt our education system.

According to the official data, almost 40 percent of children in the school-going age are out of school. A very shocking number indeed! But it turns out that the government does not survey private unrecognised schools, so students in schools like Deepalaya are counted as out of school. Most household surveys indicate that about six to ten percent students are out of school. This implies that about 30 or more percent of children are in private unrecognised schools. These are schools that work out of 2-4 room places and charge Rs 50 to 200 per month, where we find children of domestic help to cycle rickshaw pullers. These schools would never be able to afford a playground or pay government salary to the staff.

The regulations mean well but they overlook the reality that by passing a law the

government cannot guarantee universal access or high quality education. Most of these well-intentioned rules suffer from unintended consequences of promoting those who are dishonest and punishing those who are honest. Similar outcomes occur due to the requirement that only a non-profit trust or a society can run educational institutions. More time and efforts are spent to hide and distribute what the Supreme Court permits itself to call 'surplus.' One can make profit by selling *roti, kapada, or makan*, but not by giving *shiksha*.

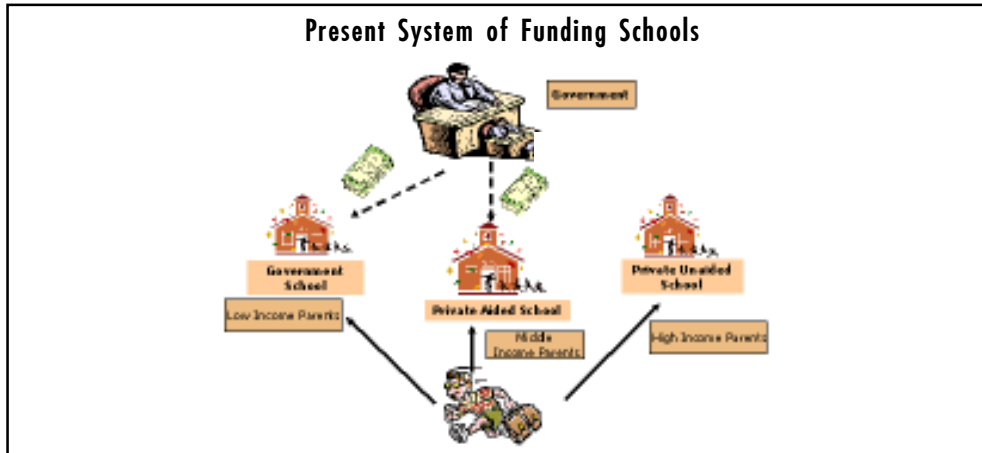
We should combine the core competency of the private and the public sector. Let the private sector produce education—build and manage schools and colleges—and provide it to all who can afford to pay. For those who cannot afford to pay, let the government finance their education through scholarships, education vouchers, and loans. The government stands as a guarantor of education, not by producing it but by financing it. Instead of focusing on the inputs to education, the government ensures the output—meaningful, high quality learning. This approach combines the efficiency and accountability of the private sector with the equity and independent supervision of the public sector.

The role of the government is to liberate the supply side, fund the demand of the poor, and monitor the access and quality of education. Let the private initiative and entrepreneurship—for profit and non-profit—govern our schools and colleges. Scholarships, education vouchers, and loans would offer the same freedom of choice to the poor as the rich enjoy today.

III. EDUCATION VOUCHERS: FUND STUDENTS, NOT SCHOOLS

Under the current system, the poor have no choice but to attend government schools. The government has a monopoly on the education

of the poor. And like any other monopoly, it does not serve the interests of its customer well. How do we then assure better quality education to the poor? How do we break government monopoly on the poor?



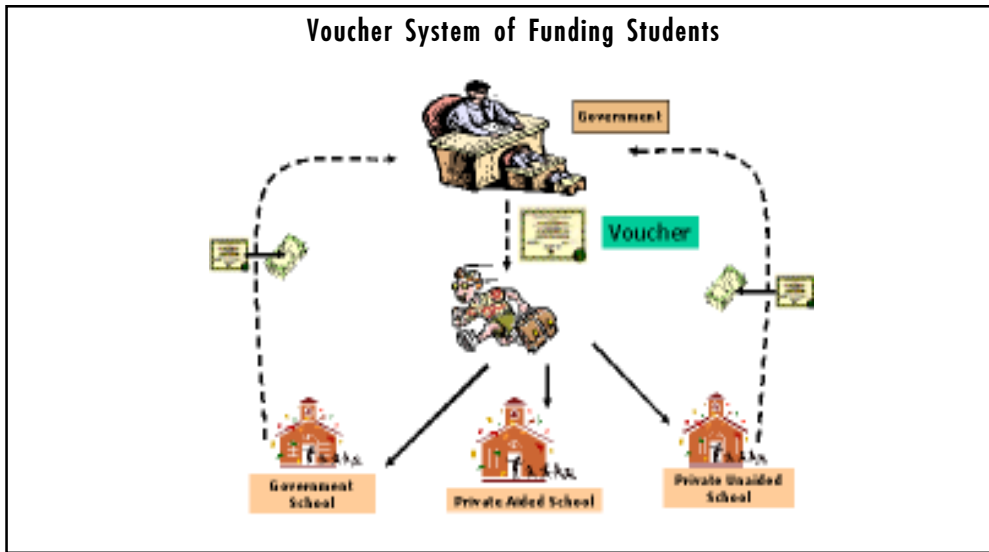
Equal opportunity to rich and the poor

The idea of Education Voucher is to empower poor students so that they can attend a school of their choice. The poor will have the same choice as the rich and schools will compete for all students. The same student who goes to a government school today can take the voucher from the government and go to any school of her choice. Their choice in turn creates competition among schools to attract and retain students. The choice and competition working together provide universal access and higher quality of education to all.

Basically the money that governments spend on government schools is converted into education vouchers and given directly to poor students. Instead of funding schools, the government fund students.

The education voucher is a coupon offered by the government that covers full or partial cost of education at the school of student's choice. The schools collect vouchers from students, deposit them in their bank account, and the bank credit their account by equivalent money while debiting the account of the government. No money actually changes hand, only the voucher moves from the student, to the school, to the government.

In the present system, the schools are accountable to the government. The voucher system makes schools accountable directly to students since they pay for their education through vouchers. If the student does not like the school, she can take her voucher to another school. Under the voucher system, money follows the student. In the present system, money follows the school. The sketches above and below capture well the differences in the present and the voucher system of funding education for the poor.



What are the benefits of education vouchers?

- Ö **Choice for students** – Today a poor student is not able to avail of good education because she cannot afford to go to a school at all or she is stuck in a poor performing school. The voucher gives her the money and thereby mobility to go to any school that she feels would give her good education.
- Ö **Equality of opportunity** – This scheme satisfies the basic human right that all children be treated equally and equal opportunity for education to be provided to all irrespective of cash, caste or creed.
- Ö **Incentives for schools to increase enrolment as well as quality** – The revenue of a school depends on the number of students it has—both who pay directly and who pay through vouchers. Each school would actively solicit

students, including the poor (voucher) students. The resultant competition among schools would improve the quality of learning, of infrastructure, of extra-curricular activities. To attract and retain students, schools would offer variety of services that students and parents value—mid-day meals, transportation, supplementary tutorials, after school care. The schools provide these extra services not because they are mandated but because that is the way to keep their student-customers. More importantly, each school has the incentive to figure out the service that is most valuable to its students. In some cases, it could be mid-day meals, in other free transportation, or after school care.

Concerns about corruption and leakage in any public system are warranted. However a well designed voucher system will have less leakage than the present system as it puts the money directly in the hands of those who will pay and benefit from it.

Where have vouchers been implemented?

Voucher programs have been implemented in different forms in countries as diverse as Sweden, Chile, Columbia, Holland, USA, UK, New Zealand, Bangladesh, Czech Republic and Cote d' Ivorie.

The Cleveland Program

- ✓ USA's first publicly funded voucher program.
- ✓ Voucher amount = 90% tuition fees, up to \$2,250.
- ✓ Low income students were provided vouchers through lottery since the government did not have enough money to give to all.

Findings of the Cleveland Program

- ✓ Parents satisfied with increased education opportunities.
- ✓ Voucher students in private schools had increased test scores in language and science. These students were among the most disadvantaged students in Cleveland.
- ✓ Test scores of voucher students improved with time.

Types of vouchers

- Vouchers can be tailored to suit specific needs of a country or locality:

- Vouchers could be allowed to be used only across public schools, or public and private schools.
- Vouchers could be universal (given to all students of school going age). In conclusion, various types of voucher schemes have benefited thousands of students all over the world in very diverse countries. Education vouchers give us the opportunity to provide easier access and better quality of schooling to poor students.

IV. GLOBAL EXPERIMENTS IN EDUCATION VOUCHERS

We review 18 different voucher programs in 11 countries, describe their design and workings, as well as outcomes and impact on student performance.

1. Sweden

In Sweden, private enrolment at the primary school level was 4.6% in 2001 (EFA) and 5.1% in 2002 (EdStats). At the secondary school level, 3.9% of students attended private schools in 2001 (EFA). Private household expenditure on education was very low at 0.1% of GDP in 2001 (Education at a Glance 2004). Simultaneously with the voucher system, free choice among public schools was introduced (Hepburn 1999).

The voucher program applies to all children subject to compulsory education at the primary and secondary level. Every school approved by the National Agency for Education is entitled to public funding.

Private schools receive money from municipal school boards equal to per pupil funding in public schools¹. This principle of equal funding for public and private schools was introduced in 1992 for primary and lower secondary schools, in 1994 for upper secondary schools (Bergstroem and Sandstroem 2005; Hepburn 1999; West 1997)². Since then, the amount of tuition private schools can charge is restricted to the value of the voucher. There are several other requirements on schools: They must follow a national curriculum and are supervised by the National Assembly of Education; they must accept students on a first-come, first-served basis and students are required to take local government examinations four times during their academic careers. On the other hand, there are no restrictions on how a school should be owned or managed. Schools do not need to be independent, i.e. several schools can be owned by the same entity or company. Schools are also allowed to make profit.

As a consequence of the voucher scheme, the number of private schools has increased considerably³. Entry barriers are low since there are very few legal restrictions on opening a private school; however there is increasing government regulation of private schools once they have been established. Studying the socio-economic composition of schools reveals that parents of private school pupils are better educated than those of public

school pupils, and they avoid schools with larger shares of non-Nordic immigrants (Gauri and Vawda 2004).

After the introduction of the voucher system, schools were given a large degree of autonomy. Although certain requirements on schools existed, such as achievement targets and the rule that teaching should be non-confessional, there was little supervision of schools. As achievement targets were not met and there was public concern about the quality as well as about practices in some religious schools, demand for stricter regulation and more government intervention arose. This leads Sandstroem (2005) to conclude that minimal but strict regulation is necessary to ensure private school independence in the long term.

Impact of Vouchers on Academic Achievement

Bergstroem and Sandstroem (2002) describe a positive effect of competition by private schools on academic achievement in public schools, which is statistically significant in half of the cases studied. The data used information on grades, test results and socio-economic background of 28,000 students in the ninth grade for both public and private schools in the academic year 1997/1998. Regression analyses were carried out both at the individual level and at the level of average

¹ A problem reported about this distribution mechanism is that municipal school boards were sometimes reluctant to hand over funds that were previously used for municipal schools to private schools.

² The relative amount of private school funding changed twice between 1991 and 1997: from 85% to 75% to 100% of municipal schools' funding per student.

³ According to different sources, the number of private schools is growing by 0.5 -1.0% per year; i.e. educating about 3500 more students every year (Hepburn). The share of private schools increased from 1% in 1991 to 4% in 2002 (Gauri and Vawda 2004). Between 1992 and 2002, the private primary schools increased from 106 to 488, and lower secondary schools from 16 to 149 (Bergstroem and Sandstroem).

scores in municipalities. In both cases, controlling for several variables such as parents' education and income as well as the initial public school quality in the municipality, the authors find that in all cases they studied, the academic achievement of students in public schools is better when the share of students attending private schools in the municipality is higher.

2. Czech Republic

In the Czech Republic, private enrolment is very low at the primary level, around 1% of total primary enrolment in 2001 and 2002 (EFA; EdStats). For private secondary schools, sources slightly differ, reporting around 6-13% of total secondary enrolment within the time period from mid 1990s to 2002.⁴ Private household expenditure on education was 6.1% of total expenditure on educational institutions in 2001 (Education at a Glance 2004).

The introduction of a voucher scheme in the Czech education system was motivated by the end of communism and an excess demand for education. Additionally, pedagogical weaknesses were seen in the public school system and some parents distrusted public schools due to the role these had played in the communist system. The scheme applies to all students, in private as well as in public schools. All schools receive public funding based on the number of students enrolled. However, payments are not equal for public and private schools. Government funds to private schools are allocated in two ways: First, they receive some base support corresponding

to 50% of public school funding per student; second, private schools are awarded supplementary support tied to their quality, which is assessed by local school offices based on fixed criteria. In total, private schools receive 60-90% of public school funding per student; they are allowed to charge additional tuition (Filer and Munich 2000).

As a consequence of the voucher scheme, Filer and Munich (2000) report little increase in private primary schooling, but a relatively large impact at the secondary school level. By the mid 1990s, the number of private secondary schools had increased from 0% in 1990 to 25% of secondary schools enrolling around 13% of secondary students.

3. Italy

Educational vouchers meant to improve school choice have been introduced in Italy between 2001 and 2003 in eight out of twenty regions⁵. The exact design differs across regions, but in all of them the government subsidises tuition fees at private primary and secondary schools. In most regions this is organised as an ex-post reimbursement of tuition expenses given to students. The value of the voucher differs considerably across the country. The national government provides funding of 150-200· per student, depending on the total number of applicants, but this amount can be supplemented by regional funds; therefore the amount students receive varies across the country.

Five regions have an upper limit to the voucher value, which ranges from 1875·

⁴ The figures are: 13% in mid 1990s (Filer and Munich 2000); 9.8% in 1998 (Gauri and Vawda 2004); 6.7% in 2002 (EFA); 7.09% in 2002 (EdStats).

⁵ Nine regions adopted legislation for a voucher program and eight of these allocated funds to it for actual implementation.

(upper secondary school in Piedmont for a poor household) to 210 (primary school in Veneto for a middle income household). Generally, the voucher covers 25-80% of tuition fees. In all except two regions eligibility for the voucher program depends on family income. In the remaining two regions, eligibility is based on academic achievement. The school receiving voucher funds has to be certified, i.e. legally recognised by the government. This requires approval of the curriculum by the Ministry of Education and implies open admission to all solvent students who apply.

Brunello and Checchi (2005) find a trend towards higher private enrolment as a consequence of education vouchers. However, they voice concerns about the potential of the voucher program in increasing the quality of public schools by private competition, because they find private schools to be of rather lower than higher quality compared to government schools. The impact of vouchers on the quality of education in public and private schools has yet to be assessed.

4. Colombia

In Colombia around one fifth of students are enrolled in private schools.⁶ The voucher scheme was introduced in 1992 as part of a larger reform program aimed at decentralisation and privatisation of public services. The introduction of educational

vouchers in particular was motivated by the fact that public schools had reached capacity limits and that the secondary enrolment rate was only 75% (and as low as 55% for the poorest quintile of the population). The main goal of the voucher scheme was to enable poor students to attend secondary school in areas where public schools had reached capacity limits and thereby to quickly increase school capacity and secondary school enrolment rates (Angrist et al. 2002; Gauri and Vawda 2004)⁷.

Accordingly, the Colombian voucher system is specifically targeted at students from low-income families, more specifically at students entering the sixth grade and living in low-income areas, who have previously attended public primary schools and who do not find a place in public secondary schools (Gauri and Vawda 2004; Turbay 2000).⁸ These students receive vouchers—co-financed by the national government (covering 80% of the costs) and participating municipalities (covering 20%)—to be used to pay for tuition at private schools. The municipalities are responsible for administration of vouchers. The allocation of vouchers among municipalities is determined by agreements between the national government and municipalities, taking into account the total number of vouchers available in the specific year, the local necessities as well as the estimated number of open places in local private schools (Turbay 2000).

⁶ Private enrolment as a share of total enrolment was 18.8% at the primary school level and 28.1% at the secondary level in 2001, according to EFA; according to EdStats the figures for 2002 are 17.09% and 24.07% respectively.

⁷ In 2002 the government started another reform initiative called 'revolucion educativa', under which 1.5 million new places in schools were planned to be created by 2006, partly targeted at students from vulnerable parts of the population (Ministerio de Educacion Nacional). By 2005 43% of these have been installed (eltiempo.com).

⁸ A neighbourhood is classified as 'low-income' if it falls into the two lowest socio-economic strata (on a scale of 6 strata); residence in the neighbourhood has to be proven by presenting a utility bill (Angrist et al. 2002).

Before applying for a voucher, a student has to be accepted by a private school participating in the program. If the local demand exceeds the municipal allotment, vouchers are allocated among applicants by lottery⁹. In 1997, vouchers were given to 125,000 students, corresponding to 1% of national secondary enrolment (Gauri and Vawda 2004). Students receive vouchers three times a year and forward them to their school directors; these get paid the value of the voucher from the ministry and the municipalities (Turbay 2000). The value of the voucher was initially set an amount equal to the full tuition at low-cost private schools. However, it was not indexed to inflation, therefore, in 1998 vouchers covered only about 50% of tuition and had to be supplemented by private means. Once a voucher has been awarded to a student, the funding is automatically renewed until the end of secondary school if the student keeps being promoted to the next grade.

In order to receive voucher funds, a school has to be situated in one of the participating towns, which include all major cities. Almost 50% of private schools in the 10 largest cities accepted vouchers in 1993 (Angrist et al. 2002), but most 'elite' private schools did not participate in the program. New for-profit private schools emerged after the introduction of educational vouchers, however, based on concerns about the low quality, for-profit schools were excluded from the program in

1996. Funding for public schools was not reduced if enrolment decreased due to the voucher scheme (Angrist et al. 2002; Gauri and Vawda 2004).

According to information from the Colombian Ministry of Education, secondary enrolment increased during 1992 and 1997 from about 55% to about 65%.¹⁰ There has been a general upward trend in secondary enrolment between 1960 and 2002; though the increase is particularly pronounced during the early 1990s, this may or may not be causally related to the voucher program.

The educational achievement levels in voucher schools are very close to test scores in public schools and significantly lower than in non-voucher private schools.¹¹ The student-teacher ratio and available facilities are similar in voucher schools and public schools; furthermore, many teachers at voucher schools are former public school teachers (Angrist et al. 2002).

5. Chile

Private education plays an important role in the Chilean school system, with about half of the students attending private institutions.¹² Private household expenditure on education is also relatively high, with 42.6% of total expenditure on educational institutions being covered by private households (Education at a Glance 2004).

⁹ The municipalities decide on the number of vouchers, subject to a maximum allocated to them by the national government (Angrist et al. 2002).

¹⁰ These figures for secondary enrolment in 1992 are different from those given by Angrist et al. (55% [Ministry] vs. 75% [Angrist]).

¹¹ As mentioned in the case study, also a couple of new, for-profit private schools emerged in response to the voucher program, which were considered to be of low quality. Therefore for-profit schools were excluded from the program.

¹² Private enrolment as percentage of total enrolment was 45.5% at the primary school level, 49.7% at the secondary school level in 2001 (EFA).

In 1981, as part of a broader program of liberalising the economy, the Pinochet government introduced an educational voucher system and simultaneously decentralised the public school sector by transferring the administration of public schools from the Ministry of Education to the municipalities (Contreras 2002; Hsieh 2003). The objectives of the program were, first, to foster competition among schools, thereby improving the quality of education, and second, to reduce government spending on education¹³ (QPEC Factfile n.d.).

The voucher program is publicly funded and applies to all children of school-going age who attend participating primary and secondary schools. Funding is allocated to public and private schools on an equal basis, strictly proportional to the number of students enrolled in each school (Contreras 2002; Gauri and Vawda 2004; Hsieh 2003; West 1997). For private voucher schools, the money is directly paid to the schools. For public schools, it is given to the respective local administration, i.e. usually to the municipality, which distributes it among the public schools in its district. However, this distribution does not necessarily reflect the exact differences in enrolment across schools in this municipality (Auguste and Valenzuela

2003). The value of the voucher varies depending on location and level of education (Carnoy and McEwan 1999).

Initially, private schools were not allowed to charge additional tuition above the voucher value, but as the real value of the voucher declined due to inflation¹⁴, this regulation was abolished in 1993. Now private voucher schools may charge tuition¹⁵; the value of the voucher given is lower for schools with higher tuition fees (Auguste and Valenzuela 2003; Carnoy and McEwan 1999)¹⁶. Even though the value of the voucher is equal for public and private schools, public schools receive more government funding in reality via additional subsidies. For instance, no public school closed due to a loss of students, because if necessary, public schools have received extra funding to pay their teacher-salaries (Sapelli 2005). Further, the government gives targeted subsidies to public schools in low-income areas, e.g. for textbooks, school materials and food. These subsidies are 'nonportable', i.e. they are tied to a specific school, so that a student who changes to a different school will not be able to benefit from these subsidies anymore. This works as a disincentive for students to exercise school choice (Sapelli 2005; Sapelli and Torche Fecha 2002).

¹³ Public spending on education initially decreased from 5.3% of GNP in 1985 to 3.7% in 1990, but later spending increased again to over 5% of GNP (QPEC Factfile).

¹⁴ The voucher value was initially corrected for inflation, but after the economic crisis in the early 1980s this was not done anymore.

¹⁵ Despite public schools not charging tuition their average resources per student are close to those of private voucher schools (US\$ 172.5 per year per student for public schools vs. US\$ 181.1 for voucher schools in 2000, including voucher payments). One reason for this is that after 1990 targeted subsidies were introduced for low performing schools, which benefited mostly public schools. Some public schools also receive additional funding from the municipalities (Auguste and Valenzuela 2003).

¹⁶ In 2000, 71% of the voucher schools charged tuition. Since 1997, these schools are legally required to have an explicit scholarship policy; effectively 66% of their students paid tuition in 2000 (Auguste and Valenzuela 2003).

There is a high degree of government regulation of private schools, e.g. concerning school administration, curricula, buildings and qualification of teachers. Also, entry into the market is restricted as establishment of a new private school requires government approval, which is only granted if there is no excess supply of schools. In addition it implies regulation of staff, teaching materials and buildings. Teacher-salaries are centrally negotiated and therefore cannot be decided upon autonomously by the school (Merrifield 2005). On the other hand, as opposed to public schools that have to admit all students they can accommodate within their capacity, private voucher schools may freely set admission criteria (Auguste and Valenzuela 2003).

With the introduction of the reforms in the 1980s, hiring and firing of teachers was facilitated, as public school teachers' contracts were revoked, they lost their status as civil servants and had to give up a number of rights.¹⁷ Private school teachers also lost some legal rights, such as minimum wage guarantees and provisions for annual wage adjustment (Carnoy and McEwan 1999). Abolishing the teachers' union and thereby suppressing potential opposition by teachers was possible because Chile was ruled by a military regime at this time. The teachers' union was reintroduced by the new (democratic) government that came into power in 1990. The government also increased

minimum teacher wages as well as the voucher value (Auguste and Valenzuela 2003).

As a consequence of the voucher program, the number of pupils enrolled in private voucher schools increased from 15% of total enrolment in the early 1980s to 33% in 1996; today almost one half of Chilean students attend private schools. Accordingly, enrolment in public schools declined, but almost no public school closed (Gauri and Vawda 2004). In 1996, about 91% of students were enrolled in public and private voucher schools (Carnoy and McEwan 1999), so most of the schooling in Chile is voucher-financed. However, the private schools that have chosen not to participate in the voucher program have the highest academic achievement levels (Hsieh 2003; Contreras 2002)¹⁸.

Impact of Vouchers on Academic Achievement

Contreras (2002) uses individual level scores for 1998 from the Academic Aptitude Test (PAA) to assess the impact of attending a private voucher school on academic achievement. This college entrance examination was taken by about 80% of students who were in the fourth year of secondary school. After controlling for age and parental education, and availability of a voucher school in the student's community, the positive impact of the probability of

¹⁷ Public school teachers' salaries and working conditions were no longer determined by the *Escala Única de Remuneraciones* but by the more liberal *Código de Trabajo*. This implied a loss of "guarantees of job security, the right to salary during vacations, standard wage scales, a 30 hour work-week, and the right to collectively bargain" (Carnoy and Ewan 1999, p.5).

¹⁸ These schools had mostly been charging tuition fees before the reforms, as opposed to other private schools (mainly religious ones) that did not charge tuition and received state subsidies (covering about 30% of their costs in 1980) even before the voucher program was introduced (Carnoy and Ewan 1999; Hsieh 2003).

attending a private voucher school on achievement is significant. Therefore, Contreras concludes that the voucher system increases academic achievement as measured by the PAA.

While Contreras' (2002) findings show that students in private voucher schools perform better than their counterparts in public schools, Ramos's analysis shows that this claim does not hold for the subgroup of students from a low socio-economic background. Ramos (2002) uses scores in standardised tests, averaged at the school level, in his analysis of the efficiency of private voucher schools compared to public schools. The scores describe fourth graders' achievement in mathematics and Spanish in 1996. Comparing achievement across school types, Ramos finds that scores in private non-voucher schools are significantly higher than in voucher schools and public schools; however private voucher schools perform only slightly and not significantly better than public schools. In the rest of the analysis, only private voucher schools and public schools are compared. Based on several regression models, the author concludes that students from lower socio-economic background perform better in public than in private voucher schools, but students from a more advantaged background will do better in a private voucher school than in a public school.

It is pertinent to ask if the overall average achievement in the country has increased as a consequence of the voucher scheme. There is the possibility that vouchers benefit those who are enabled to attend private voucher schools but have a negative effect on students

remaining in public schools. This information is needed to assess whether the voucher scheme improved the quality of education on the whole. According to Carnoy and McEwan (1999) a high concentration of private schools in a community had a small positive effect on test scores in public schools in the capital city, equal to 0.2 standard deviations in test scores over 15 years. In the rest of the country they find a small negative effect.

Auguste and Valenzuela (2003) test the effect of competition created by voucher schools on average achievement at the county level as well as the effect of competition on sorting of students across schools. Data on individual scores in standardised achievement tests is obtained from the System of Information and Measurement of the Educational Quality (SIME) for grade 8 in the year 2000. The results show a moderate positive effect of competition on average achievement in the county¹⁹. Further, concerning the sorting aspect, competition results in larger social stratification across schools as measured by parents' education. Auguste and Valenzuela also report differences in achievement across school types; students in private non-voucher schools have higher test scores than those in private voucher schools, and these in turn have higher test scores than public school students. The results of the data analysis reveal that competition amplifies the difference in performance.

Overall, Auguste and Valenzuela (2003) conclude from their estimates that at the district level competition from private schools improves the quality of education. Even though competition leads to higher social

¹⁹ An increase of competition by one standard deviation corresponds to an increase of approximately 0.4 standard deviation in average achievement at the county level.

stratification and larger differences in academic outcomes across school types, average achievement in the district increases with competition.

Looking at the country as a whole, Hsieh and Urquiola (2003) find no change in national aggregate indicators of educational achievement after introducing the voucher program. First, the median score of Chilean students in the TIMSS²⁰ study has not changed relative to the median score in other countries between 1970 and 1999²¹.

Second, based on their own analysis of data for 150 Chilean municipalities, they find that academic achievement did not rise faster in communities with a larger expansion of private education, i.e. a higher impact of the voucher program. On the contrary, average repetition rates appear to have worsened in these municipalities relative to other areas.

Carnoy (1997) also assesses the development of overall academic achievement in Chile after the introduction of the voucher system. He reports that achievement in Spanish and mathematics measured by average scores of pupils in grade 4 in nationally standardised achievement tests fell between 1982 and 1988. For the period after 1988, Carnoy reports different results based on two studies by Rounds Parry and by Espinola. Analysing the average results of the standardised achievement tests in 1990, the conclusion can be reached that average achievement in 1990 was back at the same level as in 1982; however the second study cited by Carnoy

(1997) reports declining average test scores between 1988 and 1990. Both of these studies find that in middle-income areas, private schools had higher average achievement than public schools, but in the lowest-income areas, average scores were higher in public than in private schools. In 1990, public spending on education as well as the value of the voucher were raised by the new government. In addition, schools in low-income areas received targeted funding and technical assistance. After this, Carnoy (1997) describes an increase in test scores between 1990 and 1992 in public as well as in private schools. Overall, he concludes that average test scores have stayed constant or increased slightly during the first 13 years in which the voucher system has been in existence (between 1981 and 1994).

Using data of 5000 schools on the standardised achievement test SIMCE for the period 1994-1997 and controlling for several variables concerning characteristics of the schools analysed, e.g., related to socio-economic status and urbanness, Gallego (2002) finds significant the effect of competition on average test scores at the school level. Running separate regression models for the subgroup of public schools and the subgroup of private voucher schools, Gallego finds that the effect of competition is stronger for private voucher schools than for public schools. He offers the explanation that private voucher schools face stronger incentives to respond to competition than do public schools. Furthermore, for public schools the effect becomes insignificant in the

²⁰ Trends in International Mathematics and Science Study (formerly Third International Mathematics and Science Study), see www.timss.org.

²¹ The Chilean voucher system has existed since 1981 (see case studies).

ater years (1996/1997) because of the targeted funding to low performing schools that was introduced during the 1990s. As the program mainly benefited public schools and was potentially focused on those in disadvantaged rural areas, where there is little competition by private schools, its effect on public school quality in areas with low competition might have overcome a positive effect of competition in other areas and distorted the overall results.

To sum up, the research on the Chilean voucher program suggests that students achieve better academic results in voucher schools than in public schools. This holds true largely for students from a higher socio-economic background, who make up most of the enrolment in private voucher schools. Furthermore, competition by private voucher schools improves overall achievement at the district level, despite leading to higher disparities across school types. Also at the school level, competition from private voucher schools has a positive impact on educational quality, this effect is stronger for private voucher schools than for public schools. At the national level there is no or at most slight improvement in overall academic achievement.

6. Cote d'Ivoire

In Cote d'Ivoire, 10.9% of primary school students attended private schools in 2001 and 2002 (EFA; EdStats)²² and 36.2% of secondary school students received private education in 1995 (EFA).

Under the voucher program, 42% of private school students receive direct or indirect public funding (Gauri and Vawda 2004). At the primary school level, state subsidies are paid to private schools. For secondary school education, vouchers are given to students to attend private schools which are classified into "authorized" and "chartered/associated", only "chartered/associated" schools are eligible for public subsidies (Sakellariou and Patrinos 2004).

At the primary level, the amount of funding is negotiated with umbrella groups for religious and secular schools and varies with school location and tuition fees²³ and is only loosely linked to enrolment numbers. In 1999, these state subsidies for primary schools amounted to \$40–66 per student.

At the secondary level, funding is directly tied to enrolment, as the state sponsors specific students to attend private secondary schools. The value of this voucher was \$200 at lower secondary schools and \$233 at higher-secondary schools in 1999. This amount is higher than the tuition fees at low-cost secondary schools and about 1/10 of tuition at the best private schools (Gauri and Vawda 2004; Sakellariou and Patrinos 2004). A private school must meet certain conditions in order to qualify for public funding. The school must have been in operation for at least 5 years, it must have certified teachers for at least the last 3 years and class size has to be limited to a maximum of 45 students. Furthermore, the schools' tuition fees may not exceed 40,000 CFA per year outside Abidjan

²² According to Gauri and Vawda (2004), 13% of primary school pupils are enrolled in private schools.

²³ Higher funding is paid to schools outside Abidjan (the largest city and former capital of the country); the higher the amount of tuition charged, the lower the subsidy the school receives.

or 30,000 CFA in Abidjan and the school must have achieved at least national average success rates in examinations for the last 3 years (Sakellariou and Patrinos 2004).

One particularity of the education system in Cote d'Ivoire is the high share of religious institutions among private schools. In addition to tuition fees and public funding, these schools receive money from church funds. About 50% of the private education sector consists of religious school; most of them are Catholic. At the primary school level, religious schools outnumber secular schools; at the secondary level the opposite applies. Religious schools have a reputation for the highest quality.

7. Denmark

In Denmark, the share of students attending private schools in 2001 was 11% of total enrolment both at the primary and the secondary school level (EFA). 3.9% of total educational expenditure in 2001 originated from private households (Education at a Glance 2004). Students are assigned to a public school by the municipalities (for primary schools) or by the counties (secondary schools). Free school choice among different public schools is gradually introduced; authorities can allow for school choice but do not have to. However, there is free school choice among public specialised vocational schools and every student has the constitutional right to opt out of the public system in order to attend a private school (Justesen 2002; Hepburn 1999).

The objectives of the voucher system are to improve consumer responsiveness in the educational market and to enhance efficiency and student performance. The system applies to all students attending private primary and secondary schools and public vocational schools. Since 1992²⁴, private primary and secondary schools receive a subsidy for each student, which covers 80-85% of the cost (Justesen 2002). For the remaining amount, the government does not only allow, but even requires private schools to charge tuition above the value of the voucher, except in case of undue financial hardship (Gauri and Vawda 2004). Low-income families can apply for exemption from tuition fees at private schools (Justesen 2002). The value of the voucher varies with the size of the school, smaller schools receive up to 1.45 times higher per capita funding (Hepburn 1999.). Funding of public vocational schools is allocated via a 'taximeter system' based on student enrolment and covers 100% of the costs.

In general, a private school has to meet a number of criteria to be eligible for public funding. It must be managed by a board with a parent majority and has to follow national guidelines on the curriculum, on national exams as well as on teacher salaries and teaching time. Additionally, the school must enrol a minimum of 28 students and has to be independent from other schools. On the other hand, private schools are free in deciding on religious and pedagogical principles. Furthermore, despite adhering to general guidelines on the curriculum they can emphasise specific subjects or offer additional ones (Bergstroem and Sandstroem 2005;

²⁴ Before 1992, private schools were reimbursed with a fixed percentage of their expenditures, which proved to be too bureaucratic and did not provide any incentive for an efficient use of financial resources (Justesen 2002).

Justesen 2002). While the quality of public and private schools is generally equal, private schools distinguish themselves by alternative approaches to education (Hepburn 1999).

According to Justesen (2002), during the 1990s the number of private schools increased by 8% whereas the number of public schools declined by 6% as a consequence of the voucher scheme. This process has been facilitated by the legal system that sets little restrictions on opening a new private school. Among public schools, with the exception of vocational schools, there is little competition as there is no free school choice (Justesen 2002). Between public and private schools, however, a competition effect can be observed. Government schools adopt some practices of private schools, such as more parental involvement by establishing school boards with a majority of parent members. Additionally, free choice among public schools within a municipality is gradually introduced (Hepburn 1999). After the introduction of the voucher system, private schools have become affordable to all strata of society (Justesen 2002) and the public perception of the quality of government schools has improved (Hepburn 1999).

David-Evans et al. (2004) criticise the Danish public school system for relatively low achievement results in international comparison²⁵, which range around the international average and are lower than scores in comparable other Scandinavian

countries, and Canada and the UK²⁶. In addition, they point out the "the lack of a strong culture of student evaluation and consequent inadequate feedback" (p.4). The authors describe teachers' dedication as well as the decentralised system, which gives room for innovation, as strength of the system. In spite of this, they disapprove of "too little sharing of good practice" among schools, which hinders the spread of new ideas.

8. The Netherlands

In the Netherlands, around 68% of primary school students were enrolled in private schools in 2001 and 2002 (EdStats; EFA; Justesen 2002). For secondary school students, the share is slightly higher with 73-83% in the same years²⁷. Compared to these figures, private household expenditure on education is very low, amounting to 5.7% of total expenditure on education (Education at a Glance 2004).

The Dutch voucher system applies to all students subject to compulsory education in the whole country (West 1997). Government funds are paid to both public and private schools based on the number of students enrolled; schools are not allowed to charge additional tuition fees. Equal public funding to public and private schools is guaranteed by the Constitution. In the calculation of funding, students are weighted by socio-economic background²⁸, so that more money is paid for taking poorer students.

²⁵ The Danish average scores in the studies quoted are: IEA Literacy Test 1991: 3rd grade score: 475, 8th grade score: 525; IEA TIMSS 1994: mathematics: 502, science: 478; OECD PISA 2000: reading: 497, mathematics: 514. All scores are relative to an international average of 500.

²⁶ Their criticism focuses on public schools because these make up almost 90% of all schools.

²⁷ For 2001: 83.2% according to EFA and 73.0% according to Justesen. For 2002, EdStats reports 83.26%.

²⁸ classified into 5 categories

There are detailed regulations on schools in order to be eligible for public funding. They must follow a fixed curriculum and conduct national exams at the end of primary and secondary school. Class size as well as teacher qualifications and salaries are equally subject to regulation. Furthermore, a minimum school size is required: A new primary school must enrol at least 333 students in cities, and 200 students in rural areas for a period of five years to qualify for government funding. Similar legislation has been adopted for already existing schools. Nevertheless, private schools are granted a certain amount of freedom, as they can freely decide on teaching methods, course books and material; they may set admission criteria and are free to choose the content of 120 teaching hours per year (Justesen 2002).

After the guarantee of equal funding to public and private schools had been adopted into the constitution in 1917, the number of private schools increased and within few years 70% of students attended private schools. The equal funding base for all students implies entirely free school choice for all students and therefore a high degree of competition among both public and private schools (Justesen 2002). There are different opinions on whether the voucher system has fostered social differentiation across schools. While Justesen (2002) finds no significant difference in social composition of the student body in public and private schools, Fiske and Ladd (2000) report growing ethnic segregation between schools.

9. New Zealand

In New Zealand, around 2% of primary school students²⁹ receive private schooling. The corresponding share of secondary school students was 11.3% in 2001 (EFA).

A pilot voucher program was carried out as part of a more general reform of the education system towards gradual liberalisation and decentralisation, known as 'Tomorrow's Schools'. This reform includes the transformation of government schools into de-zoned charter schools, the creation of an autonomous government agency (Educational Review Office) to assess the schools and a small voucher program for low-income students. The national curriculum guidelines were also changed. Direct funding to schools for all expenses on a per pupil basis was opposed by teachers' unions. However, a stepwise implementation in some schools proved successful, therefore this way of funding was expanded up to 23% of schools in 1998. Nevertheless, teacher salaries remain funded by the government according to actual expenses and are negotiated between schools and the ministry of education. As part of the reform, school choice among public schools has been entirely liberalised (Fancy 2004; Gauri and Vawda 2004; Hepburn 1999.).

The objective of the pilot voucher program was to improve educational achievement of low-income families and give them the possibility to obtain the education of their choice. Publicly funded vouchers to pay tuition fees at private schools were given to 160 students

²⁹ 2% in 2001 (EFA), 2.06% in 2002 (EdStats)

from families with an income below NZ\$25,000. There was excess demand, therefore not all applicants received a place in the program. The vouchers cover the full private school tuition in addition to an allowance of NZ\$900 for primary students and NZ\$1,100 for secondary students, which is intended to cover additional expenses on uniforms, books and extra-curricular activities.

In the process of decentralisation, authority has been transferred from the central Department of Education to individual schools managed by parent elected boards (Hepburn 1999; West 1997). Schools have free control over teacher hiring, operating budgets, selection of academic missions, student fees and local fundraising (Gauri and Vawda 2004).

Due to its limited scale, the pilot voucher program as such cannot be expected to have a significant impact on overall quality of education in the country. However, since the deregulation of school choice, there has been a certain degree of competition among public schools. As the amount of operating funds as well as salary scales and prestige for principals are linked to the number of students enrolled (Gauri and Vawda 2004). On the other hand, a restriction on competition is posed by the regulation that no new school is allowed to open if there is sufficient space in existing schools (Hepburn 1999).

Some problems have been observed during the implementation of the educational reforms in New Zealand. These should not be regarded as consequences of the voucher program in a narrow sense but rather as resulting from

overall reforms, including school choice. First, the supply of education is restricted by a rule that no new schools are allowed to open if there is space in existing schools; this has led to some students and teachers being stuck in low quality schools because better schools have reached capacity limits (Hepburn 1999). Second, there is a higher degree of socio-economic stratification across schools, as schools serving mainly disadvantaged groups experience declining enrolment and higher shares of minority students, while there is rising enrolment and steady or falling share of minority students in schools serving advantaged populations (Gauri and Vawda 2004). This development poses a problem, because it led to a concentration of difficult-to-teach students in some public schools in low-income urban areas. Despite the poor quality of these schools, the government did not close them for political reasons; no new schools were established in these areas and the schools had problems in retaining and attracting high quality teachers (Fiske and Ladd 2000).

Studies of the effect on achievement of the voucher program as such are not available for New Zealand. Due to the small scale of the program, it can neither be expected to have significant impact. However, figures on parental satisfaction point towards a success of the voucher program. Overall 82% of the parents are satisfied with children's education while 97% of voucher student parents are satisfied with their children's education at independent schools. In addition, the majority of principals and teachers believe that the reforms had a positive impact on pupils' learning as well as on teaching content and teaching style (Hepburn 1999).

10. England and Wales (UK)

In the United Kingdom, the share of private primary enrolment was 4.9% in 2001 (EFA) and 2002 (EdStats). The figures for secondary private enrolment in 2001 are 52.4% in 2001 (EFA) and 58.3% in 2002 (EdStats). Private household expenditure in the UK amounts to 13% of total expenditure on education in 2001 (Education at a Glance 2004).

In England and Wales, an education voucher program was introduced as part of the "Education Reform Act" in 1988 in order to increase the diversity of provision of education and reduce state activity in this sector. The program includes only public schools. 75% of school funding is allocated based on age-weighted student numbers. Public schools are not allowed to charge tuition, therefore public funding covers the full cost of education. In theory there is free school choice, but in practice there may be bureaucratic obstacles, which differ across districts depending on the Local Education Authorities (LEAs). Schools have to follow a common national curriculum and national tests, but they have been given more autonomy over issues of management and administration, such as the budget. Additionally, schools could choose to become independent grant-maintained schools receiving funds directly from the central government instead of the LEAs; however, in 1998 the LEAs regained influence and grant-maintained schools were again controlled by the LEAs.

The voucher system has created some competition among public schools, but this competition is limited due to the 'surplus

places rule' stating that no new school can be established as long as there are places available in an existing near by school. The voucher program has had little effect on competition between public and private schools, as private schools are not included in the voucher scheme. This means that there are some very good public schools, but there also exist some, especially in low-income areas, that offer very low quality of education. The latter hardly face an incentive for improvement due to the surplus rule preventing new public schools to emerge and the absence of real competition by private schools, as these are not included in the voucher scheme (Justesen 2002).

After the introduction of vouchers, some studies find increased socio-economic segregation among schools; however others argue that segregation had taken place already before, based on residential areas (Gauri and Vawda 2004).

According to Gauri and Vawda (2004), academic achievement improved since the introduction of the school reforms. However, there are different opinions on whether this is attributable to competition; the increase might, for instance, be caused by the newly introduced practice of publishing results of nationwide test and school inspection results (Gauri and Vawda 2004).

11. USA

In the USA, private enrolment as a share of total enrolment in 2001 and 2002 was around 10% for primary schools and around 9% for secondary schools³⁰. Private household

³⁰ For primary schools: 10.3% in 2001 (EFA) and 10.81% in 2002 (EdStats); for secondary schools: 8.8% in 2001 (EFA) and 9.15% in 2002 (EdStats).

investment in education as a percentage of total investment in educational institutions was 18.8% in 2001 (Education at a Glance 2004). School choice among public schools is restricted: Students receive free education only in the public school in their district; they can attend a public school in a different district but have to pay tuition there. Several different voucher programs have been implemented in the USA at the state or community level.

a. Charlotte, North Carolina

In Charlotte, in the school year 1999/2000 a voucher program took place aimed at giving low-income students the opportunity to attend a private school. It was privately funded by the Children's Scholarship Fund and vouchers were given to both primary and secondary school students. Vouchers with a value of up to \$1,700 were awarded by lottery (Greene 2002).

b. Cleveland, Ohio

In Cleveland, vouchers financed by public funds are given to low-income students within the Cleveland City school district. Vouchers are allocated by lottery and can be used at both public and private schools (Hepburn 1999; West 1997). The value of the voucher given to each student is based on the amount of tuition charged by the private school of his or her choice; for families with an income below 200% of the poverty line, 90% of tuition is paid, for families with a higher income the voucher covers 75% of tuition. The total amount of tuition charged may not be higher than \$2,500 (Hanauer 2002). This corresponds to slightly more than 1/3 of per capita cost at public schools. Vouchers take

the form of checks payable to the parents of 'scholarship' students.

The voucher program faced considerable opposition from teachers' unions: A lawsuit by the American Federation of Teachers and others impeded the process of the lottery until two weeks before the beginning of the school year.

c. Dayton, Ohio

The voucher program in Dayton is also targeted at low-income students. Vouchers can be used to attend public and private primary and secondary schools. In 1998/99 vouchers were given to 765 students. The program is privately funded by Parents Advancing Choice in Education and since 1999 also by the Children's Scholarship Fund. In the first year, the vouchers covered 50% of tuition at private schools, up to a maximum of \$1,200. Later the amount was increased as more funds became available (Howell et al. 2000).

d. Florida

The objective of the voucher program in Florida is to create an incentive for low-performing public schools to improve their quality of education. In order to achieve this, students attending a public school, which has been classified as failing (i.e. as "F" on a scale from "A" to "F") twice within a period of 4 years based on student achievement tests, are offered vouchers to attend a different public or private school of their choice. Between 1998 and 2003, 10 schools were labelled as failing, making their students eligible for vouchers. By subjecting these schools to competition of other public and private schools

for students and the funding associated with them, the voucher program generates an incentive for the school to improve. The vouchers are financed by public funding and amount to \$4,000 per year (Gauri and Vawda 2004; Greene and Winters 2003).

e. Milwaukee, Wisconsin

The introduction of the voucher program in Milwaukee was motivated by high drop-out rates, low test scores and high disparity in educational opportunity between Milwaukee's low-income and middle-income families (Hepburn 1999). To be eligible for vouchers, students must come from households with an maximum income corresponding to 1.75 times the poverty line and they must not have attended a private school or a school outside the Milwaukee Public School District the year before (Witte and Torn 1994). The selection of voucher recipients among eligible low-income applicants is done by the schools on a random basis. Vouchers can be used at private, non-sectarian schools. They are given to primary and secondary school students; most recipients are enrolled in pre-kindergarten to grade 8. The scope of the program is limited to a maximum of 1.5% of public school students in the district, corresponding to 1,450 students in 1994-95.

For each participating student, the school receives the same per capita funding as Milwaukee public schools; schools are not allowed to charge voucher students additional tuition fees (Witte and Torn 1997). The value of the voucher increased gradually from \$2,446 in 1990/91 to \$4,696 in 1997/98 (Molnar 1999). There are a number of restrictions on schools that receive voucher funds. They have to limit the share of voucher

students to 65% of their student body; in the selection of students, they may not discriminate on the basis of race, religion, gender, prior achievement or prior behavioural records, if classes are oversubscribed, students must be selected at random. Schools must meet at least one standard set for attendance, parental involvement, student achievement on standardised tests or grade progress and they must be private and non-sectarian without religious affiliation or training (Witte and Torn 1997).

The voucher program led to the establishment of one new private school and to the survival and expansion of several others, which might otherwise have had problems to remain open. The program has not had any influence on the number of public schools in the area, as the scope of the program is very small compared to number of students in public schools (Witte and Torn 1997).

f. New York City

The New York City voucher program took place once as a privately funded project initiated by the School Choice Scholarship Foundation (SCSF). It was targeted at children from low-income families enrolled in kindergarten to grade 4 in New York City public schools. 1,300 scholarships were given out; each of them had a value of up to \$1,400 per year for a period of three years. This funding covered tuition only partially (Howell et al. 2000; Krueger and Zhu 2002).

g. Vermont

In Vermont, a voucher program is in place for students in towns without a public school or

without enough public school capacity to accommodate all local students. These primary and secondary school students are given vouchers paid from public funds to pay for tuition at public or private schools. The voucher value varies with school type, i.e., according to whether the student attends elementary school, middle school or high school; it is about equal to government per capita spending in public schools. In 1998/99 vouchers were given to 6,505 students in 90 towns and 83 private schools were part of the program. Private schools must be 'approved' to qualify for public funding. This implies regulations concerning health and safety measures, financial capacity, staffing and support services; furthermore, schools must administer the 'New Standards Reference Exam' to voucher students (Sternberg 2001).

A similar system exists in Maine. Also in this state, students in districts without a public school receive public funding to attend public or private schools in other school districts (Heritage Foundation).

h. Washington, D.C.

The voucher program in Washington D.C. is targeted at students from low-income families who live in Washington D.C. and are entering kindergarten to grade 8. Vouchers are privately financed by the Washington Scholarship Fund and since 1999 also by the Children's Scholarship Fund. Recipients selected by lottery³¹ are given vouchers, which cover 60% of their tuition expenses up to a limit of \$1,700. The students' family income has to be at or below the poverty line to receive this amount of funding; families with

an income above the poverty line receive smaller scholarships, but students are not eligible if the family income is more than 2.5 times the poverty line (Howell et al. 2000).

Impact of Vouchers on Academic Achievement

(i) Charlotte, North Carolina

After the program had been in place for one year, voucher students had 5.9% higher test scores in maths and 6.5% higher scores in reading than public school students. This is equivalent to saying that achievement increased by 0.25 standard deviations.

The quality of teachers is higher in private schools and overall parental satisfaction with the school is higher for voucher students than for public school students. Private schools offer less facilities than public schools, but nevertheless parents report higher satisfaction with private school facilities than with the facilities offered in public schools. The reason for this may be that private schools focus on providing those facilities that parents value the most (Greene 2002).

(ii) Cleveland, Ohio

Also in Cleveland, voucher students and their parents are more satisfied with their schools than public school students. Concerning the impact of the voucher program on academic achievement, the results are mixed. Controlling for prior achievement and

³¹ In the first year, 53% of the lottery winners used the vouchers.

demographics, there was no significant effect on third grade achievement after one year, but a significant positive impact could be seen in language and science after two years. On the other hand, students in newly founded private schools had significantly lower achievement after 2 years than both public and other private school students (Molnar 1999; Hepburn 1999).

(iii) Dayton, Ohio; New York City; Washington DC

The outcomes of these three voucher programs, which are all privately funded and targeted at low-income students, are similar. In none of them, a significant effect on test scores could be observed for non-African American students who used vouchers to switch to private schools. Based on aggregate data from all three cities taken together, there is a significant improvement in test scores in the subgroup of African-American voucher students. Results are also reported separately for each of the three cities and each of the two years studied.

In Dayton, only reading performance in the second year of analysis is significantly higher. In New York, there is a significant positive effect on maths and reading scores for African-Americans in both years studied.

For African-American students in Washington DC, a significant positive effect on maths and reading scores can be seen in the second year. In the first year, the effect on maths scores is also significantly positive. While there is a significant negative effect on reading. The positive effect appears mainly for younger students (grades 2-5)³². The negative effect is significant for older students (grades 6-8)³³.

The corresponding effects of being offered a voucher are about half the size of the impact of switching to a private school; this can be explained by the fact that only about 50% of the students who are offered a voucher actually switch to private school. Concerning the statistical significance, the results for being offered a voucher are very similar to those for switching to a private school in each of the cities (Howell et al. 2000).

Krueger and Zhu (2002) challenge the validity of these results. Reanalysing the data, they find that the positive effect of vouchers on African-American students disappears when the whole sample of African-Americans students is included instead of only those students for whom baseline scores are available³⁴. The difference in test scores between

³² The positive effect is significant at the 0.01 level for maths in both years and at the 0.05 level for reading in the second year; for older students it is only significant at the 0.1 level in maths in the second year.

³³ The negative effect is significant at the 0.01 level for older students in the first year.

³⁴ Most students did a baseline achievement test before the beginning of the program. However, all children in kindergarten and 11% of those initially in grades 1-4 did not take this test and were excluded from the earlier analysis. Including them leads to a 44% increase in sample size.

African-Americans who were offered a voucher and those who are not becomes statistically insignificant at the 0.05 level when all African-American students are included in the analysis. Furthermore, Krueger and Zhu (2002) point out that the effect of the voucher depends on the definition of African-American. Initially, a student was assigned to the group of African-Americans. If the mother was African-American. However, when those students with an African-American father are included, the achievement effect of vouchers becomes statistically insignificant.

(iv) Florida

In Florida, all schools that were classified as failing improved their performance (Gauri and Vawda 2004). Greene and Winters (2003) categorise schools into 5 groups based on the degree of threat from voucher competition each school encounters. Analysing these categories in terms of test scores, they conclude that low-performing schools improved directly proportional to the probability of being eligible for vouchers, which means that those schools whose students were already receiving vouchers progressed the most (Greene and Winters 2003).

(v) Milwaukee, Wisconsin

In their assessment of the Milwaukee voucher program four years after its introduction, Witte and Torn (1994) find the academic achievement of voucher students to be about equal to the achievement of public school

students. They run a regression analysis controlling for several factors such as gender, race, income, grade and prior achievement and arrived at differences in contradictory directions between voucher students and public school students, most of them statistically insignificant. When they introduced the number of years during which voucher students had been in private school as an additional control variable, some coefficients changed signs and the results were not statistically significant. The only differences in favour of the program are slightly higher attendance of voucher students and high parental satisfaction with the private schools and the program as well as higher parental involvement in school activities.

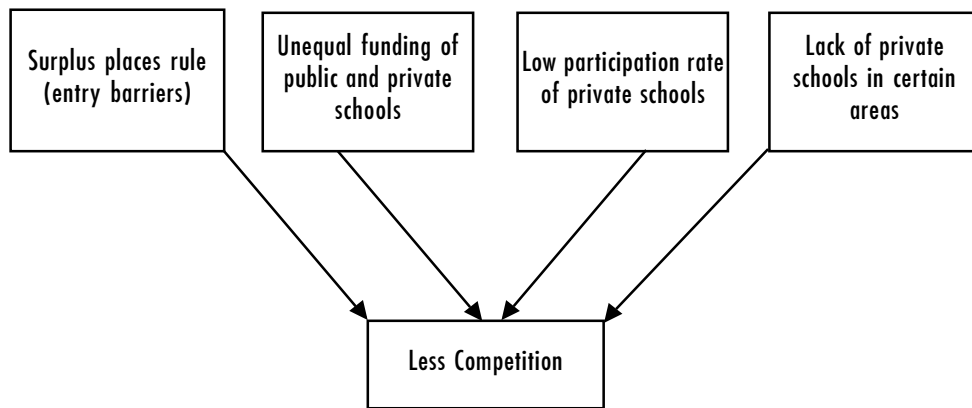
In contradiction to these findings, Greene et al. (1997), after analysing the same time period, report significant effects of the voucher program on academic achievement for students having been in the program for three and four years. The authors estimate the impact of vouchers after 1, 2, 3 and 4 years based on the Iowa test of basic skills. Controlling for gender and several other factors, they find statistically significant differences in test scores between public schools students who had lost the voucher lottery and students having used vouchers at private schools for three and four years. As quoted by Gauri and Vawda (2004) as well as by Molnar (1999), Rouse (1997) finds this effect

only for mathematics scores³⁵. Controlling for estimated ability and family characteristics, she does not find a significant difference in reading

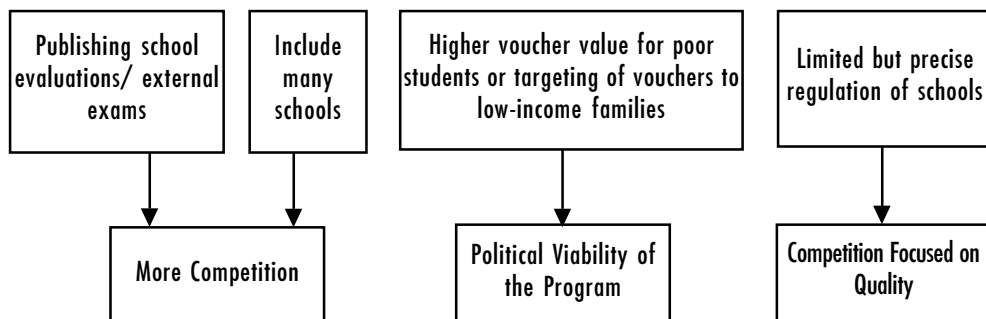
scores between voucher students and public school students. In mathematics, Rouse reports significantly higher scores for voucher students after three and four years (Molnar 1999).

V. FACTORS INFLUENCING SUCCESS AND FAILURE OF VOUCHER PROGRAMS

Factors that limit the impact of vouchers on quality of education



Factors that enhance the impact of vouchers on quality of education



³⁵ See Molnar (1999) for an in depth comparison of the studies by Witte and Torn (1994), Greene et al. (1997) and Rouse (1997).

A. Factors that limit the impact of vouchers on quality of education

a. 'Surplus Places Rule'

Vouchers are intended to improve school quality by creating a competitive environment. This competition is limited if there is a rule in place which prohibits founding a new school as long as there are free places in an existing school in the area, such as in England and New Zealand. In these two countries the 'surplus places rule' applies to public schools. While there is free school choice among public schools, no or only few vouchers exist to attend private schools. This combination implies little competitive pressure on low-performing public schools and hence little incentive for them to improve. Such entry barriers limit the improvement potential.

b. Unequal funding of public and private schools

In his analysis of the Chilean voucher system, Sapelli (2005) points out that competition is restricted due to the design of the voucher program. First, private schools face a high degree of government regulation and effectively less per capita funding³⁶ than government schools, which prevents them from responding to consumer demand as effectively as they ideally could.

Second, public schools do not only receive additional funding, but also badly performing schools are partly compensated for the losses due to leaving students, to enable them to pay their teacher salaries. This undermines the incentives for improvement inherent in the voucher system.

c. Low participation rate of private schools in the voucher program

Provided a voucher system includes private schools (i.e. either vouchers can only be used at private schools or they apply to both public and private institutions), competition should create pressure on public schools to improve their quality. This, together with a higher share of enrolment in potentially better private schools, should raise the overall quality of education in the system.

However, this mechanism may not work if a large share of private schools choose not to accept education vouchers. In this case, the number of effective competitors is limited. Furthermore, those schools that do not participate in the voucher program are usually the best private schools, as can be seen in countries like Colombia and Chile. This means that not only the quantity but also the quality of competing schools is lower, providing less incentive for good performance for schools within the voucher system.

d. Lack of private schools in certain areas

Competition based on enrolment presumes that there are sufficient number of schools available within an acceptable distance to give students a real choice. This assumption can be met either by the existence of different schools from the beginning or by new (usually private) schools created after the introduction of vouchers. In rural areas in Chile there are hardly any private schools. Even the introduction of the voucher scheme did not apparently create enough incentives for new schools to be established. Accordingly, these

³⁶ Formally, the amount of voucher funding is equal for public and private schools, but public schools are given additional subsidies.

areas have not benefited from the vouchers due to a lack of school choice available in practice. The lack of private schools and therefore the lack of competition in rural areas can also be regarded as a reason why the Chilean voucher scheme has not resulted in a better quality of education in the country as a whole. Despite the existence of a positive effect of competition in some areas, the number of districts in which competition actually takes place may be too small to affect overall measures of achievement.

B. Factors that enhance the impact of vouchers on quality of education

a. Publishing School Evaluations/ External Exams

Evaluations of the performance of individual schools based on achievement by the government or by another independent agency may create incentives to offer better quality of teaching. In England and in Florida, it has been observed that the practice of publishing school evaluations has contributed to the improvement of the overall quality of education. Publicly accessible evaluations can complement voucher schemes; either as a direct criterion of eligibility for vouchers as in Florida or by providing better information about school quality to parents, enabling them to make an informed choice. Potentially, this might also counteract the tendency towards low-quality private voucher schools that has been observed in Colombia and Cleveland, Ohio.

The beneficial effect of external evaluation of school performance is also supported by Woessmann (2005). In his comparison of international standardised test scores across more than 30 countries, he finds a positive effect of external exit exams on academic achievement; 'external' in this context refers to exams designed by independent institutions, which can be either public or private³⁷.

b. Limited but Precise Regulation of Schools

In order to ensure the independence of private schools in the long run as well as the credibility of the voucher system, it is necessary to impose few but precise requirements on schools that receive voucher funding. This insight is brought forward by Sandstroem (2005) based on the Swedish experience. According to him, compliance with these rules, such as quality standards or requirements on the curriculum such as keeping religion and science separate, should be strictly enforced by the government. In Sweden this was initially not the case, which made opponents of the voucher program ask for stricter regulation of private schools and exclusion of confessional schools, as national achievement targets had not been met and some religious schools were accused of violating the requirement of non-confessional teaching³⁸.

The Netherlands provide an example of a well-functioning voucher system that has a certain number of detailed requirements on

³⁷ An interesting aspect of his findings is an interaction effect between school autonomy and external exams. Without central exams, school autonomy over teacher salaries has a negative effect on achievement. However, in the presence of central exams this effect is turned around and autonomy over teacher salaries improves achievement.

³⁸ In response to this, the Swedish authorities defined 'non-confessional' teaching more clearly; they did not ban religious instruction in schools but required to keep it apart from teaching other subjects.

participating schools. Despite the regulations, the system allows for great diversity of schools.

c. Higher Voucher Value for Poor Students or Restrict Voucher Program to Low-Income Students

Under a voucher system, schools appear to have an incentive to preferably select students from a high socio-economic background, in order to derive a competitive advantage from the social composition of their student body, which often plays an important role in students' and parents' choice of a school. Evidence for this can be seen in Chile and New Zealand. Accordingly, competition is to some degree based on socio-economic status rather than the quality of education. This phenomenon decreases the benefits of vouchers for two reasons, one, because it diverts school administrators' attention from improving the quality of education, and second, because the extreme social stratification across schools may lead to serious political problems, as the example of New Zealand shows.

To prevent this, Gauri and Vawda (2004) propose to link the value of the voucher to socio-economic background, if administratively possible, and pay a higher amount for enrolling disadvantaged students, as it is done in the Netherlands. In countries where this practice is not feasible, in particular in many developing countries, Gauri and Vawda (2004) recommend restricting the voucher program to students from low-income families.

d. Include as Many Public and Private Schools as Possible

The degree of competition among schools will be higher the more the number of schools that participate. If a good number of high quality private schools are included, it raises the level at which schools compete. Successful voucher programs for instance in the Netherlands or in Sweden include most of these countries' schools, both public and private. On the other hand, less favourable outcomes have been observed in voucher systems restricted to public schools, as in England³⁹, or in countries where a considerable number of private schools has chosen not to participate in the program, as in Chile or Colombia.

VI. CONCLUSION

Despite varied outcomes of voucher experiments around the world, there has rarely been a case where the vouchers have lowered the learning achievements of students, even when they might have contributed to significant improvements. Vouchers' success in improving the quality of education in the country or area where they are implemented seem to depend crucially on the particular features of the voucher scheme and on the general conditions of the education system.

Several factors should be kept in mind when designing a voucher scheme. First, as many public and private schools as possible should be included into the voucher system to ensure a high degree of competition and a high level of quality at which competition takes place.

³⁹ Overall achievement in England improved, but there are poorly performing public schools that do not have any incentive for improvement, as in New Zealand.

Second, information available to students as well as incentives to schools will be improved further by publishing external school evaluations. Third, a way to direct the focus of competition to the quality of education (and away from attracting students from high social strata) is to assign a higher voucher value to students from a lower socio-economic background or, alternatively, to give vouchers exclusively to this group of students. Fourth, limited but clear and strictly enforced requirements on participating schools are important to guarantee the political viability of the program. Such concise rules ensure some public control of how tax-money is spent and avoid the presence of single schools with low quality or radical ideology, which could undermine the credibility of the whole system. On the other hand, a number of obstacles to competition have been observed, which lower incentives for providing high quality and thereby prevent the system from developing its full potential. One hindrance is posed by entry restrictions in the educational market. For example, the 'surplus places rule' which prohibits the establishment of a new school if there are free places in existing schools. Second, unequal funding of public and private schools distorts competition. Third, a low participation rate of private schools, in particular of top-quality private schools, will lower the level of quality at which schools in the system compete and reduce incentives for improvement. Fourth, a lack of private schools in specific areas, for instance in the countryside, may exclude these areas from the benefits of the voucher system, as the existence of education vouchers may not be a strong enough incentive to guarantee creation of new private schools in these regions.

VII. FREQUENTLY ASKED QUESTIONS

√ What if parents misuse the voucher?

No human system designed to give a free benefit can be completely immuned from abuse. The issue really is which system is less prone to misuse, and where even the misuse leads to some benefits for the target population. Education vouchers make the transfer of government funds transparent and accountable. The education voucher can only be used for the purpose of education. The school collects the vouchers from students, deposits them in the school bank account, the bank then debits the government's account for the amount of money specified in the voucher. No money changes hands at any level. The transfer of money is through the bank and therefore easily traceable in case of a dispute.

Importantly, poor parents well understand that education is their children's ticket out of poverty. Today they already send their children to private schools despite having free government schools nearby. Education vouchers would only empower them more in choosing a better school.

√ Will government school teachers lose their jobs?

Long queues and high donations charged by private schools clearly indicate one fact: There is a shortage of good schools everywhere in the country.

The supply of schools is not sufficient to meet the existing demand. Education vouchers increase this demand even further and widen the supply-demand gap. Instead of schools closing down or teachers losing jobs, more schools would have to be opened and more teachers would need to be hired to meet the increasing demand for better quality. Teaching is a labour intensive service and better service would require more and better teachers.

Moreover, in today's system, just like parents and students, the government school teachers are also not a happy lot. Empirical surveys show that average salaries in government schools are often more than seven times higher than in the unrecognised private schools. In spite of that, teachers in private unaided schools, including unrecognised ones, were no less satisfied than their government counterparts with salaries, holidays or their social standing in the community. On all other issues, including the working environment, school infrastructure and leadership of the head teacher or school manager, teachers in government schools expressed greater dissatisfaction than their private school counterparts. For education vouchers to deliver better quality education, government schools and teachers would also have to be given far more autonomy and independence. Vouchers create an environment where teachers themselves get more involved and provide better learning outcomes. Vouchers change the system not only for students but also for teachers.

Among the countries that have implemented a voucher program, only Chile had changed the terms of teacher contracts, which it had re-changed after some time. In none of the voucher countries, teachers were fired or their service contracts changed.

√

Do education vouchers shut government schools?

This question is similar to the previous one about government school teachers losing their jobs due to vouchers. Just remember one single fact: We need more schools and more teachers, not less! Yes, schools would have to change the way they think about and deliver education; they would have to learn how to individualise teaching and how to identify and meet special needs of the wide diversity of students. But we would never need fewer than the schools that exist today.

The recent changes in the telecom, airline, and banking services are also instructive in understanding the issue of government schools. The government telephone company, airline and banks are still there; they have not been privatised or closed down. We simply took away their monopoly and opened up the areas for entry for private players, and ensured that they compete under the same rules. The results have been astounding. Education vouchers similarly remove government's monopoly on the education of the poor. They also empower the poor to exercise a choice of their school.

√ **What about schemes like the midday meal?**

Competition fosters innovation, inventiveness, and customer specific services. To attract and retain voucher students, schools would have to understand their specific needs and try their best to meet them. These needs would vary from family to family and place to place; no one set of services would satisfy all students and parents. In very poor neighbourhoods, schools would try to attract students by offering free meals, textbooks, uniforms, and may be transport. In not-so-poor areas, extra-curricular activities, more emphasis on arts, music, or sports, or even after school day care would better meeting the needs. We can be fairly certain that with vouchers the increasing parental choice and competition among schools.

To illustrate the positives of such competition, *The Orchids Public School*, located on the outskirts of Gombi Nagar in Lucknow has launched the midday meal scheme for its 200-odd students from Nursery to Class VIII. Since the school generally caters to students from middle to lower middle classes, the management hopes to draw parents by offering better education than government schools along with a free meal. To quote a parent, "the government schools are free, but our children are unable to learn anything. Either, teachers are absent or, they are in a hurry. Now, if private schools give free midday meals while charging marginal fees, we do not mind sending

our children to these schools rather than to government schools," (Indian Express, Lucknow, February 15, 2006)

√ **Why would private schools want to be a part of the voucher program?**

Contrary to popular belief, although education of the poor has been the responsibility of the state, there are many private unrecognised schools offering education to the poor. For example, a survey of the slum areas of North Shahdara in Delhi showed that of the total 265 schools in the area, 71 schools were government, 19 schools were private aided and the remaining 175 were private unaided schools. Of the largest majority, the private unaided schools, 102 were recognised and 73 unrecognised. There are more unrecognised private unaided schools than there are government schools in these poor areas.

With the voucher money, these schools would be able to improve infrastructure, offer more extra-curricular choices, and raise their standards overall. The poor would get even better education. The schools would be more open to meet other needs of students and parents that they cannot fulfil today. It is likely that the elite private schools may choose not to participate in the voucher program. Though there would be a few which would prefer to participate for various social, political and economic reasons. Even if none of them did, the poor would still have far better choices among those who do participate, than they would have without a voucher program.

√ **What if voucher students are looked down upon?**

First, the voucher student is as much a paying customer as any other student in the school. Money has no colour! Once the student is in the school, there is no reason for the school to treat a voucher student any differently than other students. It is possible that some schools decide not to participate in the voucher program and thereby do not take any voucher students. One solution is to force them by law to participate in the program and take voucher students. Such compulsion is unlikely to result in great common good. If there are 200 voucher students in a poor neighbourhood, they may not be able to go to an elite private schools 5 km away,

if that school does not participate in the program. But, they may find that the school one km away has suddenly upgraded its infrastructure, hired more teachers, improved its library and laboratory, and they would be far more comfortable going to that newly refurbished school.

Let's be clear, vouchers do not guarantee a poor child a seat in the Doon School. The Doon School has limited capacity, not everyone who is willing to pay the fees can get admission. The poor child herself may be better off going to a school that is like Doon in education quality but without the same classmates. Vouchers would create more schools that provide better and better quality education and where the poor would be wholeheartedly welcomed.

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