

Analysing Demand for Primary Education Muslim Slum Dwellers of Kolkata

The low level of literacy within the Muslim community is traditionally explained in terms of the conservative values characterising Muslim society. Based on a field survey of slum dwellers in selected areas of Kolkata, this article argues that economic factors and uncertainties in the labour market combine to create a different perception of the cost-benefits of education. It also examines other facets of educational decisions: its cost and components, the choice of educational institutions and the preferred medium of instruction, presence of gender bias, and the relation between dropouts and child labour.

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I Introduction

India's performance on the educational sector has not been impressive in the post-independence era. Statistics indicate that India has lagged behind even countries like Sri Lanka. Empirical studies indicate that the situation is even worse for Muslims [PROBE 1989; Sengupta and Gazder 1997]. These studies are supported by NSS figures at the all-India and state levels [NSS 2001]. As compared to 82.2 per cent literacy level for India's urban population, the literacy rate within the Muslim community is only 66.6 per cent. For West Bengal the corresponding percentages are 81.1 per cent and 69.8 per cent, respectively. Literacy levels can be expected to be even lower for low income Muslims.

This situation is especially piquant as less than 200 years ago, Muslims constituted a politically, economically and culturally dominant section of India's population. Yet, within the intervening period, they have gradually fallen behind the rest of society. A low level of education is both a cause and a manifestation of this backwardness, specially among low income Muslims. In such groups, lack of education and overall socio-economic backwardness has combined to reduce their capability set; this has resulted in vulnerability and a tendency towards anti-social and criminal activities. Hence a study of the low incidence of education amongst Muslims is important in understanding the reasons for the backwardness of Muslim society.

This paper seeks to examine the nature of educational decisions among low income Muslims and identify the factors determining such decisions. It starts with a survey of the alternative explanations of low educational attainment of Muslims. Section III describes the research methodology and survey areas. Since educational decisions are dependent on the socio-economic context in which agents are embedded, the socio-economic and cultural characteristics of the slums studied are described in detail. This is followed by the survey results. The value placed on education and its reasons are examined first; this is followed by enrolment rates. Expenditure patterns on education are analysed next. In addition to money costs, the opportunity costs of education – in the form of foregone income from child labour or foregone utility of services from the child at home – can be expected to be an important factor determining education-related decisions. Section VI discusses this aspect. This is followed by an econometric

analysis to assess the relative importance of factors determining educational decisions. In the concluding section, the findings are integrated to identify the causes of low educational attainments amongst low income Muslims.

II Low Educational Attainment of Muslims

Studies of inequalities in educational opportunity between different socio-economic classes emerged as an important research issue in the 1950s [Harnqvist 1978]. Alternative explanations were offered to explain socio-cultural differences in educational choices. Such explanations have been categorised by Boudon (1978:22-24) as follows:

(a) Different social classes have different value systems that influence their attitude towards the benefits of education [Hyman 1953].

(b) The social position theory was developed in reaction to the value theory.¹ This theory argues that members of different social classes have to travel different 'social distances' to attain the same educational level. This explanation focuses on the different costs and benefits of education faced by different social classes.

(c) In addition to the different cost-benefit ratio of education, the social backgrounds of families generate varied differences in cultural opportunities. Children of a particular social class may have to learn values and skills inconsistent with their family backgrounds. For instance, in their study of working class children in a north England industrial city, Jackson and Marsden (1962) report that the teaching of middle class values in grammar schools created a conflict between the school and neighbourhood.

These explanations suggest two alternative hypotheses to explain the educational backwardness of Muslims.

The common explanation offered for the low educational attainment of Muslims is in terms of the value system characterising Muslim society. The conservative attitude of Muslim parents, prevalence of purdah and early marriage, reluctance to send daughters to school (particularly to co-educational institutions, and if women teachers are absent), and a preference for religious education leading to dependence on madrasas have been identified as important factors in this context [Ansari 1989; Jehangir 1991; Ruhela 1998; Salamatullah 1994]. In addition, the focus on educating daughters to become good mothers and

husbands, their segregation from boys after puberty, early marriage, costs of dowry, and the realisation that benefits from education will accrue to the matrimonial home creates a gender bias [Jehangir 1991; Ruhela 1998; Salamatullah 1994]. This explanation is supported by case studies and statements like “My father, being an orthodox Muslim, is against providing higher education to his girls. He considers coeducation as an evil” made by Muslim girls during interviews [Ruhela 1998:11].

As opposed to this view, it can also be argued that Muslim parents do realise the value of education. However, the costs and benefits of education to a Muslim child are different from other communities. For instance, a large proportion of the Muslim community belongs to the low-income section. As a result, they may find it difficult to finance the education of their children. In addition Muslims may work in insecure jobs with variable income. The resulting uncertainties may result in a reluctance to make long-term investments in education. The opportunity costs of educating children in the form of foregone returns from child labour or incomplete household chores may also become important in this context. Simultaneously, the expected perceived benefits from education is low due to the tight conditions in the labour market. Further, Muslims perceive that the labour market is biased against Muslims; this reduces the already low probability of securing work.

The cost-benefit analysis may be affected by another process. Educational systems contain a set of socio-cultural beliefs. These beliefs may be contradictory to the socio-cultural environment and the realities of their daily life. For instance, the secular nature of the educational system may conflict with the attempts of the family to provide religious training to the children. This may create tensions and doubts regarding the worth of education. This effect of this process is to increase the 'social distance' to be travelled by a Muslim child.

The first hypothesis, therefore, is basically a demand side explanation that argues that low income Muslims are not interested in education. In other words, it is the preference pattern of Muslims themselves that is responsible for the low level of primary education amongst Muslims. The alternative hypothesis suggests that Muslims recognise the need for education, but constraints in the form of factors reducing the actual or perceived returns to education may prevent the demand for education being translated into effective demand. This study tries to identify which of these two hypotheses explains the low educational attainment of Muslims.

III

Data Sources and Description of Survey Sites

This work is empirical in nature and relies on primary data. The primary data was collected on the basis of a household survey of 107 slum dwellers from the Park Circus-Topsia area, in Kolkata. Park Circus has been selected as the survey site as it is a commercially developed area with good transport links to both educational institutions and to places of work (creating an incentive for dropping out). The Topsia belt, on the other hand, contains numerous leather and shoe factories; the proximity of a large labour market can be expected to have a negative impact on the demand for education. Further, there are slums of different income levels and cultural groups in these two regions.

The respondents have been drawn from five slum areas. Each of these areas has their unique features. At this point, it

should be noted that while there was considerable economic and socio-cultural variations across slums, differences within slums were negligible. This allowed us to draw relatively small samples within slums (consisting of 20-25 households per slum). The slums studied can be divided into three groups based on the income profile of their inhabitants. The main demographic and economic characteristics of these slums are given below (Table 1).

High Income Slums

Slum 1 is in the first category. This slum is located on Karaya Road, between the Scottish Cemetery and A J C Bose Road. The inhabitants are migrants from Bihar who have settled in Kolkata for several generations. Their vernacular is Urdu. The inhabitants mostly reside in one- (or two-) room ‘bustees’, having a common water source. The houses are ‘pukka’, but have tiled roofs. The male members are occupied in the service sector that has emerged in the adjacent Mullickbazar area. Most of them are motor mechanics, or work in shops; a few are engaged in the formal sector.² Thus the inhabitants are able to earn a fairly high and stable income. The family size is small, so that per capita income (Rs 789.90) and standard of living is higher than in other slums. These families display similar traits to those working class families observed by Jackson and Marsden (1962) – aggressiveness, competitiveness, pride in achievements, delight in extension of their knowledge, and a desire to pick up a new polish for their manners and accent.³ This spirit is manifested in their educational choices and can be sensed from the neatness of their rooms, the attires of male members and children, and their polished speech. However, such mobility does not mean that they are not religious minded. They are not fundamentalist, but their attitude is conservative and they follow religious practices seriously. Though only one such slum was surveyed, reports were received of similar pockets existing in other areas also.

Medium Income Slums

Three medium income slums – in Gorachand Road (behind Lady Brabourne College), Kasiabagan (to the south of Dilkhusa Street and west of Bright Street, besides the Muslim Girls Hostel), and Dhapapara (in Golam Jilani Khan Road, Topsia) – were surveyed.

These slums are in sharp contrast to Slum 1. Houses – most of which have been constructed without sanction from the KMC – are built side-by-side creating a grim concrete jungle. Some houses are one-storied, with tiled roofs. They are built around a common courtyard. There are also pukka houses of 5-6 stories. Though all houses have electricity connections,

Table 1: Demographic and Economic Features of Slums

Label	Type	Locality	Sample Size	Monthly Income (Rs)	Family Size	Children
1	High income	Karaya Road	20	3851.75	5.45	1.65
2	Medium/low and stable income	Gorachand Road	17	2931.82	7.12	2.71
3		Kasiabagan	15	3132.13	5.73	1.60
4		Dhapapara	26	2904.12	10.31	3.19
5	Low, fluctuating income	Topsia	24	1790.04	5.88	2.96
–	All slums		102	2936.33	7.11	2.52

there is no running water supply in these areas. Water is not available in most houses of Kasiabagan and Gorachand Road, but have to be fetched from KMC taps. In the past few months even this supply has stopped in Gorachand Road. The only source of water is by KMC trucks that supply water twice a day. The situation is better in Dhapapara where there is a common tap for each storey, or group of houses. The residences are one or two roomed, extremely dirty and poorly-lit and ventilated. The family size is large, creating poor living conditions. The residents have migrated from Bihar and Uttar Pradesh, via Kidderpore-Metia Bruz three-four generations ago. As a result these people have absorbed the cultures of both West Bengal, and Bihar and Uttar Pradesh. For instance, these people are bi-lingual, though residents of Slums 2 and 3 are more conversant in Bengali, and residents of Slum 4 in Urdu.

In Gorachand Road, there are a large number of small units preparing shoes interspersed within the locality. In addition, there are also some tailoring establishments in the locality. Residents seek work in these units. Monthly income is Rs 2,931.82 – but, labour demand is contracting in recent months, creating uncertainties. The residents of Kasiabagan work in stable jobs in the informal sector. Wages are low, and have to be supplemented by female members. However, child labour seems negligible. The survey was undertaken on a Saturday. We observed relatively few children; these children were either playing or returning from schools. Family size is smaller in this slum, compared to that in Slum 2; as a result per capita income here is higher (Rs 607.95 compared to Rs 436.54 in Slum 2).

The proximity of tanneries and rubber shoe factories to Dhapapara means that the economic conditions of the residents are closely linked to such units. These factories provide formal employment to a large proportion of the residents. In addition, the operation of the factories and tanneries generates demand for subsidiary services, like petty transportation. This provides a steady though low flow of income (Rs 2,904.12). In addition, as we shall see later on, there is a demand for female and child labour to cut the rubber straps of slippers. This has an important effect on education related decisions. The average family size is largest in this slum (7.12 adults and 3.19 children). Thus their per capita income is even lower than that of Slum 5 (Rs 429.78, compared to Rs 434.51 in Slum 5); their standard of living is, however, slightly better than that of Slum 5.

Low Income Slum

Slum 5 falls in the low and unstable income category. This is located on the northern bank of the canal parallel to the Park Circus Connector. The residents are first generation migrants from rural areas in West Bengal (mainly the Sundarban area). Male members do not have a fixed job or occupation. They earn their wages on a daily basis by working as a daily worker, driver, or carrying loads – or what ever job they can get. Their monthly income is about Rs 1,790.04. Their residences are 'jhupris': temporary structures made of bamboo and mud. This was the only slum without access to electricity. Nor do they have water supply. Possession of assets was negligible. Only a few had cycles; none of them had the portable black-and-white TV sets commonly found in all other slums. Parents lack education and are culturally backward. Their dominant concern is to survive; this leads to anti-social activities. The family structure is weak in this area. Adultery and desertion of wives are common social

problems. Alcoholism and drug addiction is also common in this area, and generates petty crimes and even violence.

IV Demand for Primary Education

A common belief is that most Indian parents belonging to the low-income level are disinterested in their child's education. This belief is prevalent even with policy-makers and experts on education. It is manifested in statements like "illiterate and semi-literate parents see no reason to send their children to school", or "the vast majority of adult illiterates belonging to the poor economic stratum are not convinced of it (that literacy is a basic right of every education)".⁴

Perceived Importance

Although empirical research has refuted this claim, it also reports a gender bias [PROBE 1999]. Most parents expressed a much stronger interest in their sons' education rather than their daughters' [PROBE 1999:19-20]. Muslim households face the additional charge of being conservative and alienated from the mainstream. It is also believed that Muslim parents are at most interested in educating their male children. This study however found most Muslim parents expressing an interesting in educating their children – irrespective of gender. Most of the respondents felt that education was important for both boys and girls (94.12 per cent). Only 4.07 per cent felt that education was unimportant.⁵

The PROBE Report [PROBE 1999:20-21] also reports that the primary motivation for educating their children is economic: it is anticipated that education will enable the children to get a better employment opportunities. Contrary to such surveys [Bhatty 1998; PROBE 1999], better employment prospects do not appear to be the dominant motivating factor amongst the survey group. Respondents felt that only a very high level of education will improve job prospects significantly. The low level of education generally attained by slum dwelling children is not expected to help them to secure jobs, especially as respondents believe that there is a bias against Muslims in the job market (both in the private and public sector). In contrast, respondents emphasised the utility of basic education or literacy in their daily life. The ability to read and write helps them read and sign agreements, understand monetary contracts, perform simple calculations in the market, keep household accounts, write letters, and undertake various similar activities that are essential in their daily life. Improved marriage prospects is also an important factor.

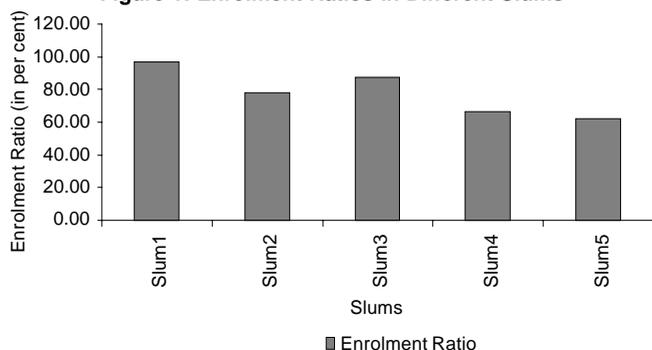
There are some inter-slum variations in motivations. Though slum dwellers are not motivated by the employment factor in educating their children in general, there are two exceptions to this – the Karaya Road (Slum 1) and Kasiabagan (Slum 3) slums.

Table 2: Distribution of Households by Motivations to Educate Children and Slums

Motives for Educating Children	All Slums	Individual Slums				
		1	2	3	4	5
Better employment	35	17	4	9	5	0
Needed in daily life	65	13	13	8	19	12
Better marriage	21	5	3	1	10	2
Earn respect	14	2	4	5	3	0
Learn English	1	1	0	0	0	0
Others	5	0	0	2	1	2*

Note: * Sending children to school enables them to get free food, medical check-ups, and medicine.

Figure 1: Enrolment Ratios in Different Slums



The belief that education is necessary in daily life motivates education decisions in all slums. In the Topsia slum (Slum 4) improved marriage prospects appears an important incentive.

Education and Marriage Prospects

Literature points out that the effect of education on marriage prospects may be particularly important with respect to the girl child [PROBE 1999]. Education can affect marriage both ways. Education may improve the ability of the girl to get a 'good' husband; on the other hand, in communities where education is not widespread, it may increase the costs of marriage as a larger dowry has to be paid, or a suitable groom may not be easily available.

Respondents believed that education would improve their child's marriage prospects – but this is treated as a subsidiary benefit of education, and does not appear to be one of the dominant motives behind the decision to educate daughters or in the choice of school or medium of instruction. Interviews indicated that it is at the secondary stage (class V and above) – where most of the dropouts occur – that considerations of marriage become important. At this stage, lack of income forces parents to consider whether to continue education or not. In such situations – in contrast to the gender bias reported in other studies – they prefer to educate girls. This can be attributed to the differences in expected returns from education. At the primary stage, therefore, there does not appear to be any difference in the enrolment rates between boys and girls. Nor does there appear to be any discrimination between sons and daughters with regard to choice of medium of instruction, type of school, or expenditure on education.

Interestingly, respondents argue that education was more important for the girl child. Given the nature of the job market – characterised by a high level of unemployment and a perceived bias against Muslims – parents do not feel that education will enable the boy child to get a good job. Expected returns to educating male children are low. On the other hand, the expected benefits from educating daughters were high. Unlike in other communities, it is easier to marry off an educated daughter. The reason is that in Muslim societies marriages between low educated males and relatively highly educated females is acceptable;⁶ furthermore, an educated bride is highly valued as she can educate her children herself and will be able to keep accounts better. Thus

the returns to educating daughters are higher. It has been pointed out that these returns do not accrue to the parents, but to the family into which the girl marries; this often acts as a disincentive to educating daughters [PROBE 1999]. However, this approach considers only economic returns. Muslim parents feel that it is their duty to marry their daughter into a 'good' family. Thus, they may not derive any economic benefit from educating their children, but they get some psychological return from adhering to a social norm and enjoy increased prestige from having a 'good' son-in-law.

In addition, parents felt that education would enable their daughters to be independent after marriage. This would insure her in the case of desertion by her husband, which is a not uncommon phenomenon amongst slum dwellers. In many cases, therefore, parents argued that education was more important for girls.

Enrolment Rates

However, it is not enough to recognise the importance of education in daily life – is this appreciation manifested in actual behaviour? The enrolment rate for the families surveyed is 73.15.⁷ This is quite high.

However, there is some variation in this ratio between slums (Figure 1). Slum 1 has the highest enrolment ratio; in fact only one case of a drop out was found. The enrolment ratio is lowest for the jhupri area (Slum 5) – 61.97. Even this ratio is misleading as most of the school going children is enrolled in NGO-run schools, and not in formal educational institutions. Respondents also reported that the survival rate was low – very few of the children graduated from the non-formal system to the formal educational system. In fact, only 9 out of the 39 school going children (23.08 per cent) presently have access to formal education facilities.

Demand for Education in Low and Fluctuating Income Slums

The disappointing spread of education in the low-income slum area (Slum 5) is not surprising as educational demand and income is positively correlated. But there is some difference in opinion regarding the mechanism through which income operates. Research shows that explanations offered by parents may differ sharply from that offered by teachers. A study of a low-income slum in Gandhinagar, New Delhi [Banerjee 1997] is relevant in this context.

Teachers typically tend to offer the following explanations for the low enrolment and high dropouts:⁸

- (1) Members of such slums are generally first generation migrants. They retain strong social, economic and kinship ties with their village of origin. This leads them to return to their villages for long periods for festivals and family functions, and during times of distress.
- (2) Mothers have to work for long hours. This leads to her absence from home for the greater part of the day. In the absence of an extended family there is no one to care for and support children. In the absence of monitoring of performance children play truant from school or do not study.
- (3) Parents are forced by economic distress to move frequently from one slum to another. This disrupts the educational career of their children.
- (4) Children have to work either in the labour market to supplement family income or at home to complement or substitute for

mother's labour (in cooking, supervision of siblings, fetching water, etc).⁹

The relevance of these explanations has also been examined in this study.

- (1) Respondents had retained ties with their village of origin. This led them to move back to their villages for long spells. This had a disruptive effect on the schooling of their children in some cases. However, parents also tried to adjust these periods of absenteeism with school holidays. In some cases respondents reported that the child had been removed from urban schools and re-admitted to rural schools. This is an optimal strategy on several counts.
 - (a) Literature on social security networks shows that relatively better off families may take care of surplus children in poorer families [Scott 1976]. Respondents send their children to villages to be taken care of by their relatives who earn a more stable income.
 - (b) The main source of education in low-fluctuating income slums is NGOs. They provide non-formal education for two years and try to get their students admitted to government-sponsored or KMC schools. However, the rate of admission to the formal education system is quite low – especially in relation to their output. The students who fail to get admitted to the formal education system are retained within the formal education system by the organisations. Parents, however, may choose to send them to rural areas where it may be easier to avail of formal educational facilities.
 - (c) Costs of formal education are lower in rural areas. Several cases of such 'dropouts' where a parent was unable to continue the education of their children and withdraws them from the urban schooling system – only to re-admit them in rural schools – were reported by the jhupri-dwellers. Interestingly, such children were classified as dropouts by parents.
- (2) Women in such slums tend to leave early for work; however, they also return home early – generally within 1 or 2 pm. This allows them to supervise study at home [Banerjee 1997]. In support of this proposition, it found that in 60.22 per cent of the surveyed families the mother was the sole supervisor of the education of the children.¹⁰ While Banerjee's point is not invalid that some qualifications are perhaps necessary.
 - (a) All the houses are one-roomed jhupris. As a result the activities of the parents may prevent serious study. Alcoholism, drug-addiction and related disturbances may pose constraints. Even harmless activities like listening to the radio may affect concentration as it takes place within the same room.
 - (b) Children are imparted religious instructions in the late evening. This implies that the only period in which the child can be monitored is not utilised on preparing for the formal or non-formal education system.
 - (c) Many children have to supplement family income at home. This reduces time for studies.
 - (d) Girls have to take additional household responsibilities during the pregnancy of their mothers, leading to their dropouts. This

Table 3: Composition of Monthly Expenditure on Education

Monthly School Fees	NSS (1998)		Survey Findings	
	India (Rupees)	West Bengal (Rupees)	Absolute (Rupees)	Relative (Per Cent)
Tuition fees	76.25	70.92	84.05	35.17
Books and stationery	20.58	41.42	45.40	19.00
Private tuition	48.42	115.58	66.45	27.81
Uniform costs	25.75	21.50	33.18	13.88
Misc expenses	7.83	7.42	–	–
Daily transport costs	68.42	53.92	9.89	4.14
Total money costs	247.25	310.75	238.98	100.00

is a serious problem in slums where fecundity is high, so that conceptions are frequent and there are siblings too young to be left alone.

(e) During the survey, even in the evening, about 25 per cent of the houses were found to be locked up, as both parents were absent. In these families even the mother works for long hours.¹¹ A study of the educational performance of children of such households is interesting and likely to reveal a trend different from what was observed for the rest of the slum. However, practical problems prevented us from interviewing these parents in the late evening.

(3) Movement from one slum to another is constrained by the availability of contacts and space in slums. As a result there does not appear to be changes in the population of slums except for in-migration from rural areas. This explanation is thus not valid in the slum studied.

(4) The extent to which child labour is a constraint is examined later on in details.

It was found that NGOs were running three schools in the area. These programmes relied on providing highly subsidised non-formal education and incentives like free medical check ups, medicine (in case of illness) and nutritious food to attract children.¹² However, these schools did not provide any alternative source of income to compensate for any loss in income from child labour. The success of these schools, in spite of this, challenges the proposition that the practice of child labour constrains the spread of education amongst low-income slums.

Identity of Decision-Maker

The nature of education-related decisions, specially the reported absence of gender bias, depends on the identity of the decision-maker. Research on decision-making in Muslim families indicate that, despite the dominance of Muslim males, the domestic domain belongs to the female, and the tasks she performs there are by right exclusive to her [Utas 1983]. Within this limited sphere she is accorded respect and enjoys considerable power, stemming from the valuation placed on the role of mother and wife in Muslim communities. In controlling this domain, the Muslim woman also controls its inhabitants – including men. This control is manifested in her relation with her children and her husband. This survey found that in 60 per cent of the families, the mother took decisions, while in 8 per cent families both parents played a role. This occurred despite the fact that the mothers was at most barely literate or had completed primary education.¹³

The reason lies in the basic rhythm of the life of Muslims. The mother is the organic centre of household activities. She is the parent who is mostly present at home and able to observe the children. Interestingly, it was observed that the enrolment rates of children are slightly higher in families where the mother has the dominant role (0.88 compared to 0.80). This difference, however, is not statistically different.

V Expenditure on Education

The family income allocated on education by the slum dwellers is quite high – Rs 412.69 per month. This constitutes 12 per cent of income. Further, both the absolute level of expenditure on education and its proportion to income tends to vary with income – it is highest for Slum 1 and lowest for Slum 5.

It can be seen that the main item of expenditure is tuition fees. This indicates that slum dwellers are either not accessing or being able to access subsidised education. Expenditure on private coaching of children is also high – indicating the interest of children in educating their children. Purchase of books and stationary also forms an important component of the education budget.

The survey results has been contrasted with all-India/West Bengal figures. Tuition fees, expenditure on books and stationary, and uniform costs are higher in the survey; this may be caused by inflation. Expenditure on private tuition is lower than figures for West Bengal, though higher than all-India levels.

The most important difference that emerges from this comparison is the low transport costs. The reason is that parents in all slums choose schools on the basis of their proximity to their homes, so that children generally walk to their schools. Students of class 3 to 5 can walk to school alone, or in groups – taking their younger siblings with them. However, younger children (particularly those studying in class 2 or below, and those with siblings studying in other schools) have to be taken to or brought back from their schools by their parents. This creates a time cost in the form of a sacrifice of leisure or work hours. It has been seen that while children may be taken to school by both parents, it is generally the mother who brings them back. The time spent on this activity has also been estimated. Averaged over the 33 households who incur this cost, the time spent on taking the child to school and bringing him/her back turns out to be 45 minutes per day.¹⁵ This cost has led to an interesting practice. Some relatively well-off families hire a person (generally a female of the locality) to fetch their children. Such persons may earn as much as Rs 200 per month for this job.

Slumwise Variations in Expenditure

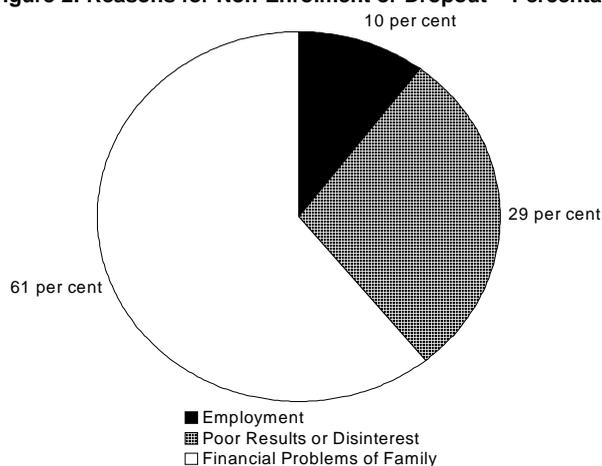
Differences in demographic and economic characteristics of the slums may generate differences in the expenditure pattern. It can be seen that income levels and expenditure on education are positively correlated.

Expenditure on education is highest for the high-income slum (Slum 1). This is because parents focus on the quality of education being provided by schools in this slum. The Veblen effect operates – leading to a preference towards private English-medium schools. This leads to high levels of expenditure on school fees, as well as on associated items like uniform, and books and stationery. During surveys in other slums, guides reported similar pockets. For instance, in the Topsia area, a small enclave of relatively high-income slum dwellers with the same cultural characteristics of Slum 1, educate their children in the nearby Goh Cheong Ling School.

Table 4: Composition of Monthly Expenditure on Education Per Capita – by Slums
(Rs)

Item	Slum 1	Slum 2	Slum 3	Slum 4	Slum 5
School fees	235.17	19.35	124.33	43.85	1.58
Books, etc	101.65	48.21	40.36	30.40	8.58
Private tuition	115.67	83.22	88.93	51.46	6.92
Transport	-	-	42.86	13.33	-
Uniform	81.40	25.96	33.90	24.33	0.49
Total	533.88	176.74	330.27	163.37	17.58
No of children	1.65	2.71	1.50	3.19	2.96
Education budget	710.75	395.73	407.64	317.12	33.79

Figure 2: Reasons for Non-Enrolment or Dropout – Percentage



In medium-income slums, parents are interested in minimising costs. This leads them to prefer government-aided schools. There does not appear to be any bias towards Urdu-medium education; mainly Bengali medium schools are chosen. Consequently, expenditure on school fees, uniform and books and stationery is low in these slums. Slum 3 is an exception. High- and middle-class households surround this slum; several middle-income households live within the slums. This has possibly created a demonstration effect, leading to a demand pattern inconsistent with their income levels.

The economic features and hence pattern of demand for education is totally different in the jhupris of Slum 5. Here, parents are unable to afford the expenses of formal education system; they are forced to seek subsidised sources of education – in the NGO run schools in the vicinity. Consequently, the proportion of income spent on education is very low.

VI Opportunity Costs of Education

Another important component of costs of education is the opportunity cost of education. This consists of earnings from sending the child to work and using the child to perform household work.

Literature on Child Labour

The ILO data from 1998 estimates that there are 0.25 billion child workers aged between 5-14 years, of whom half are full time workers. South Asia contains the largest number of such children (54 million). This is commonly explained in terms of poverty and the limited options open to children belonging to families at the edge of survival. A study of child workers in the match and fireworks industries in south India noted that in the absence of child labour, more than 50 per cent of the households surveyed would lose a substantial portion of their income.¹⁶ Researchers have pointed out the crucial importance of children's income in tiding over seasonal crises in families not engaged in secure or regular jobs.¹⁷ It is also argued that children are sent to work at an early age to develop skills,¹⁸ or cultivate networks with future employers. In areas where there is a high incidence of adult unemployment, child labour may be a substitute for adult labour.¹⁹ On the other hand child labour may be used in family enterprises releasing adult labour to seek work in the labour

market. Weiner (1991) argues that a large proportion of such children join the work force at an early age, thereby, losing any chance of receiving education.²⁰

On the other hand there is an alternative school of thought that downplays the contribution of children to household income [Swaminathan 1998]. Economic activities of children are viewed as 'default activities' [Bhatty 1998] arising from inadequacy or non-availability of schools, leaving children little options but to help at home or work. This enables NGOs to send children to schools without providing any substitute economic incentive [Sinha 2000]. This is supported by NSS data [NSS 1997]. Analysing the reasons for non-attendance and dropouts NSS found that 21-30 per cent of the children was not interested in education, and 15-20 per cent could not afford to bear the costs. Only 6-10 per cent of the children were working or engaged in household chores (3-4 per cent girls and 1-2 per cent boys) [NSS 1997:19].

Some writers have also challenged the view that the household faces a polarised choice between sending the child to school or to work. In some cases, there may be an intersection between the two activities. Children may work in order to free resources for investment in their education.²¹ The combination of schooling and working may also be viewed as a strategic choice to balance the benefits of a minimum education with the benefits of learning skills or cultivating contacts in the job market.

Incidence of Dropouts and Opportunity Cost

In this survey dropouts and non-enrolment were estimated together. Out of 249 children, 69 are not currently enrolled; of these 41 are boys and 28 girls. Most of these are in Slum 4. The slumwise variations in dropouts are given in Table 5.

No distinction was made between 'never enrolled children' and 'dropouts' in this study. However, most of these children had been enrolled at some point of time. Most of the dropouts are due to the inability of parents in raising the necessary funds to educate their children. There are three NGOs working in Slum 5 providing free education to slum children. But parents do not seem to be aware of this: they are ignorant of the admission criterion and procedure. Poor results and disinterest of the student in studies was another reason. Only seven children left school because they had found work.

The child withdrawn from school is not immediately sent to the labour market. In most cases of disinterested children, the child was withdrawn within a few months of schooling. In other cases, the difficulty of finding work kept the child at home. In

Table 5: Enrolment Ratios and Average Number of Dropouts by Slums

Item	Slum1	Slum2	Slum3	Slum4	Slum5	All
Enrolment Ratio	0.98	0.84	0.90	0.75	0.67	0.82
Average Dropout per HH	0.05	0.59	0.20	1.08	1.13	0.68

Table 6: Number of Child Labourers and Income in each Slum

Slums	Income from Child Labour (Rs)	Per Cent of Income from Child Labour	Number of Dropouts	Dropouts as Per Cent of Children
Slum 1	-	-	1	3.03
Slum 2	1000	46.49	10	21.74
Slum 3	1500	73.53	3	12.50
Slum 4	990.91	47.22	28	33.73
Slum 5	614.29	31.15	27	38.03
All	890.48	44.05	69	26.85

most cases, therefore, there appears to be a time lag of as much as 2-3 years before the child gets work. In some households it was found that the child was being trained without any daily wages. This evidence supports the assertion that child labour is often a 'default activity', and not due to high opportunity cost.

Children were employed in the factories or in motor repairing shops. In several cases, particularly in the Dhapapara area, the child may be employed in cutting rubber straps at home. This work fetches a wage of 50 paisa per two dozen for the plastic straps, and 78 paisa per two dozen for the better quality straps. In Gorachand Road, on the other hand, boys work in the household shoe units, and girls remain at home doing needlework on 'jari' sarees. Such income fetched Rs 890.48 per month, about 43.04 per cent of monthly income.

The income earned by child workers – in absolute terms and as percentage of income – is higher in the medium income slums which have greater access to more organised informal units. However, the incidence of dropouts is lower in these slums. The reason is that work like cutting rubber straps can be undertaken at home after school hours. This enables children to combine schooling with income earning activities. This enables the family to raise the necessary finances to educate their children. In three households (in Slum 4) it was found that while economic circumstances forced the child to join factories where working hours are rigid, the children tried to obtain education through private lessons from neighbours.

Household Duties of Children

Another possible reason for the high opportunity cost of education is that children may have to perform household duties. Among such chores are supervising siblings (especially during child-bearing by their mother), helping in cooking, washing clothes and utensils, marketing, etc. In the absence of extended families, it may be not be possible for the mother to perform all these tasks herself – especially if she has to work. In such cases children have to supplement the labour provided by their mother in these tasks. This may prevent them from joining school or attending school on a regular basis.

Field studies have questioned these propositions. Firstly, at the primary stage, children are often too young to assume responsibilities of others – at most they assist adult members in various chores. Secondly, household chores do not always conflict with school hours but can be performed after school is over. As a result, children do help adult members in household tasks, but do not spend much time in such activities.²² Bhaty (1998) cites a study estimating that 20 per cent of the boys and 26 per cent of the girls did not go to school or do any work; 60 per cent of the boys and 43 per cent of the girls did not perform any household chores.²³ However, there appears to be a gender bias in this regard. As part of her training to become the caregiver, girls frequently have to undertake more chores and work for longer hours.²⁴

This study did not find any major conflict between schooling and household chores. In one case in Dhapapara slum, the chronic sickness of the mother led to the withdrawal of a girl to assume household responsibilities. In several cases adolescent girls were found to have been withdrawn from school to help her mother in household tasks. In these cases, the parents were planning her marriage and this move can be interpreted as training her for her new role in her matrimonial home. It also enabled the family to divert the funds released from her schooling to other children.

During surveys, most of the children were observed to be engaged in leisure activities – playing or reading or gossiping. Boys performed light tasks like buying groceries that took them outside their homes; girls assumed more responsibilities, all of which was centred round their house. They helped in cooking, washing clothes, and looking after babies. However, such tasks were generally not routinely performed, but were undertaken on holidays or after school hours and did not consume much time.

VII An Econometric Analysis

Finally, an econometric analysis of the demand for education has been attempted. The total expenditure on education (ECOST), expenditure per child (PCEC) and the enrolment ratio (ERATIO) has been successively regressed on the following independent variables using the ordinary least square (OLS) method:

- (a) *Slums*: We have seen that education-related decisions vary across slums, though the difference between Slums 2, 3 and 4 are not marked. In the regression models dummy variables have been used for Slums 1, 2, 4 and 5 – enabling us to test whether behaviour in each of these slums is significantly different from that in Slum 3.
- (b) *Income*: We would expect demand for education to increase with income. We have used either family income (INCOME), or per capita (PCY).
- (c) *Opportunity cost*: The opportunity cost (OCOST) of education also affects demand for education. The higher the opportunity cost of labour, the lower will be demand for education.
- (d) *Number of school-going children*: The greater the number of school-going children (SGC) the higher would be the budget on education. On the other hand, the per capita expenditure on education can be expected to fall with a higher number of school-going children. This variable is dropped in the equation for ERATIO.
- (e) *Gender bias*: Empirical studies have stressed on the presence of a gender bias in education-related decisions. Girls are generally not enrolled; expenditure on girls are lower than for boys. So it would expect that demand for education would fall, the higher is the ratio of girls to total children (SRATIO). The effect of this variable can be expected to be significant for per capita education cost (PEC) and the enrolment ratio (ERATIO).

Results of OLS Regression

The results of the three regressions are given below. The figures in parentheses are t-ratios.

$$\begin{aligned}
 \text{ECOST} &= 255.92 + 293.57 \text{ SLUM1} - 23.72 \text{ SLUM2} - 13.44 \text{ SLUM4} \\
 &\quad (3.022) \quad (3.395) \quad (-0.767) \quad (-0.160) \\
 &\quad - 313.83 \text{ SLUM5} \\
 &\quad (-3.377) \\
 &\quad + 0.15 \text{ PCY} - 0.160 \text{ OCOST} - 51.32 \text{ SRATIO} + 42.94 \text{ SGC} \\
 &\quad (2.395) \quad (-2.779) \quad (-0.824) \quad (1.991)
 \end{aligned}$$

$$R^2 = 0.530 \quad \text{adj } R^2 = 0.490 \quad F = 13.13 \quad n = 102 \quad \text{df} = 93$$

Table 7: Values of Test Statistics for Langrange Multiplier and Hausman

Model	LM Statistic	Probability	Hausman Statistic	Probability
ECOST	130.70	0.000000	1.19	0.879891
PCEC	19.88	0.000008	2.08	0.720347
ERATIO	12.18	.000483	3.16	0.366993

$$\begin{aligned}
PCEC = & 150.98 + 178.04 SLUM1 - 97.25 SLUM2 - 71.00SLUM4 \\
& (2.193) (3.051) \quad (-1.641) \quad (-1.270) \\
& - 155.45 SLUM5 \\
& (-2.606) \\
& + 0.076 INCOME - 0.11 OCOST - 31.05 SRATIO - 44.93 SGC \\
& (4.545) \quad (-2.938) \quad (-0.746) \quad (-3.091) \\
R^2 = & 0.63 \quad \text{adj } R^2 = 0.60 \quad F = 19.78 \quad n = 102 \quad df = 93
\end{aligned}$$

$$\begin{aligned}
ERATIO = & 0.93 + 0.02SLUM1 - 0.07SLUM2 - 0.03SLUM4 - 0.23SLUM5 \\
& (9.48) (0.253) \quad (-0.844) \quad (-0.359) \quad (-2.665) \\
& - 0.000006 INCOME - 0.00004 OCOST + 0.09 SRATIO \\
& (-0.269) \quad (7.558) \quad (1.513) \\
R^2 = & 0.48 \quad \text{adj } R^2 = 0.44 \quad F = 12.49 \quad n = 102 \quad df = 93
\end{aligned}$$

These results indicate that there are significant differences between Slums 1, 3 and 5. Slums 2, 3 and 4 are, however, similar, and the coefficients of SLUM2 and SLUM4 are not significantly different from 0. Note that the t-ratio of SLUM1 is statistically insignificant for ERATIO. This means that families try to enrol their children irrespective of their background. In this context, it should also be noted that it is only for ERATIO that Income is statistically insignificant – in all other cases, it is positively related to education demand. Similarly, opportunity cost exercises a significant influence on education demand. As expected, the sign is negative. However, this has to be interpreted cautiously in view of our interpretation of child labour as a default activity. The regression model does not identify the direction of causality between OCOST and education decisions – only the presence of a statistically significant relationship between them. The ratio of girls to total children, however, is not significant in any of the three cases. This can be interpreted as an absence of any gender bias in education-related decisions. The coefficient of the number of school-going children (SGC) also has the anticipated sign.

Fixed Effect vs Random Effect Model

The discussion on education decisions indicates that there are significant inter-slum differences. In the previous sub-section, these differences are conceptualised as follows:

$$y_{ij} = \alpha_i + \beta_j X + \epsilon_{ij}$$

when i denotes the slums and j the observations for each slum. The regressors in X are OCOST, Income (PCY), SGC and ERATIO, while the intercept is not included in the matrix X . The individual affect is α_i , which is assumed to be constant across individual observations and specific to each slum. Recent research on panel data shows that this model can be generalised using two basic frameworks. The fixed effects approach assumes α_i to be a group-specific constant term in the regression model. This model is appropriate if the differences between slums can be viewed as parametric shifts of the regression function. The random effects approach, on the other hand, assumes that α_i is a group specific disturbance term, similar to ϵ_{ij} , except that for each group, there is only one draw that enters the regression identically for each slum. The above model would then have to be reformulated as:

$$y_{ij} = \alpha_i + \beta_j X + u_i + \epsilon_{ij}$$

The component u_i characterises the slum i and is constant for all households j in the slum.

To test which model is applied we have to first consider the validity of the constant term model using the Langrange Multiplier test; if this model is rejected, then the Hausman Test is used to test the appropriateness of the fixed effects and random effects models. The results of these tests have been reported in the appendix. We briefly sum up the implications of the results obtained in this section.

For all three dependent variables – ECOST, PCEC and ERATIO – the Langrange Multiplier test statistic is very high indicating that the slum effects are statistically significant. Hence the constant term classical regression model is inappropriate. The Hausman test statistic indicates that the random effects model is appropriate. This implies that the hypothesis that slum effects are uncorrelated with the other regressors in the model cannot be rejected.

ANNEX

Model 1: ECOST as Dependent Variable

Estimates:	Var[e]	=	.599120D+05		
	Var[u]	=	.152320D+06		
	Corr[v(i,t),v(i,s)]	=	.717705		
Reestimated using GLS coefficients:					
Estimates:	Var[e]	=	.599135D+05		
	Var[u]	=	.181702D+06		
	Sum of Squares	=	.961601D+07		
	R-squared	=	.189593D+00		
Variable	Coefficient	Standard Error	b/St Er	P[Z >z]	Mean of X
PCY	.1567260678	.64258383E-01	2.439	.0147	528.75637
OCOST	-.1563243774	.55892388E-01	-2.797	.0052	183.33333
SGC	42.73898918	21.548302	1.983	.0473	1.8431373
SRATIO	-50.95435639	62.219539	-0.819	.4128	.43000000
Constant	243.1422531	187.39823	1.297	.1945	

Model 2: PCEC as Dependent Variable

Estimates:	Var[e]	=	.266113D+05		
	Var[u]	=	.298121D+05		
	Corr[v(i,t),v(i,s)]	=	.528364		
Reestimated using GLS coefficients:					
Estimates:	Var[e]	=	.266230D+05		
	Var[u]	=	.623937D+05		
	Sum of Squares	=	.379897D+07		
	R-squared	=	.431702D+00		
Variable	Coefficient	Standard Error	b/St Er	P[Z >z]	Mean of X
INCOME	.7957861273E-01	.16645178E-01	4.781	.0000	2865.9412
OCOST	-.1105170259	.36962792E-01	-2.990	.0028	183.33333
SGC	-46.28656952	14.494894	-3.193	.0014	1.8431373
SRATIO	-29.64022729	41.544414	-0.713	.4756	.43000000
Constant	114.5030350	96.169379	1.191	.2338	

Model 3: ERATIO as Dependent Variable

Estimates:	Var[e]	=	.539700D-01		
	Var[u]	=	.786502D-02		
	Corr[v(i,t),v(i,s)]	=	.127194		
Reestimated using GLS coefficients:					
Estimates:	Var[e]	=	.540122D-01		
	Var[u]	=	.395001D-01		
	Sum of Squares	=	.600700D+01		
	R-squared	=	.403176D+00		
Variable	Coefficient	Standard Error	b/St Er	P[Z >z]	Mean of X
PCY	-.8417221825E-04	.59431645E-04	-1.416	.1567	528.75637
OCOST	-.4072967673E-03	.51314607E-04	-7.937	.0000	183.33333
SRATIO	.8349352793E-01	.58282917E-01	1.433	.1520	.43000000
Constant	.9041377646	.63301210E-01	14.283	.0000	

The economic interpretation of these tests is that there are significant inter-slum variations in education related behaviour. However, these differences are random in nature and not related to the independent variables like opportunity costs of education, income, etc. This implies the possibility that socio-cultural differences across slums may have been important forces creating differences in education related behaviour and underlines the need to expand the survey to other slums and identify the precise socio-cultural factors that are relevant in explaining the behaviour of households in each slum.

Conclusions

The starting point of this paper was the proposition – commonly put forward by researchers and supported by case studies – that literacy level of Muslims, particularly in low-income households, are low. This phenomenon is explained in terms of the values prevalent within the Muslim community. As a result dropouts and non-enrolment is high in Muslim households, there is an in-built resistance to educating daughters and the madrasa is the common vehicle of education. This survey, despite its tentative nature, questions the validity of these propositions.

The view that Muslims reject the value of education is not supported in the survey findings – respondents argued that education was important for both boys and girls. Thus, the value theory cannot be accepted as an explanation of the low levels of education. The motivations underlying choice of education provide an indication of the valid explanation. Studies of factors motivating education demand in rural and urban India emphasise on the economic returns from education. In this study, economic motivations do not appear to be significant, implying that the perceived returns from education are different between Muslims and non-Muslims. This can be expected to create a different pattern of education demand within the Muslim community.

This study indicates that parents believe that ‘education’ is important as it helps an individual in his daily life. It is needed by male members to undertake various transactions and enter into different contracts. Knowledge of writing, reading and simple arithmetic skills is necessary to undertake such activities without depending on others. This creates a demand for literacy that can be satisfied by primary education. Education, however, is a broader process and includes higher levels of learning. It is necessary for the efficient performance of activities that are normally not undertaken by slum dwellers. Since Muslims perceive a bias against themselves in the labour market, boys become disinterested in further education. Their greater mobility is important in this context. The absence of restrictions on their movement means that they have more alternatives to remaining at school – watching movies, playing football, roaming about in the city. They also seek work in the informal job market. Note again that they are not leaving school because they have found work – rather, they seek work because they have left their school. In such cases, the replacement of formal education at the secondary level by vocational training courses may be a relevant option before policy-makers. Such courses will prepare the Muslim boys to be self-employed and may counter-act the economic disincentives to seeking education.

In the case of girls, there is a different process at work. The role played by the mother in supervising education of children has been emphasised in this study. A more educated woman is more likely to perform this task efficiently. Simultaneously, in

cases of desertion, education helps the mother to support her family. This leads parents to educate girls. After adolescence is reached, restrictions are imposed on movements of the girl. Ironically, this restriction may exercise a positive effect on her education. Unlike her more mobile brother, the girl is restricted to her immediate neighbourhood and to her nearby school. This increases her focus and may lead to higher levels of attainment for girls.²⁵ At the same time, there is a conflict between providing education and preparing the girl for her future domestic role. However, this conflict manifests itself not at the primary stage – but in the secondary stage. Eventually, it leads to the withdrawal of the girl from schooling. In most cases, she is married off at the age of 16 years;²⁶ in others, she assumes greater responsibility at home to prepare for her future role. It is difficult to suggest any suitable policy intervention to address this problem. Obviously, any intervention must be at the social level – directed towards increasing the age of marriage through legislation²⁷ and through social movements, and in drawing Muslim women away from the household domain into the external world.

Discussions with respondents and guides revealed there is another factor at work, operating for both sexes that reduces the survival rate at the secondary level. Given the low income of slum dwellers, the funds allotted to education are scarce. Although, this budget increases with the number of school-going children, the per capita expenditure falls (see first two regression results).²⁸ This implies that children compete between themselves for scarce funds. Given the pessimistic attitude towards the relationship between education and employment, it is only natural for Muslim parents to divert these funds from a child who has already achieved the minimum education considered necessary and reallocate it towards a younger child who has just started schooling. ■■■

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Notes

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- 1 S Keller and M Zavalloni (1962), ‘Classe sociale, ambition et réussite’, *Sociologie du Travail*, 4, pp 1-14.
- 2 Ibid (1964), ‘Ambition and Social Class: A Respecefication’, *Social Forces*, 43, pp 38-70. Cited, Boudon (1978).
- 3 One respondent worked for the Calcutta Tramways; several other inhabitants were engaged in private offices or in schools.
- 4 Unfortunately, children of our respondents do not perform as well in the educational arena as British working class children. This is because of high costs of education, absence of infrastructural support and pessimism regarding possible job openings.
- 5 *The Times of India*, August 15, 1997 and *The Indian Express*, August 15, 1997, respectively. Cited in PROBE TEAM (1999), p 14.
- 6 Only 5.88 per cent felt that daughters should not be educated.
- 7 So long as lack of education of the groom is compensated by other characteristics like high income, secure job, etc.
- 7 The enrolment rate is defined as:
$$\frac{\text{Number of school-going children}}{\text{Total number of children in family}} * 100$$
- 8 While these explanations are from Banerjee (1997) teachers in the survey areas expressed the same opinion.

- 9 Before the NGO schools started operation in the Topsis area, most of the children use to work as child labourers in the nearby leather and shoe factories. They worked for as long as 10-12 hours every day packing and carrying materials, etc, for daily wages of Rs 20-25. Secondly, most of the mothers also worked – either to supplement family income, or, in the case of desertion by her husband, as the main bread earner. In such cases, girls had to perform many household tasks, like cooking, washing, looking after siblings, etc.
- 10 Both parents played a role in 8.60 per cent of the families – that is, in 68.82 families the mother had a role in education of the children. This is in contrast to 26.88 per cent families, where only the father took educational decisions.
- 11 The mother may be working in a distant place or in a job with long and fixed hours. In many cases, desertion by her husband may mean that she has to take the responsibilities of her husband. In such cases also her working hours will coincide with that of a male worker.
- 12 During our visits to one of these schools, the supply of water through a water filter also seemed to be a source of attraction to the children!
- 13 An interesting trend was observed when information was sought on the literacy levels of parents. Almost all parents could read Urdu/Arabic as a result of having been imparted religious instructions in their childhood. The normal progression is the *Kaida*, *Amsi-para* and, finally, the *Koran* and *Hadiith*. However, all parents claimed that they were illiterates! It was only when they were reassured of the religious identity of the researcher by the guide that they reported the above. This raises the interesting possibility that NSS or census estimates of literacy amongst Muslims may be underreported. This study also indicates that it may be the nature of literacy is changing over time (with the present generation being educated in both Arabic, and Bengali, Urdu and English, compared to their parents who were literate in only Arabic), rather than an increase in the literacy rates per se. Alternately, we can argue that functional literacy is increasing amongst Muslims, as Arabic is not a functional language. However, these are tentative hypotheses as they cannot be tested in the absence of NSS data on literacy amongst Muslims. NSS data does exist, but the figures are for Muslims across all income groups –not for Muslim slum dwellers exclusively.
- 14 We have tested for difference using the Mann-Whitney U test and Kolmogorov-Smirnov Z tests.
- 15 Assuming that a slum dweller works as a daily maidservant (thike) for Rs 300 per month, the monetary equivalent of this time cost is about Rs 100 per month.
- 16 M Gupta and K Voll (1999), 'Child Labour in India: An Exemplary Case Study' in K Voll (ed), *Against Child Labour: Indian and International Dimensions and Strategies*, Mosaic Books and Third Millennium Transparency, New Delhi, cited in Subrahmaniam (2002).
- 17 U Grote, A Basu and D Weinholt (1998), 'Child Labour and the International Policy Debate: The Education/Child Labour Trade-Off and the Consequences of Trade Sanctions', ZEF Discussion Papers on Development Policy, Bonn, cited in Subrahmaniam (2002).
- 18 Ibid.
- 19 M Gupta and K Voll (1999), 'Child Labour in India: An Exemplary Case Study' in K Voll (ed), *Against Child Labour: Indian and International Dimensions and Strategies*, Mosaic Books and Third Millennium Transparency, New Delhi, cited in Subrahmaniam (2002).
- 20 Mehrotra (1995), on the other hand, argues that dropouts occur at an early stage before the children are capable of joining the workforce, cited in Bhaty (1998).
N Mehrotra (1995), *Why Poor Children Do Not Attend Schools*, Department of Education, University of Chicago, cited in Bhaty (1998).
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- 22 S Jeebhoy and S Kulkarni (1998), 'Demand for Children and Reproductive Motivation: Empirical observations from Rural Maharashtra' in S N Singh et al (eds), *Population Transition in India*, BR Publishers, New Delhi, cited in Bhaty (1998).
- 23 B M Dinesh (1988), 'Economic Activities of Children: Dimensions, Causes and Consequences', Dayal Publishers, New Delhi.
- 24 Bhaty (1998) cites an unspecified study by Bashir (1994) that found in urban Tamil Nadu that girls work three times more than boys in urban areas. On an average, children spent 1-2 hours in household work.
- 25 Our focus on primary education prevented us from studying this aspect. In a few cases we did find higher levels of attainment by girls, particularly in Slum 1. However, our data is not systematic enough to arrive at any firm conclusion.
- 26 Early marriage has been identified by many researchers as the most important constraint to female education [Karlekar 2000; Sudarshan 2000].
- 27 The current minimum age of marriage of Muslim girls is 14 years.
- 28 If we regress ECOST on SGC and SGC², we get the following results:

$$ECOST = 139.42 + 195.69 SGC - 32.58 SGC^2$$

$$(1.675) \quad (2.790) \quad (-2.559)$$

$$R^2 = 0.05; \text{adj. } R^2 = 0.05; F = 3.89; \text{d.f.} = 99; n = 102.$$
 Figures in parentheses are t-ratios. The positive sign of SGC and the negative sign of SGC² imply that the curve is positively sloped, but concave from below – so that ECOST will increase with SGC, but at a diminishing rate.

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