



Low cost private schooling in India: Is it pro poor and equitable?

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ABSTRACT

India has seen an explosion in low-fee private (LFP) schooling aimed at the poorer strata of society, and this once-urban phenomenon has spread in the last decade to rural areas, with implications for equity due to the level of direct costs involved. This study explores whether or not LFP schooling in rural India is pro-poor and equitable, and finds that these schools are unaffordable to the bottom two wealth quintiles of families. This conclusion has implications for policy formation and shows that increased reliance on a market in education will not help to achieve equitable access to primary schooling for all.

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1. Introduction

As part of the drive towards universal basic education for all, the Government of India has poured enormous resources into ensuring that almost every village in Uttar Pradesh (UP) has its own primary school. However this development has largely ignored the quality of provision, resulting in many parents shunning the government schooling sector (Kingdon, 2005; Srivastava, 2006; PROBE Team, 1999). This expansion which has proven unproductive due to the low quality of education on offer in most government schools, has been attended by an unprecedented growth in the only alternative in most locations: the *low-fee private* (LFP) school (Srivastava, 2006). This shift in the education landscape has serious implications for equity in access to educational opportunities (Kingdon, 2007), and it is the very question of whether or not access to these schools is equitable that determines whether these same schools can be considered 'pro-poor'. It has been asserted that LFP schools are the solution to the quest by poor parents to provide a quality education for their children (Tooley, 2001; Tooley and Dixon, 2006) and that such schools should be encouraged and supported. The aim of this study was to explore such claims but in a rural rather than an urban setting (in contrast to Tooley (2001) and Tooley and Dixon (2006) whose work is in urban areas), to discover whether LFP schooling is pro-poor and equitable, and therefore serving the needs of the poor.

Field studies show that, under prevailing conditions, parents prefer the private alternative (Srivastava, 2006; Kingdon, 2005; Tooley, 2001), and that large numbers of parents are paying for LFP schooling. While many private school 'clients' are arguably 'poor', closer scrutiny of available evidence is needed to establish whether there is equity in access to these schools. The hypothesis for the

study was that in the context of a 'typical' rural UP village, with government schools perceived by parents as failing, parents would likely prefer LFP schooling but family poverty in conjunction with the cost of private education would prove prohibitive for the majority of families, forcing them to choose public schools. The concept of preference, i.e. the school type that parents would like (in the absence of constraint) to access for their children, is held to be separate from the actual school choice made by parents, as indicated by the school the child attends, which may often not be the parents' preferred school.

This paper discusses evidence from a 13 village study drawing primarily on household survey data from 250 families, and shows, firstly, that there is a near universal preference on the part of sample parents for private schools, based on a direct question during the parent interview. Secondly, the study finds that the majority of children are actually enrolled at government schools; and thirdly that the primary reason for this is found to be family poverty in the context of the cost of private education, as found through interview data and multivariate analysis (Sections 4.1 and 4.2). The paper makes a contribution by presenting evidence on the issue of school choice and the poor in a rural setting, such contexts being largely unexplored in the literature. The work falls within the focus of CREATE as an expanded notion of access is utilised: it can no longer be considered adequate to provide the bare bones of schools where this does not lead to meaningful learning. It is access to good quality education that parents desire for their children, and such schooling must be accessible to all, irrespective of socioeconomic status.

The following section discusses the context and the methodology for the study, while section three discusses the private schooling debate, defines the school types available in UP, and discusses factors other than poverty which may affect school choice. The penultimate section presents the analysis of the affect of poverty on school choice, while the final section concludes.

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2. The context and the methods

The study area comprises a 13 village cluster in one administrative block in District J.P. Nagar in western UP, some 80 miles north-east of Delhi; the closest market town is Dhanora at a distance of 8 miles. The area is a remote, rural area, purely agricultural, made up of small farms (the largest of which is around 15 acres) on the Gangetic plain, with only 17% of sampled families earning their livelihoods through means other than agriculture – the majority being either farmers or landless day labourers.

As no sampling frame existed, one was created by a local researcher who visited every household in the sample villages, and recorded basic information such as occupation, income, landholding, and the names, ages and occupation of members of the household. The eligible population was defined as those with primary school age- or going-children. From this narrowed-down frame, a random sample was drawn and 250 households were surveyed. Where selected families were unavailable, another family was substituted. All prospective respondents were asked permission, having had the survey and its purpose explained to them in full.

The survey was carried out by the author (with the aid of an interpreter) in the form of a structured interview, part of which was an observation schedule completed in order to record the assets the household possessed, the size, construction and condition of the housing stock, and other factors indicating socioeconomic status. This observation schedule was intended to supplement the information on income, landholding, debt and savings, gathered during the interview. The findings from the survey were fleshed out through focus group discussions with mixed groups of parents, some sending their children to private schools and some to government.

Lastly unannounced visits were made to all schools in all villages where both government and private sector schools were present (10 out of the 13 villages). Head teachers and/or owners/managers were interviewed, as well as teachers, and an observation schedule was completed. These visits provided some insight into the reports from parents on their perceptions of the two schooling sectors; because the study focussed on the perceptions (leading to expressed preferences) and choice-making behaviour of parents no in-depth assessment of the quality or effectiveness of the sectors was intended. It is argued that it was important to visit without warning in order that the school would be found in its 'natural' state. In terms of the ethics of this strategy, no recording of impressions was done until permission had been given by the head teacher or school owner, and no school declined to participate, indeed most schools were happy to be included in the study.

The data collected was first used to derive poverty indices (using exploratory and then confirmatory factor analysis) in an effort to measure the socioeconomic status of families (Härmä, 2009). The analysis presented in this paper builds on the 2009 paper (Härmä, 2009) by using these poverty measures in a logit regression analysis of parental choice making, to determine the role of poverty in school choice.

3. The private schooling and school choice debate

Central to the private schooling debate is the concept of choice, which is often promoted as having merit in and of itself (Levin, 1991). Choice is argued to result in higher quality and lower cost through market competition (Tooley and Dixon, 2006), but bound up in this idea are concepts of affordability and social equity where fees are charged. This section begins by defining private schools in the Indian context before moving on to key concepts such as school choice, affordability, quality, defining poverty and discussing factors other than poverty which may affect school choice.

3.1. Definition of private schooling and school types in India

Private provision of education can take many forms, and may be conducted by a wide variety of actors, which may include 'NGOs, faith-based organisations, communities and commercially oriented private entrepreneurs ('edupreneurs'), each with different motives for their involvement in education' (Rose, 2007, p. 2). The type of private school that is currently mushrooming in India (and is the concern of this study) is the small school owned and run by a private individual, or 'edupreneur', and funded solely out of parental fee payments. These schools are often run at the lowest possible fee level in order to appeal to as wide a market as possible, hence the term 'low-fee private'.

These fully private, un-aided schools have complete autonomy in terms of management, hiring and pedagogy (De et al., 2002). It is illegal in India to operate schools for profit (Unnikrishnan vs the State of Andhra Pradesh, Supreme Court of India, 1993), however this does not stop many people from doing so, and cloaking their activities in the 'rhetoric of social service' (Srivastava, 2007, p. 172). The private un-aided sector in India is now highly heterogeneous and varies significantly in scope and quality (De et al., 2002), encompassing the elite to the LFP.

Additionally there are two other categories of schools in India. The first is the government school owned, funded, run and managed by the government, with little autonomy at the school level. The other type is the essentially *quasi-government* 'private aided' school category: schools which started out privately managed and funded, now receiving government grants-in-aid which entails losing the greater portion of their former autonomy (De et al., 2002).

These last two categories are necessarily government-recognised, however private un-aided schools can be disaggregated by recognition status (Mehrotra and Panchamukhi, 2007). Recognition of all schools is legally required, and enables students to receive government stipends and to allow schools to issue transfer certificates (Kingdon, 2007). 'Government recognition' is an official stamp of approval... though hardly any private schools that get 'recognition' actually fulfil all the conditions of recognition' (Kingdon, 2007, p. 183). Unrecognised schools are not counted in official statistics and so accurate numbers of schools and pupils are not known (Kingdon, 2007), and Muralidharan and Kremer (2006) found in an extensive survey of 20 states that in rural areas 51 percent of private schools were unrecognised. This is consistent with the present study, where 50 percent of private schools were found to be unrecognised.

Private schools in the study area were found in almost every village but were still far fewer than in urban areas, where these schools tend to be found up every street and back alley (Tooley and Dixon, 2006). Private aided schools do not exist at the primary level so none are included in this study. Densely populated urban areas are able to sustain a much larger number of competing small providers, meaning that the context in which school choice takes place is very different in urban than in rural areas. The effects of competition between private providers are less intense in rural areas, meaning a high turnover of institutions.¹

3.2. Choice and private schooling for the poor

In most cases, private provision of education does not tend to serve areas and people that government provision has been unable to reach (Lewin, 2007). The advent of private schools usually

¹ Since the fieldwork for this study was carried out in Winter 2005–06, four out of 16 sample LFP schools have closed down, with the continued existence of another 2–3 schools found to be financially precarious, as reported by the schools' owners in a follow-up visit.

means choice between schools and between schools of different sectors, public and private. Choice, or a market of suppliers is purported to lead to better service provision at lower cost, as competing suppliers vie for potential clients (Levin, 1991). The World Development Report 2004 states that choice is not only important to individuals, but 'increasing poor clients' choice and participation in service delivery will help them monitor and discipline providers' (World Bank, 2003, p. 1).

The 'ideal market' in education is where fully informed customers (parents) make a choice from a range of available options with no provider having a monopoly. This scenario is supposed to have beneficial effects on all providers through increased responsiveness, accountability, effectiveness, efficiency and quality resulting from competition (Lauglo, 1995; Kitaev, 2007). Where customers are dissatisfied, 'there are two main types of activist reactions... either to voice one's complaints... in the hope of improving matters; or to exit from the organization, to take one's business elsewhere' (Hirschman, 1978, p. 90). To exercise voice is, at least in theory, possible in most systems, but where there is choice, it is often found that all those who can, will tend to exercise the ability to exit instead.

In reality there are many circumstances under which markets fail, for example where villages do not have the population base necessary to support competition between providers (Lauglo, 1995). Also, markets are often distorted, for example where, as in the present case, the government school's survival is not dependent on attracting clients: the government's support of the institution means that market forces do not apply. Even where markets may be considered as fully functional, there are serious equity concerns where basic services are to be delivered through the market, 'because of differences in income and wealth, the ability to vote with one's feet is unequally distributed in modern societies' (Hirschman, 1978, p. 96), and inequality in access to the option to exit can have 'appalling consequences', such as 'ghettoisation' in the conditions for those left behind (Hirschman, 1978).

In terms of the Indian context, government schools are cited as failing on the grounds of efficiency and equity, infrastructure and instruction (PROBE Team, 1999). As a response there has been an unprecedented rise over the last 15 or more years in LFP school numbers (Kingdon, 1994; Tooley and Dixon, 2006; Srivastava, 2006, 2008). Kingdon postulates that 'poorly resourced public schools which suffer from high rates of teacher absenteeism may have encouraged the rapid growth of private (unaided) schooling in India, particularly in urban areas' (2007, p. 183).

Tooley (2001, 2004) and Dixon (Tooley and Dixon, 2006) assert that private schools have great potential and are currently serving the needs of the poor. Their work was undertaken in urban areas of several countries, including India (Tooley and Dixon, 2006). Considerable data was collected on the prevalence of private schools both recognised and, crucially, unrecognised; also children's attainment was measured and families were interviewed (Tooley and Dixon, 2006). The higher standards and greater classroom activity often found in LFP schools (see Muralidharan and Kremer, 2006; Kingdon, 1994, 1996) are generally attributed to the direct line of accountability of the school to the fee-paying 'consumer' (Tooley, 2001; also highlighted by PROBE Team, 1999). Tooley and Dixon (2006) argue that the LFP schooling developments taking place in India are pro-poor (through schools offering concessionary and scholarship places), despite the fact that 'without exception, all of the schools were run on commercial business principles' (Tooley, 2001, p. 173).

Other strands of literature highlight very different aspects of the LFP schooling debate. Firstly, it can be argued that competition and choice may apply to urban Indian settings where LFP schools can be found almost everywhere, while Kingdon (2007) points out that

in rural areas their incidence is nowhere near as high, diminishing the effects of competition (echoed by Lauglo, 1995). Other researchers have questioned the quality of provision at LFP schools (Singh, 2002, p. 478) as evinced by low levels of pupil attainment (Bashir, 1997, cited in Mehrotra and Pancharukhi, 2007). Similarly Srivastava (2007) found that head teachers or managers/owners were often neglectful of quality matters, expressing disdain for the views and suggestions of their own teachers and clients alike. Dreze and Gazdar found that 'private school teachers are poorly... trained' (1996, p. 72); and while Tooley (2001) highlights teachers' relatively high general education, he makes no mention of training for the job. Additionally Vasavi (2003) argues that the rise of private schooling has had a negative effect on government schools, which 'have mostly become schools for children of the most poor and the low-ranked caste groups, resulting in a ghettoisation of schooling... such school differentiation also compounds the gender and class differences among a community and in the society at large' (Vasavi, 2003, p. 76; echoed by De et al., 2002).

Affordability is integral to the debate surrounding private schooling for the poor: a family should be able to pay for the education of all their children without having to excessively restrict spending in other essential areas such as food, medicine or shelter (De et al., 2002), or take loans at punitive levels of interest (Chronic Poverty Research Centre, 2005). No literature other than Tooley and Dixon's suggests that LFP schools offer considerable concessions and scholarship places for the poor, and even they accept that affordability is a problem. Srivastava (2007) states that financial constraint is the largest determining factor in access to the private school sector in UP.

Defining poverty in order to precisely identify 'the poor', in order to determine whether they have access to LFP schooling, is fraught with difficulty. However for the purpose of this study, Dreze and Kingdon's (2001) method is followed, using an asset index in examining schooling participation in rural India, while in this case the asset index is used in examining school choice. The use of such an index is supported by the Chronic Poverty Research Centre (2005) and Hulme (2003), who argue that asset wealth provides a more temporally stable picture of family wealth. Additionally it has been found by Filmer and Pritchett (2001) that asset indices can be better proxies for predicting enrolments (and by extension in what types of schools children will be enrolled) than consumption expenditure information, and also with less measurement error; this method is of 'potentially broad application' (Filmer and Pritchett, 2001, p. 2), and is used by Mugisha et al. (2008).

3.3. How poverty is compounded: other family factors which can affect school choice

The existing literature indicates that a number of characteristics of families and individual parents and children within the family may interact with poverty (or wealth) status to affect school choice. In the Indian context caste and religion are ever-present strands which can affect many aspects of life. They are defining characteristics that have long been grounds for discrimination (Subrahmanian, 2005; Mehrotra and Pancharukhi, 2007). It is necessary to discuss caste and religion jointly (Jeffery et al., 2005), as only Hindus have a caste, meaning that Muslims must be treated as a separate socially underprivileged group, as in Dreze and Kingdon's (2001) examination of school participation where such low status was found to impact on children's education (echoed in Kingdon, 1996; De et al., 2002; Srivastava, 2006; Schagen and Shamsan, 2007).

Markedly fewer Muslim and lower caste families tend to access LFP schools, as in the present sample where only 30 percent of

sample children from such families attend private schools, whereas it is 68 percent for non-scheduled caste Hindu children. Srivastava (2007) found that her similar finding was not due to discrimination on the part of LFP school operators as they must compete for all possible 'clients' (echoed by Dreze and Kingdon, 2001), indicating that such families were unable to afford school fees, highlighting how socio-cultural status interplays with economic status.

Another factor impacting directly on how much can be spent on the education of a particular child is the total number of children within the family, as found by Lieten (2003), Kingdon (1996) and Srivastava (2006). Where there are more children in the family, which is sometimes the case with poorer families, this may lead to choices being made between children. This can lead to certain members of the family being poorer in terms of opportunity and experience than others (Chronic Poverty Research Centre, 2005), again showing how poverty and this aspect of the family can compound each other.

A family's main occupation is a major part of what determines the socioeconomic status of the family (Srivastava, 2006) and is often linked with class or caste (Jeffery et al., 2001; see also Lieten, 2003). Better forms of family occupation are found in several studies to have a positive effect on LFP school uptake (Schagen and Shamsan, 2007; Dreze and Kingdon, 2001), the present study found that less than one third of the children of unskilled workers attend LFP schools, while 55 percent of farmers' children and over three quarters of skilled workers' children do so.

A less commonly discussed factor which could affect school choice is the age of the parent, as LFP schooling, having largely sprung up in recent times, could be considered a modern concept. Parental age could be expected to be influential in that older parents may be more resistant to change, as found by Srivastava (2006), with some parents of primary school children being in their 60s (as in the present study's sample). Siddhu (2011) finds that having an older father has a significant and negative affect on a child's chances of transitioning to secondary schooling, and in the present study only one third of children of older parents tended to access LFP schooling, which may also be linked to larger family size and poverty. Additionally the level of education attained by parents is frequently cited as being of great significance to children's educational outcomes (Muralidharan and Kremer, 2006; Dreze and Kingdon, 2001; Schagen and Shamsan, 2007), with the general trend of findings indicating that more highly educated parents tend to be at least somewhat more invested in the education of their children.

In terms of the characteristics of the individual child, the significance of gender is widely recognised and accepted as impacting on many aspects of a child's life, with the literature documenting that girls in poor households in many countries are less likely than boys to receive adequate general care and support (Chronic Poverty Research Centre, 2005, p. 21). Gender bias in India, and UP in particular, is clearly reflected in studies such as Dreze and Gazdar (1996), Lerche and Jeffery (2003), Mehrotra and Pancharukhi (2007), De et al. (2002), Majumdar (1999) and Srivastava (2006) with the latter four examining the relationship between school type and gender with girls consistently being less likely to be enrolled in LFP schools which parents perceive to be of better quality. This is born out in the present study with one third of girls but just over half of boys in the sample attending LFP schools.

Another characteristic of the child is the birth rank within the family, which may affect the chances of a child being sent to private school, and which is used in Srivastava (2006), Schagen and Shamsan (2007) and Kingdon (1994). Parents may start out by sending the eldest to LFP school, but may not be able to afford subsequent children in private education. Alternatively, older

children, and especially girls, may have poorer chances in terms of education as they are often expected to participate heavily in domestic work. In the present study half of highest birth-ranked children (the eldest school-aged child) attend private schools while the proportion declines to one fifth for those ranked four or five in the family.

It is common for children in India to be expected to work (while in the sample child work was confined to the home and to helping at times with the wage-earning work of the family). It is hypothesised that children who are expected to do more work may be less likely to be sent to fee-paying schools (Alderman et al., 1996), which may also be related to the parental motivation behind the education of the child, with those more highly motivated possibly not wanting to distract their children from their studies. Dreze and Sen (1995) discuss the motivations of the parents as an important factor in schooling decisions and outcomes for the child, as does Srivastava (2006), and it is noted that a parent's motivation for educating one child within the family may differ from the motivation for educating another, for example where perceptions of marriage or wage earning prospects are concerned.

Related to such perceptions are the views held by parents on the performance of the local government school. Parental perceptions of the quality of the 'default' government school option inform parents' 'mental model' (Srivastava, 2006), shaping their school choice decisions. Kingdon reaffirms that 'parents' perceptions about the relative merits and costs of G [government], PA [private aided] and PUA [private unaided] schools have implications for their choice of school type' (Kingdon, 1994, p. 105). In the present sample, the majority of families (84 percent) view government schools negatively and LFPs positively (77 percent), views that are also reflected in Srivastava (2008), Majumdar (1999) and Tooley and Dixon (2007).

The debates surrounding school choice inform the present study, and the analysis takes into account these other main factors which can affect school choice, often interplaying with economic status. The paper now moves on to discuss the main analysis and findings on poverty and parental school choice.

4. Are the poor accessing LFP schools?

This section explores the paper's central hypothesis, that for parents of primary school children in rural UP, in the context of even low-fee private schools being relatively expensive, *poverty is the key factor in school choice despite near universal preference for private schools*. The strength of parental preference is measured through interview question 6.4 which asked 'what is your preferred type of school?', to which 94.4 percent of sample parents answered 'private school'. This preference was not followed through by actual choice in most cases, as the majority of children accessed government schools. In this (and the following) section which explores the school choice made by parents, a multivariate approach is used to control for family, parent- and child-specific characteristics which may also interplay with school choice, as discussed in the literature, and two different poverty measures are used to test whether results differ when poverty is measured in alternative ways.

The relationship explored here is between the independent variable, poverty, and the dichotomous school choice parents must make (coded 0 for government school and 1 for LFP school; the latter are not disaggregated as parents were largely unaware of recognition status), controlling for the variables outlined above in the literature. The choice is dichotomous because in the sample only four children were found to be out of school, meaning that choosing not to educate a child is not in the range of options considered by the vast majority of sample families. The selected

Table 1
Analysis of school choice using the asset index.

		Model 1	Model 2	Model3	Model4	Model 5
Asset index (ref. = quintile 1, poorest)	Quintile 2	1.447** (3.03)	0.917 (1.78)	0.885 (1.60)	0.850 (1.55)	0.728 (1.33)
	Quintile 3	2.169** (4.66)	1.839** (3.44)	1.983** (3.46)	1.960** (3.47)	2.055** (3.58)
	Quintile 4	2.593** (5.32)	1.772** (3.22)	1.902** (3.18)	1.889** (3.21)	2.022** (3.46)
	Quintile 5	3.012** (6.34)	2.251** (3.70)	2.136** (3.44)	2.078** (3.40)	2.366** (3.70)
Total children in the family			−0.408** (−4.05)	−0.407** (−3.92)	−0.275* (−2.33)	−0.178 (−1.40)
Total adults in the family			−0.100 (−0.77)	−0.093 (−0.69)	−0.049 (−0.33)	−0.066 (−0.41)
Caste (ref. = medium-high caste)	Scheduled caste		−1.293** (−3.15)	−1.274** (−3.05)	−1.477** (−3.29)	−1.432** (−3.07)
Religion (ref. = Hindu)	Muslim or Christian		−0.918* (−2.52)	−0.876* (−2.35)	−0.943* (−2.34)	−0.912* (−2.29)
Family occupation (ref. = unskilled labour)	Farming		0.015 (0.04)	0.044 (0.11)	0.011 (0.03)	0.020 (0.05)
Father's age (ref. = over 40 years)	Skilled work		1.789* (2.41)	1.636 (1.87)	1.368 (1.52)	1.222 (1.47)
	Up to 30			0.064 (0.13)	0.139 (0.26)	−0.113 (−0.21)
Mother's education (ref. = uneducated)	31–40			0.082 (0.20)	0.219 (0.47)	0.137 (0.31)
	Some education			−0.601 (−1.46)	−0.560 (−1.32)	−0.572 (−1.31)
Father's education (ref. = uneducated)	Some/complete primary			−0.397 (−0.83)	−0.398 (−0.83)	−0.379 (−0.75)
	Some/complete upper primary			0.203 (0.49)	0.248 (0.57)	0.216 (0.50)
	Some/complete secondary/higher			0.896* (2.11)	0.934* (2.06)	0.979* (2.07)
	Child's rank				−0.481** (−3.10)	−0.548** (−3.60)
Child's gender (ref. = male)				−0.789** (−3.14)	−0.833** (−3.21)	
Child work (ref. = child does no work)	Child does domestic work				0.238 (0.74)	0.395 (1.18)
	Child helps in the work of the family				0.330 (0.43)	0.540 (0.66)
Reason for educating the child (ref. = for good job)	Personal growth and development				−0.285 (−0.57)	−0.149 (−0.28)
	To get a better spouse				−0.228 (−0.23)	−0.376 (−0.37)
	Other/unclear reasons				0.273 (0.53)	0.350 (0.65)
Perception of government school					0.702** (3.35)	
N		468	468	468	468	468
Pseudo R-square		0.1469	0.2560	0.2742	0.3090	0.3406

t-Values are in parentheses.

** Statistically significant at 1% level of significance.

* Statistically significant at 5% level of significance.

method of analysis is logit regression modelling, much-used in similar research such as Kingdon (1994, 1996), Dreze and Kingdon (2001), Alderman et al. (1996) and Rose and Al-Sammarai (2001). The approach used in this study is to assess the socio-economic status of the sampled families according to scores on an asset index of poverty derived using exploratory and then confirmatory factor analysis, and also according to the income of the family (building on work in Härmä, 2009).

While the main unit of analysis is the family (as in Alderman et al., 1996; Schagen and Shamsan, 2007), these units were divided into separate observations for each individual child. There are 468 eligible child observations, of which 195 attend LFP schools (41.7%), and 273 attend government schools (58.3%). The software package STATA version 7 is used to fit a series of logit models starting with an empty model before adding the explanatory variable (poverty), followed by conceptually grouped control variables. The result is a set of five models.

The 468 individual child-level observations are treated as individuals with certain relevant characteristics nested inside the group (family) unit. Usual regression analysis techniques assume absolute independence of each observation in the dataset (Long and Freese, 2006), so the violation of this assumption of independence is taken into account through the clustering variable

(the household number) using the robust cluster command, yielding reliable results (Kingdon, G. personal correspondence, 5 January 2008).

4.1. Analysing school choice through the lens of asset poverty

Table 1 presents the analysis of parental school choice using the asset index as the explanatory variable. Quintiles of the asset index scores are represented in the model by four dummies, with the poorest quintile as the reference category, while quintile five represents the richest families in the sample. This initial model indicates that as wealth increases so too does the likelihood of using LFP schools, in a largely linear pattern. From being slightly less poor (the second quintile) through to relatively well-off (the fifth quintile) the strength of the coefficients increases steadily, and remains statistically significant. This result is similar to that found by Kingdon (1996).

The rationale behind the order for addition of groups of control variables is to start with the general and to move to the specific: aspects of the family (model 2); aspects of parents (model 3); and children (model 4). Lastly the parental perceptions of government schools are added (model 5). In model 2, the number of children is strongly and negatively correlated with LFP school choice,

Table 2

Analysis of school choice using the log of income.

	Model 1	Model 2	Model3	Model4	Model 5
Log of income	1.272 ^{**} (4.41)	1.222 ^{**} (3.40)	1.182 ^{**} (3.26)	1.236 ^{**} (3.16)	1.112 ^{**} (2.66)
Total children in the family		–0.497 ^{**} (–4.55)	–0.483 ^{**} (–4.41)	–0.344 ^{**} (–2.87)	–0.295 [*] (–2.37)
Total adults in the family		–0.137 (–0.89)	–0.142 (–0.90)	–0.089 (–0.54)	–0.079 (–0.44)
Caste (ref. = medium-high caste)	Scheduled caste	–1.541 ^{**} (–3.68)	–1.561 ^{**} (–3.66)	–1.755 ^{**} (–3.79)	–1.746 ^{**} (–3.71)
Religion (ref. = Hindu)	Muslim or Christian	–0.836 [*] (–2.40)	–0.840 [*] (–2.26)	–0.911 [*] (–2.28)	–0.887 [*] (–2.24)
Family occupation (ref. = unskilled labour)	Farming	–0.266 (–0.57)	–0.269 (–0.56)	–0.338 (–0.68)	–0.135 (–0.27)
Father's age (ref. = over 40 years)	Skilled work Up to 30	0.689 (1.00)	0.609 (0.85)	0.322 (0.45)	0.291 (0.40)
	31–40		–0.177 (–0.35)	–0.089 (–0.17)	–0.241 (–0.46)
Mother's education (ref. = uneducated)	Some education		–0.097 (–0.23)	0.060 (0.13)	0.003 (0.01)
Father's education (ref. = uneducated)	Some/complete primary		–0.577 (–1.38)	–0.571 (–1.33)	–0.543 (–1.24)
	Some/complete upper primary		0.041 (0.09)	0.015 (0.03)	0.026 (0.05)
	Some/complete secondary/higher		0.404 (1.01)	0.408 (0.96)	0.377 (0.89)
			0.887 [*] (2.24)	0.874 [*] (2.07)	0.933 [*] (2.11)
Child's rank				–0.500 ^{**} (–3.02)	–0.542 ^{**} (–3.41)
Child's gender (ref. = male)				–0.743 ^{**} (–3.15)	–0.775 ^{**} (–3.30)
Child work (ref. = child does no work)	Child does domestic work			0.339 (1.05)	0.447 (1.38)
	Child helps in the work of the family			0.195 (0.24)	0.205 (0.25)
Reason for educating the child (ref. = for good job)	Personal growth and development			–0.465 (–0.95)	–0.387 (–0.76)
	To get a better spouse			–0.604 (–0.73)	–0.703 (–0.81)
	Other/unclear reasons			0.156 (0.31)	0.222 (0.44)
Perception of government school					0.501 [*] (2.31)
N	468	468	468	468	468
Pseudo R-square	0.1004	0.2376	0.2510	0.2900	0.3066

t-Values are in parentheses.

^{**} Statistically significant at 1% level of significance.^{*} Statistically significant at 5% level of significance.

indicating that the more children there are, the less likely the family is to access LFP schools, as in Kingdon (1996), although the effect weakens to insignificance by the final model.

Caste and religion are both strongly and negatively significant, meaning that to be Muslim or Christian and to be Scheduled Caste also reduce the chances of the child accessing LFP schools. This is consistent with Kingdon (1996), Schagen and Shamsan (2007) and Dreze and Kingdon (2001). However this variable becomes statistically insignificant in the next model, consistent with the latter two studies. The significance of the asset index remains strong, while the second poorest quintile's coefficient and level of significance have reduced. In model 3 only fathers having some secondary education (or more) has a statistically significant positive effect. The coefficients of the quintiles of asset index scores remain almost unchanged, and strongly statistically significant, although the second quintile has become insignificant even at the 10 percent level.

The gender of the child proves highly significant in model 4: to be a girl significantly reduces the chances of attending LFP schools. This is again consistent with Dreze and Kingdon (2001) and Kingdon (1996). The child's rank in the household is also significant, with the first child having a much greater chance of attending LFP schools; the chances decrease as rank number increases. Yet again the strengths of the asset index quintiles stay virtually unchanged. The last model presents the effects of parents' perceptions of government schooling which proves highly and positively significant, meaning that a very low opinion of

government schools is, unsurprisingly, related to LFP school enrolment. The strength of the coefficients and significance of the asset index quintiles remains extremely strong.

The enduring strength of the asset index with its very small amount of change from model to model indicates that it is the strongest determining factor in parental school choice. The likelihood of a child in the second quintile accessing LFP schools is two times the chance of a poorest child, whereas for those in the richest quintile the likelihood is 10.7 times, reinforcing how important wealth is for accessing LFP schools.

4.2. The analysis of school choice using income as the poverty measure

Here the models are run again with the log of income (Table 2), yielding similar results. Income remains unequivocally statistically significant throughout, with the coefficient changing very little. There are small differences regarding two control variables: firstly the number of children in the family remains significant to the end, as expected. Second, the occupation of the family proves insignificant throughout.

5. Conclusions

In conclusion, the analysis supports the hypothesis that in the face of a near universal preference for LFP schooling (under current conditions in the government sector), the main determinant of school choice is poverty, meaning that the private option cannot be

considered pro-poor or equitable, and that the market should not be relied upon to supply the deficiencies of the government education system. The multivariate analysis indicates that only in the third quintile of socioeconomic status does a child's chance of attending LFP schooling begin to increase, which corresponds to the nearly 60 percent of children not accessing LFP schools in the sample.

This study has shown that the equity effects of the market in education are negative in that with the *exit* to the private sector of all wealthier families more capable of exercising *voice* in an effort to affect positive change, the government sector has become the option of last resort for the poorest and most marginalised. All traditionally privileged groups in society are favoured by the market in education, leaving behind those of low caste or minority religion, the landless, girls, as well as children born later in families and children of larger families. This outcome also runs contrary to deeply held views on the merits of private and government provision as concepts: sample parents expressed the view that private schools are preferable *only while government schools are failing*, and that they feel lack of trust in private institutions which may close down at any time, and which they feel exist on the whim of a private individual. In conclusion, it is argued that to raise the prospects of the poorest who have no possibility of being able to afford LFP schooling, the standards at government schools must be raised due to the inequity in access to private-sector alternatives.

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