

Subsidising education: are school vouchers the solution?



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Mind the development gaps

Seventy-two million children are missing out on education, and 54 percent of them are girls, says the Education For All Global Monitoring Report, 2010. Millions of children leave school without having gained basic skills because they enter school late and drop out early.

In some countries in sub-Saharan Africa, about 40 percent of young adults with five years of education are likely to be illiterate. In the Dominican Republic, Ecuador and Guatemala fewer than half of grade 3 students had more than very basic reading skills ([UNESCO, 2010](#)). However, it is not clear whether state provision of more public schools, more teachers and textbooks will result in higher enrolment, attendance and student achievement ([Contreras, 2002](#)). The decision to send a child to school will, in many cases, depends more on the household's socio-economic condition than the quality of the services available. Gaps in enrolment rates between the poorest and the richest remain high, with the poorest 20 percent particularly disadvantaged at secondary levels ([Patrinos, 2002](#)). The question then is how to encourage poor families to send their children to school?

Several interventions aim to improve the supply-level factors as well as the demand-side financing for schooling. Efforts that try to encourage demand include stipends in the form of scholarships or conditional cash transfers, bursaries, student loans, community grants and voucher systems ([Patrinos, 2002](#)). Some governments use a voucher system at the secondary school level that is cash payments or equivalents given directly to families, which can be used to send their children to either public or private schools. Schools could receive funding through direct grants for teachers salaries, capital expenditure or tax relief. However, by providing schools with funding through vouchers proportional to their enrolment rates, the aim is to improve educational quality by making schools compete for students. Schools are thereby expected to become more efficient and responsive towards students ([Kitaev, 1999](#)).

But what is the impact of vouchers? What are the specific ways in which they improve education? Does the intended competition improve public sector services? Even if vouchers encourage competition, do they actually improve educational outcomes?

Overview

Good quality education is out of reach for many poor people, due to its high costs. Governments try to make it more accessible by subsidising it. School vouchers provide one means subsidise education. Vouchers allow students to expand their school choice, including attending private schools, potentially providing "better quality" education. Providing an increased incentive to avoid failing a grade and complete schooling, seems to improve students' test-scores in college entrance exams.

However, this evidence is limited to two cases in Latin America with a well developed institutional structure, Colombia and Chile. The relevance of voucher schemes for other developing countries, and how replicable they are to other contexts, is unclear. Rigorous impact evaluations, adequate baseline data and monitoring mechanisms of true and quasi-voucher schemes are lacking. More evidence is needed from more countries to draw more conclusive lessons.

Keywords: Vouchers, private schools, school enrolment, attendance, achievement and completion

Lessons learned

Experience with comprehensive voucher schemes in industrialised countries has shown that they boost the number of private schools, private school enrolment and competition between private and public schools. But as students from well-to-do families use vouchers to move to private schools, they leave behind increasing proportions of poorer students in public schools of declining quality ([Braun-Munzinger, 2005](#); [Gauri and Vawda, 2003](#)). In developing countries, public schools face several problems such as lack of infrastructure, low quality teaching standards, and so on. Although private enrolment as a proportion of total enrolment is usually higher than in industrialised nations ([Angrist et al. 2002](#)), private schooling is usually unaffordable for poor people. In such a context where there is a large gap between the supply and demand for schooling, vouchers could be an effective way to improve access to any education ([King et al. 1998](#)). However, rigorous evaluations of voucher systems in developing countries have been few, focusing on the Latin American experience.

The impact of vouchers in developing country contexts appears to be related to the specific circumstances, institutional variables and programme design ([Gauri and Vawda, 2004](#)).

Vouchers encourage demand for private schools, but choice might be limited to urban areas: The 'demand effect' found in developing countries confirms what studies of voucher schemes in industrialised countries have found ([Braun-Munzinger, 2005](#)). Chile's nation-wide voucher system, for example, has contributed to an increase in total private enrolment from 15 percent in the early 1980s to about 50 percent of students today. Most of Chilean schooling is now voucher-financed ([Hsieh and Urquiola, 2003](#)). Similarly, an impact evaluation of the Colombian voucher scheme – PACES, targeted only at poor people – found that secondary school students who received the vouchers were 15 percentage points more likely to attend private schools than public schools ([Angrist et al. 2002](#)).

However, private schools in Chile are mostly concentrated in urban areas whilst in rural areas 81 percent of the schools are public ([Tokman-Ramos, 2002](#)). The demand (or market) for private schools is larger in urban areas in Chile. This trend is driven by students from middle class backgrounds, who tend to perform better and reside mostly in urban areas, choosing to be in private schools when provided with vouchers. Private enrolment is nearly zero in some areas of Chile, where there are less than 100–150 students ([McEwan, Urquiola and Vegas, 2007](#)). Therefore, in Chile the advantage of private schools is to a great extent limited to urban areas.

The same finding has been shown in Colombia, where only 25 percent of municipalities participated in the voucher scheme as they had to partially finance it. As a result of the programme design, participating municipalities had a relatively low number of underserved students, a large private school presence and the capacity to expand ([King et al., 1997](#); [1998](#)). In contrast, rural areas were unlikely to benefit much, due to the limited number of private schools in the locality.

School vouchers increase social stratification: Students with vouchers in Colombia spent an average of US\$52 more on school fees per year. This gap was because the vouchers (about US\$190) covered only a part of the total cost, which was over US\$300 for most private schools. Thus household expenditure on education increased. Vouchers therefore had enabled some students to move to higher-priced schools than they may otherwise have chosen ([Angrist et al. 2002](#)). However, the study also found that those who did not receive vouchers also switched to private schools implying that private schools would be preferred anyway, due to the expectation that they offered "better quality" education.

However, the average tuition fees in Colombia were 40 percent less in participating schools as higher-priced schools chose not to participate ([King et al. 1997](#)). The non-participating schools were also seen as "better quality" – as reflected in their higher average national scores. Hence, students may not have been able to move up to a higher-fee school and benefit from 'better quality' education. Within participating municipalities, the lowest and the very highest fee private schools did not participate; participating schools with a high fee included non-profit ones which were already subsidised through charity ([King et al., 1998](#)).

In Chile's urban communities, which provided larger markets for private schools due to the population size, enrolments into the private schools were higher amongst households with higher incomes ([McEwan, Urquiola and Vegas, 2007](#)). Vouchers were therefore contributing to social segregation with students from better-off households attending private schools and those from poorer backgrounds being left in municipal schools. This is the reason why Chile recently modified its voucher scheme to include a "preferential subsidy" for low-income students.

Academic results and performance can improve through vouchers, but the evidence on whether private rather than public schools are better is unclear: Students from the poorest families attending private voucher schools in Colombia, perform better than the students in the same income group in public and other private non-voucher schools. This result was true particularly for higher grades students ([King et al. 1997](#)). In Colombia, those who received vouchers,

particularly girls, scored much higher than those who did not receive the vouchers ([Angrist et al., 2002](#)). The performance of voucher-receiving students also improved over a long-term basis, as they were substantially more likely to score in the top 25 percent in the national university entrance examinations ([Angrist et al., 2006](#)).

Very similar results were found with the Chilean voucher system, where the test scores of students who received vouchers were higher than the ones who did not. A study which also statistically controlled for selection biases of school choice, found that voucher-receiving students scored significantly higher - by 32 to 64 points ([Contreras, 2002](#)). Both studies found that low-income students who moved from public schools to private voucher schools through the scheme scored better in standardised tests ([Contreras, 2002](#); [Anand et al., 2008](#)). However, contrary to the Colombian studies, the evidence on girls' performance in Chile is mixed. Whilst one study finds girls score less in the standardised tests though their overall high school grades were better ([Contreras, 2002](#)), another study finds that girls score higher than boys in the tests ([Sapelli and Vial, 2005](#)).

However, another study evaluating the same Chilean system found that, although students in private voucher schools perform better overall, students from poorer families do not ([Tokman-Ramos, 2002](#)). Students from higher socio-economic backgrounds score better in private voucher schools whilst students from lower socio-economic backgrounds score better in public schools. Mizala *et al.* (2004) also find similar results in Chile, showing that public schools with students from poorer families have better math achievement than private voucher schools with a similar student base. This relationship is reversed for schools with students from higher socio-economic backgrounds. Studies looking further at the relative impacts and cost-effectiveness issues in Chile, find that the performance of students from similar socio-economic backgrounds at Catholic voucher schools is better than at public schools. But as Catholic schools use more resources, their efficiency (cost-effectiveness) in improving performance is not as good as that of public schools ([McEwan and Carnoy, 2000](#); [McEwan, 2001](#)).

A more recent study however found that there was great variability in test scores when the scores were statistically controlled for the effects of socio-economic status. For example, smaller schools on an average improved their effectiveness no more or less than larger schools but their individual scores varied greatly ([McEwan, Urquiola and Vegas, 2007](#)). Hence, test scores and school performance were highly unreliable sources of information for parents to base their choice of school.

Secondary school completion rates may improve as a result of vouchers, particularly for girls:

Students in Colombia who received vouchers stayed enrolled at school longer and were 10 percentage points more likely to have completed eighth grade, primarily because they repeated fewer grades. This impact was particularly significant among girls, as a result of reduced grade repetition and better attendance rates at school ([Angrist et al., 2002](#), [Bettinger et al., 2008](#)). A subsequent impact evaluation of the same programme which looked at the long-term effects of vouchers, also reported a positive effect. This study found that vouchers raised high school completion by 6 to 7 percentage points ([Angrist et al., 2006](#)). Voucher-receiving students who chose to go to vocational schools, instead of mainstream academic schools in Colombia, were also 25 percent more likely to complete high school ([Bettinger et al., 2008](#)).

Vouchers seem to improve performance over and above the peer effects of attending schools which attract students with more advantaged backgrounds:

Private voucher schools seem to attract 'better students', and therefore the apparent impact of better results is biased. This bias is seen in Chile, where relatively higher income students leave public schools as soon as they have a choice of private schooling. Analysis of impact needs to control for this bias.

Sapelli and Vial (2005) compared Chilean private voucher schools that charge low fees with public schools and found a large and statistically significant positive effect of private voucher school attendance on test scores, even in low income groups. And this result was found to hold even after statistically controlling for peer effects and socio-economic characteristics of students.

In Colombia, test scores, graduation rates and participation in the college entrance exam were higher among voucher-winning students at vocational schools than those who did not receive vouchers. This was despite the fact that among vocational schools, voucher-winners attended schools in which students were on average 33 percent more likely to drop out ([Bettinger et al., 2008](#)). This suggests again that vouchers improved educational outcomes through channels other than peer effects.

An earlier study which looked at the Chilean system, however, found that despite 20 years of the programme, there was no evidence of improved average educational outcomes at the national level. Children had improved their individual performance after moving to private schools, measured by standardised test scores, repetition rates or years of schooling. However, this impact was negated by worsening relative public performance because schools were selective about whom they admitted ([Hsieh and Urquiola, 2003](#)).

However, there is no evidence on the question of whether private voucher schools have a negative effect on the students remaining in public schools as 'better students' leave. This is an important omission since impact evaluations should aim to assess all impacts, including positive and negative spillovers, on non-beneficiaries.

Closing the evaluation gap

Vouchers seem to improve learning by expanding school choice, and increasing incentives to avoid failing a grade and to complete schooling. As long as equalising state interventions are absent and higher quality private institutions are not accessible to more disadvantaged groups (Kitaev, 1999), financing for private schools through vouchers or similar systems whereby public funds are used to subsidise demand for education, could be a solution (Gauri and Vawda, 2003).

However, major initiatives have only been attempted in countries with a well-developed institutional structure, and that too with mixed results (Patrinos, 2002). The limited evidence that is available has focused on the experience of Chile and Colombia, with some useful lessons but it is unclear how replicable they are in other contexts.

There is a serious dearth of impact evaluations in this area, particularly of schemes operating in Africa, Asia and Europe. Adequate baseline data and monitoring mechanisms that encompass true and quasi-voucher schemes are needed.

References

- Anand, P., Mizala, A. and Repetto, A (2008) 'Using School Scholarships to Estimate the Effect of Government Subsidized Private Education on Academic Achievement in Chile,' Documentos de Trabajo 220, Centro de Economía Aplicada, Universidad de Chile (PDF). www.webmanager.cl/prontus_cea/cea_2006/site/asocfile/ASOC_FILE120060522101824.pdf
- Angrist, J.D., Bettinger, E., Bloom, E., King, E. and Kremer, M. (2002), 'Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment', American Economic Review Vol.92, No.5, pages 1535-1559. www.aeaweb.org/articles.php?doi=10.1257/000282802762024629 (access through subscription)
- Angrist, J.D., Bettinger E., and Kremer, M., (2006) 'Long-Term Educational Consequences of Secondary School Vouchers: Evidence from Administrative Records in Colombia', American Economic Review Vol.96, pages 847-862. www.aeaweb.org/articles.php?doi=10.1257/aer.96.3.847 (access through subscription)
- Bettinger, E., Kremer, M., and Saavedra, J. (2008) 'Are educational vouchers only re-distributive?,' Paper presented at the CESInfo/PEPG Conference on Economic Incentives: Do they work in education? Insights and findings from behavioural research (PDF) <http://tinyurl.com/yfqpqgow>
- Braun-Munzinger, C. (2005), Education Vouchers: An International Comparison, Centre for Civil Society Working Paper, CCS: New Delhi, (PDF) www.ccsindia.org/ccsindia/pdf/corinna-paper.pdf
- Contreras, D. (2002) Vouchers, School Choice and Access to Higher Education, Yale University Economic Growth Center Discussion Paper No.845, (PDF) www.econ.yale.edu/growth_pdf/cdp845.pdf
- Gauri, V. and Vawda, A. (2003) Vouchers for Basic Education in Developing Countries A Principal-Agent Perspective, Policy Research Working Paper 3005, World Bank Development Research Group, World Bank: Washington D.C., (PDF) <http://tinyurl.com/yeayddn>
- Gauri, V. and Vawda, A. (2004) 'Vouchers for Basic Education in Developing Economies: An Accountability Perspective', The World Bank Research Observer Vol.19, No.2, pages 259-280. [#](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=873730)
- Hsieh, C.-T. and Urquiola, M. (2003), When Schools Compete, How Do They Compete? An Assessment of Chile's Nationwide School Voucher Program, NBER Working Paper 10008 (PDF) www.nber.org/papers/w10008
- King, E., Rawlings, L., Gutierrez, M., Pardo, C., and Torres, C. (1997) 'Colombia's Targeted Education Voucher Program: Features, Coverage and Participation' Working Paper No. 3, Series on Impact Evaluation of Education Reforms, Development Economics Research Group, World Bank (PDF) <http://rru.worldbank.org/Documents/PapersLinks/1163.pdf>
- King, E., Orazem, P., and Wolgemuth, D. (1998) 'Central Mandates and Local Incentives: The Colombia Education Voucher Program.' Working Paper No. 6, Series on Impact Evaluation of Education Reforms, Development Economics Research Group, World Bank (PDF) <http://tinyurl.com/yjs6379>
- Kitaev, I. (1999) 'Private Education in Sub-Saharan Africa: A Re-examination of Theories and Concepts Related to its Development and Finance, Mechanisms and Strategies of Educational Finance Series, International Institute for Educational Planning, IIEP/UNESCO: Paris (PDF) <http://tinyurl.com/ycfuol4>
- McEwan, P.J., and M. Carnoy (2000) 'The Effectiveness and Efficiency of Private Schools in Chile's Voucher System,' Educational Evaluation and Policy Analysis, Vol. 22, No.3, pages 213-239 <http://epa.sagepub.com/cgi/content/abstract/22/3/213> (access through subscription)
- McEwan, P. J. (2001), 'The Effectiveness of Public, Catholic, and Non-Religious Private Schools in Chile's Voucher System', Education Economics, Vol. 9, No. 2, pages 103-129 www.informaworld.com/smpp/content~db=all~content=a713663683 (access through subscription)

McEwan, P. J., Urquiola, M. and Vegas, E. (2008) 'School Choice, Stratification, and Information on School Performance: Lessons from Chile, *Economia*, Vol. 8, No. 2, pages 1 – 26 (PDF)

[http://www.columbia.edu/~msu2101/McEwanUrquiolaVegas\(2007\).pdf](http://www.columbia.edu/~msu2101/McEwanUrquiolaVegas(2007).pdf)

Mizala, A., Romaguera, P. and Ostoic, C. (2004) 'Equity and Achievement in the Chilean School Choice Experience,: A Multilevel Analysis' *Econometric Society 2004 Latin American Meetings 232* (PDF)

<http://repec.org/esLATM04/up.13209.1082053943.pdf>

Patrinos, H. A. (2002) *A Review of Demand-Side Financing Initiatives in Education*, World Bank Report No.26959, Working Paper (PDF) <http://tinyurl.com/y9rex13>

Sapelli, C. and Vial, B. (2005) *Private vs Public Voucher Schools in Chile: New Evidence on Efficiency and Peer Effects*, Pontificia Universidad Catolica De Chile Instituto De Economia, Documento de Trabajo N° 289

http://apophis.simce.cl/simce/fileadmin/publicaciones-BD-simce/DT_289.pdf

Tokman Ramos, A. (2002) 'Is Private Education Better? Evidence from Chile,' *Working Papers Central Bank of Chile 147*, Central Bank of Chile (PDF)

www.bcentral.cl/estudios/documentos-trabajo/pdf/dtbc147.pdf

UNESCO (2010), *The Education for All Global Monitoring Report: Reaching the marginalized*, UNESCO report

www.efareport.unesco.org

Credits

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