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IDE DISCUSSION PAPER No. 317

**Factors that Prevent Children from
Gaining Access to Schooling: A Study of
Delhi Slum Households**

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Abstract

This paper examines the factors that prevent slum children aged 5 to 14 from gaining access to schooling in light of the worsening urban poverty and sizable increase in rural-to-urban migration. Bias against social disadvantage in terms of gender and caste is not clearly manifested in schooling, while migrated children are less likely to attend school. I argue that the lack of preparation for schooling in the pre-schooling ages and school admission procedures are the main obstacles for migrated children. The most important implication for universal elementary education in urban India is raising parental awareness and simplifying the admission procedures.

Keywords: elementary education, slums, migration

JEL classification: I20, N35, O15

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Factors That Prevent Children from Gaining Access to Schooling : A Study of Delhi Slum Households

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1. Introduction

The total number of poor and undernourished individuals living in urban areas in developing countries has recently increased (Haddad *et al.*, 1999). Rapid urban population growth, the sizeable increase in migration, particularly rural-to-urban migration and a relative lack of attention to urban poverty have possibly exacerbated multidimensional deprivation, including deprivation regarding education. Likewise in Delhi, the capital city of India, with a large proportion of migrants from less developed regions of India, the headcount ratio of poverty marginally increased from 14.69 percent in 1993/04 to 14.70 percent in 2004/05. What is worse, the number of people living below the poverty line significantly increased from 1.6 to 2.3 million over the same period. The school attendance ratio in Delhi slightly declined from 86.9 percent in 1992/93 to 86.8 percent in 2005/06, as attendance rates in urban areas stagnated or even deteriorated in a large number of states over the same period.

Urban poverty and slums often overlap and are mutually reinforcing (Mitra, 2003; Gupta *et al.*, 2009)¹. Although the population of the slums accounts for nearly a quarter of the total population in the metropolitan cities, the limited number of previous *ad hoc* attempts at slum studies in India has not really been able to examine children's education. Some limited existing research on slum children is basically confined to a school-based analysis (e.g., Tooley and Dixon, 2007) and to slum children in a few selected slums, as case studies (e.g., Aggarwal and Chugh, 2003; Banerji, 2000; Chugh, 2004; Husain, 2005; Jha and Jingram, 2005). As a result, the urban deprived in terms of education is under-researched (Govinda, 2002).

A large amount of the literature has investigated different aspects of school enrolment in rural India. The theory predicts that school enrolment increases when the net benefits of education outweigh its costs. It is suggested that poverty, or low incomes, adversely affects the quality and quantity of education one can receive (e.g., Drèze and Kingdon, 2001; Govinda, 2002). The direct and opportunity costs of education disproportionately burden children in lower-income households (Tilak, 2009). School enrolment generally increases with the parental education level, particularly the mother's education level (For example, Behrman *et al.*, 1999). Much education research also shows that school enrolment in India is closely associated with social inequalities stemming from caste, religion and gender (e.g., Bhalotra and Zamora, 2010; Borooah and Iyer, 2005).

The determinants for school enrolment studies evolved from paying attention to

¹ The Slum Areas (Improvement and Clearance) Act, 1956, defined slum areas on the basis of their being unfit for human habitation, cramped conditions, the faulty arrangement of streets, a lack of ventilation, light or facilities, or any combination of these factors, which are detrimental to safety, health or morals.

individual and household characteristics to a focus on the qualities of the schools involved (Drèze and Kingdon, 2001) and the broader effect of context in specific villages, such as land distribution and caste composition (Dostie and Jayaraman, 2006). Under favourable circumstances, the effects of disadvantage in terms of caste, religion, etc. are negligible (Borooah and Iyer, 2005; Husain, 2005). If so, socially underprivileged children in slums might be prevented from equitable accessibility and quality in schooling by lack of economic and political clout.

The existing literature pointed out that there are two main obstacles to attending schools, particularly in relation to slum children in India. Firstly, slum dwellers, particularly migrants, tend occasionally to make long visits to their place of origin. These affect school attendance negatively (Jha and Jingram 2005; Aggarwal and Chugh 2003; Chugh 2004). Secondly, it is indicated that slum children, particularly migrant children also face difficulties in understanding the language used at school, since it tends to be different from their mother tongue (Jha and Jingram 2005). It seems that migration plays an important role in schooling in urban India. As urban bias in infrastructure and service delivery is often emphasised in the existing literature, the argument about migration and education at a person's destination, therefore, indicates that migrants can enhance educational opportunities for children at their destination (e.g., UNDP, 2009). However, in India, the implication is that migrant children suffer when it comes to access to education at both ends, leaving rural schools and being unable to join or complete school at their urban destination (Chakrabarty, 2002; Smita, 2007). Nevertheless, studies on the impact of migration on children's education at their urban destination in India are limited to small-scale case studies (Govinda and Bandyopadhyay, 2008).

The recent worsening of urban poverty and the sizable increase in rural-to-urban migration might have adversely affected school attendance among the children in the lower echelons of the urban economy. This paper, based on household surveys in Delhi, discusses the schooling of children aged 5 to 14 in slums, with a focus on the question of whether, and if so (1) how underprivileged children in terms of caste, religion and gender are disadvantaged and (2) how migration affects child schooling at the urban destination. The analysis of this paper contributes to filling gaps in the literature both on schooling in slum areas and on the impact of migration on children's education at the destination in urban India. This also enables me to extract policy implications that might improve school attendance in slum areas. The structure of the paper is as follows. The second section provides a brief context, describes the collection of data and details certain characteristics among the slum children. The third section presents the overview of schooling, investigates the determinants of school attendance and discusses why some children are less likely to go to school. A summary of the major findings is presented in the conclusion.

2. Data collection and profile of children

2.1. Context and data collection

The 2001 census showed that the slum population in Delhi was approximately 1.9 million, which is estimated to be 22.0 percent of the total population (Government of Delhi, 2006). The total slum population of Delhi is second only to those of Greater Mumbai slums. The literacy rate in Delhi slum areas (67.4 percent), however, was far

less than that in Greater Mumbai slum areas (83.0 percent), and the proportion of the scheduled caste population in Delhi slums (26.1 percent) was much larger than that of the Greater Mumbai slums (6.0 percent) (Government of India, 2005a). There has been a sharp increase in the number of in-migrants to Delhi since the 1990s, in which nearly 70 percent were from Uttar Pradesh and Bihar (Government of Delhi, 2006, 2009), two of the least developed and educationally backward states of India. Delhi slum dwellers, in sum, can be characterised by a concentration of the population among the lower socio-economic strata of society.

This study is based on data collected from a slum survey in Delhi, which was conducted by myself and two investigators from November 2007 to March 2008. Three-stage stratified random sampling techniques were used. In the first stage, using the *Jhuggi-jhompadi* (notified slums) list prepared by the Municipal Corporation of Delhi, slum clusters with 200 or more households in all the nine revenue districts were considered. Since the sample was confined to a total of 50 clusters, due to time and financial constraints, the proportion of the number of clusters in each district to the total number was used as a weight in deciding the number of clusters to be selected from each district. Once the number of clusters to be selected from a particular district was estimated, specific clusters were randomly selected. In the second stage, the proportion of the number of households in each of the sample clusters to the total number of households in the 50 clusters was used as a weight in the distribution of 417 sample households across the city. In the final stage, after interviews with the *pradhan* (slum chief) or informal leaders in the selected clusters on the various socio-economic aspects of the slum and its dwellers, households were randomly selected for interviews. Of the 417 households, the number of children aged 5 to 14, which basically covers the age group covered by Delhi's compulsory education years, was 718 in 311 households: 417 boys and 301 girls².

It should be noted that the slums surveyed are limited to notified slums. Because of this, the sample is unlikely to include the poorest of the poor, such as the homeless, the destitute and short-term, seasonal or new migrants. It is also worth mentioning that only those who remain in the slums are covered in the survey, while some households might have moved out of the slums to better residential areas or returned to their place of origin. This is particularly relevant for non-migrants and long-term migrants.

2.2. Profile of Slum Children

Table 1 shows the socio-economic characteristics of slum children in comparison to children in the whole city estimated using the National Sample Survey (NSS) 2007-08. It shows that the composition of children is similar in terms of gender in both samples. However, Muslims and lower castes, i.e. Other Backward Classes (OBCs) and

² The structure of school education in Delhi is 5-year primary, 3-year upper primary, 2-year secondary and 2-year higher secondary within a national framework of a 10-year education. The age of admission is 5 years old, which means children should be 5 years old at the middle of the school year (at the end of September). Compulsory schooling (eight years) is 5 to 13 years old in Delhi. However, according to the Constitution of India, and the Right of Children to Free and Compulsory Education Act, 2009, education is guaranteed up to 14 years old; this study, therefore, includes those who are 14 years old.

Scheduled Castes/Tribes (SC/STs), tend to be more concentrated in slums. As expected, the proportion of first generation learners, which is defined as those for whom neither parent ever attended school, is much higher in slums. Furthermore, it is clear that the incidence of poverty in slum households, defined as a percentage of the population below the poverty line in terms of monthly per capita expenditure, tends to be worse than that for children in Delhi as a whole³.

It was revealed that 84.4 percent of children in the slum sample were born in Delhi. However, only 15.0 percent of slum children are second generation Delhites whose head of household was born in Delhi. The trend of in-migration into Delhi is reflected in the slums. The large number of heads of household had migrated from less developed regions of India, such as the former state of Uttar Pradesh (48.1 percent of total migrants) and that of Bihar (16.6 percent of total migrants)⁴. Since the 1990s in particular, the migrant heads of household tend to have arrived in Delhi from a more limited number of regions of India, especially from the rural areas in the above two states. In fact, among the sample children who were born outside Delhi, 65.2 percent of them were either from former states of Uttar Pradesh or Bihar. It is noted that the incidence of poverty among migrant heads of household in this sample contradicts previous findings on such incidence among migrants in general, the latter being less likely to be living below the poverty line (See for example, De Haan 1997; Singh 2009).

3. Slum Children's Schooling

3.1. Overview of Schooling

The current attendance ratio at school, which refers to whether a child was attending any educational institution, including a non-formal school, however, excluding a pre-school, in the academic year 2007/08, is 68.1 percent in the total sample. This is much lower than the 88.6 percent attendance ratio in Delhi as a whole estimated using NSS. The attendance ratio in slum children reached a peak at the age of 8 and declined to 52.0 percent at 13 years old and 60.4 percent at 14 years old, while the attendance ratio levelled off after 6 years old in Delhi as a whole (Fig. 1). It is noted that only one student attends non-formal schooling, which indicates that non-formal education does not play a major role in notified slums.

It is increasingly clear that the *de facto* privatisation of education, reflected in the growing number of private schools and the increasing number of students enrolling there has become prominent in urban India. The NSS 2007-08 suggests that 35.1 percent of primary school and 27.8 percent of upper primary school children attend private school in Delhi. It is pointed out that the growth of private schools in slum areas is catering to the needs of low-income families (Tooley and Dixon, 2007), though 'low income' is not defined. This survey, however, found that only 24 children (4.9 percent of children currently attending school) go to private schools, including schools run by NGOs and religious charitable trusts. The children going to private school are concentrated in the lower classes and none of them studies beyond grade six. Some

³ The poverty line of Rs. 56.54 per capita per month in 1973/74 prices has been adjusted to take account of price changes using the consumer price index for Delhi to update it for the year 2007/08, as per the Government of India (1993).

⁴ In 2000, Uttar Pradesh and Bihar were each bifurcated into two states.

parents in the household survey said that they used educational loans to finance private schooling and expressed uncertainty about when they could afford to send their children to private school. The long-term inability to pay prevents slum households from having continued access to private schools up to the higher classes.

Even among the school-going children, overage, due to the admission to school being later than the official age of 5 and/or repetition of the same class(es), is common, particularly in the earlier classes. Due to difficulties in obtaining the exact date of birth in the household survey, Fig. 2 estimated the percentage of over-age children by class, based on the parents' declaration of their children's age. In this sample, 55.4 percent of slum children currently attending school are overage. Those surviving as higher class students, however, tend to be the standard age. It is apparent that over-age children are more likely to drop out, particularly above upper-primary levels.

It is observed that the ratio for "never-attended" (23.7 percent of the total children) is much higher than that for those who have dropped out (8.2 percent of the total children). The main reasons for out-of-school are dominated by financial constraints in both dropout and 'never-attended' cases (Tables 2-1 and 2-2), as it is widely acknowledged that education is not free even at government schools⁵. A child's own unwillingness is the second main reason in terms of dropout, which is particularly high among boys moving from primary to upper primary classes (grades four, five and six). The second main reason for 'never-attended' is parental misunderstanding about the admission age (under-age). This is prevalent among 5-year-olds, regardless of their parent's migration status. Not only migrant parents but also even some long-term migrants and non-migrants do not seem to understand the school age system properly.

It is noted that only 5.0 percent of 'never-attended' children are engaged in paid work, while 10.2 percent of children who have dropped out do paid work. Moreover, no child below 11 years old works. As government school hours in Delhi tend not to be too long, income generation might not prevent children from going to school⁶. It seems these findings support the argument that children who drop out then work (PROBE 1999), rather than the conventional argument that children cannot go to school because of their work. This is also consistent with a previous study in slums (Banerji 2000) that it is common for never-attended children to be neither in school nor at work. The phenomenon of "nowhere children" is particularly more prevalent among boys than girls.

3.2. Determinants of Schooling and Educational Attainments: Estimation

To investigate the determinants of school attendance, an analysis was conducted by

⁵ Despite the fact that the tuition fee is free or negligible, and uniforms and textbooks are as a matter of policy to be provided free of charge to all students in government schools, the monthly education expenditure per child going to a government school is Rs. 33.7 at primary level, Rs. 120.7 at upper primary level and Rs. 227.0 at secondary level. The share of expenditures on stationary, books and textbooks is the largest at any level (See Tsujita, 2011). The proportion of a household's monthly per capita education expenditure for children aged 5 to 14 in the total monthly per capita expenditure is 3.58 percent.

⁶ According to DISE 2007-08 Delhi unit level data, 51.5 percent of the government schools adopt a shift system whereby the school building is shared with other schools.

paying attention to the underprivileged children in terms of caste, gender and religion, and the effects of migration. The following two dependent variables were examined. One is current attendance of children by a multinomial logit regression, given value one if a child has dropped out from school and value two if a child is ‘currently attending’ with ‘never-attended’ as the base category group (value zero). To grasp the processes of schooling in the long run, the other dependent variable is the grade attainment (in years) by an ordered probit regression, given value zero if a child is ‘never-attended’, completed class if a child is ‘drop-out’ and current schooling class if a child is currently attending school. The unit of observation is the individual child.

The explanatory variables are described in Table 3. The neighbourhood school system is far more complex in urban areas than in rural areas and there are at least a few government schools that the same slum’s children attend⁷. It is difficult to match a slum and attendance at any particular school. Moreover, the reasons for out-of-school (Table 2) are overwhelmed by problems that have arisen from the demand side, although some of them are inextricably linked to problems on the supply side. The existing literature also suggests that individual and household characteristics are better-performing variables than characteristics concerning a neighbouring school where people reside. This paper, therefore, focuses on individual, household and slum characteristics to investigate the determinants of current attendance and grade attainment.

Based on the existing literature, parental economic wealth and educational level are assumed to be important determinants of child schooling. A parental motivation dummy is also expected to increase the probability of current schooling as well as grade attainment. A household’s monthly per capita expenditure excluding education expenditures (MPCE) can be endogenous and correlated with the parental as well as the child’s education level. The exogeneity of MPCE is tested based on Rivers and Vuong (1988) as follows. MPCE were estimated by OLS (Appendix Table 1)⁸. The expected value of MPCE and the generalised residuals computed from the regression (MPCERES) are inserted into the equations (Tables 4 and 5). The coefficients of MPCERES are significant, indicating MPCE is endogenous to determinants of schooling. The expected value of MPCE, therefore, is used as an explanatory variable.

Socially underprivileged children, girls, OBCs, SC/STs, and Muslims are assumed

⁷ There are 2.8 primary and 2.6 upper primary government schools on average, which children attend from the same slum, based on interviews with the *pradhans* (chief) and/or leaders.

⁸ The explanatory variables in this model are (1) dummy variables, including girls, SC/STs, OBCs, Muslims, born-out of Delhi, a ration card dummy (one if a household has a ration card), and an LPG dummy (one if a household possesses an LPG), (2) interaction terms including girls born-out-of-Delhi, Muslims born-out-of-Delhi, and lower castes born-out of Delhi, and (3) continuous variables including the father’s education level (years), mother’s education level (years), slum development index (see Table 3), household size (number of household members), the proportion of children aged 5 to 14, the proportion of working members, and house index (house size in square feet multiplied by one if a house is built using temporary material (*kacha*), two if either the roof or wall is permanently built (*semi-pucca*), or three if the house is permanently built (*pucca*)). We assume the error for this equation is normally distributed and we estimate the coefficients by multinomial logit and ordered probit.

to be less likely to go to school. The effect of migration was examined using a ‘born outside Delhi’ dummy. Furthermore, it was investigated whether socially disadvantaged migrants in terms of caste, gender and religion are more vulnerable to migration than other migrants by adding the interaction terms of migration and socially underprivileged groups – a girl born-outside -Delhi dummy (one for girls who were born outside Delhi and zero otherwise), a lower caste born-outside-Delhi dummy (one for SCs, STs or OBCs who were born outside Delhi and zero otherwise) and a Muslim born-outside-Delhi dummy (one for Muslims who were born outside Delhi and zero otherwise).

It is noted that the impact of the household head’s migration status on child schooling was examined by considering the duration of migration, the state of origin, and the rural/urban areas of origin, with non-migrants as the comparison group. The coefficients of these dummy variables tend to be negative; however, none of these dummies are statistically significant (the result is not shown for brevity). This is attributable to the fact that it has been 20.5 years on average since migrant household heads arrived in Delhi. Migrants might have obtained extensive information about schools and acquired the means to get their children admitted to school over the years.

3.3. Results

The results are given in Tables 4 and 5. Both results are similar. As expected, children in wealthier households are more likely to go to school for a long time and less likely to drop out, though the marginal effects are very small. The father’s educational level also has a significant positive effect on attendance, particularly on grade attainment. The mother’s education, in contrast to evidence from the existing literature suggesting that the mother’s education plays a significant role in children’s education, has no significant positive effect. The overwhelming majority of mothers are illiterates (81.4 percent) and the mean year of the mother’s education is only 1.0 years with 2.3 standard deviation. Ostensibly, mothers do not have much say in a household’s decision making in children’s schooling. At the same time, it appears that parents’ higher motivation concerning their children’s education plays a significant role in children’s schooling and it prevents children from dropping out. In fact, motivated parents tend to clearly answer higher education as the desired level of their child’s education in contrast with parents, including out-of-school children’s parents, who are vague about schooling or uncertain about it by saying “as much as possible” rather than rationalising their child’s educational status of out-of-school by showing a negative perception about schooling.

The existing literature in rural India determined that children in more developed villages tend to be enrolled in school. In urban slums, however, slum location does not largely matter in terms of current attendance and grade attainment, although children in more developed slums are less likely to drop out. The geographical location of government schools in urban areas is not as uneven as it was in the rural areas. The effect of slum communities is limited, also because slum dwellers in their neighbourhood are generally less closely-knit than in villages, i.e. the notion of schooling does not spread among neighbours easily.

Bias against girls is not expressed in school attendance. In fact, girls tend to attend school more than boys. NSS shows that there is little gender difference in school participation in the whole of Delhi. In slums, boys are more susceptible to their peers’ bad behaviour. It is noticeable in quite a large number of slums that boys’ groups roam

around aimlessly even during school hours. They might play truant from school or not go altogether. Parents are well aware of their behaviour and are concerned about their children. For example,

“I am embarrassed with the environment here that the majority of the people are drunk. My children started to drink at a very young age. Except for the eldest son, my other sons wander around with no purpose. Unfortunately, children do not listen to us, and make fun of us by calling us illiterates”. (Bhushan, alias, father of 18-, 15-, 13- and 10-year-old boys)

“My children have adopted bad habits since we moved here”. (Pankaj, alias, father of 8-, 7- and 5-year-old children)

“My children leave home for school but they go and play elsewhere, instead of going to school. Teachers complain to us but we do not know what to do”. (Kushal, alias, father of three school age boys)

According to schooling history, girls (73.4 percent of currently attending and dropout girls) tend to have benefitted more from any incentive schemes, such as free textbooks, uniforms and so forth, than boys (69.9 percent). All dropout girls have never been awarded by any incentive scheme. Incentives might be one of the reasons why girls are more likely to go to school, given the fact that girls going to school are not necessarily from economically wealthier households than the corresponding boys.

A lower caste affiliation, being SC or ST does not have a significant negative effect on current attendance and schooling in the long run. This might also be attributable to the fact that the proportion of children benefitting from incentive programmes is higher among SC/STs (62.9 percent) than general castes (49.7 percent) and OBCs (53.1 percent). At the same time, the lower proportion of OBC children who have been awarded any incentive is the reason why they are more likely to drop out.

Unlike caste, religion etc., being a Muslim has a largely negative effect, though it is not statistically significant. It has recently become widely acknowledged that the socio-economic conditions of Muslims have deteriorated over the years (See Government of India, 2006). They are less likely to be in private school, no matter how many years they have lived in Delhi’s slums (Tsujita, 2011). Disadvantages in terms of attendance remain even after implementing measures to encourage school attendance such as a wide range of incentive schemes and there seem to be structural obstacles for Muslims when it comes to educating their children.

The socially underprivileged, being girls, SC/STs and OBCs, is not clearly manifested in slum children’s schooling. However, migrant children are less likely to go to school. Migrant girls and migrant Muslims are particularly disadvantaged when it comes to current attendance and grade achievement. It is noteworthy that the coefficients for the girls’ dummy are positive in both current attendance and grade attainment, though the latter is not statistically significant. This implies that gender bias seems to lie in whether or not they are migrants rather than whether or not they are girls. The situation for migrated Muslim children is worse. Muslim migrant children are burdened both by being Muslim and by being migrants.

3.4. Discussion: Why are Migrant Children Disadvantaged in Schooling?

Migrated children are disadvantaged in terms of current schooling and grade achievement. Why is this so? As discussed in the introduction, the existing literature pointed out two possibilities. One is occasional visits to their (parental) place of origin. It was found that 18.1 percent of children in the sample have visited their parental place of origin during the last year, while this is the case for only 13.1 percent of children who are currently out of school. The average number of visit days is 23.3 days among children who have visited their parent's place of origin in the last year, with the longer duration being a sojourn of 24.2 days on average by children who are currently attending school. Data is limited to children's visit during the last year; however, the household survey indicates that a number of households tried to avoid visiting their place of origin for as long as possible during school terms. A visit to one's place of origin would not be a major obstacle in elementary schooling.

The other possibility of migrants' disadvantage stems from language. Hindi is the medium of instruction at school for all school going children in the sample, regardless of school type and class. At the same time, 91.6 percent of children in the total sample use Hindi at home. This is attributable to the fact that the migrants are mainly from northern states, where Hindi is largely used at home or is an understandable language. The language might not be a major barrier for Delhi slum children, either.

So why are migrants disadvantaged in schooling? It has been shown that the out-of-school problem is closely linked to 'never-attended' children rather than to children who drop out. In fact, the proportion of "never-attended" migrant children (29.5 percent) is higher than the corresponding born-in-Delhi children (22.5 percent), and none of the migrant 5-year-old children in the sample is in school. Recent education research in India implies that pre-school intervention such as nutrition, health and basic learning plays an important role in the life-cycle of children (Ramachandran et al. 2009). Pre-school programmes would raise parents' awareness about children's formal schooling at the standard age and prepare children for formal schooling. A total of 34.6 percent of migrant children, in contrast to 53.8 percent of born-in-Delhi children, have been inoculated with a whole set of immunisation injections including a course of polio drops. Most likely, parents who complete their children's immunisation programme prior to formal schooling tend to be aware of the importance of education, and possibly children are less likely to suffer from communicable diseases and to be absent from school on health grounds. The other example is only 14.3 percent of migrated children in comparison with 20.9 percent of born-in-Delhi children have attended nursery classes or *Anganwadi* under the Government of India's Integrated Child Development Services. The lack of preparation for schooling in the pre-schooling ages is one of the reasons why migrant children are disadvantaged in formal schooling.

The other important reason is the school admission process such as the short window of time in which one can apply for admission. If parents are unaware, unavailable or unable to apply to schools during a specific and very short period of time, children in slum areas are less likely to be admitted later⁹. In this regard, parents also face delays in obtaining a birth certificate or an alternative proof of identification, i.e. an affidavit, which is mandatory for admission to any government school in Delhi at

⁹ This point was made by the focus group discussion in a non-surveyed slum in November 2008.

the time of the survey¹⁰. For example, Sunita (alias), a mother of three school age children in the household survey, said,

“My children are not in school because we cannot provide their date of birth. My brother, after several grueling months, succeeded in getting a signature from a Member of the Legislative Assembly in our constituency so as to admit the children to school, which later turned out to be invalid for school admission”.

In fact, only 33.9 percent of children in slum households have a birth certificate, which is particularly low at 19.4 percent for ‘never-attended’ children. Children who were born in Uttar Pradesh/Uttarakhand (20.8 percent) and Bihar/Jharkhand (12.0 percent) are less likely to have a birth certificate than children born in Delhi (36.5 percent). This reflects the fact that migrant children were born largely in their parents’ village where there was weak enforcement of the rule to register a birth with the civil authorities. It is shown that the children surviving until higher classes are at the right age (Fig. 2). Among the children currently going to school, the proportion of those who have repeated is 7.6 percent, while that of admission at older ages is 45.5 percent, i.e. overage is largely caused by late admission. A delay in admission seems to be non-negligible in slum children’s schooling in the long run.

4. Conclusions

This paper described the current situation regarding schooling among slum children aged 5 to 14 in Delhi. Overall attendance in slums is much lower than that of Delhi as a whole. Even among the children going to school, overage mainly due to late admission is common. Among the out-of-school children, those who have never attended school by far outnumber those who drop out. By considering these aspects of schooling in slums, the question focuses on whether, and how, being underprivileged in terms of caste, gender and religion, and migration affects school attendance. On the whole, bias against gender and caste is not clearly manifested in schooling. However, it seems that the structural obstacles prevent Muslim children from schooling. Migration also adversely affects school attendance. In particular, migrant girls and Muslim children are disadvantaged. Migrant children face further and greater hurdles when it comes to admission to school because of a lack of preparation for schooling in the pre-schooling ages, such as the obtaining of a birth certificate, the completion of an immunisation programme, a polio drop course and pre-primary school. Universal elementary education in urban areas, in the situation where urban poverty has recently worsened and there has been a sizeable increase in rural-to-urban migration, can be achieved by taking account of urban-specific problems and by tackling education alongside other sectors such as health. The most important underlying implication seems to be raising awareness for parents with regard to schooling even before being admitted to school and

¹⁰ After the survey, declaration of the age of the child by a parent or guardian shall be proof of age of the child for the purposes of admission in school under the Right of Children to Free and Compulsory Education Rules, 2010. Anecdotal evidence, however, suggests the implementation of this rule depending upon the discretion of the school head at the time of 2010.

by simplifying the admission procedures, or helping slum children to get enrolled in school.

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Table 1 Socio-economic background of children in 2007/08

	Delhi	Delhi Slums
No. of children	2,383,206	718
Mean household size (persons)	5.6 (1.91)	6.1 (1.50)
Mean per capita household monthly expenditure	1,307.49 (844.52)	543.93 (259.51)
Proportion of children from households below the poverty line (%)	20.81	86.21
Proportion of first generation learners (%)	15.05	41.90
Proportion of females (%)	42.31	41.23
Proportion of Muslims (%)	13.84	24.79
Proportion of SC/STs (%)	33.32	39.17
Proportion of OBCs (%)	15.42	34.57

Note: Standard deviations for the means are in parentheses.

Source: National Sample Survey 2007-08 unit level data and author's survey.

Table 2-1 Reasons for dropout (multiple answers)

Reason for dropout	No. of children	Boys	Girls
Financial constraints	18	9	9
Own unwillingness	16	10	6
Own poor performance	9	6	3
Migration	5	2	3
Domestic chores	4	1	3
Household economic activities	3	1	2
Parental negative perception	3	1	2
Lack of good company	3	3	0
Language problems	2	1	1
Family illness	2	1	1
Distance from school	1	0	1
Own bad behaviour	1	1	0
Disappeared and later found	1	1	0
NGO school was closed	1	1	0
No response	3	2	1
Total no. of children	59	34	25

Source: Author's survey.

Table 2-2 Reasons for never-attended (multiple answers)

Reason for never-attended	No. of children	Boys	Girls
Financial constraints	54	34	20
Underage	31	21	10
Parental negative perception	17	11	6
Own unwillingness	7	5	2
Household economic activities	5	2	3
Domestic chores	3	1	2
Priority of boys' education	2	0	2
Distance from school	2	2	0
Disability	2	2	0
Death of family member	1	1	0
Priority of other children's education	1	1	0
No response	17	12	5
Total no. of children	142	92	50

Note: Total no. of children excludes those who are in pre-schools (18 boys and 10 girls)

Source: Same as Table 2-1.

Table 3. A Summary of Descriptive Statistics

Variable	Description	Mean	Std. Dev.
Current Attendance	0= never-attended, 1= dropout and 2= currently attending	1.44	0.85
Educational Achievement	Current class for children currently attending school, completed class for dropout children, and 0 for never-attended children	2.99	2.52
Age	Child's age in years	9.38	2.85
Age ²	Square of child's age in years	96.10	53.77
MPCE	The expectation of household monthly per capita expenditure excluding education expenditures computed from the determinants of MPCE results (see footnote 8)	519.15	114.75
Mother's education	Mother's educational attainment in years	0.99	2.26
Father's education	Father's educational attainment in years	3.70	3.96
Parental motivation	Dummy variable: 1 for a university education or above as the parents' desired level of education, and 0 otherwise. This is the open answer to the question is "What kind/level of education do you think is for this child's better employment opportunities?". This question is followed by the question "What job (occupation) do you expect this child to do in the future?"	0.30	0.46
Slum development	The unweighted sum of the followings: Paved roads (1 if a child lives in a slum where roads within the slum is paved 100% and 0 otherwise) + Street light (1 if child lives in a slum where any street light is functioning and 0 otherwise) + Drinking water (1 if a child lives in a slum where drinking water is provided for 24 hours a day, and 0 otherwise) + Spraying (1 if a child lives in a slum where vector-control spraying is provided over the last one year and 0 otherwise) + Garbage (1 if a child lives in a slum where garbage collection is available and 0 otherwise) + Electricity (1 if a child lives in a slum where legal electricity connection is available and 0 otherwise).	3.40	1.22
Girls	Dummy variable: 1 for girls, 0 for boys	0.41	0.49
SC/STs	Dummy variable: 1 for SC/STs, 0 for non-SC/STs	0.39	0.49
OBCs	Dummy variable: 1 for OBCs, 0 for non-OBCs	0.35	0.48
Muslims	Dummy variable: 1 for Muslims, 0 for other religions	0.25	0.43
Born outside Delhi	Dummy variable: 1 if a child was born outside Delhi and 0 for born-in-Delhi children	0.16	0.36

Table 4 Determinants of current attendance (Multinomial Logit Regression)

Variables	Model 1				Model 2			
	Dropout		Current attendance		Dropout		Current attendance	
	Coefficient	Marginal effect	Coefficient	Marginal effect	Coefficient	Marginal effect	Coefficient	Marginal effect
Age	4.4156 *** (1.2756)	0.0162	2.9605 *** (0.3048)	0.4336	4.3693 *** (1.3148)	0.0137	2.9855 *** (0.3130)	0.4408
Age ²	-0.1706 *** (0.0548)	-0.0004	-0.1454 *** (0.0161)	-0.0216	-0.1670 *** (0.0566)	-0.0003	-0.1468 *** (0.0165)	-0.0219
MPCE	0.0022 (0.0021)	-0.0000	0.0051 *** (0.0015)	0.0008	0.0013 * (0.0022)	-0.0000	0.0042 *** (0.0015)	0.0006
Mother's education	0.0168 (0.1263)	-0.0001	0.0118 (0.0623)	0.0017	0.0260 (0.1211)	0.0001	0.0179 (0.0615)	0.0026
Father's education	-0.0615 (0.0647)	-0.0007	0.0312 (0.0396)	0.0053	-0.0698 (0.0671)	-0.0006	0.0366 * (0.0416)	0.0061
Parental aspiration	-1.2773 ** (0.5323)	-0.0110	0.5170 ** (0.2620)	0.0823	-1.2383 ** (0.5347)	-0.0094	0.5122 ** (0.2602)	0.0806
Slum development	-0.3617 ** (0.1580)	-0.0026	-0.0499 (0.0960)	-0.0054	-0.2991 * (0.1659)	-0.0021	-0.0057 (0.0942)	0.0008
Girls	0.5170 (0.3833)	0.0020	0.3421 (0.2315)	0.0491	0.6064 (0.4666)	0.0005	0.6599 ** (0.2652)	0.0963
SC/STs	0.3361 (0.5021)	0.0017	0.1543 (0.3096)	0.0216	0.3363 (0.5231)	0.0015	0.1578 (0.3137)	0.0224
OBCs	0.8801 * (0.5189)	0.0087	-0.0389 (0.2954)	-0.0130	1.1713 ** (0.5557)	0.0099	0.0561 (0.3201)	0.0004
Muslims	-0.0714 (0.4504)	0.0011	-0.2552 (0.3008)	-0.0410	-0.4924 (0.4839)	0.0040	-0.0081 (0.3250)	-0.0045
Born outside Delhi	-0.6863 (0.4666)	0.0011	-1.1026 *** (0.3010)	-0.2058	0.0911 (0.7341)	0.0015	-0.1306 (0.4519)	-0.0215
Girls born outside Delhi					0.2014 (1.1048)	0.0161	-1.5717 ** (0.6189)	-0.3352
Muslims born outside Delhi					-3.1820 ** (1.4818)	-0.0068	-1.2361 (0.8127)	-0.2463
Lower castes (SC/STs & OBCs) born outside Delhi					-0.3161 (1.2477)	-0.0012	-0.1641 (0.7793)	-0.0251
Constant	-27.9363 *** (7.7493)		-15.0087 *** (1.5757)		-28.1215 *** (7.9195)		-15.0777 *** (1.6100)	
MPCERES	0.0014 (0.0014)		0.0022 ** (0.0011)		0.0013 (0.0015)		0.0023 ** (0.0012)	
No. of observations		678				678		
Pseudo R ²		0.313				0.3307		

Notes: 1: The base category is never-attended.

2: To calculate the marginal effects, the mean value was used for the continuous variables and a value of zero was used for the dummy variables.

3: ***, ** and * represent statistical significance at the 1%, 5% and 10% level, respectively.

4. Figures in parentheses show robust standard errors.

5. MPCERES denotes the generalised residuals computed from the result to estimate of MPCE by OLS (see footnote 8).

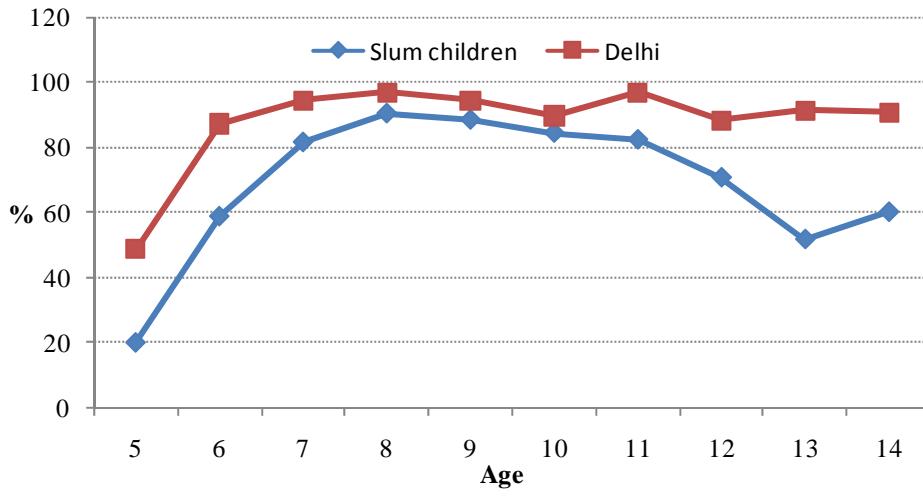
Table 5 Determinants of grade attainment in years (Ordered Probit)

Variables	<u>Model 1</u>		<u>Model 2</u>	
	Coefficient	Robust standard error	Coefficient	Robust standard error
Age	0.8987 ***	0.1170	0.8961 ***	0.1184
Age ²	-0.0272 ***	0.0062	-0.0270 ***	0.0063
MPCE	0.0012 ***	0.0005	0.0011 **	0.0005
Mother's education	-0.0084	0.0161	-0.0074	0.0160
Father's education	0.0478 ***	0.0139	0.0472 ***	0.0141
Parental aspiration	0.3689 ***	0.0907	0.3734 ***	0.0911
Slum development	0.0210	0.0351	0.0278	0.0348
Girls	0.0562	0.0807	0.0904	0.0836
SC/STs	0.1086	0.1119	0.1228	0.1115
OBCs	-0.1658	0.1127	-0.1180	0.1145
Muslims	-0.0150	0.1137	0.0858	0.1144
Born outside Delhi	-0.4719 ***	0.1372	-0.2546	0.1918
Girls born outside Delhi			-0.1086	0.2836
Muslims born outside Delhi			-0.8910 *	0.5055
Lower castes (SC/STs & OBCs) born outside Delhi			-0.0754	0.3727
MPCERES	0.0006 ***	0.0002	0.0007 ***	0.0002
No. of observations		678		678
Pseudo R ²		0.1875		0.1908

Note 1: ***, ** and * represent statistical significance at the 1%, 5% and 10% level, respectively.

Note 2: Mean of dependent variable is 2.99.

Figure 1 School attendance in Delhi (%)



Source: Same as Table 1.

Figure 2 Percentage of overage slum children (%)



Source: Same as Table 2-1.

Appendix Table 1 OLS estimates of MPCE

Dependent variable=monthly per capita expenditure excluding education expenditures	Coefficient	Standard Errors
Girls	21.2883	17.9702
SC/STs	-3.6923	22.5138
OBCs	-2.2951	22.8023
Muslims	1.7144	22.4202
Born outside Delhi	44.6194	33.3779
Girls born outside Delhi	-70.5072	46.8330
Muslims born outside Delhi	-11.5148	65.4870
Lower castes born outside Delhi	-9.8666	56.5275
Father's education	11.3223 ***	2.3964
Mother's education	-0.3643	4.0275
Slum development	31.5739 ***	6.8335
Household Size	-41.1537 ***	6.1963
Proportion of children aged 5 to 14	-160.5343 ***	59.8480
Proportion of working members	233.1449 ***	71.2499
House index	0.3988 ***	0.0707
Ration Card	46.7136 *	23.8477
LPG	57.4854 ***	18.4679
Constant	462.0774 ***	71.6415

Note 1: Definitions of explanatory variables are found in Table 3 and footnote 8.

Note 2: *** and * indicate significance at 1% and 10%.