

Does School Choice Help Rural Children from Disadvantaged Sections?

Evidence from Longitudinal Research in Andhra Pradesh

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Internationally, considerable research has been carried out on the subject of school choice or school vouchers. Recent evidence in other countries is mixed but increasingly pointing towards school choice not adding value in terms of curricular learning achievement. This paper presents findings from a large-scale five-year longitudinal research based on the randomised control trial methodology that was conducted in Andhra Pradesh. It finds that private schools add no value to children in terms of learning outcomes as compared to government schools. Children shifting to private schools under a scholarship programme perform no better than their government school counterparts even after five years of private schooling.

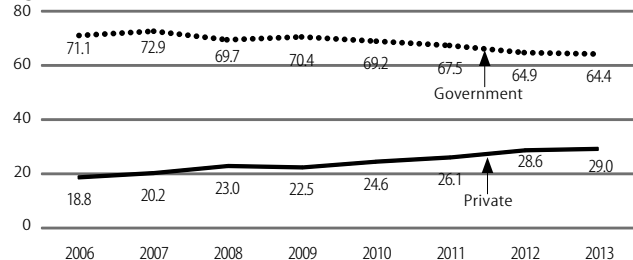
Background

Since the turn of the century, there has been a sharp increase in the figures for enrolment in primary schools in India, thanks in part to the efforts of the Government of India in programmes like the Sarva Shiksha Abhiyan. While enrolment has steadily increased, the quality of education leaves much to be desired. Over 96% of children in the age group of 6-14 years were enrolled in schools, but among Class 3 children close to 60% could not read Class 1 text while nearly 74% children could not do simple subtraction (Pratham 2013). At the same time, the last decade or so has seen a consistent increase in enrolment in private schools (Figure 1, p 47). While this was always high for urban areas, it has now been estimated to have grown to 29% in rural areas. In some states like Kerala and Haryana, the figure is believed to be over 50% (Pratham 2013). Many people believe that this increasing popularity of fee-charging private schools is due to parental dissatisfaction with public schools.¹

This growing popularity of private schools has led to concerns about further economic and social stratification. This has also resulted in calls for expanding access to private schools for all children regardless of their socio-economic background. The Right to Education (RTE) Act has a provision mandating private schools to reserve up to 25% of the seats for students from disadvantaged backgrounds. Some people claim that this is, in fact, an admission by government that private schools are better than government schools. Given the large size of the population of 6-14-year-olds in the country, this provision could in fact end up with India having the equivalent of one of the largest “school voucher” programmes² in the world. While this increase in enrolment in private schools is happening, there is very little hard data available on their effectiveness vis-à-vis government schools. Education is a complex subject and is influenced by several in-school factors such as curriculum, pedagogy, number of teachers, teacher preparation, etc, and outside school factors like the home environment, socio-economic background, availability of educational support systems, etc. Definition of quality or of effectiveness of education is itself a highly debated topic. There are several definitions of school quality and some of these are brought out well in an Organisation for Economic Co-operation and Development (2005) report based on analysis of Programme for International Student Assessment (PISA) 2000 data. Learning outcome is only one of

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Figure 1: All-India Enrolment Trends – Rural Schools (%)

Source: Various ASER reports from 2008 to 2013.

the many parameters, but an important and a relatively more easily understood and measured one.

School vouchers as an idea is not new and has been tried or in use in many countries around the world for decades. It is only towards the end of the 20th century that the idea has gained prominence and has also seen intense debates and discussions. There has been a lot of serious research on this topic in many countries. The perceptions and beliefs about school vouchers have been changing over the years. Chile introduced a nationwide school choice programme in 1981. The initial reaction to this was positive but a study 20 years later (Hsieh and Urquiola 2006) says that they found no evidence that choice improved educational outcomes as measured by test scores, repetition rates and years of schooling.

There is a lot of controversy around research on the impact of vouchers on student achievement, with serious questions raised about the motives of those conducting the research, the methods, and the sources of funding for many of them.³ The view on the impact on learning outcomes of voucher programmes has been mixed, varying from fairly positive to being “inconclusive” or, even negative. A report towards the end of the last century based on evidence from 20 countries or regions (West 1997) suggests that there is no clear support for negative predictions of the voucher systems, while a paper based on critical reviews of school voucher studies in the us and other countries says that large-scale voucher programmes would not generate substantial gains in overall student achievement and could well be detrimental to many disadvantaged students (Ladd 2002). The reports brought out by the Center on Education Policy (CEP), a non-profit organisation on the subject are interesting. In its report brought out in 2000 it says that based on analysis of voucher programmes in several countries, the evidence on the positive effect of the programmes is inconclusive. However, the report brought out by the same organisation 10 years later, based on reviews of studies since 2000 indicates that there is now evidence to say that there is no clear advantage in academic achievements for students attending private schools with vouchers (CEP, June 2000 and July 2011). A rigorous review of 59 studies (Day Ashley et al 2014) also concludes that there is ambiguity about the size of the true private school effect. Insignificant learning achievement gains are also reported by other studies as well (Rouse and Barrow 2009; Singh 2013) while differential gains are reported by some (Howell 2002). Clearly, the last word on the subject has not been said.

There has been limited research on school choice in the Indian context especially on the relative effectiveness with respect to

learning outcomes of government and private schools, particularly in rural settings. It is contended that private schools are more accountable and responsive to parents. Attendance of children and teachers is higher and children have higher test scores in private schools (Muralidharan and Kremer 2008). Private schools in Madhya Pradesh (MP) and Uttar Pradesh (UP) are seen to be more effective than government schools (Goyal and Pandey 2009). Private schools are believed to deliver much better children’s performance despite government schoolteachers being paid substantially higher (Tooley et al 2011).

Much of the research work in India on determining the comparative effectiveness of schooling has been based on secondary data or data from other research studies analysed by controlling for observables. There has been no large-scale empirical study on the subject. Children in private schools are shown to have higher reading and arithmetic skills based on analysis of the Human Development Survey data of 2005 (Desai et al 2008). Using ASER 2005-07 data, private schools are shown to have a learning advantage of 0.114 to 0.117 standard deviations over their government counterparts (French and Kingdon 2010). On the other hand, some papers seem to suggest that the effectiveness of private schools is somewhat exaggerated. Though private schools on the surface seem to perform better than government schools, after more detailed analysis their benefits seem to become statistically largely insignificant (Chudgar and Quin 2012). Private school advantage is believed to fall drastically once characteristics other than the type of school are controlled for (Wadhwa 2009). The present research has been viewed from the perspective of “cost per child” to conclude that private schools are more “efficient” (Muralidharan⁴ and Sundararaman 2013). Thus in India too, the subject has been inconclusive.

Genesis of the Study

Azim Premji Foundation, a not-for-profit organisation headquartered at Bengaluru entered into a memorandum of understanding with the Government of Andhra Pradesh in 2004 (i.e., the earlier undivided state) to carry out joint research in the state on education-related topics. Under this, the Foundation launched the Andhra Pradesh School Choice (APSC) research to study the private school scenario. This is the largest research study in India (and perhaps in the world) involving a sample size of over 10,000 children and a rigorous randomised control trial (RCT) design. This paper presents evidence from the study and using simple analysis of the data from complex research tries to understand ground-level realities. In the course of the study, data was also collected on opinions, perceptions and beliefs on several aspects of school choice from the parents and other stakeholders. However, this paper restricts itself to the impact on learning outcomes.

School vouchers as a serious issue is of a fairly recent origin in India. The discussion on the subject started in right earnest when the RTE bill was first mooted at the beginning of this century and there have been intense debates between proponents and opponents of private schooling since then. Detractors believe that private schools will lead to economic stratification of schooling (which is harmful) and that exit of children to private schools will in fact end up worsening government schools.

They point to the fact that private schoolteachers are underpaid and are of poor quality. They feel private schooling will lead to increased commercialisation of education, which will ultimately lead to it going out of reach of the poor and marginalised segments of the society. They claim that the so-called higher learning level of private school students is not justified as it is on account of an unfair comparison. Supporters, on the other hand, cite data on increasing enrolment in private schools even in rural areas as an example of how people are “voting with their feet” – taking their children out of free government schools and moving them to fee-charging private schools even if they have to make some sacrifices in other areas. They argue that competition improves quality and believe that private schools are more accountable and responsive to the parents and provide better learning to children. This flies in the face of data. Analysis of PISA 2012 data suggests that competition and school choice do not improve learning outcomes at the system level but could lead to greater inequity and segregation.⁵

Qualitative research we carried out among the parents children in private schools indicates a clear preference for English medium private schools. There is a belief that private schools give better education leading to better jobs, that the management is more responsible and teachers are more regular and punctual. At the same time, the parents provide strong social reasons as well. Sending children to private schools is seen as being “prestigious” and their children are seen to be mingling with “children from rich and educated” families. There is thus a combination of educational, economic and social issues involved in the decision of parents to send their children to private schools.

To study this intensely debated issue of private schools vs government schools in rural areas, Azim Premji Foundation planned this school choice research study in Andhra Pradesh. As a preliminary exploratory exercise, an assessment of learning achievements of children in government and private schools in rural areas of West Godavari district was carried out during March-April 2007. To permit comparison using the same yardstick, common written tests designed on the basis of the curriculum were administered to children in Classes 1-5 in Telugu and Mathematics (Table 1).

Table 1: Learning Levels of Children by Type of School in West Godavari District

Class	Government Schoolchildren			Private Schoolchildren		
	N	Telugu (%)	Maths (%)	N	Telugu (%)	Maths (%)
1	2,515	39.0	29.1	2,757	62.2***	56.0***
2	2,440	39.9	25.5	2,485	57.7***	43.3***
3	2,225	35.9	21.7	2,462	53.4***	37.5***
4	2,438	32.1	19.1	2,172	46.7***	30.5***
5	2,642	42.4	26.1	2,241	55.6***	42.0***

Significance levels: *** 1%.

The learning achievement levels among private schoolchildren, not unexpectedly, were found to be substantially and significantly higher than among government schoolchildren.

Simultaneously, some basic data on the household characteristics of these children was also collected. The children in government schools clearly appeared to be coming from relatively more disadvantaged sections. The key data elements are in Table 2.

Table 2: Socio-economic Characteristics of Children in West Godavari District

Household Characteristics	Government	Private	Difference
	Schools (1) (%)	Schools (2) (%)	(1-2)
Students from a scheduled caste or scheduled tribe household	34.5	13.6	20.9***
Students with father illiterate or just literate	50.5	20.3	30.2***
Students with mother illiterate/ just literate	55.1	17.0	34.1***
Father's occupation farm/non-farm labour	83.6	39.3	44.3***
Pucca housing (%)	13.8	43.5	-29.7***
Toilet in the house (%)	36.3	80.2	-43.9***

Significance levels: *** 1%.

This data suggests that a simple comparison of learning achievements of children in government and private schools could lead to misleading conclusions about the ability of schools to add value to learning. There is clearly a need to understand the true contribution of the two types of schools. The learning from this preliminary groundwork was used in the design of the main experimental research for the present study.

The study was a five-year longitudinal cohort study during 2008-13 using the RCT design which is considered the best method to measure the impact of an intervention or a programme. The research was designed by Karthik Muralidharan of the Department of Economics, University of California, San Diego, the United States, while the data collection, management of fieldwork and data processing was carried out by Azim Premji Foundation. The funding for the study was provided mainly by the Legatum Foundation.

Research Objectives

The study was intended to determine if access to private schools really added value in terms of learning achievement to children from socio-economically deprived segments of the society as compared to government schools. The choice of a private school was to be provided through a scholarship to the children, described in detail later in the paper.

The main objective of the research thus was to evaluate the impact of providing school choice to disadvantaged children in rural areas of Andhra Pradesh on their curricular learning outcomes. Specifically, this translated into evaluating the impact on: – the children who receive the choice and move to private schools; – the children who stay back and continue in government schools; and – the children who start out in private schools.

RCT Research Design

The study was carried out in five districts representing the Coastal Andhra, Telangana and Rayalaseema regions. A sample of 180 villages across the five districts of Visakhapatnam, East Godavari, Medak, Nizamabad and Kadapa was constructed through a process of multistage sampling. The villages were randomly assigned, 90 each to the control and treatment categories, respectively. In each village, a preparatory study identified children who would be eligible for scholarships. These were from socio-economically deprived segments who intended to study in government schools. These eligible children were formed into groups. Group 1 comprised children in government schools who did not apply for the scholarship. Children who applied for scholarship were randomly allocated to Groups 2 and 3. Group 2

comprised children who applied for but were not awarded the scholarship while Group 3 children were awarded the scholarship and shifted to private schools of their choice. Besides these, the children who intended to study in private schools on their own and were thus not eligible for the scholarship formed Group 4. Thus, children in Group 3 become the main focus of this study.

In control villages, the same procedure for identifying eligible children and those seeking a scholarship was followed but no scholarship was actually awarded. Thus the control villages did not have any children in Group 3. For the present, for simplicity, all 180 villages are considered together and reference to control vs treatment villages is left to the end of the paper.

The total sample of children in the study comprised two cohorts who were followed till they completed Class 5. Cohort 1 included children going from Class 0, i.e., *anganwadi* or KG to Class 1. This cohort was studied for 5 years. Cohort 2 comprised children going from Class 1 to Class 2. These children were thus studied for 4 years. The total number of children in the sample was 10,245 to start off with, consisting of 4,063 children from cohort 1 and 6,182 from cohort 2. Their break-up by group is as in Table 3.

Table 3: Sample Size – Number of Children in Each Group

	Description	Cohort 1	Cohort 2
Group 1	Children in government schools who did not apply for the scholarship	472	1,082
Group 2	Children in government schools who applied for but were not awarded scholarship	1,782	2,671
Group 3	Children in government schools who applied, were awarded scholarship and shifted to private schools	767	1,213
Group 4	Children who started out in private schools on their own	1,042	1,216
	Total	4,063	6,182

The findings for both cohorts of children have been found to be largely similar. For ease of understanding, this paper limits itself to the findings from cohort 1 children who were tracked for 5 years.

Learning outcomes were measured with competency-based paper-pencil assessments based on the state curriculum. The same tools were administered in both private and government schools during the March-April period each year. The schools were informed in advance about the tests and after the assessment, all schools were provided with diagnostic reports containing an in-depth feedback on the performance of the children.

A baseline test (a general assessment of Telugu) was administered during March-April 2008 to children in *anganwadi* or KG in 2,160 schools – 1,566 government and 594 private – across an initial sample of 202 villages. Household surveys were also carried out to gather information on specific socio-economic and educational factors to help identify households where parents of government schoolchildren would be interested in applying for a scholarship that would enable them to exercise the option of school-choice. Using the baseline data, 180 villages were identified for the project involving 1,026 schools which included 599 government schools and 427 recognised private schools. Of the private schools, 215 (50.4%) were “English medium”.⁶ The process of random assignment was carried out after the baseline measurements. End of the year learning achievement tests

were administered to the same cohort of children for 5 years during the month of March from 2009 to 2013. All the learning achievement tests in the two main subjects – Telugu and Mathematics, and two other subjects Social Studies/Environment Studies (EVS) and English were carefully designed to assess the common curriculum in government and private schools so as to ensure that there was genuine comparability.

Sample Household, School and Teacher Characteristics

Based on the household data, we found that private school students often came from relatively more privileged backgrounds. Thirty-three per cent of government school students came from disadvantaged castes while only 13% of private school students came from these castes. Sixty-five per cent of private school students have at least one parent who completed primary school while 37% of students from government schools have at least one parent who completed primary school (see Table 1A in the Annexure, p 53).

Private schools are commonly believed (articularly in the urban context) to charge high school fees, have exclusive facilities, well-trained staff, etc. In our rural context, however, the private schools present a different picture. They hire less-trained teachers and in most cases have only the basic facilities and infrastructure. The private schools do seem to have better infrastructure than government schools on many observable parameters like drinking water, functional toilets, and working computers. While these are by no means an indication of the schools being high-end, they provide facilities which any school should provide under normal circumstances. At the same time, government schools are better on some other parameters like availability of a pucca building, functional library and extra-curricular activities (see Table 2A in the Annexure, p 53).

There are significant differences in teacher characteristics, salaries, and teaching activity between private and government schoolteachers from the project villages. Private schoolteachers tend to be less experienced, younger, less trained, and receive substantially less pay. The private schools typically charge tuition fees in the region of Rs 100 to Rs 200 per month from the students. On the other hand, government schoolteachers are somewhat older, more experienced and more qualified. They also undergo more teacher training. However, they have to face several other challenges like an adverse pupil-teacher ratio (PTR) and they have to handle multigrade⁷ teaching. Over 70% of government schoolteachers are involved in multi-grade teaching while less than 10% private schoolteachers do so (see Table 3A in the Annexure, p 53).

School Choice Scholarship Summary

The APSC Project provided a randomly selected sample of government schoolchildren with scholarships to enable them to attend private schools. The scholarship was intended for students who were studying in *anganwadis* or in KG in the academic year 2007-08 and who had intended to study in government schools. The scholarship was worth about Rs 3,000 per year per child. This amount was to be availed of to study in a recognised private school. The amount typically

covered all expenses for books, uniforms and school supplies associated with studying in the chosen private school. Parents of scholarship recipients were not expected to spend an additional amount from personal funds. However, the scholarship did not cover the costs of transportation and mid-day meals. The participation of the households in the programme was entirely voluntary. There were no conditions imposed on them except that they had to answer survey questions and take part in assessments and ensure attendance in school. They also had the freedom to go back from the private school to government school at any time if they so desired. Parents could choose the school they wanted to send their child to. However, if demand for any particular school was more than the number of seats offered, the selection was decided by lottery. At the same time, it was ensured that none of the private schools participating in the project had to admit more than 25% of the class strength, to be in line with the proposed provisions of the RTE.

Similarly, participation in the scheme was voluntary for the private schools as well, except that they had to be recognised schools and had to agree to answering surveys and allow assessment tests of the children. Prior to the project's implementation, all private schools in the selected villages were provided with details of the scholarship programme and asked about their interest in participating in the programme, and if they were interested, how many places they could offer under the programmes. The fees were decided by Azim Premji Foundation along with a pre-specified rate of increase and communicated to the schools. The payments were made directly to the schools. The schools were not allowed to selectively pick students under the scheme nor were they permitted to charge any additional amount under any pretext.

The scholarship recipients continued to receive the scholarship amount (adjusted for inflation) till they completed Class 5. Receipt of the scholarship amount was subject to satisfactory attendance and participation in assessment tests. Field coordinators from the Azim Premji Foundation regularly monitored attendance among scholarship recipients. Participating schools agreed to maintain accurate attendance records. Azim Premji Foundation reserved the right to discontinue a private school from the project if any falsification was noticed.

Findings – Year-end Achievement Scores

As indicated earlier, end of the year learning achievement tests were carried out for 5 years on the same cohort of students in the four groups (Table 3). Examining the performance of children in Group 3 vis-à-vis Groups 1 and 2 in particular is important from the perspective of understanding the implications of shifting to private schools. For simplicity of understanding, Groups 1 and 2 have been combined and presented here. The detailed tables are provided in the annexure for information. First we look at findings relating to Telugu and Mathematics, the two main subjects.

As can be seen from Tables 4 and 5, the results are revealing. On the one hand, it is clear that the children who any way started out in private schools (Group 4) score better than the government schoolchildren over the years (statistically significant at 1%

level). This is not surprising at all and is in line with the baseline and the preliminary study findings. However, the more important findings relate to the performance of the scholarship children who moved from government schools to private schools (Group 3) as compared to the children who stayed back in government schools (Groups 1 and 2). The Group 3 children have performed no better than children in Group 1 or 2 except in year 1. In fact, in the later years, the performance of children in government schools is seen to be directionally better than children in Group 3 (see Telugu year 3 and year 5 scores and Maths years 3 to 5). It is thus clear that the shift to private schools has not resulted in any improvement in learning levels of the children in Telugu or Mathematics in 5 years.

Table 4: Year-end Learning Achievement Test Results (Telugu, mean %)

	Year 1	Year 2	Year 3	Year 4	Year 5
Groups 1+2 (children in government schools)	32.0	47.3	42.6	35.0	39.6
Group 3 (children who shifted to private schools)	38.4***	48.4	40.7	35.7	38.3
Group 4 (children in private schools to begin with)	61.0***	59.2***	62.0***	52.7***	51.5***

Significance levels: *** 1%. Significance of Group 4 is with respect to other two groups while significance of Group 3 is with respect to Groups 1+2.

Table 5: Year-end Learning Achievement Test Results (Mathematics, mean %)

	Year 1	Year 2	Year 3	Year 4	Year 5
Groups 1+2 (children in government schools)	23.9	34.1	31.6	24.6	24.9
Group 3 (children who shifted to private schools)	28.5***	35.2	31.2	24.4	24.3
Group 4 (children in private schools to begin with)	46.8***	45.2***	52.3***	39.1***	34.0***

Significance levels: *** 1%. Significance of Group 4 is with respect to other two groups while significance of Group 3 is with respect to Groups 1+2.

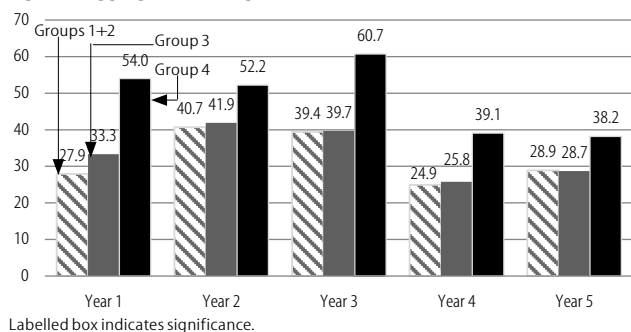
EVS is introduced in Class 4 while English is introduced in Class 3 in government schools but in Class 1 in private schools. Hence, EVS was tested in years 4 and 5 while English was tested in years 3, 4 and 5. The findings (Table 6) are similar as earlier. Group 4 children perform significantly better as expected while Group 3 children perform no better than Groups 1+2 except in the first year of measurement. By year 5, the performance of Group 3 children is about the same (not statistically significant) as children in Groups 1+2 in both these subjects.

Table 6: Year-end Learning Achievement Test Results (EVS and English, mean %)

	EVS		English		
	Year 4	Year 5	Year 3	Year 4	Year 5
Groups 1+2 (children in government schools)	27.1	32.8	43.8	12.6	18.5
Group 3 (children who shifted to private schools)	28.6**	32.7	47.3***	13.5	19.3
Group 4 (children in private schools to begin with)	39.1***	40.0***	67.8***	25.0***	27.8***

Significance levels: ** 5%, *** 1%. Significance of Group 4 is with respect to other two groups while significance of Group 3 is with respect to Groups 1+2.

When scores of all four subjects are aggregated,⁸ we find that the performance of Group 3 children is no better than performance of their counterparts in government schools except in year 1. Figure 2 (p 51) of the aggregate scores brings out the comparison of performance between the groups well.

Figure 2: Aggregate Learning Achievement Scores (in %)

Group 3 performs better than Groups 1+2 (significant at 1% level) but only in year 1 at 33.3% vs 27.9%. Thereafter, there is virtually no difference between them. In fact, performance of Group 3 drops marginally below Groups 1+2 in year 5. Performance in year 4 is the lowest of all the years for all groups. Group 4 scores significantly better (at 1% level of significance) than other groups in all 5 years as expected. The mean score of this group drops from 54% in year 1 to 38.2% in year 5. All groups and in particular Group 4 show a clear downward trend.

It must be noted here that an examination of detailed tables (see Annexure Table 4A, p 53) shows that overall findings do not change even when performances of Group 1 and Group 2 children are looked at separately. In fact, the findings for Group 1 and Group 2 are similar and there are no significant differences.

Treatment vs Control Villages

As indicated earlier, the 180 villages were randomly allocated, 90 each to treatment category and control category as part of the study design. The control category villages had no children in Group 3, thus creating a “counterfactual”, i.e., a group of villages which had children unaffected by the scholarship programme. The findings on this count are interesting. There was no significant difference in the performance of children between the treatment category and control category. In other words, the shifting of children (Group 3) to private schools had no “collateral effect” on children in Groups 1 and 2 who stayed back in government schools. Similarly, the presence of scholarship children did not affect the performance of children who were in private schools on their own to begin with, i.e., the Group 4 children.

Discussion

Considerable research has been carried out in many countries on the subject of education vouchers but even after several decades the debate continues. The empirical evidence is increasingly pointing towards private schools not being able to add value as compared to government schools. However, there is no consensus on the subject. This paper attempts to demystify this conundrum in the Indian context. While the research design is complex, this paper has chosen to conduct a simple analysis, avoiding reference to education production functions for ease of understanding the core issue of learning achievement. Admittedly, education is a complex subject but the learning outcome is its more crucial and easily understood aspect. This paper focuses on curricular learning outcomes.

Further analysis on other dimensions from this large research is under way.

The analysis of five-year data from the study shows strong evidence that contrary to popular perception, private schools are not adding value, as compared to government schools, to children except in the first year, after adjusting for socio-economic factors. The findings in all four subjects studied are similar and consistent.

The key findings emerging from the study are discussed here. The learning achievement of Group 4 children (who would be in private schools any way, to start with) is significantly better than their government school counterparts in all four subjects. This is not surprising at all and is in line with findings from several other studies and in synch with popular perception that private schools are better than government schools.

The more important finding relates to the learning achievement of Group 3 children (the disadvantaged children who moved to private schools with the scholarship provided) as compared to their counterparts who continued in government schools (Groups 1 and 2). The findings clearly show that private schools are not able to provide any additional value to these children as compared to government schools.

(a) Learning achievement levels in Telugu and Mathematics, the two main subjects are a clear pointer. Group 3 children perform significantly better than Groups 1 and 2 children but only in year 1. Thereafter, the advantage drops sharply and their learning achievement is on par with their government school counterparts. In fact, a closer examination of the performances shows that Groups 1 and 2 children perform marginally better in the later years (years 3 and 5 for Telugu and years 3, 4 and 5 in Mathematics). So by the time they reach Class 4, the Group 3 children score marginally lower than their government school peers. The performance of Group 1 and Group 2 children separately (see Annexure) brings out this aspect even more sharply.

(b) The findings for the two subsidiary subjects of EVS and English are very similar but even more interesting. The performance of Group 3 children is significantly better than Groups 1 and 2 children but only in the first year of the subject. Thereafter, as in the case of Telugu and Mathematics, there are no differences. The situation in English is particularly revealing. Private schools start teaching English from Class 1 while government schools start from Class 3. Thus, in spite of the two-year head start that private schools have, Group 3 children end up with performance on par with their government school peers in English.

(c) The aggregate performance (all subjects together) also tells the same story. Group 3 children perform better only in the first year and their performance is no better than their peers thereafter. Even 5 years of exposure to the private school environment does not result in any improvement in learning achievement of the scholarship children.

(d) The absence of any significant difference in performance between children in treatment category villages and control category villages shows clearly that the scholarship programme has not had any impact on non-scholarship children.

The conclusion is thus inescapable. Private schools do not add any value as compared to government schools when socio-economic conditions are adjusted for. This is largely in line with some of the more recent studies on the subject in other countries. The findings seem to indicate that the reasons for better performance of Group 4 children (who would have gone to private schools in any case) may need to be looked for outside the school. As was mentioned earlier, several factors inside and outside the school have a bearing on the overall learning of the child as also choice of schools by parents. A careful study of these will need to be carried out separately to understand this.

If private schools are not adding any value, why then do parents still prefer them? Qualitative feedback collected during the study points towards a complex mix of reasons. The use of English as the medium of instruction is a prominent reason besides others like the use of smart uniforms, the opportunity to mix with children from affluent sections, the presence of more homework and longer school hours. All this, of course, will need further examination and analysis.

There are clearly lessons to be learnt by both government and private schools. Private schools need to realise that their processes are not adequately addressing the needs of all sections of children equally. The policymakers and other stakeholders in the government schooling system need to accept that they are not able to deliver basic learning in spite of teachers who are more qualified, more trained and better paid than their private sector counterparts (at least in the rural context), and look for urgent steps to remedy that situation. The 25% reservation clause in the RTE law may lead to reduced social stratification, but it certainly does not seem to be working in favour of improved learning levels for the disadvantaged. It is worth noting here that the Andhra Pradesh government has made teaching of English as a second language applicable from Class 1 with effect from the academic year 2011-12 in all government schools.

Some people may turn around and say that private schools are no worse than government schools, but spend much less per child. It would be erroneous to look only at teacher salaries. There are several other cost components which need to be considered. In any case, the overall low absolute learning levels across both government and private schools are a cause for concern. In this context of low learning achievements, talk of relative efficiency in terms of cost per child is also perhaps not very relevant. In terms of learning levels, while there is a significant difference in the means, the more important question that begs an answer would be if there is a significant meaning in the difference.

This paper also generates opportunities for further studies in the area. The findings presented here are in the context of rural Andhra Pradesh. There is clearly a need to study this issue in some other states as well. The situation in urban areas may be completely different from the rural areas and would need to be explored. Comparison of classroom processes is another aspect that needs research. In addition, factors outside school will need to be studied in greater detail to understand the dynamics of school selection by parents.

Conclusions

There are those who contend that the case for school choice is strong but, the learning outcomes data from this rigorous longitudinal cohort study in rural Andhra Pradesh does not support their argument. Even after 5 years of exposure, the children who shifted to private schools from government schools when given a choice under a scholarship programme are not able to perform any better than their government school counterparts. This applies to all four subjects including English taught to the children in Classes 1 to 5. This research thus shows quite conclusively that contrary to general perception, fee-charging private schools are not able ensure better learning for children from disadvantaged rural sections as compared to government schools.

NOTES

- 1 In the Indian context, public school refers to free government schools.
- 2 School vouchers is a term used synonymously with "school choice" wherein disadvantaged families are given a choice to enrol their children in fee-charging private schools by government or private bodies.
- 3 See National Education Association website <http://www.nea.org/home/16970.htm>
- 4 Karthik Muralidharan is the main researcher for this joint study with Azim Premji Foundation and the Andhra Pradesh government.
- 5 See website [http://www.oecd.org/pisa/pisaproducts/pisainfocus/PISA-in-Focus-N42-\(eng\)-FINAL.pdf](http://www.oecd.org/pisa/pisaproducts/pisainfocus/PISA-in-Focus-N42-(eng)-FINAL.pdf)
- 6 The medium of instruction is as claimed by the school authorities. In the rural setting, while these schools could have more transactions in English, they are some distance from being truly English medium.
- 7 Multigrade teaching involves one teacher being responsible for and handling children of more than one grade at a time.
- 8 All four subjects Telugu, Mathematics, English and EVS are given equal weightage.

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Annexure

Table 1A: Household Characteristics of Children by type of School

Household Characteristics	Private Schools (1)	Government Schools (2)	Difference (1-2)
Students from a scheduled caste or tribe	13%	33%	-20***
Students with literate father or mother	90%	77%	13***
Students with father or mother who completed primary school	65%	37%	28***
Average normalised household asset index score *	3.844	3.176	0.668***

* Asset index worked out based on ownership/usage of five household assets.

Significance: *** 1%.

Table 2A: Infrastructure Facilities of Schools by Management

Characteristics	Private Schools (1)	Government Schools (2)	Difference (1-2)
Drinking water available	0.99	0.95	0.04***
Functional toilets	0.89	0.73	0.16***
Separate functional toilets for girls	0.83	0.45	0.38***
Availability of / functional electricity	0.88	0.40	0.48***
Functional television	0.20	0.03	0.17***
Functional computers	0.48	0.05	0.43***
Functional library	0.85	0.97	-0.12***
Functional radio	0.15	0.73	-0.58***
Pucca building for school	0.45	0.91	-0.46***
Children provided health check-up at least once in last 60 days	0.32	0.64	-0.32***
School organises activities like sports, cultural, excursion, etc	0.60	0.82	-0.22***

Significance: *** 1%.

Table 3A: Teachers Characteristics by Management

Characteristics	Private School Teachers (1)	Government Schools Teachers (2)	Difference (1-2)
Male (proportion)	0.22	0.43	-0.21***
Age (in years)	27.01	39.61	-12.6***
Teaching experience (in years)	4.76	14.53	-9.77***
Average number of schools taught in previously	0.78	2.63	-1.85***
Completed college or master's degree (%)	61	89	-28***
Teacher training completed (%)	27	99	-72***
In-service training programmes attended in last six months (%)	1	79	-78***
Come from the same village as the school (%)	46	14	32***
Pupil-Teacher ratio	16.7	26.4	-9.7***
Handle multigrade teaching (%)	9.8	71.2	-61.4***
Current gross salary per month (avg in Rs)	2,003	13,843	-11,840***

Significance: *** 1%.

Table 4A: Year end Learning Achievement Scores (%)

Year	Group 1		Group 2		Group 3		Group 4	
	N	Mean (Std Dev)	N	Mean (Std Dev)	N	Mean (Std Dev)	N	Mean (Std Dev)
Telugu								
1	109	34.42 (28.3952)	307	31.18 (26.5224)	339	38.36 (30.1597)	570	61.02 (20.3214)
2	106	49.26 (20.7280)	296	46.57 (19.5646)	427	48.38 (20.2786)	539	59.21 (19.2926)
3	301	43.06 (24.1227)	1538	42.53 (24.5299)	704	40.69 (21.6270)	655	62.03 (17.8946)
4	350	36.43 (21.6361)	1426	34.61 (20.7867)	661	35.7 (19.9063)	718	52.69 (18.4480)
5	318	39.51 (21.4736)	1333	39.6 (22.4136)	621	38.3 (21.2109)	607	51.54 (19.1223)
Mathematics								
1	109	24.17 (26.0680)	302	23.87 (26.0001)	335	28.45 (29.2351)	568	46.83 (21.8805)
2	106	36.01 (20.6759)	295	33.36 (18.4620)	422	35.15 (20.6282)	539	45.2 (17.6590)
3	301	32.29 (20.9756)	1538	31.46 (21.6458)	704	31.15 (20.0279)	655	52.27 (18.8581)
4	350	26.23 (15.9768)	1426	24.18 (15.6568)	661	24.4 (14.9278)	718	39.09 (15.7360)
5	318	24.42 (17.1067)	1338	25.01 (18.3226)	622	24.26 (17.5348)	612	33.97 (15.9402)
EVS								
4	339	28.13 (14.9828)	1388	26.9 (15.3192)	649	28.57 (15.0617)	696	39.07 (13.6290)
5	322	32.58 (13.7810)	1335	32.85 (13.7820)	615	32.66 (13.5284)	612	40.03 (11.6926)
English								
3	294	40.93 (22.8660)	1502	44.3 (26.2231)	691	47.33 (24.8697)	635	67.77 (19.8058)
4	344	12.53 (11.2350)	1371	12.57 (10.8056)	627	13.48 (10.4679)	689	25.03 (15.3762)
5	322	16.93 (10.4530)	1333	18.93 (13.0112)	615	19.28 (12.8497)	611	27.76 (14.4034)
Aggregate								
1	109	29.29 (26.2376)	308	27.4 (25.1161)	341	33.26 (28.1245)	572	54.04 (19.4413)
2	106	42.63 (19.8871)	296	39.96 (17.6438)	427	41.86 (18.6611)	539	52.21 (16.9999)
3	301	38.74 (20.4411)	1538	39.49 (21.8475)	704	39.75 (19.7649)	655	60.69 (16.0138)
4	350	25.93 (13.8965)	1426	24.71 (13.6191)	661	25.82 (13.0378)	718	39.06 (12.9783)
5	324	28.31 (12.9975)	1368	29.06 (14.3739)	631	28.68 (13.7940)	626	38.23 (12.1076)