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Private Schools Serving the Poor

Working Paper: A Study from Delhi, India

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ABOUT THE AUTHOR

James Tooley, PhD, Professor of Education Policy at the University of Newcastle. Professor Tooley directed the global study of investment opportunities for private education in developing countries for the International Finance Corporation (IFC) - the private finance arm of the World Bank - which led to his publication *The Global Education Industry*, (IEA, 1999), now in its 2nd edition.

This study explored the private education market and the regulatory and investment climate in a dozen countries in Africa, Asia, Latin America and Eastern Europe, together with detailed case studies of 20 private education companies or institutions. Professor Tooley is currently directing an international research programme examining the role of private schools serving low income families in Asia and Africa and funded by the John Templeton Foundation. Research is currently on going in India, China, Nigeria, Kenya and Ghana. Professor Tooley has also done considerable consultancy work for the IFC, World Bank (IBRD), UN, UNESCO, and Asian Development Bank Institute on private education in developing countries. He is a frequent keynote speaker at international conferences on the global education industry.

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Executive Summary

- 1 Many believe that the private sector has very little to offer in terms of reaching the United Nations Millennium Development Goal of “education for all” by 2015. Private education is often assumed to be concerned only with serving the elite or middle classes, not the poor. And unrecognized private schools are thought to be of the lowest quality, hence demanding of detailed regulation or even closure by the authorities. Our findings from a two year in-depth study in India (Delhi and Hyderabad), China, Kenya, Ghana and Nigeria suggest that these conclusions are unwarranted. This working paper reports on the findings from Delhi, India, carried out during 2004-2005. Private schools, we argue, can play – indeed, already are playing – an important, if unsung role in reaching the poor and satisfying their educational needs.
- 2 We conducted a census of primary and secondary schools in the slums of North Shahdara, East Delhi, reportedly one of the poorest areas of the city. Here we found 265 schools, of which two-thirds (175 schools) were private unaided, not receiving any state funding at all. There were more *unrecognised* private unaided (that is, schools not recognised by the authorities) than government schools (28% compared to 27%).
- 3 Fees in these unrecognised private unaided schools averaged at about Rs. 125/- per month in primary grades. But we found that about 10% of all children came to school for free, or paid concessionary fees. It was not fair to describe the unrecognised schools as ‘fly-by-nights’: the mean date of their establishment was 1998.
- 4 Visiting classrooms unannounced, we found that only 38% of government teachers were teaching, compared to around 70% of teachers in private unaided schools. While government schools had more playgrounds, tape recorders and separate toilet facilities for boys and girls than private unaided schools, on a wide range of other inputs private unaided schools, including unrecognised ones, either had superior inputs (desks, chairs, fans, toilets for children, computers) or there was no statistical difference between school type in inputs (blackboards, drinking water and libraries).
- 5 We tested around 3,500 children in mathematics, Hindi and English, and controlled for a range of background variables, including IQ. The raw test scores show a considerable achievement advantage for private unaided students over government students. Children in unrecognised private schools achieved 72% higher marks on average in mathematics than government students, 83% higher in Hindi and 246% higher in English. Scores in the recognised private schools were higher still. After controlling for background variables, the private school advantage was maintained.

- 6 But this achievement advantage was not obtained through greater re-sourcing: the average salaries in government schools were more than seven times higher in the unrecognised private schools. Even taking into account the larger class sizes in the government schools revealed the greater efficiency of private unaided schools – with per pupil teacher salaries still nearly two and a half times greater in government than private unaided schools. And of course, none of this takes into account the extra costs of government schools in terms of the state bureaucracy, which will be minimal or non-existent for private unaided schools.
- 7 Asking pupils about their satisfaction with a range of school inputs, including condition of school buildings, provision of facilities and extra-curricular activities, and teacher punctuality, we found that children in private unaided schools were more satisfied than their government counterparts, often considerably so.
- 8 Teachers in private unaided schools, including unrecognised ones, were not less satisfied than government teachers 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.
- 9 Head teachers or school managers were reported to observe class teachers much more frequently in private unaided – including unrecognised – than government schools (around 90% reporting daily observations in private schools, compared to only 60% in government schools). Perhaps unsurprisingly, government head teachers reported that they felt that had much less relative power over their teachers than managers in private unaided schools.
- 10 The research indicates a great success story taking place, beneath the government’s radar. The “mushrooming” unrecognised private schools, if noticed at all by the authorities and development experts, are assumed to be educationally inadequate. The research shows that this assumption is untrue. Moreover, because there are many unrecognized private schools that do not appear in government statistics, achieving universal basic education – the United Nations Millennium Development Goal of “education for all” – may be easier to achieve than is currently believed. Certainly, private schools for low-income families could be improved even further, by creating revolving loan programs to help infrastructural investment or, following the private schools’ own example, by creating targeted voucher programs, to enable the poorest of the poor to attend private schools. But above all, the existence and the contribution of private schools to “education for all” seems a cause for celebration.

Introduction

Can private education help in meeting the Millennium Development Goal of primary education for all by 2015? In particular, can it help provide educational opportunities for the poor? To some, these may seem strange questions. Private education is often perceived to be about serving the needs of the elite and middle classes, not the poor. However, there is a growing body of evidence that challenges this conception. The *Oxfam Education Report*, for instance, reports ‘... the notion that private schools are servicing the needs of a small minority of wealthy parents is misplaced’, and that ‘a lower cost private sector has emerged to meet the demands of poor households’ (Watkins, 2000, pp 229 - 230). The Probe Team (1999), researching villages in four northern Indian states, reports that, ‘even among poor families and disadvantaged communities, one finds parents who make great sacrifices to send some or all of their children to private schools, so disillusioned are they with government schools’ (The Probe Team, 1999, p. 103).

Similarly, the fact that many poor children in India now attend private schools is reported in Drèze and Sen (2002), who estimate that even by 1994 – with a large growth since then - 30% of all 6-14 year olds in rural areas, who will be predominantly from low-income families, were enrolled in private schools. In urban areas, 80% or more of this age group attend private schools, including children from low-income families (Drèze and Sen 2002: 172). Research undertaken by Aggarwal (2000) in Haryana, India found that private unaided *unrecognised* schools ‘are operating practically in every locality of the urban centres as well as in rural areas’ often located adjacent to a government school (Aggarwal, 2000: 20). (The category ‘recognised’ means that the school, according to inspectors, complies with government regulations conferring recognition status. Private ‘unaided’ schools are to be contrasted with private ‘aided’ – the latter receive government subsidy, usually in the form of grants for teacher salaries). De *et al* (2002: 148) reporting on evidence from Haryana, Uttar Pradesh and Rajasthan, note that ‘private schools have been expanding rapidly in recent years’ and that these ‘now include a large number of primary schools which charge low fees’, in urban as well as rural areas. Finally, Nambissan (2003: 52), notes the ‘mushrooming of privately managed unregulated pre-primary and primary schools’ for the poor in Calcutta (Kolkata).

Whilst this literature indicates that one of the reasons low-income parents send their children to private schools is the perceived low quality of public education, concerns are also expressed about the quality of the private schools to which parents turn as alternatives, especially those that are not recognised by government. The *Oxfam Education Report*, for instance, argues that while ‘there is no doubting the appalling standard of provision in public education systems’, the private schools that poor parents are using instead are of ‘inferior quality’, offering ‘a low-quality service’ that will ‘restrict children’s future opportunities.’ (Watkins, 2000, p. 230). Nambissan (2003) notes that in Calcutta, ‘the mushrooming of privately managed unregulated pre-primary and primary schools... can have only deleterious consequences for the spread of education in general and among the poor in particular’ (p. 52), for the quality of the private schools is ‘often

suspect' (p. 15, footnote 25). Finally, Save the Children, although noting that poor parents in Nepal and Pakistan identify 'irregularity, negligence and indiscipline of the teachers, large class sizes and a lower standard of English learning' as 'the reasons why they decided against public schools' (Save the Children UK, South and Central Asia, 2002, p. 8), is concerned that the private schools they opt for offer 'an extremely low standard of education' (p. 13).

However, none of these sources offers detailed evidence for the claim of low quality in private schools for low-income families: the assertion appears to be based on the observation that such schools employ poorly qualified, low paid teachers, in low quality accommodation. Indeed, it is suggested that quantitative evidence is not readily available: The *Human Development Report 2003* notes that 'Many proponents of private education claim that private schools outperform public ones ... But little evidence substantiates these claims. Private schools do not systematically outperform public schools with comparable resources.' UNDP (2003: 115) (p. 115). *The Oxfam Education Report* makes the same claim: 'there is little hard evidence to substantiate the view that private schools systematically outperform public schools with comparable levels of re-sourcing.' (Watkins, 2000, p. 230).

Although this claim is controversial (e.g., the studies by Kingdon 1996 and Jimenez et al 1988, 1989, 1991 came to the conclusion that in general private schools outperform public ones for lower unit costs), certainly there appears to be no evidence exploring comparisons between public and private schools for low-income families. The current research, funded by the John Templeton Foundation, conducted between April 2003 and June 2005, aimed to address this issue.

The main research question was: What is the relative achievement of public and private school children in low-income areas, taking into account background variables? Subsidiary questions included: how many private schools are there, especially unrecognised ones? What are these private schools like? What levels of resourcing are available to public and private schools? And how satisfied are pupils, parents and teachers in private and public schools? Parallel research was undertaken in selected low-income areas of India (Delhi and Hyderabad), Ghana, Nigeria, Kenya and China. This working paper reports on findings from Delhi, India only.

The research had two major components. The first component included the administration of a census of schools in the East Delhi slums of North Shahdara, and a survey of inputs to these schools. The census data was used as the basis for the second component of our study which explored the relative achievement of pupils in private unaided and government schools in North Shahdara, by testing a stratified random sample of students in key subjects. We also compared financial resources available to both types of schools. Within this survey, we also conducted satisfaction surveys of pupils, teachers and head teachers/school managers.

What is the nature and extent of Private Education for the Poor?

The census of schools and survey of inputs aimed to discover the extent of private schools – particularly unrecognised ones – in selected low-income areas and to compare their inputs with government schools serving the same populations. In Delhi, these were conducted during October 2004. In India, school management type is of three kinds: government, private aided and private unaided. Government schools are 100% funded and managed by some level of government, state or local. Private aided schools are privately managed, but have 100% teacher salaries, plus other expenses, funded by government. Private unaided schools are entirely privately managed and privately funded. Private unaided schools are of two types, recognised and unrecognised. The former have purportedly met the regulatory requirements of the state. Unrecognised schools are in effect operating in the informal sector of the economy. They have either not applied for recognition, or have not succeeded in gaining recognition from the government.

After consultation with government officials and non-government organisations working in the city, the census was conducted in North Shahdara, East Delhi, reported to be the poorest area of the city¹. North Shahdara covers an area of 40 square kilometres, but only the “notified slums” (according to the Census of India, 2001) were researched, estimated to cover about half this area. A team of 20 researchers trained and recruited from a local non-government organisation physically combed every street and alleyway in these slum areas, to find all primary and secondary schools. Government lists were used to check that all government, private aided and recognised private unaided schools were found. However, while we are sure that all these schools were found, we cannot be certain that all unrecognised schools were located, as there were no official lists with which to compare our findings. So the data here must be taken as indicating a lower bound on the numbers of private unrecognised schools.

¹ www.pratham.org/documents/northshahdara.doc

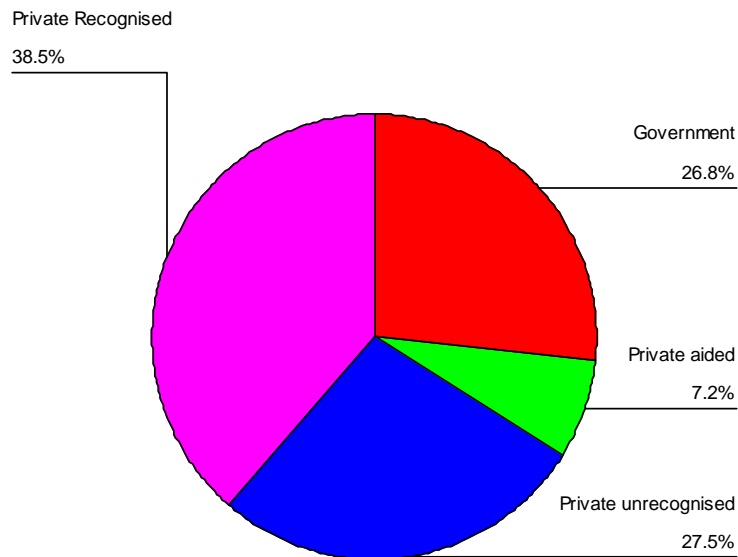
How many schools are there and what proportion is private?

Our survey team found a total of 265 schools in the slum areas of North Shahdara. Of these, 26.8% (71 schools) were government, 7.2% (19 schools) private aided, and the rest – 66% of the total (175 schools) – private unaided schools. That is, a large majority of schools is private unaided. Of these, the largest number is *recognised*, (102 schools or 38.5% of the total), while 73 private unaided schools were *unrecognised* (27.5% of the total). Hence, there are *more unrecognised private unaided schools than there are government schools* (table 1 and figure 1).

Table 1 Management type of schools

	Frequency	Percent
Government	71	26.8
Private aided	19	7.2
Private unrecognised	73	27.5
Private Recognised	102	38.5
Total	265	100.0

Figure 1 Management type of schools



It was not feasible in the East Delhi study to find the true figures for pupil enrolment. The main problem was the inability of the researchers to physically count children in the government schools and therefore verify figures provided by the head teacher, which were believed to be suspect for two reasons: First, there is the reported propensity of government and private aided schools to exaggerate enrolment, as there are clear financial and job security incentives to claim larger enrolment than is actually the case (Kingdon, 1996). Second, school managers and head teachers informed us of widespread “double counting” of pupils. Many children, we were informed, are enrolled in both government and private schools, in order to benefit from mid-day meals in government schools – children we were told go to private schools in the morning, and then go to government school for the mid-day meal. This had the additional benefit that children are able to take examinations as a government, rather than private school pupil – which was particularly valuable if children were enrolled at unrecognised private schools for their education.

How expensive to parents are private unaided schools?

The private unaided schools charge a range of monthly, termly and admission fees. We asked school managers for their fees, checking these where possible against written fee charges. There is a statistically significant difference in the fees charged in unrecognised and recognised schools, with the former consistently lower than the latter, at each level. For example, for pre-primary grade, mean fees in recognised private unaided schools are Rs. 190.25 per month, compared to Rs. 92.55 per month in the unrecognised schools. At primary grade, the same figures are Rs. 227.60 compared to Rs. 124.45. Figure 2 shows this mean difference graphically, for all levels.

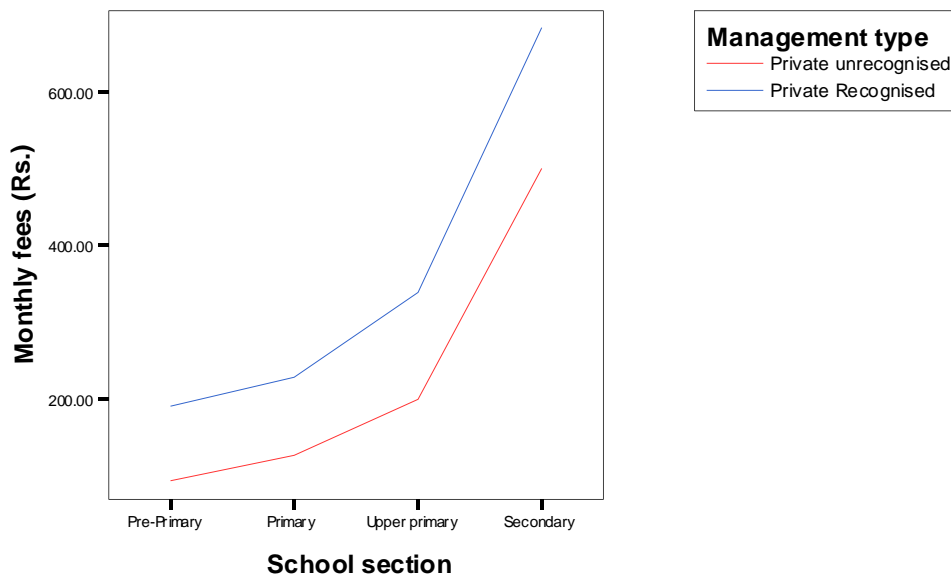


Figure 2 Mean monthly fees: private unaided recognised and unrecognised schools

Private School Philanthropy

However, not all students pay these fees. A notable feature of the private unaided schools is that, although they charge fees and are run on business principles, they also offer free or concessionary seats to children. We explored this issue in depth with the smaller number of private schools taking part in the survey of achievement, (reported in section 4 below). We asked the school manager how many students were admitted to the school with free or concessionary seats, and triangulated the results with questions on the parents questionnaire, as well as with interviews with a small number of parents and school managers. Of the 111 private unaided schools participating in this part of the research, 94 school managers gave information about the number of free and concessionary places. Of schools giving information, 58% of the unrecognised and 50% of the recognised private unaided schools offer free places to some students in their schools. Regarding concessionary places, 46% of the unrecognised and 48% of the recognised private unaided schools offer these. (Tables 2 and 3: In both cases, the difference between school types was not statistically significant).

The total number of free seats given was stated as 1,045 (591 in unrecognised and 454 in recognised private unaided schools), while the total number of concessionary places was

1,184 (409 in unrecognised and 775 in recognised private unaided schools). That is, in these schools, 10% of all places were provided either free of charge or at a concessionary rate – 5% free and 5% concessionary. Unrecognised schools were slightly more generous in this regard than recognised schools – offering 8% of seats free, compared to 3% in the recognised schools (Table 4).

Table 2 Free places in private unaided schools

	The school offers free places		Total
	yes	no	
Private unrecognised	28 58.3%	20 41.7%	48 100.0%
Private recognised	23 50.0%	23 50.0%	46 100.0%
Total	51 54.3%	43 45.7%	94 100.0%

Note: $\chi^2 = 0.657$, $df=1$, Not significant, $p>0.05$

Table 3 Concessionary places in private unaided schools

	The school offers concessionary fees		Total
	yes	no	
Private unrecognised	22 45.8%	26 54.2%	48 100.0%
Private recognised	22 47.8%	24 52.2%	46 100.0%
Total	44 46.8%	50 53.2%	94 100.0%

Note: $\chi^2 = 0.037$, $df=1$, Not significant, $p>0.05$

Table 4 Number and % of free and concessionary seats in private unaided schools

	Total seats	free seats	% of free seats	concessionary seats	% of concessionary seats
Private unrecognised	7591	591	8%	409	5%
private recognised	14551	454	3%	775	5%
	22142	1045	5%	1184	5%

When were schools established?

A common assumption about private unrecognised schools – and implied criticism – is that these schools are often newly established, “fly-by-night” enterprises. Our data suggest that this is not true.

The average year of establishment for private unaided unrecognised schools was 1998; for private unaided recognised schools the average year of establishment was 1993. While the unrecognised schools are certainly newer than their recognised counterparts (which themselves are newer than the government schools), they are certainly not all recently established. Figures 3 and 4 show the dates of establishment for the unrecognised and recognised schools located in East Delhi. Table 5 gives the overall figures for all schools, tabulated in intervals of five years.

Figure 3 Establishment of private unrecognised schools

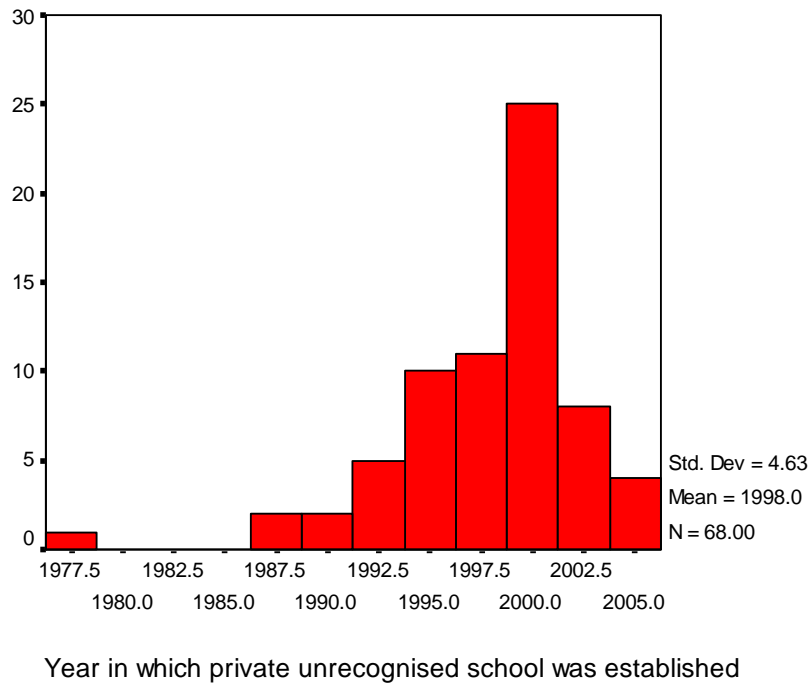


Figure 4 Establishment of private recognised schools

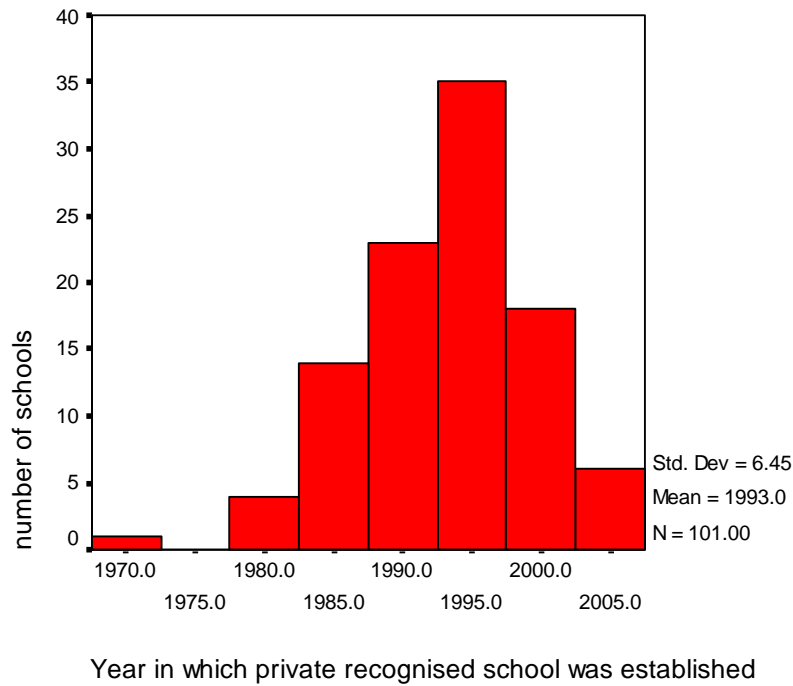


Table 5 Age of schools by management type

	Age of school					Total
	2004-2000	1999-1995	1994-1990	1989-1985	1984 or older	
Government		1 1.6%	6 9.8%	10 16.4%	44 72.1%	61 100.0%
Private aided	5 26.3%	6 31.6%	4 21.1%	2 10.5%	2 10.5%	19 100.0%
Private unrecognised	33 48.5%	23 33.8%	9 13.2%	2 2.9%	1 1.5%	68 100.0%
Private Recognised	14 13.9%	30 29.7%	35 34.7%	9 8.9%	13 12.9%	101 100.0%
Total	52 20.9%	60 24.1%	54 21.7%	23 9.2%	60 24.1%	249 100.0%

What is the medium of instruction?

A significant difference between private and government schools is in their medium of instruction. Of the total 265 schools, 27.2% reported that they were English medium

only, 42.3% Hindi medium only, and the remaining 30.6% English and Hindi medium (table 6).

When disaggregated into management types, 47.1% of recognised private unaided and 20.5% of unrecognised private unaided schools reported they were English medium, compared to only 2.8% of government schools and 36.8% private aided schools. The majority of government schools were Hindi medium (80.3%). Many of the private unrecognised schools are Hindi medium (45.2%) or provide both Hindi and English medium streams (34.2%).

Table 6 Medium of instruction by school management type

	medium of instruction			Total
	English only	Hindi only	English and Hindi	
Government	2 2.8%	57 80.3%	12 16.9%	71 100.0%
Private aided	7 36.8%	3 15.8%	9 47.4%	19 100.0%
Private unrecognised	15 20.5%	33 45.2%	25 34.2%	73 100.0%
Private Recognised	48 47.1%	19 18.6%	35 34.3%	102 100.0%
Total	72 27.2%	112 42.3%	81 30.6%	265 100.0%

Note: $\chi^2 = 80.129$, $df=6$, Significant, $p<0.001$

How do inputs to private and government schools compare?

The survey of school inputs, was conducted over the same period as the census of schools by the same research teams. When the researcher visited unannounced and without prior notice to conduct the census interview, he or she also asked to tour the school to note general facilities and to visit one primary school classroom (class 4 – or if there was no class 4, the nearest grade to this), during a time in the morning when teaching should normally be taking place. If there was an assembly or break period, the researcher waited until after these had finished. On this school tour, the researcher made a note of the facilities available in the classroom and school using a form listing all of the facilities indicated below.

Teacher activity

The most important point of comparison is perhaps the amount of teaching activity that is going on in government and private schools. The researchers were asked to observe, without prior notice, the class 4 teacher (or nearest grade teacher) when there was timetabled teaching supposed to be going on. Teaching was defined as when the teacher was present in the classroom, supervising the class in some activity. This included the teacher supervising pupils reading aloud or doing their own work, or pupils themselves leading the class at the blackboard, under supervision of the teacher. Non-teaching activities are defined as when the teacher is not present in the classroom when he or she should have been, although the teacher was present in the school. This included being in the staffroom, sleeping, eating or talking with other teachers, or engaged in some other non-teaching activity around the school.

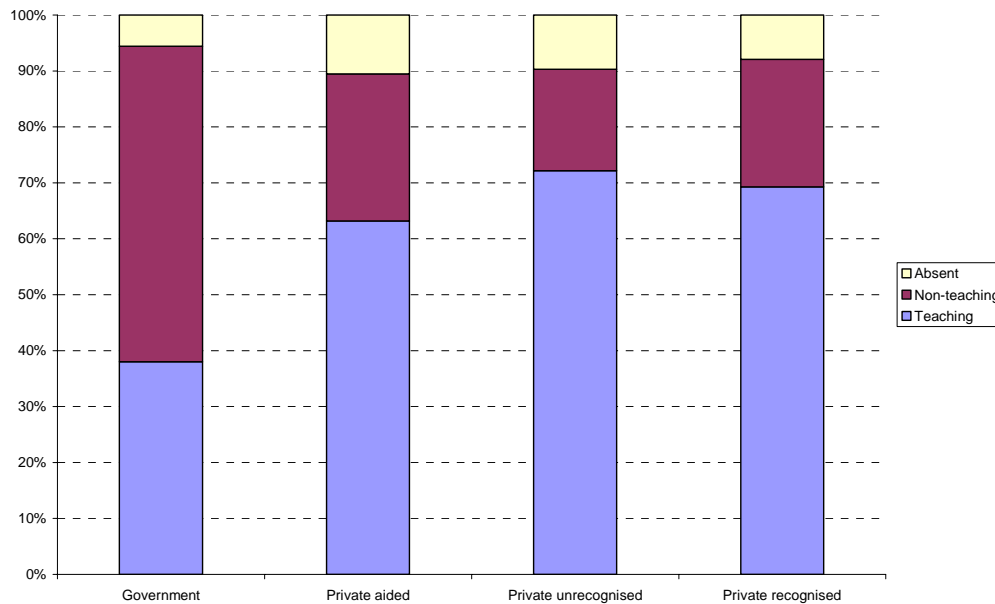
In only 38% of government schools was the teacher teaching, compared to 72% in the private unrecognised and 69% in the private recognised. 56% of the teachers in the class visited in the government schools were carrying out a non-teaching activity when they were supposed to be teaching their class. 5.6% of the government teachers were absent (table 7 and figure 5).

Table 7 Activity of the class teacher by management type

	Activity of the teacher observed			Total
	teaching	non-teaching	absent	
Government	27 38.0%	40 56.3%	4 5.6%	71 100.0%
Private aided	12 63.2%	5 26.3%	2 10.5%	19 100.0%
Private unrecognised	52 72.2%	13 18.1%	7 9.7%	72 100.0%
Private Recognised	70 69.3%	23 22.8%	8 7.9%	101 100.0%
Total	161 61.2%	81 30.8%	21 8.0%	263 100.0%

Note: $\chi^2 = 30.740$, $df = 6$, Significant, $p < 0.001$

Figure 5 Activity of the class 5 teacher by management type



School building and playgrounds

The researcher was asked to note whether the majority of the teaching was taking place in a ‘pucca’ building, that is, a proper brick or stone building with a tiled roof, or in some other construction, such as a veranda, a tent, in open spaces, or in temporary buildings. They also noted whether the school had a playground available – although this could be of any size, not necessarily one meeting the regulatory specifications. All of the private schools apart from one were operating in ‘pucca’ buildings, while 14% of the government schools were not (table 8).

Regarding the provision of playgrounds, it was found that 70% of government schools had a playground compared with only 5.3% of private aided schools, 4.1% of private unrecognised schools and 15.7% of private recognised schools (table 9).

Table 8 Place where the majority of teaching is taking place

	The place where the majority of teaching is taking place		Total
	Pucca building	other	
Government	61 85.9%	10 14.1%	71 100.0%
Private aided	19 100.0%		19 100.0%
Private unrecognised	73 100.0%		73 100.0%
Private Recognised	101 99.0%	1 1.0%	102 100.0%
Total	254 95.8%	11 4.2%	265 100.0%

Note: $\chi^2 = 21.687$, $df = 2$, Significant, $p < 0.001$

Table 9 School has a playground

	Own playground		Total
	Available	Unavailable	
Government	49 70.0%	21 30.0%	70 100.0%
Private aided	1 5.3%	18 94.7%	19 100.0%
Private unrecognised	3 4.1%	70 95.9%	73 100.0%
Private Recognised	16 15.7%	86 84.3%	102 100.0%
Total	69 26.1%	195 73.9%	264 100.0%

Note: $\chi^2 = 98.168$, $df = 3$, Significant, $p < 0.001$

School facilities

The researchers noted whether particular facilities were available in the observed classroom, or available for children around the school (in the case of toilets, drinking water, tape recorders, library and computers). We were particularly interested in comparisons between private unaided and government schools. (In some cases, there were too few observations in private aided schools to make statistically valid comparisons – in which case, these are excluded from the tables).

Concerning three inputs, there was no statistically significant differences between school types:

- *Blackboards and drinking water for children:* For both inputs, the great majority of government and private unaided schools had a blackboard and drinking water available for class 4. In both cases, provision was 100% in private aided schools. (Tables 10 and 11).
- *Library for children's use:* Only a minority of schools had a library for use by children – ranging from 11% in private aided to 37% and 38% in recognised private unaided and government schools respectively. (Table 12).

For two inputs, government schools had superior inputs to private unaided schools:

- *Tape recorders available for teaching:* 65% of recognised and 39% of unrecognised classrooms had tape recorders available, compared to 79% of government. (25% of private aided schools had these available). (Table 13).
- *Separate toilets for boys and girls* (excluding single sex schools): Only 46% of recognised and 18% of unrecognised private unaided have separate toilets, compared with 79% of government schools. (Table 14).

However, for the majority of inputs researched, private unaided schools were superior to government schools:

- *Desks:* In 87% of recognised and 90% of unrecognised private unaided schools, desks were available in the classroom, compared to only 67% of government classrooms. That is, one third of the government classrooms did not have desks available. (Table 15).
- *Chairs or benches for children:* In 87% of recognised and 94% of unrecognised schools, chairs or benches were available in the classroom, compared to 69% of government schools and 79% of private aided schools; again, almost one third of the government classrooms had no chairs or benches for their children. (Table 16).
- *Fans:* 75% of government classrooms had fans, compared with 93% of private unrecognised schools and 89% private recognised schools. 94% of private aided schools had fans. (Table 17).

- *Toilets for children:* the majority of private unaided and aided schools had toilet facilities for the children – 97% in unrecognised and 93% in recognised. All private aided schools had toilets for their children. However, only 80% of government schools had toilets provided for children’s use. (Table 18).
- *Computers for children’s use:* About half of the recognised private unaided schools have one or more computers for the use of their students, compared with 24% of unrecognised private unaided schools and 21% of private aided, but only 7% of government schools. (Table 19).

Table 10 Blackboard availability

	Blackboards in the classroom		Total
	Available	Unavailable	
Government	64 90.1%	7 9.9%	71 100.0%
Private unrecognised	70 97.2%	2 2.8%	72 100.0%
Private Recognised	96 94.1%	6 5.9%	102 100.0%
Total	230 93.9%	15 6.1%	245 100.0%

Note: $\chi^2 = 3.136$, $df = 2$, Not Significant, $p > 0.1$

Table 11 Availability of drinking water for children

	Drinking water		Total
	Available	Unavailable	
Government	62 88.6%	8 11.4%	70 100.0%
Private unrecognised	70 95.9%	3 4.1%	73 100.0%
Private Recognised	96 94.1%	6 5.9%	102 100.0%
Total	228 93.1%	17 6.9%	245 100.0%

Note: $\chi^2 = 3.266$, $df = 2$, Not Significant, $p > 0.1$

Table 12 Availability of Library for use by children

	Library		Total
	Available	Unavailable	
Government	26 37.7%	43 62.3%	69 100.0%
Private aided	2 11.1%	16 88.9%	18 100.0%
Private unrecognised	22 36.7%	38 63.3%	60 100.0%
Private Recognised	25 27.8%	65 72.2%	90 100.0%
Total	75 31.6%	162 68.4%	237 100.0%

Note: $\chi^2 = 5.993$, $df = 3$, Significant, $p > 0.1$ (not significant)

Table 13 Availability of tape recorders

	Tape recorders		Total
	Available	Unavailable	
Government	23 79.3%	6 20.7%	29 100.0%
Private unrecognised	14 38.9%	22 61.1%	36 100.0%
Private Recognised	28 65.1%	15 34.9%	43 100.0%
Total	65 60.2%	43 39.8%	108 100.0%

Note: $\chi^2 = 11.677$, $df = 2$, Significant, $p < 0.05$

Table 14 Separate toilets for boys and girls

	Separate toilets for boys and girls (excluding single sex schools)		Total
	Available	Unavailable	
Government	34 79.1%	9 20.9%	43 100.0%
Private aided	9 52.9%	8 47.1%	17 100.0%
Private unrecognised	11 17.7%	51 82.3%	62 100.0%
Private Recognised	42 45.7%	50 54.3%	92 100.0%
Total	96 44.9%	118 55.1%	214 100.0%

Note: $\chi^2 = 39.249$, $df = 3$, Significant, $p < 0.001$

Table 15 Desks in every classroom

	Desks in the classroom		Total
	Available	Unavailable	
Government	47 67.1%	23 32.9%	70 100.0%
Private aided	17 89.5%	2 10.5%	19 100.0%
Private unrecognised	65 90.3%	7 9.7%	72 100.0%
Private Recognised	87 87.0%	13 13.0%	100 100.0%
Total	216 82.8%	45 17.2%	261 100.0%

Note: $\chi^2 = 16.677$, $df = 3$, Significant, $p < 0.001$

Table 16 Availability of chairs

	Chairs in the classroom		Total
	Available	Unavailable	
Government	49 69.0%	22 31.0%	71 100.0%
Private aided	15 78.9%	4 21.1%	19 100.0%
Private unrecognised	68 94.4%	4 5.6%	72 100.0%
Private Recognised	88 87.1%	13 12.9%	101 100.0%
Total	220 83.7%	43 16.3%	263 100.0%

Note: $\chi^2 = 18.455$, $df = 3$, Significant, $p < 0.001$

Table 17 Availability of fans

	Fans in the classroom		Total
	Available	Unavailable	
Government	53 74.6%	18 25.4%	71 100.0%
Private aided	17 94.4%	1 5.6%	18 100.0%
Private unrecognised	67 93.1%	5 6.9%	72 100.0%
Private Recognised	90 89.1%	11 10.9%	101 100.0%
Total	227 86.6%	35 13.4%	262 100.0%

Note: $\chi^2 = 12.861$, $df = 3$, Significant, $p < 0.01$

Table 18 Availability of children's toilets

	Toilets		Total
	Available	Unavailable	
Government	57 80.3%	14 19.7%	71 100.0%
Private unrecognised	71 97.3%	2 2.7%	73 100.0%
Private Recognised	95 93.1%	7 6.9%	102 100.0%
Total	223 90.7%	23 9.3%	246 100.0%

Note: $\chi^2 = 13.514$, $df = 2$, Significant, $p=0.01$

Table 19 Availability of computers for the use of the children

	School computers for use by the children		Total
	Available	Unavailable	
Government	5 7.1%	65 92.9%	70 100.0%
Private aided	4 21.1%	15 78.9%	19 100.0%
Private unrecognised	17 23.6%	55 76.4%	72 100.0%
Private Recognised	46 46.0%	54 54.0%	100 100.0%
Total	72 27.6%	189 72.4%	261 100.0%

Note: $\chi^2 = 32.594$, $df = 3$, Significant, $p<0.001$

What is the relative efficiency of government and private schools?

Comparing the inputs to private and government schools gives a mixed result, although for the majority of inputs examined, private schools were found to be superior to government schools. The crucial question is: do these inputs make any difference to the pupil achievement in government or private schools? And, if there is any achievement advantage to one school type, is this because the schools are better resourced? We explored the first question by examining pupil achievement at grade 5, using tests in English, mathematics and Hindi. The second question we then examined by looking at the most important resource cost to the schools – teacher salaries.

How well do pupils achieve?

We obtained data on pupil achievement using standardised tests in English, Hindi and mathematics developed by the research department of NIIT Ltd, after checking these with focus groups of government and private school teachers to ensure validity, and trialling/re-trialling with small groups of students from both government and private schools to ensure reliability. (Using public examination scores to gauge achievement was avoided, as their reliability has been questioned with suggestions of widespread ‘mass cheating, leakage of exam papers, tampering with results, and other unethical practices’, Kingdon, 1996, footnote 8, p. 62).

Two languages were chosen to avoid possible shortcomings of previous research that used either English (e.g., Kingdon, 1996, in Uttar Pradesh) or Indian languages (e.g., Bashir, 1997, using Tamil in Tamil Nadu). Our census data showed statistically significant differences between school types (Table 3), with the majority of government schools (80.3%) being Hindi medium, while a similar proportion of recognised private unaided schools were either English medium or combined English and Hindi medium (81.4%); nearly half of the unrecognised private unaided schools (45.2%) were Hindi medium. Hence, to test children in one language only may have biased the results towards one of the management types.

For the in-depth statistical analysis, data on background variables that earlier research had found to be significant for achievement and school effectiveness were elicited through questionnaires, apart from IQ (innate ability) which was tested using Raven’s Standard Progressive Matrices, the results of which were normed using local published norms (Deshpande and Ojha, 2002). The questionnaires were given to the students, their families (by giving the questionnaire to the student and rewarding them with a token gift when returned), the class teachers and school managers/head teachers. All respondents were guaranteed anonymity.

Schools were stratified into approximate size bands and three management categories: private unaided (unrecognised), private unaided (recognised), and government. (Private aided schools were excluded from the sample, because they were too few in number to be a viable option for most children). A stratified random sample of around 3,500 Grade 5 students in 146 was selected (Table 20). The total number of children from any school was restricted to 40, to avoid the sample being skewed towards pupils from larger schools.

Table 20 Delhi, India – schools in stratified random sample by management type

	Number of pupils tested	Number of schools	Average number of children tested per school
Government	1331 (38.1%)	35 (24%)	38.03
Private unaided unrecognised	723 (20.7%)	58 (39.7%)	12.47
Private unaided recognised	1441 (41.2%)	53 (36.3%)	27.19
Total	3495	146	23.94

In each subject, students performed in the same rank order – government students performed least well, followed by private unaided (unrecognised) and private unaided (recognised) students (Table 21 and figure 6). The differences between the two types of private unaided schools was small, however.

The mean mathematics scores were about 18 percentage points and 19 percentage points higher in private unrecognised and recognised schools respectively than in government schools. The advantage in English is even more pronounced being 35 and 41 percentage points higher in private unrecognised and recognised schools respectively than in government schools. In Hindi the comparative results are 22 and 24 percentage points higher in private unrecognised and private recognised schools respectively than in government schools.

That is, children in unrecognised private schools achieve 72% higher marks on average in mathematics than children in government schools, while the corresponding figure for recognised schools is 79%. In Hindi, the private school advantage is slightly higher – children in unrecognised private schools achieve 83% higher on average than government school children, while children in recognised private schools achieve 89% higher. In English, private schools have a huge advantage: children in unrecognised private schools achieve 246% higher than those in government schools, while children in recognised private schools achieve 292% higher marks on average.

The advantage in English might be anticipated in the private, especially recognised, schools, given the fact that many more private schools are English medium. However, no corresponding advantage in Hindi for the government schools is present, which

might have been expected if medium was the key to language attainment. There should have been no bias either way with the mathematics test.

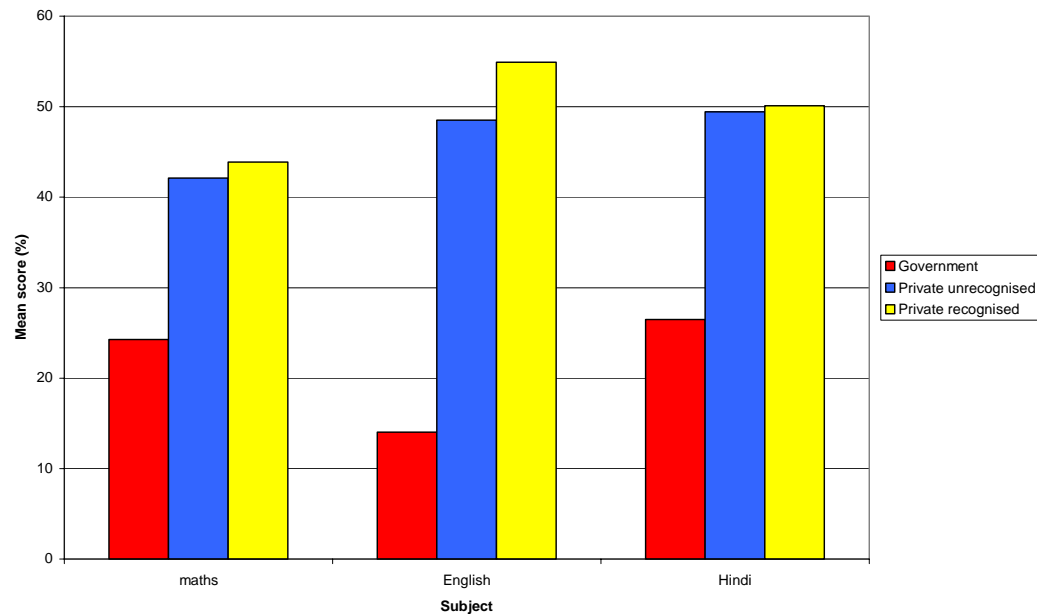
The results reported here are for the actual scores obtained by the students. These have been further statistically analyzed using the Heckman two-stage procedure (Heckman, 1979, Green, 2000), to control for a rich array of background variables and the process of school choice. As this analysis is currently under peer-review, it is not reported here. However, our findings indicate that the substantial differences between private and government school children discussed are sustained once this analysis is conducted – although their magnitude is reduced slightly.

In summary, children in government schools perform much less well than children in private unaided schools, in all subjects. Whilst the difference in English may have been expected, the differences in Hindi and mathematics show that the private schools are considerably more successful at educating children than government schools.

Table 21 Delhi – Student Scores

Subject	School type	Mean score (%)	Percentage point advantage to private over government schools	% advantage to private over government schools
Maths	Government	24.5		
	Private unrecognised	42.1	17.6	72%
	Private recognised	43.9	19.4	79%
English	Government	14.0		
	Private unrecognised	48.5	34.5	246%
	Private recognised	54.9	40.9	292%
Hindi	Government	26.5		
	Private unrecognised	48.4	22.0	83%
	Private recognised	50.1	23.6	89%

Figure 6 Mean percentage raw scores



How well are schools resourced?

The results of the student tests indicate that private unaided schools in the slums of East Delhi, both recognised and unrecognised, are more academically effective than the government schools in the same area. An important question is whether these more effective schools achieve better results because they are better resourced. It was not possible to obtain detailed information on actual income and expenditure within either type of school – the private school managers were understandably wary of divulging sensitive financial information to researchers, while government school head teachers indicated that data could be obtained from the Ministry of Education, from where no information was forthcoming. However, it was possible to elicit data from teachers themselves on what is in any case the most significant element of school re-sourcing – teacher salaries. In India, these are estimated to make up 95% of all resources available to government schools, at the school level (that is, ignoring expenditure outside of schools, on the ministry of education, inspection, etc.).

The average monthly salary of a *full-time* teacher at grade 5 in a government school was reported to be Rs. 10,072/-, compared to Rs. 1,360/- in unrecognised and Rs. 3,627/- in recognised private unaided schools (table 22). The average salaries in government schools are more than seven times higher than in the unrecognised, and more than two and a half times those in the recognised private unaided schools.

However, class sizes are smallest in unrecognised private and largest in government schools, so computing the cost per pupil gives a more valid comparison (Table 23). Using reported class sizes, we find that teacher salary per pupil is roughly equivalent in unrecognised and recognised private schools, the larger salaries in the latter being compensated for by the larger class sizes. In the government schools, however, the unit cost was 2.44 times higher. That is, private schools are not only more effective than government schools, they are also achieving this for considerably lower per-pupil teacher salary costs.

Apart from teacher salary costs, of course, government schools are supported by an expensive state bureaucracy, which also needs to be taken into account in any comparison of school costs. These additional costs will either be minimal or non-existent for private unaided schools.

Table 22 Average monthly salary of full time grade 4 teachers by management type

Management type	Number of teachers reporting	Mean (Rs.)	Std. Deviation	Minimum	Maximum
Government	34	10071.76	2492.832	1220	13239
Private unrecognised	45	1360.333	1463.646	400	9000
Private recognised	44	3626.705	3278.194	500	10890
Total	123	4579.106	4335.632	400	13239

Table 23 Teacher salaries per pupil

Management type	Mean monthly salary of full-time teacher at Grade 4 (Rs.)	mean class size	Salary per pupil	Ratio of unit costs (private unrecognised base)
Government	10071.76	42.37	237.71	2.44
Private unrecognised	1360.33	13.96	97.45	1.00
Private recognised	3626.70	37.15	97.62	1.00

What is the relative satisfaction of pupils, teachers and managers in government and private schools?

Private unaided schools perform better with regards to academic achievement than government schools, at a lower per pupil teacher salary cost, have higher teaching commitment and sometimes better inputs to the learning environment. What do pupils and teachers in government and private schools think of their schools? We explored this in the second part of our research, in the stratified random sample of 146 schools. On the questionnaires to students and teachers, we asked respondents to fill in a table with satisfaction levels for their school, asking them to respond to particular questions on a four-point scale, where they could express whether they were ‘very satisfied’, ‘satisfied’, ‘dissatisfied’ and ‘very dissatisfied’ with particular aspects of their school experience. Children and teachers filled in their questionnaires within the school: although everyone was promised anonymity, and explicitly told that the questionnaires were confidential so they could be as honest as they wished, children may have been afraid that their teachers, and teachers their head teacher/school manager, would see the results, and this may have inhibited their criticisms. The questionnaires were given to all the class 5 teachers taking part, and to all the 3,500 children in the schools. Finally, all the school managers were asked about how they perceived their control of their staff. (In the analysis below, sometimes categories are grouped together – e.g., ‘very satisfied’ and ‘satisfied’, or both types of private school – in order to conduct tests of statistical significance.)

How satisfied are pupils?

Pupils were more satisfied in both types of private unaided than government schools on all issues. Concerning four school inputs, pupil satisfaction was considerably greater in private than government schools:

- *Condition of school buildings* – satisfaction was highest amongst private school pupils, with 82% in recognised and 69% in unrecognised reporting their buildings were ‘excellent’, compared to 66% in government schools. Conversely, 11% of government students reported that their school buildings were ‘poor’ or ‘very poor’, compared to 6% in private unrecognised and 3% in private recognised schools. (Table 24).
- *School facilities (toilets, library, drinking water, etc.)* – almost one third of government pupils (29%) said these were ‘poor’ or ‘very poor’, compared to 16% and 8% of pupils of children in unrecognised and recognised private unaided schools respectively. More than half of the private recognised children rated their facilities ‘excellent’ (55%) compared to 37% of private unrecognised and 27% of government school children. (Table 25).
- *Provision of extra-curricular activities* – 32% of government school pupils rated this as ‘poor’ or ‘very poor’, compared to 18% and 9% of pupils in private unaided unrecognised and recognised schools respectively. Conversely, 67% and 43% of

children in recognised and unrecognised private unaided schools reported the provision of extra-curricular activities as ‘excellent’, compared to 37% in government schools. (Table 26).

- *English lessons* – it was reported that all children would have received some English lessons, whatever school type they were in, by grade 5. 32% of government children rated these as ‘poor’ or ‘very poor’, compared to only 11% and 4% of unrecognised and recognised private unaided students respectively. 96% of children in private recognised schools stated that their English lessons were either ‘excellent’ or ‘good’ compared to 89% of children in private unrecognised and 68% of children in government schools. (Table 27).

The third of these is particularly interesting – private unaided schools are sometimes accused of being little more than ‘crammers’, not concerned with the education of the whole child (e.g., The Probe Team, 1999, p. 105). This suggests that this view may be mistaken, at least as far as student satisfaction is concerned. It is also noteworthy that pupil satisfaction with facilities and buildings appears to reflect the findings of the survey of inputs, that showed in general better facilities in the private than government schools.

Concerning a further five school inputs, pupil satisfaction was higher in private than government schools, although differences (whilst still being statistically significant) were smaller:

- *Ability of the class teacher* – although the majority of pupils said they thought this was ‘excellent’ or ‘good’, 28% of government pupils reported this was ‘poor’ or ‘very poor’, compared to 10.7% in the unrecognised and only 4.6% in recognised private unaided schools. (Table 28).
- *Teacher punctuality* – again, while the vast majority of pupils were satisfied with this aspect of their school, more government school pupils (36 pupils, 3%) said teacher punctuality was poor or very poor, compared to only 1 child in private unaided unrecognised and 4 children in recognised schools. (Table 29).
- *Teacher attendance* – 69% and 65% of students in recognised and unrecognised private schools reported teacher attendance as ‘excellent’, compared to 61% in government schools. Roughly comparable numbers in each school type rated this as ‘poor’ or ‘very poor’ (19% government, 18% unrecognised and 17% recognised private school). (Table 30).
- *Teacher ‘respect for students’* – this was explained to pupils as whether or not the teacher was prejudiced against them, perhaps because of their caste or religion. However, informal interviews with a small group of students suggest that it may also have picked up how often the teachers used corporal punishment. A higher percentages of private unaided than government school children reported respect as ‘excellent’ (78% and 84% in recognised and unrecognised schools respectively, compared to 73%), while more government school children reported respect as

‘poor’ or ‘very poor’ (7.7% compared with 4.3% private recognised and 3.4% private unrecognised). (Table 31).

- *School discipline* – 51% of pupils in private unrecognised and 58% in private recognised schools reported this as ‘excellent’, compared to 45% of government pupils. Similar percentages in all management types reported the satisfaction with school discipline to be ‘poor’ or ‘very poor’, 30.4% in government schools, 31.6% private unrecognised and 30.6% private recognised. (Table 32).

Government students were not more satisfied on any of the issues than those in private unaided schools.

Table 24 Student satisfaction with school buildings

	Rating of the school buildings				Total
	excellent	good	poor	very poor	
Government	878 66.2%	306 23.1%	87 6.6%	56 4.2%	1327 100.0%
Private unrecognised	502 69.4%	181 25.0%	29 4.0%	11 1.5%	723 100.0%
Private recognised	1175 81.7%	227 15.8%	23 1.6%	13 .9%	1438 100.0%
Total	2555 73.3%	714 20.5%	139 4.0%	80 2.3%	3488 100.0%

Note: $\chi^2 = 129.713$, $df=6$, Significant, $p<0.001$

Table 25 Student satisfaction with school facilities

	Rating of the school facilities (toilets, library, water, chairs, etc.)				Total
	excellent	good	poor	very poor	
Government	363 27.4%	573 43.2%	275 20.8%	114 8.6%	1325 100.0%
Private unrecognised	267 37.0%	342 47.4%	89 12.3%	24 3.3%	722 100.0%
Private recognised	792 55.2%	529 36.9%	81 5.6%	32 2.2%	1434 100.0%
Total	1422 40.9%	1444 41.5%	445 12.8%	170 4.9%	3481 100.0%

Note: $\chi^2 = 333.138$, $df=6$, Significant, $p<0.001$

Table 26 Student satisfaction with English lessons

	Rating of English lessons				Total
	excellent	good	poor	very poor	
Government	462 35.0%	432 32.7%	276 20.9%	151 11.4%	1321 100.0%
Private unrecognised	370 51.2%	274 37.9%	45 6.2%	34 4.7%	723 100.0%
Private recognised	1027 71.9%	347 24.3%	37 2.6%	18 1.3%	1429 100.0%
Total	1859 53.5%	1053 30.3%	358 10.3%	203 5.8%	3473 100.0%

Note: $\chi^2 = 570.269$, df=6, Significant, $p < 0.001$

Table 27 Student satisfaction with extra-curricular activities

	Rating of the school's extra-curricular activities				Total
	excellent	good	poor	very poor	
Government	483 36.5%	419 31.6%	302 22.8%	120 9.1%	1324 100.0%
Private unrecognised	311 43.0%	280 38.7%	97 13.4%	35 4.8%	723 100.0%
Private recognised	966 67.4%	334 23.3%	94 6.6%	39 2.7%	1433 100.0%
Total	1760 50.6%	1033 29.7%	493 14.2%	194 5.6%	3480 100.0%

Note: $\chi^2 = 360.923$, df=6, Significant, $p < 0.001$

Table 28 Student satisfaction with teacher's ability

	Rating of the class teacher's ability in their subject				Total
	excellent	good	poor	very poor	
Government	548 41.6%	402 30.5%	201 15.3%	167 12.7%	1318 100.0%
Private unrecognised	440 61.0%	204 28.3%	51 7.1%	26 3.6%	721 100.0%
Private recognised	1112 77.7%	253 17.7%	39 2.7%	27 1.9%	1431 100.0%
Total	2100 60.5%	859 24.8%	291 8.4%	220 6.3%	3470 100.0%

Note: $\chi^2 = 464.974$, df= 6, Significant, $p < 0.001$

Table 29 Student satisfaction with teacher's punctuality

	Rating of the teacher's punctuality for lessons		Total
	excellent or good	poor or very poor	
Government	1289 97.3%	36 2.7%	1325 100.0%
Private unrecognised	722 99.9%	1 .1%	723 100.0%
Private recognised	1433 99.7%	4 .3%	1437 100.0%
Total	3444 98.8%	41 1.2%	3485 100.0%

Note: $\chi^2 = 43.718$, $df=2$, Significant, $p<0.001$

Table 30 Student satisfaction with teacher attendance

	Rating of teacher's attendance at school				Total
	excellent	good	poor	very poor	
Government	802 60.8%	295 22.3%	193 14.6%	30 2.3%	1320 100.0%
Private unrecognised	472 65.3%	123 17.0%	117 16.2%	11 1.5%	723 100.0%
Private recognised	997 69.4%	201 14.0%	216 15.0%	22 1.5%	1436 100.0%
Total	2271 65.3%	619 17.8%	526 15.1%	63 1.8%	3479 100.0%

Note: $\chi^2 = 38.463$, $df=6$, Significant, $p<0.001$

Table 31 Student satisfaction with teacher's respect

	Rating of teacher's respect for students				Total
	excellent	good	poor	very poor	
Government	972 73.4%	249 18.8%	92 6.9%	11 .8%	1324 100.0%
Private unrecognised	567 78.4%	132 18.3%	20 2.8%	4 .6%	723 100.0%
Private recognised	1209 84.1%	166 11.6%	53 3.7%	9 .6%	1437 100.0%
Total	2748 78.9%	547 15.7%	165 4.7%	24 .7%	3484 100.0%

Note: $\chi^2 = 60.565$, $df=6$, Significant, $p<0.001$

Table 32 Student satisfaction with school discipline

	Rating of discipline at the school				Total
	excellent	good	poor	very poor	
Government	599 45.3%	321 24.3%	315 23.8%	87 6.6%	1322 100.0%
Private unrecognised	365 50.6%	128 17.8%	208 28.8%	20 2.8%	721 100.0%
Private recognised	827 57.6%	169 11.8%	392 27.3%	47 3.3%	1435 100.0%
Total	1791 51.5%	618 17.8%	915 26.3%	154 4.4%	3478 100.0%

Note: $\chi^2 = 108.984$, $df=6$, Significant, $p<0.001$

Teacher satisfaction

We asked the Class 5 teachers to comment on satisfaction with their school and aspects of their teaching careers. On four issues, there was *no statistically significant difference* between management types:

- *Salaries* Teachers reporting themselves 'very satisfied' ranged from 26% to 29%, while those rating themselves 'very dissatisfied' ranged from 3% to 7%, but the differences were not statistically significant. (Table 33).
- *General satisfaction with being a teacher* – the vast majority of teachers reported themselves 'very satisfied' or 'satisfied'; only three teachers reported themselves 'dissatisfied' or 'very dissatisfied', one from a private unrecognised school and two from private recognised schools. (Table 34).

- *Leave and holidays* – between 87% and 89% of teachers were ‘very satisfied’ or ‘satisfied’ with the amount of leave and holidays granted to them – there was no statistical difference between school types. (Table 35).
- *Social status in the community* – between 91% and 100% of teachers reported themselves ‘very satisfied’ or ‘satisfied’ with their social status in the community – there was no statistical difference between school types. (Table 36).

The first of these is particularly interesting: although as we observed in the previous section, teacher salaries were found to be considerably higher in government than private schools, teachers were just as satisfied with their salaries whatever school types they were in. Indeed, each of these four headings might be surprising – for the accepted wisdom in the development literature appears to be that teachers in unrecognised schools feel exploited or downtrodden. This is not what we found in our satisfaction surveys – on these important general issues, teachers were just as satisfied in private unaided schools, including unrecognised, as they were in government schools.

On a further six issues, however, private unaided teachers reported themselves much more satisfied than those in government schools:

- *Respect from parents* – 21% of government teachers reported themselves ‘dissatisfied’ or ‘very dissatisfied’, compared to only 3% of unrecognised and recognised private unaided teachers. Conversely, 64% of private school teachers report themselves ‘very satisfied’, compared to only 33% of government teachers. (Table 37).
- *Respect from management* – only four teachers reported themselves dissatisfied or very dissatisfied with the respect given to them from their management or head. However, a much higher percentage of private teachers reported themselves as ‘very satisfied’ than the government school teachers – 71% and 58% for private unrecognised and recognised compared with 38% government. (Table 38).
- *Working environment* - Many more government school teachers (21%) are either ‘dissatisfied’ or ‘very dissatisfied’ with the environment in which they work compared to only 2% in private unrecognised and recognised schools. Conversely, 56% of private unaided teachers are ‘very satisfied’, compared to only 27% of government teachers. (Table 39).
- *Facilities (books, teaching aids, etc.)* – 52% of private unaided teachers reported themselves very satisfied with school facilities, compared to only 29% of government school teachers. (Table 40).
- *School Infrastructure (furniture, buildings)* – 32% of government teachers said they were ‘very dissatisfied’ or ‘quite dissatisfied’, compared to only 11% of unrecognised private unaided and 8% of recognised private unaided teachers. Conversely, 58% and 46% of recognised and unrecognised private unaided teachers reported themselves ‘very satisfied’, compared to only 29% of government teachers. (Table 41).

- *Leadership of the manager or head* – The majority of private unrecognised and unrecognised school teachers (61%) were very satisfied with the leadership of their management compared with only 20% of government school teachers. Conversely, 14% reported themselves ‘very dissatisfied’ or ‘dissatisfied’, compared to only 2% of private unaided teachers. (Table 42).

Government teachers were not more satisfied on any issue than those in private unaided schools.

Table 33 Teacher satisfaction with salary

	Satisfaction with salary				Total
	very satisfied	quite satisfied	dissatisfied	very dissatisfied	
Government	10 29.4%	19 55.9%	4 11.8%	1 2.9%	34 100.0%
Private unrecognised	14 25.9%	26 48.1%	11 20.4%	3 5.6%	54 100.0%
Private recognised	12 26.7%	20 44.4%	10 22.2%	3 6.7%	45 100.0%
Total	36 27.1%	65 48.9%	25 18.8%	7 5.3%	133 100.0%

Note: $\chi^2 = 2.398$, $df=6$, not significant, $p>0.1$

Table 34 Teacher satisfaction with being a teacher

	Satisfaction level with being a teacher				Total
	very satisfied	quite satisfied	dissatisfied	very dissatisfied	
Government	25 78.1%	7 21.9%			32 100.0%
Private unrecognised	41 80.4%	9 17.6%		1 2.0%	51 100.0%
Private recognised	26 63.4%	13 31.7%	2 4.9%		41 100.0%
Total	92 74.2%	29 23.4%	2 1.6%	1 .8%	124 100.0%

Note: $\chi^2 = 8.416$, $df=6$, Not Significant, $p>0.1$

Table 35 Teacher satisfaction with leave/holidays

	Satisfaction with amount of leave/holidays		Total
	very satisfied or satisfied	dissatisfied or very dissatisfied	
Government	29 87.9%	4 12.1%	33 100.0%
Private unrecognised	47 88.7%	6 11.3%	53 100.0%
Private recognised	40 87.0%	6 13.0%	46 100.0%
Total	116 87.9%	16 12.1%	132 100.0%

Note: $\chi^2 = 0.069$, $df=2$, Not Significant, $p>0.1$

Table 36 Teacher satisfaction with social status

	Satisfaction with the social status in the community		Total
	very satisfied or satisfied	dissatisfied or very dissatisfied	
Government	29 90.6%	3 9.4%	32 100.0%
Private unrecognised	53 96.4%	2 3.6%	55 100.0%
Private recognised	45 100.0%		45 100.0%
Total	127 96.2%	5 3.8%	132 100.0%

Note: $\chi^2 = 4.516$, $df=2$, Not Significant, $p>0.1$

Table 37 Teacher satisfaction with respect from parents – private/government

	Satisfaction with the respect from the parents			Total
	very satisfied	quite satisfied	dissatisfied or very dissatisfied	
Government	11 33.3%	15 45.5%	7 21.2%	33 100.0%
Private unaided	67 64.4%	34 32.7%	3 2.9%	104 100.0%
Total	78 56.9%	49 35.8%	10 7.3%	137 100.0%

Note: $\chi^2 = 16.922$, $df = 2$, Significant, $p < 0.001$

Table 38 Teacher satisfaction with respect from management

	Satisfaction with the respect from the management/head				Total
	very satisfied	quite satisfied	dissatisfied	very dissatisfied	
Government	13 38.2%	19 55.9%	2 5.9%		34 100.0%
Private unrecognised	39 70.9%	15 27.3%		1 1.8%	55 100.0%
Private recognised	28 58.3%	19 39.6%	1 2.1%		48 100.0%
Total	80 58.4%	53 38.7%	3 2.2%	1 .7%	137 100.0%

Note: $\chi^2 = 13.117$, $df = 6$, Significant, $p < 0.05$

Table 39 Teacher satisfaction with work environment

	Satisfaction with the work environment			Total
	very satisfied	quite satisfied	dissatisfied or very dissatisfied	
Government	9 27.3%	17 51.5%	7 21.2%	33 100.0%
Private unaided	58 56.3%	43 41.7%	2 1.9%	103 100.0%
Total	67 49.3%	60 44.1%	9 6.6%	136 100.0%

Note: $\chi^2 = 18.843$, $df = 2$, Significant, $p < 0.001$

Table 40 Teacher satisfaction with facilities

	Satisfaction with Facilities (books, teaching aids)			Total
	very satisfied	quite satisfied	dissatisfied or very dissatisfied	
Government	10 29.4%	22 64.7%	2 5.9%	34 100.0%
Private unaided	54 52.4%	42 40.8%	7 6.8%	103 100.0%
Total	64 46.7%	64 46.7%	9 6.6%	137 100.0%

Note: $\chi^2 = 6.064$, $df=2$, Significant, $p<0.05$

Table 41 Teacher satisfaction with school infrastructure

	Satisfaction with the school's infrastructure (furniture, buildings)			Total
	very satisfied	quite satisfied	dissatisfied or very dissatisfied	
Government	10 29.4%	13 38.2%	11 32.4%	34 100.0%
Private unrecognised	26 46.4%	24 42.9%	6 10.7%	56 100.0%
Private recognised	28 58.3%	16 33.3%	4 8.3%	48 100.0%
Total	64 46.4%	53 38.4%	21 15.2%	138 100.0%

Note: $\chi^2 = 13.002$, $df=4$, Significant, $p<0.05$

Table 42 Teacher satisfaction with school's leadership from management or head

	Satisfaction with the school's leadership from the management/head			Total
	very satisfied	quite satisfied	dissatisfied or very dissatisfied	
Government	7 20.0%	23 65.7%	5 14.3%	35 100.0%
Private unaided	63 61.2%	38 36.9%	2 1.9%	103 100.0%
Total	70 50.7%	61 44.2%	7 5.1%	138 100.0%

Note: $\chi^2 = 21.483$, $df=2$, Significant, $p<0.001$

How many times does the management observe teacher lessons?

Teachers reported on how frequently the headteacher (government school) or school manager (private unaided school) visited the classroom to observe the teacher's lessons. The vast majority of private unaided teachers were observed daily, (93% in unrecognised and 89% in recognised), with the remainder reporting observations of two or three times per week – no teacher in the private unaided schools reported that they were observed less than twice a week. In the government schools, however, although 60% of teachers reported that they were visited daily, 23% were visited less than or equal to once per week (Table 43). These differences were statistically significant.

Table 43 Observation of teacher by head teacher/school manager

	The number of times the headteacher/school owner/manager observes the teacher's lessons				Total
	daily	three times a week	two times a week	once a week or less	
Government	21 60.0%	3 8.6%	3 8.6%	8 22.9%	35 100.0%
Private unrecognised	51 92.7%	2 3.6%	2 3.6%		55 100.0%
Private recognised	41 89.1%	4 8.7%	1 2.2%		46 100.0%
Total	113 83.1%	9 6.6%	6 4.4%	8 5.9%	136 100.0%

Note: $\chi^2 = 29.359$, $df=6$, Significant, $p<0.001$

Does management have adequate power over teachers?

We asked the head teacher (government schools) or school managers (private schools) whether they considered their powers over staff were adequate or not. The results show that government head teachers feel relatively powerless: Only 58% of government school head teachers said they had adequate power compared with 84% and 87% in private unrecognised and private recognised schools respectively. Over two-fifths of government head teachers reported themselves powerless.

Table 44 Management has adequate powers

	Adequate powers of the schools owner/headteacher		Total
	I have adequate powers to deal with staff	my powers are not adequate/I have no power	
Government	19 57.6%	14 42.4%	33 100.0%
Private unrecognised	46 83.6%	9 16.4%	55 100.0%
Private recognised	40 87.0%	6 13.0%	46 100.0%
Total	105 78.4%	29 21.6%	134 100.0%

Note: $\chi^2 = 11.314$, $df=2$, Significant, $p<0.05$

Conclusions and Implications

Many have expressed concern that the “mushrooming” of private unaided, especially unrecognised, schools in India and elsewhere may be undesirable. It is accepted by some commentators that private unaided schools are now widespread in low-income areas, such as city slums and villages. But there are worries expressed about the quality of education that is provided in this low-cost sector: for if schools charge such low fees, and pay teachers so little, how can they offer a high quality education?

Concerns are also expressed about the inequity that private education for the poor brings. For as growing numbers of parents take their children from government schools, it is argued that only the poorest are left. This seems unfair to those who are left behind. Through our detailed two-year research project in low-income areas of sub-Saharan Africa, China and India – in particular, the study in North Shahdara, one of the poorest areas of Delhi, reported in this working paper – we have found challenges and suggested solutions to each of these concerns. Seven of the principal findings are:

Private unaided schools make up the majority of schools in North Shahdara, with more unrecognised than government schools About two-thirds of schools in our survey of 265 primary and secondary schools in North Shahdara are private unrecognised, while there are more *unrecognised* private unaided (that is, schools not recognised by the authorities) than government schools (28% compared to 27%).

Higher achievement in private unaided than government schools Testing around 3,500 children in mathematics, Hindi and English revealed a considerable achievement advantage for private unaided over government students. Children in unrecognised private schools achieved 72% higher marks on average in mathematics than government students, 83% higher in Hindi and 246% higher in English. Scores in the recognised private schools were higher still. After controlling for background variables, the private school advantage was maintained.

Private unaided schools cost significantly less than government schools in per pupil teacher costs The private unaided school advantage was not obtained through greater re-sourcing: average salaries in government schools were more than seven times higher in the unrecognised private schools. Taking into account larger class sizes in government schools showed per pupil teacher salaries still nearly two and a half times greater in government than private unaided schools. In brief, private unaided schools, including unrecognised ones, are substantially more efficient than government schools.

Teaching commitment higher in private unaided than government schools When researchers called unannounced on classrooms, there was a significantly higher level of teaching going on in private unaided schools than in government schools. The percentage of teachers teaching in private recognised schools was 69 percent, and 72

percent in private unrecognised schools, compared to only 38 percent in the government schools.

The poorest children are given free or subsidized seats in private unaided schools

Notwithstanding the fact that private unaided schools are almost entirely dependent on come from pupils to survive, many offer free or reduced fee places to those most in need. 10% of all places were free or offered at concessionary rates.

Pupils and teachers in general more satisfied, or at least as satisfied, in private unaided than government schools

Pupils in private unaided schools were more satisfied than their government counterparts, often considerably so, concerning a range of school inputs, including condition of school buildings, provision of facilities and extra-curricular activities, and teacher punctuality. Teachers in private unaided schools, including unrecognised ones, were no less satisfied than government teachers 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.

Head teachers or school managers more frequently observe classes in private unaided than government schools, and feel more in control

In private unaided schools, 90% of teachers reporting daily observations from school managers, compared to only 60% in government schools. Government head teachers reported that they felt that had much less relative power over their teachers than managers in private unaided schools.

None of these findings, of course, mean that nothing could be improved in the private sector serving the poor. First, access to private education could be extended even further, by building on the initiatives already undertaken by the private schools themselves, that offer free and reduced fee seats to the poorest children. Such informal schemes could be extended and replicated by philanthropists and/or the state, so that “pupil passports” or vouchers could be targeted at the poorest children (although there may be dangers of additional regulations that could stifle the growth of private schools if these were administered by the state). With these, many more of the poor could be empowered to attend private unaided schools.

Private school managers themselves realize that their school infrastructure and facilities can be improved and across India and elsewhere, many are active in creating private school federations or associations that link together school managers in ‘self-help’ organizations. Such associations actively pursue management and teacher training and curriculum development, and challenge regulatory regimes imposed by government. They could be supported in their endeavours, perhaps through the creation of a global network of private schools and their associations, that would conduct further research and disseminate information about the role of private schools for the poor to opinion leaders and policy makers. Such networks could reward innovation and excellence in the schools, and mobilize additional resources to help with improvements.

As a parallel activity to our research in Hyderabad, India, and Nigeria, the research teams have been active in mobilizing resources for the creation of two revolving loan funds to help private schools improve their facilities. Schools are borrowing up to \$1,000 to build new classrooms, equip libraries and laboratories and improve teacher training. Such loan funds could be extended and replicated to enable more children to access education in an even better, safer and educationally more conducive environment. Other educational services could also be offered to help the private unaided schools improve and better serve their communities.

Rather than assume that the private unaided education sector is a problem, it should be seen as a great strength. It is a dynamic demonstration of how the entrepreneurial talents of people in India and Africa can forcefully contribute to the improvement of education, even for the poor. Its existence and flourishing could be a cause for celebration.

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