Vidya, Veda, and *Varna*: The Influence of Religion and Caste on Education in Rural India*

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Abstract

This paper argues that *Vidya* (education), *Veda* (religion) and *Varna* (caste) are inter-linked in India. It examines whether, and to what extent, the enrolment of children at school in India is influenced by community norms such those of religion (Hindu or Muslim) or caste (Scheduled or non-Scheduled). The econometric estimates are based on unit record data from a survey of 33,000 rural households, in 1,765 villages, from 16 states of India. The equation for the likelihood of being enrolled at school is estimated separately for boys and for girls and, in each of the equations, all of the slope coefficients are allowed to differ according as to whether the children are Hindu, Muslim or Scheduled Caste. The main findings are that the size of the religion or caste effect depends on the non-community circumstances in which the children are placed. Under favourable circumstances (for example, when parents are literate), the size of the community effect is negligible. Under less favourable circumstances, the size of the community effect is considerable.

Keywords: Religion, Caste, School enrolment, India, Logit models

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1 Introduction

The 1990s were good years for education in India. According to the 2001 Census, the literacy rate for men, over the entire decade, increased by 11.8 percentage points (pp) and that for women by 15 pp with the consequence that in 2001, 65% of India's (over 7) population was now literate, with a literacy rate of 76% among men and 54% among women (Ramachandran and Saihjee, 2002). Notwithstanding these considerable achievements, however, India's record, relative to that of other countries in Asia, has been woefully inadequate. Its adult literacy rate of 65% in 2001 needs to be set against (for 1998): Thailand's 95%; Sri Lanka's 91%; Indonesia's 86%; and China's 83% (United Nations Development Programme, 2000).

Moreover, underlying India's relatively low literacy rate are marked disparities in the literacy rates of different subgroups within India. First, there is the considerable disparity between the literacy rates of men (76%) and of women (54%). Once again, low rates of female literacy in India compare unfavourably with corresponding rates in other countries (for 1998): 93% in Thailand; 88% in Sri Lanka; 81% in Indonesia; and 75% in China (United Nations Development Programme, 2000). Second, as the 2001 Census figures show, there continues to be a considerable disparity between literacy rates in different parts of India: male and female literacy rates of 94% and 88% in Kerala, and 91% and 86% in Mizoram, contrast sharply with male and female literacy rates of 60% and 34% in Bihar, 71% and 44% in Rajasthan, and 70% and 43% in Uttar Pradesh.

Lastly, there is considerable disparity in adult literacy rates between, on the one hand, Muslims, Scheduled Tribes (ST) and Scheduled Castes (SC) and, on the other, (non-SC/ST) Hindus: the literacy rate of Hindus was 65.3% while the literacy rate of Muslims was 47.9% (Moulasha and Rao, 1999). The 1998-99 National Family Health Survey (NFHS) data also showed that 27% of SC women, and 21% of ST women were illiterate and, even when they were literate, SC and ST women were also less likely than Hindu women to have

completed the various levels of schooling (IIPS and ORC Macro, 2000: 53-54).

Many of these issues relating to literacy are reflected in school participation, defined as the initial enrolment of a child at school. The net enrolment rate of children, aged 6-14, at school varies across the states of India ranging from 99% for boys and 98% for girls in Kerala, to 91% and 84% in Tamil Nadu, to 69% and 56% in Madhya Pradesh (Shariff and Sudarshan, 1996). Furthermore, the survey data used in this paper (described in Section 5 below) suggests that the (all-India) school enrolment rates, for boys and for girls, varies considerably between the Hindu, Muslim and the Scheduled Caste/ScheduledTribe (hereafter collectively referred to as *Dalits*) groups within the overall sample: the enrolment rates for Hindu boys and girls were, respectively, 84% and 68% while for Muslim boys and girls they were 68% and 57% and for Dalit boys and girls they were 70% and 55% (Table 1).

In 1950, Article 45 of the Indian Constitution intended that there should be, within 10 years from the commencement of the Constitution, free and compulsory education for all children until the age of 14. Shahabuddin, (2001) has argued that 'whatever the flaws and limitations, universalisation of education should be welcomed by the educationally backward communities, particularly the Muslims and the Dalits'. Over fifty years later, in 2001, the Government of India introduced the 93rd amendment to make free and compulsory elementary education for children of age 6-14, a fundamental right. However, it would appear, from the above discussion that the take-up of school education has been different for Hindus, Muslims and Dalits[1]. The aim of this paper is to understand why this is the case in India today.

[1] Although this paper treats Hindus, Muslims and Dalits as homogenous entities, there may, in fact, be considerable diversity within these groups. For example: Muslims in Kerala have a higher rate of literacy than Muslims in the North; the Ansari Muslims in Eastern Uttar Pradesh, the Bohra and Memon Muslims in Gujarat are much better off than other Muslim castes in these regions (Engineer, 2002). This is evident not only across different regions of India, but also *within* regions: for example, in one anthropological study of rural Karnataka, Muslims who lived in 'large villages', where they were the merchant class, had high rates of school attendance (in contrast to Dalits in large villages who had much lower rates of school attendance); where they resided in 'small hamlets', as agricultural labourers, the rate of school enrolment was much lower (Caldwell, Reddy and Caldwell, 1985).

While different aspects of the education of children in India have been extensively studied[2] - including the enrolment of children in school by *inter alia*: Duraisamy (1991), Duraisamy and Duraisamy (1992), Jeffery and Basu (1996), Jayachandran (1997), Sipahimalani (1999), Dreze and Kingdon (2001) - the analysis of inter-religion and inter-caste differences in determining differences between the school enrolment rates of children from different religious or caste backgrounds has not been fully examined. For example, in both Sipahimalani (1999) and Dreze and Kingdon (2001), the analysis of caste (Scheduled caste) or religion (Muslim) effects was conducted by simply including the appropriate dummy variables as explanatory variables in the regression equation.

It is this last observation - namely the paucity of analysis of the role of religion and caste in determining school enrolment - that is the main motive for this paper. The *raison d'etre* of this paper is to examine whether, and to what extent, the enrolment of children at school in India is influenced by the religious or caste norms (hereafter, simply referred to as 'cultural' norms) of the communities to which they belong. In so doing, the equation for the likelihood of being enrolled at school is estimated *separately* for boys and for girls and, in each of the equations, *all* the slope coefficients are allowed to differ according as to whether the children are Hindu, Muslim or Dalit. Thus the econometric estimates take cognisance of differences between the children both with respect to their gender and their religion or caste.

All this begs the question of why it is important to study the influence of cultural norms on school enrolment? Given that 'the child is the father of the man', the answer is that, with a high degree of probability, children who do (or do not) go to school will grow up to be literate (or illiterate) adults. In turn, the life chances of an adult, and his or her children, will be greatly affected by whether or not he or she is literate.

[2] See *inter alia*: Kingdon and Unni (2001); Jacoby and Skoufias (1997); and Foster and Rosenzweig (1996).

There is a body of evidence suggesting that the number of children born to a woman is inversely related to her level of education (Borooah, 2000; Parikh and Gupta, 2001; Borooah, 2002).

Furthermore, there is considerable evidence to suggest that children's health (including the likelihood of their surviving infancy and childhood), nutritional status and educational attainments are enhanced by having better educated parents, particularly the mother (Behrman and Wolfe, 1984; Thomas, Strauss and Henriques, 1991; Sandiford, Cassel, Montenegro and Sanchez, 1995; Lavy, Strauss, Thomas and de Vreyer, 1996; Ravallion and Wodon, 2000; Gibson, 2001). Evidence also suggests that a farm-household's total income depends upon the highest education level reached by a household member rather than by the mean educational level of the household or by the educational level of the household head (Foster and Rosensweig, 1996). Lastly, education raises the wages of both men and women (Kingdon and Unni, 2001).

Consequently, if one is concerned with inter-group differences in economic and social outcomes, one should, as a corollary, be concerned with inter-group differences in literacy rates. For example, the higher fertility rates of Muslim vis-à-vis Hindu women has sometimes been ascribed to the fact proportionately more Muslim women (and men) are illiterate than their Hindu counterparts (Jeffery and Jeffery, 1997, 2000; Iyer 2002). Similarly, the observation that Dalit households are considerably poorer than non-Dalit households is largely due to the fact that they are less likely to own land (Platteau, 1992); Deshpande, 2000), part of their relative poverty may be due to the fact that even when they do own assets their relative lack of education prevents them from obtaining the rate of return that non-Dalits manage to secure (Foster and Rosenzweig, 1996). Thus, it could be argued, that many of the inter-community inequalities that vitiate Indian society could be ameliorated by greater equality in the distribution of educational outcomes between communities.

The econometric estimates are based on unit record data from a survey of 33,000 *rural* households - encompassing 195,000 individuals - which were spread over 1,765 villages, in 195 districts, in 16 states of India. This survey - commissioned by the Indian Planning Commission and funded by a consortium of United Nations agencies - was carried out by the National Council of Applied Economic Research (NCAER) over January-June 1994 and most of the data from the survey pertains to the year prior to the survey, that is to 1993-94. Details of the survey - hereafter referred to as the NCAER Survey - are to be found in Shariff (1999), though some of the salient features of data from the NCAER Survey, insofar as they are relevant to this study, are described in this paper.

There are two issues embedded in this study. The first is that inter-community differences between communities, in the school enrolment rates of their children, could be due to the fact that the communities differ in terms of their endowment of 'enrolment-friendly' attributes. If, for example, household income was a significant determinant of enrolment rates, and if the average level of household income was different across the communities, then one would expect to see inter-community differences in enrolment rates, without any appeal to the role of cultural norms in influencing these rates. Call this the 'attribute effect'. On the other hand, inter-community differences in enrolment rates could exist, even in the absence of inter-community differences in attribute endowments, simply because different communities, by virtue of differences in their cultural norms, arrived at different translations of a given endowment into enrolment rates. Call this the 'cultural effect'. The overall enrolment rate is, of course, the outcome of both effects. The crucial task is then to estimate, after disentangling, the relative contributions of the attribute and the cultural effects on the enrolment rate.

The forgoing discussion raises the questions of what these cultural norms might be and how they might influence outcomes relating to school enrolment rates. These questions are answered in some detail in section 4 but, in essence, they relate to: (a) the importance placed on education by the different communities; (b) the importance placed on community-specific

education as opposed to general education; (c) the position of women in the different communities; (d) the psychological barriers faced by children from different communities in attending school.

2 Theoretical Issues

Dreze and Kingdon (2001) observed that the decision to enrol a child at school may be viewed as a cost-benefit decision in which the present value of the expected flow of benefits from education is compared to the costs that must be incurred in order to secure such benefits. The costs are the direct costs of schooling (expenditure on books, fees, uniforms and so forth), plus the indirect costs in terms of foregone earnings while the child is at school. The benefits are represented by the opportunities for higher earnings to which education gives rise. This model suggests that the likelihood of a child being enrolled at school increases with respect to factors which enhance the perceived benefits of education, or which lower the rate at which these future benefits are discounted, and is reduced for those factors which raise the direct and indirect costs of education. A formal model encapsulating these ideas is to be found in Dreze and Kingdon (1999).

Overlaying this framework is the hypothesis - which follows from Becker's (1981) observation that the *quantity* and *quality* of children are substitutes - that the number of children that parents have affects the cost-benefit calculation with respect to each child. If the utility to parents of having children depends both upon their number and upon the expenditure on each child then the marginal rate of substitution between quantity and quality is the number of children parents are prepared to give up in order to gain an additional unit of quality, utility remaining unchanged.

The structure of preferences with respect to children may change with economic and social development: literate parents may be more aware of the importance of the quality of children, and thus have a higher marginal rate of

substitution, than illiterate parents[3]. This, in turn, would lead them to have fewer children and to invest more in their children's future. Such investment could be in the health of children and take the form of a better diet, preventing illness through vaccination and immunisation, or seeking medical help promptly in the event of illness. In addition, parents - by enrolling their children in school and ensuring that, after enrolment, they continued to remain in school - could also invest in the education of their children (Montgomery *et.al*.,1999). The capacity of parental literacy to benefit the lives of children finds much support in an older anthropological literature that portrays the fundamental change that literacy creates in any society (Goody, 1968), and in particular, in a hierarchically-organised country such as India where education is viewed as a means of effecting 'Sanskritzation' and group mobility (Srinivas, 1966).

The likelihood of children being enrolled at school may also be influenced by cultural factors. This influence may be indirect: cultural factors, particularly religion, may shape attitudes towards family size and hence influence investment in children[4]. If the quantity and quality of children are indeed substitutes then one would expect that communities characterised by large families would have a lower proportion of children in school than communities in which family sizes were smaller (Patrinos and Pscharopoulous, 1997). These cultural effects would be compounded if groups with a preference for large families had ancillary disadvantages such as relatively low literacy rates and incomes. Additionally, as detailed below, cultural factors may exert a direct influence on a child's education chances by shaping the importance that parents attach to education.

Another dimension of cultural mores is the 'preference for sons' that many families in India (and, indeed, in East Asia) display. Cultural preferences towards the gender composition of the family carry implications for the size of

[3] For example, literate parents may be more knowledgeable than illiterate parents of the high returns associated with schooling.
[4] For example, the use of contraception methods, including the preference for certain types of contraceptive methods over others, may be heavily influenced by religious beliefs (Moulasha and Rao, 1999).

the investments undertaken in girls. If girls have only to be educated to a level that ensures their marriage - which is a few notches below the educational level of their prospective husbands - then there will be a gender-bias within the likelihood of school participation. Moreover, these costs could be quite different between girls and boys. The relative disadvantage of girls with respect to school participation may also be exacerbated by other factors. For example, in their study of educational quality in Kenya, Lloyd *et. al.* (1998) found that girls were more likely to drop out of school prematurely, and to perform less well at school, because of gender-bias within the family and unequal treatment in the school environment. In a similar study for Egypt, Lloyd *et. al.* (2001) argued that differences between boys and girls, in grade levels attained, were a reflection of social norms with respect to gender roles.

Impinging upon these preferences are a set of constraints. One set of constraints concerns the 'price' of investment in quality. If children have to travel long distances to school then the journey time – particularly when it is lengthened by an absence of good transport facilities – could add appreciably to the costs of schooling. On the other hand, villages which have 'mother and child' centres - providing pre-school education for children and raising awareness among mothers of infants and toddlers of the importance of investing in the health and education of their children - should harvest the benefit of such centres in the form of higher school enrolment.

Another set of constraints relates to the opportunity cost of children. If, say, because of the poverty of their families, children are viewed as an economic resource, supplementing the income of the family, then the opportunity cost of schooling investment will be high. For example, a critical assumption underpinning the Basu and Van (1998) model of child labour is that 'a family will send the child to the labour market if, and only if, the family's income from non-child-labour sources drops very low'. This assumption, which they term the 'luxury assumption', is supported by a number of pieces of empirical evidence – cited in their paper – but, for the purposes of this study, the most

pertinent fact is that the children of the non-poor rarely work, even in very poor countries.

Jensen and Nielsen (1997), in the context of Zambia, find support for the hypothesis that poverty forces households to keep their children away from school. In their study of rural Karnataka in India, Kanbargi and Kulkarni (1983) found that children spent four hours per day on household and directly productive work; furthermore, there was a gender division in the household with greater household work being performed by girls, and more directly productive work being done by boys. They also found that girls worked longer hours and were less likely to be sent to school. Evidence for the implicit trade-off between child schooling and child labour is also found in anthropological studies of rural south India (Srinivas, 1976; Caldwell *et.al*., 1985).

The preceding discussion has, from the perspective of the econometric model of this paper, a number of implications for the likelihood of school enrolment. First, one would expect a positive relationship between household income and the likelihood of children from a household to be enrolled at school and, after enrolment, to continue in school. Second, one would expect that the larger the number siblings to a child, the lower the likelihood of that child being enrolled at, or continuing in, school: a large number of siblings suggests that parents have made the 'quantity-quality decision' in favour of quantity. Third, education outcomes for girls - by virtue of the fact that their parents would reap lower returns on their education than on the education of their brothers – would not be as good as that for boys[5]. Fourth, in the cultural setting of rural India, where, broadly speaking, women are in paid work only if the needs of the family so demand, children whose mothers worked would *ceteris paribus* have a lower likelihood of being enrolled at school than children whose mothers were 'unoccupied'. Fifth, given that the degree of economic prosperity varied across the regions of India, it might be expected that children would be more likely to be seen as economic resources - serving to

[5] Girls, after marriage, leave home and, in a traditional Indian context, are 'lost' to their parents. Needless to say, culture would also play a role – perhaps a bigger role than economic calculation – in the educational deprivation of women.

boost current family income - in the poorer, as compared to the richer, regions of India; on this expectation, the poorer regions would have a lower likelihood of children being in school.

3 Econometric Issues

The likelihood of a child being enrolled in school was estimated using logit methods whereby:

$$\log\left(\frac{\Pr(ENR_i=1)}{1-\Pr(ENR_i=1)}\right)=a_0+\sum_{j=1}^{J}a_j x_{ij}=X_i \qquad (1)$$

where: ENR_i=1, if the child had been enrolled at school and x_{ij} (j=1..J) represent the values, for child i, of the determining variables of school enrolment.

The quantity $\frac{\Pr(ENR_i=1)}{1-\Pr(ENR_i=1)}=\exp(X_i)$ is the 'odds-ratio' being enrolled in school. The change in the odds-ratio, of the i^{th} child, of being enrolled at school, in the face of a unit change in x_{ij}, the value of the j^{th} determining variable, is $\exp(a_j)$, j=1…J: following a unit change in x_{ij}, $a_j>0$ implies that the odds-ratio, of the i^{th} child of being enrolled at school would increase while $a_j<0$ implies that it would decrease. The logit estimates of Table 3 are presented in terms of the estimates of $\exp(a_j)$.

The specification of the likelihood of the enrolment equation was guided by the discussion in the previous section and the components of the vector of determining variables are detailed in section 6. Here it is sufficient to note that the enrolment equation, as specified above, was extended to accommodate differences in behaviour between Hindu, Muslim and SCT children by defining the dummy variables:

- MS_i=1, if the child was Muslim; MS_i=0, otherwise
- SD_i=1, if the child was a Dalit; SD_i=0, otherwise

and, by corollary,

- $MS_i=SD_i=0$, if the child was Hindu

Equation (1) was then rewritten as:

$$\log\left(\frac{\Pr(ENR_i=1)}{1-\Pr(ENR_i=1)}\right)=a_0+a_0^M+a_0^S + \sum_{j=1}^{J}a_j x_{ij}+\sum_{j=1}^{J}a_j^M(MS_i*x_{ij})+\sum_{j=1}^{J}a_j^S(SD_i*x_{ij}) \quad (2)$$

where, in equation (2), the a_j are the 'Hindu coefficients' and the a_j^M and a_j^S are the *additions* to these coefficients from being, respectively, Muslim and SCT[6]. Given a change in the value of the j[th] determining variable, the change in the odds-ratio of enrolment $\frac{\Pr(ENR_i=1)}{1-\Pr(ENR_i=1)}$ would be different (the same) for Hindu and for Muslim women if $a_j^M \neq 0$ ($a_j^M=0$).

The explanatory power of the logit equations are shown in terms of the 'Pseudo-R^2'. The 'Pseudo-R^2' is a popular measure of the model's performance in binary models and compares the maximised log-likelihood value of the full model (log L) to that obtained when all the coefficients, except the intercept term, are set to zero (log L_0) and is defined as: 1-(log L/log L_0). The measure has an intuitive appeal in that it is bounded by 0 (all the slope coefficients are zero) and 1 (perfect fit). Unfortunately, there is no natural interpretation to the numbers between 0 and 1 (Greene, 2000).

Another way of assessing the predictive ability of a model with a binary dependent variable is by constructing a 2x2 table of the 'hits' and 'misses' emanating from a prediction rule such that a child is classified as being enrolled ($ENR_i=1$) if the *estimated*[7] probability of the child being enrolled at school > p*. Given a cut-off point, p*, the 'sensitivity' and the 'specificity' of an equation are, respectively, the proportions of positive and negative cases that are correctly classified.

[6] That is the Muslim and SCT coefficients are, respectively, $a_j+a_j^M$ and $a_j+a_j^S$.

[7] Estimated using equation (2) from the estimates of α_j

One can, further, plot the graph of sensitivity versus 1-specificity as the cut-off point p* is varied. The curve starts at (0,0) corresponding to p*=1: no positive case is correctly classified (sensitivity=0) and every case is classified negative (specificity =1 or 1-specificity=0); it ends at (1,1) corresponding to p*=0: every positive case is correctly classified (sensitivity=1) and no case is classified as negative (specificity =0 or 1-specificity=1). A model with no predictive power would be the 45^0 line connecting the two extreme points (0,0) and (1,1). The more bowed the curve, the greater the predictive power. Hence the area under the curve – known as the 'receiver operating characteristic' (ROC) curve - is a measure of the model's predictive power: a model with no predictive power has an area of 0.5, while perfect predictive power implies an area of 1 (StataCorp, 2001).

4. Religion and Caste as Influences on School Participation

The NCAER Survey provides information on the reasons that parents gave for not enrolling their children at school. These reasons, tabulated separately for Hindus, Muslims and Dalits in Table 0, suggest that 'supply-side' factors ('school too far' or 'school dysfunctional') did not play an important role in non-enrolment; nor did their incidence vary across the communities. The incidence of demand-side factors - whereby a child was engaged in non-school activity involving work either within or outside the home - was particularly marked for Dalit children: 34% of Dalit parents, compared with 29% of Hindu and 22% of Muslim parents, gave this as their reason for non-enrolment. A more significant difference between Hindus and Dalits on the one hand and Muslims on the other, was in terms of the percentage of children who were not enrolled at school because their parents did not think education was important. This was 16% for Hindus and 17% for Dalits, but much higher at 23% for Muslims.

In conjunction with these figures, Table 1 shows that the rate of school enrolment was considerable lower for Muslim, than for Hindu, children. Only 68% of Muslim, against 84% of Hindu, boys - and only 57% of Muslim, against 68% of Hindu, girls, were enrolled at school.

4.1 Muslim education in India

There are several explanations that might account for the lower enrolment figures for Muslims. These explanations need to located both within the historical context of educational policy in India towards minorities and norms within the Muslim community; collectively, these may explain the current status of Muslim education in India today.

In nineteenth-century India, Muslim women who could read and write were relatively rare (Minault, 1998). One reason for this were Muslim norms governing family prestige: for example, it was felt that if a woman could write she might engage in correspondence with men and this might lead to family dishonour. Minault (1998) argued that this, however, changed with the influence of Muslim religious reformers, who linked education with the appropriate practice of religion (Minault, 1998 p. 24). One of the early attempts to deal with education policy in India was the Indian Education Commission of 1882. Interestingly, its findings show that education for women was greater in south India, than in the north; and most particularly in Bengal compared with all of north India (Minault, 1998 p. 166). Over a century later, these findings are very similar to the situation in India today.[8]

It is conventionally argued that Islamic norms on the value of daughters and the status of women, imply that Muslim parents will invest less in the human capital of their daughters than of their sons. For example, Coulson and Hinchcliffe (1978) argue that in classical Islam, a son's word is worth twice that of a daughter. Similarly, Obermeyer (1992), Musallam (1983), Jeffery and Jeffery (1997) and others have argued that Islam discourages greater autonomy for women compared with men. It is also possible that Muslim parents are more reluctant to send daughters to school on account of *purdah* restrictions (Iyer 2002). For example in one survey, Muslim respondents in

[8] A Committee appointed by Sir Harcourt Butler in 1904 to improve women's education, even recommended that Hindu and Muslim women should be educated separately, and that this should also be the case for upper-caste and lower-caste women. For more on this, see Minault, 1998 pp. 167-69.

Karnataka reported an unwillingness to give daughters a higher education because girls may violate the practice of *purdah* (Azim 1997: 73).

This is also reflected in a second argument, made by Jeffery and Jeffery (1997), who suggest that while schooling is regarded both by Hindus and by Muslims as an instrument for securing a job[9], many Muslims regard their relative economic weakness as stemming from their being excluded from jobs due to discriminatory practices in hiring. The belief that their sons will not get jobs may then lead Muslim parents to devalue the importance of education. For example, the proportion of Muslims in government service in India is only about 2% today (Engineer 2002). In 1998, there were 620 candidates selected for the top civil service jobs in the country; only 13 of these were Muslims, of whom 6 came from one institution, the Aligarh Muslim University (as reported in *Islamic Voice*, 1998). Such developments, in turn, affects the education of Muslim girls since they only have to be educated to a level that ensures their marriage, a few notches below the educational level of their prospective husbands[10].

A third important reason that affects Muslim women's education is the role of religious institutions, in particular the local clergy. A study of Muslim women in Karnataka showed that many Muslim women were of the view that religious leaders exerted a negative effect on Muslim women's education: 41% of Muslim women respondents believed that Muslim religious leaders' attitudes were opposed to women's education (Azim 1997). This study provided evidence to the effect that the Muslim clergy preached that daughters should not be sent to school after puberty, and were primarily responsible for discouraging the Muslim community from enrolling their children in school (Azim 1997: p. 81-83).

[9] Jeffery and Jeffery *op. cit.* confined the scope of their observations to the Hindus (from the Jat community) and Muslims (from the Sheikh community) they studied in the Bijnor district.
[10] In states such as Maharashtra and Karnataka however, the enrolment of Muslims at both the primary and secondary stages is increasing (*Islamic Voic*e 2000). This is due to greater awareness campaigns, and financial assistance for Muslim children in these states.

A fourth factor relates to Muslim dissatisfaction in India with the structure and curriculum of the public school system. Leading educationists in India have argued that many Muslim children particularly in northern India, do not enrol or, having enrolled, do not continue in Hindi-medium schools on account of the overtly Hindu curriculum - reflected in the Hindi texts used - and the Hindu orientation of such schools (Sadgopal, 2000). For example, after the BJP came to power in several north Indian states in the 1990s, many textbooks were rewritten to present a more Hindu-centric view of Indian history (Khalidi 1995: 112-113). This often had disastrous consequences both for education and for Hindu-Muslim relations[11].

Muslim parents are also reluctant to send their children to formal schools due to the existence of community-based education initiatives in the form of *madrasas*, and the lack of Urdu language teaching in the formal system. It is important to recognise that the role of the *madrasa* is different to the role of the formal schooling sector (Ahmad, 2002), and they fulfil an important role for Muslim communities who are not within the formal schooling sector. They propagate Islamic norms (as discussed below). Monetarily they are less expensive. *Madrasas* that teach the principles of Islam are essentially charities funded by donations from the Muslim community, and where students do not need to pay for the cost of an education. Hence, many *madrasas* provide free board for resident students, and the cost of tuition is free. However, it should be noted that in general Muslim families with higher incomes do not send their children to *madrasas*; 'the well-to-do go to schools; *madrasas* care for the poor' (Shahabuddin, 2001 as quoted by Bandyopadhyay 2002). So at least among the poor, there are a number of reasons why Muslims might not send their children to the formal education sector, but to *madrasas* instead.

The theological content of Islam basically encourages education, even making it compulsory for both women and men (Azim 1997: 61). Islam first came to

[11] For example, soon after the demolition of the Babri Masjid mosque in Ayodhya in 1992, a primary school mathematics textbook published in Uttar Pradesh included the following question: 'If 15 *kar sevaks* (Hindu volunteers) demolish the Babri Masjid in 300 days, how *many kar sevaks* will it take to demolish the mosque in 15 days?' (Khalidi, 1995 p. 115).

India as early as 650 AD with the Arab traders, but it was only under Mughal rule between the 12th and 17th centuries that education was encouraged consistent with the emphasis on learning that also prevailed in Central Asia, Arabia and North Africa at this time (Khalidi 1995: 106-07). The very first *madrasa* in India established by the British was in 1781 by Warren Hastings and was called the Caluctta Madrasah College for Muhammedans. *Madrasas* were also greatly encouraged under colonial rule in the 18th century. In the second half of the 19th century, *madrasas* were set up all over India by the Deobandis – a group of Muslims who were trained in the most orthodox *madrasa* in India, *Darul-uloom* in Deoband, founded in 1866. It was in this phase of their expansion that *madrasas* were funded primarily by individual contributions rather than by princely patronage, and when they developed a formal institutional structure similar to western educational institutions, including their own presses for publishing in Urdu (Minault 1998: 60). In the 1990s, many *madrasas* have been set up on the western coast of India, and in the border regions of north-eastern India, largely externally-funded by sources in the Middle East (Bandyopadhyay 2002).

Today, *madrasas* mainly teach the principles of the Islamic religion, including an elementary level of the reading of the *Koran*.[12] They are allowed to be set up in India under Articles 30(1) and 30(2), which allows all minorities to establish educational institutions, and which also protects the property of minority educational institutions. *Madrasas* in India do not teach either the Urdu language or Urdu literature. This is an interesting paradox because Urdu (which is spoken in only 3 countries of the world - India, Pakistan and Mauritius) is widely regarded by Muslims in India as 'their' language. There are 43 million people, about 5% of the Indian population, who speak this language in India. There is a great deal of regional diversity in Urdu-language teaching: for example, there are 20 million Urdu-speakers in Uttar Pradesh, and not a single Urdu-medium primary school[13]. But there are many Urdu-medium primary schools in Karnataka and Maharashtra due to the efforts of

[12] The word '*Koran*' is actually derived from the Arabic word for reading (Khalidi 1995: 106).
[13] It must be noted however that is only in North India that the language of Muslims in India is Urdu.

proactive regional governments. The Government of India has an official 'three-language formula' (instituted in 1964-66) that allows students in classes VI-XII living in a linguistically diverse country such as India to learn Hindi (the national language), English, and a regional language in schools. In the Hindi-speaking regions of the country, students are asked to learn Hindi, English and one other 'modern Indian language'. However, in post-independence India, Urdu was not given the status of such a language despite the fact that a substantial proportion of Muslims and non-Muslims particularly in northern India use it as their primary language of communication; Sanskrit was deemed the preferred alternative. This has had important implications for Muslim education in India (Sadgopal, 2000), particularly as it has tied the issue of education-provision with considerations of religious and political identity (Farouqui, 2002), and cultural autonomy (Sorabjee 2002).

Madrasas in India today usually use different languages depending upon the state in which they are located, but their syllabus and curriculum has been largely unchanged since Independence. In some states, the reading of the Koran in Arabic is encouraged; in others it is not. The curriculum of the typical *madrasa* spans about 12 years and includes recitation from memory and interpretation of the *Koran*, Islamic law and jurisprudence, and some amount of philosophy, mathematics and astronomy (Bandyopadhyay, 2002). The Indian government has tried at various times to encourage some *madrasas* to combine religious education with 'modern' subjects such as mathematics. For example, a programme was launched to modernise education in the *madrasas* in 1993, and some prominent *madrasas* such as the *Darul-uloom* in Deoband introduced reforms into their curriculum as a consequence. This particular *madrasa* now includes in its curriculum, in addition to traditional subjects, eight years of Modern Indian History, Islamic History, Civics, Geography, General Sciences, Health-care, Economics and Computing (Alam, 2002). The *Jamia Mohammadia Mansura* in Malegaon, Maharashtra is reputed for its teaching of medical science, and the *Darul-uloom Nadwar-ul-ulema* in Lucknow, Uttar Pradesh even teaches the English language and English literature as core subjects (Alam 2002).

In some states such as Karnataka and Kerala, *madrasas* complement the formal schooling sector well because their timings do not overlap with regular school hours. But such efforts have not always worked out most efficiently or uniformly across all *madrasas*. For example, one study in Karnataka showed that the regularity of attendance is not assessed in *madrasas*, and that many students only attended them for one or two years only (Azim 1997: 79). Some of the *madrasas* have been quite successful in substituting for the primary education sector or indeed in coming in to the 'mainstream', but this has not always been the case.

There are thus a host of normative reasons suggesting why Muslims might not use the formal education sector as intensively as other communities in India. While some of the reasons lie in the representation of Islamic norms by the clergy, and the lack of suitable employment opportunities in the public sector, other factors that are important include the existence of *madrasa* education and the lack of Urdu language teaching in the formal schooling sector. Together, these factors act powerfully to influence Muslim education in India.

4.2. Dalit education in India

In their analysis of school enrolment, Dreze and Kingdon (2001, p.20) found that Dalit children had what they term an 'intrinsic disadvantage' – they had a lower probability of going to school, even after controlling for other non-caste factors such as household wealth, parents' education etc. (Dreze and Kingdon, 2001). But what is the 'intrinsic disadvantage' of being a Dalit? How do the norms that govern their behaviour differ from those of non-Dalits? More importantly, how do these differences affect their decision to acquire an education, or to continue one?

There are in India today about 175 million people who are described as 'Dalits', who constitute approximately 17.5% of India's population. Although, the practice of 'untouchability' is illegal in India, punishable by law through the Scheduled Caste and Scheduled Tribe (Prevention of) Atrocities Act of 1989, the reality of life in India presents a different picture. Sainath (1996) argues

that often Dalits live in segregated colonies on the fringes or outskirts of villages, usually in the southern fringes because that is where the Hindu god of death, Yama, is supposed to dwell (Sainath, 1996).[14] Dalits are not allowed to use common burial grounds. Sharecropping, a dominant form of agriculture in most parts of India, is not common among Dalit households due to the concepts of 'ritual purity' observed by those within the caste system (Malik 1999). More significantly, the practice of untouchability cuts right across religious boundaries, and is observed in day to day interactions not only by Hindus, but by Muslims, Christians, and other religious groups in India as well.

Recent studies conducted on the economic gap between scheduled castes and others have shown that there is a serious problem of schools over-reporting Dalit enrolment (NCAER 1995, as quoted in Jabbi and Rajyalakshmi 2001). Tilak (1987) found higher rates of return to backward castes despite wage discrimination against them, on account of the lower cost of their education. He argues that this is an indicator of the poor quality of schooling that Scheduled Castes receive (Tilak 1987: 131). Studies of education and caste in India show that the Dalits[15] are less likely to send children to school (Anitha 2000: 34). Acharya and Acharya (1995) report that the differences between Scheduled Castes and others in dropout rates are very large: the dropout rates for Scheduled Castes are 17% higher then for others in Classes I-V, and 13% greater for those in Class I-VIII (as reported in Jabbi and Rajyalakshmi 2001: 396). They argue that the gender gap in education is also significantly larger among Scheduled Castes and Tribes than in the rest of the population. For example, only 8% of Dalit women in Rajasthan are literate (Malik 1999). The literacy rate among SCT women in Bihar is about 5% (Jabbi and Rajyalakshmi 2001). The reluctance to send children to school among Dalit families has been attributed to a host of factors such as the lack of educated parents, migration, inadequacy of welfare programmes, and

[14] This observation is consistent with early sociological studies of India which have described how the physical proximity of upper caste houses, for example, the *agraharam* of the Brahmin community in south India, implies that physical separation encourages exclusion in the village. For more on this, see Béiteille, 1965.

[15] The term 'Dalit' is used to describe persons who are regarded as being 'untouchable' within the Indian caste system in the sense that physical contact with them is considered as polluting. Although untouchability is illegal in India

unsympathetic, inefficient teachers in schools (Anitha 2000: 34). Jabbi and Rajyalakshmi (2001) argue that the reasons for non-enrolment differ by gender - economic or home-related reasons are mentioned for girls; school-related and personal reasons are given for boys. They show that Scheduled Castes often mention economic reasons more (Jabbi and Rajyalaksmi 2001: 433).

There can be no doubt whatsoever that even today Dalit children face a tremendous degree of discrimination against them in schools (Malik 1999). Many Dalit girls drop out because of discrimination against them by the other higher-caste students (Sainath, 1996). Indeed, anecdotal evidence provided by journalists suggests that this is happening in about 90% of Dalit-majority schools (Sainath 1996). Even though a vast majority of Dalit children may have easy access to a school, in terms of physical distance, the psychological distance between the school and Dalit children may be considerable. Not infrequently, the village primary school might be located in a part of the village where upper-caste Hindus live, thus raising the psychological barriers that Dalit (and Muslim) children face in attending school. Caldwell *et. al.* (1985), in a study of South India, argued that where a school was located depended on 'the activity of local politicians and leading citizens, and on pressures exerted upon them by *panchayat* councils, caste organisations (which, at the state level, are very concerned with the increased access to education of their own caste members) and other groups'.

The historical origins of inequality in the access to education by caste lie in colonial policy towards education. After 1835, education policy in the sub-continent was altered considerably by Macaulay's Minute on Education which changed the dominant language of the curriculum to English, giving rise to what Nehru cynically termed an 'education for clerks' (Nehru, 1942: 434). Western education both resulted in greater social prestige for the upper castes and greater inequality between classes (Carnoy 1974, Beteille, 1965: 209). Although this inequality in southern India was addressed by positive discrimination in education and jobs in favour of the non-Brahmins, and the success of the non-Brahmin movement, this was not always the case in other

parts of India. In order to deal with discrimination in education against the Dalits, the Indian government has in place special provisions in each state that give places in educational institutions for Scheduled Castes and Scheduled Tribes.[16] But recent studies have shown that even in states such as Tamil Nadu, these differentials are not as reduced as would have been expected (Srinivasan and Kumar, 1999).

In summary, this section has argued that membership of a religion or caste in India may exercise an important influence on the decision to enrol children in school. The influence of religion and caste encompasses both sociological factors such as the role of cultural norms, and historical influences such as colonial and post-colonial policy towards education in India. Collectively, these non-economic factors might exert an important role on current schooling decisions, even after controlling for the economic factors that affect them.

5 The data

The data used for estimating the five econometric equations, whose dependent variables were described above, was obtained from the NCAER survey, referred to earlier. The salient features of this data are set out in this section. The data from the NCAER survey are organised as a number of 'reference' files, with each file focusing on specific subgroups of individuals. However, the fact that in every file an individual is identified by a household number and, then, by an identity number within the household, means that the 'reference' files can be joined – as will be described below – to form larger files.

So, for example, the schooling equations were estimated on data from the 'individual' file. This file, as the name suggests, gave information on the 194,473 individuals in the sample with particular reference to their educational

[16] Articles 341 and 342 of the Indian Constitution include a list of Scheduled Castes and Scheduled Tribes who were supposed to be given the benefits of positive discrimination in education and political representation. This list was periodically amended, and more recently published in the Scheduled Castes and Scheduled Tribes Orders Amendment Act (1976).

attainments[17]. From this file, data on the school enrolments and continuations of each child aged 6-14 were extracted (the variables ENR and CON) and associated with this information was data on: the educational attainments and occupation of the child's father and/or mother; the income and size of the household to which the child belonged; the state, district and village in which it lived; its caste/tribe (scheduled or non-scheduled only); its religion; the number of its siblings etc.

Another file – the 'village file' – contained data relating to the existence of infrastructure in, and around, each of the 1,765 villages over which the survey was conducted. This file gave information as to whether *inter alia* a village: had *anganwadis*[18], primary schools, middle schools and high schools and, if it did not, what was the nature of access to such institutions

The village file could be joined to the individual file so that for each individual (say, child between 6-14) there was information not just on the child's schooling outcome and its family and household circumstances but also on the quality of the educational facilities – and general infrastructure - in the village in which the child lived.

The caste and religion variables in the Survey deserve comment. The respondents to the Survey were distinguished along caste lines as: Schedule Caste; Schedule Tribe; 'other'. They were *separately* distinguished by religion as: Hindu; Muslim; Christian; 'other'. Consequently, membership of the two categories, caste and religion, could overlap: Dalits could be Hindu, Muslim or Christian and, say, Hindus could either be Dalits or non-Dalits. In this study, the two categories of caste and religion were rendered mutually exclusive by defining Hindus, Muslims, Christians (and persons of 'other' religions) as

[17] Needless to say, the file also contained other information on the individuals.
[18] *Anganwadis* are village-based early childhood development centres. They were devised in the early 1970s as a baseline village health centre, their role being to: provide state government-funded food supplements to pregnant women and children under five; to work as an immunization outreach agent; to provide information about nutrition and balanced feeding, and to provide vitamin supplements; to run adolescents girls' and women's groups; and to monitor the growth, and promote the educational development of, children in a village.

those persons professing the relevant faith *and not being Dalits*. No distinction was made by religion within the Dalit category. Because of the small number of Christians and persons of 'other' religions[19] in the Survey, the analysis reported in this paper was confined to Hindus, Muslims and SCTs.

The Survey contained information for each of sixteen states. In this study, the states were aggregated to form five regions: the *Central* region consisting of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh; the *South* consisting of Andhra Pradesh, Karnataka, Kerala and Tamilnadu; the *West* consisting of Maharashtra and Gujarat; the *East* consisting of Assam, Bengal and Orissa; and the *North* consisting of Haryana, Himachal Pradesh and Punjab.

The equation relating to school enrolment (equation (1), above) was estimated on data from the NCAER Survey's 'Individual' file', described above, for children between the ages of 6-14 (inclusive) who had both parents living in the household: this yielded a total of 37,566 observations, of which 19,845 were boys and 17,721 were girls.

In terms of educational infrastructure, only 11% of the children in the sample lived in villages which *did not* have a primary school, though 50% lived in villages without *anganwadi* schools[20], and 30% lived in villages without a middle school within a distance of 2 kilometres. Of the children in the sample, 77% of boys and 64% of girls were enrolled at school. However, underlying the aggregate figures, there was considerable variation in enrolment rates by: region; community; parental occupation; and parental literacy status.

Table 1 shows enrolment rates with respect to these factors for each of the three communities (Hindu, Muslim, SCT). In terms of region, enrolment rates were lowest in the Central region and highest in the South, the West and the North. However, in every region, except the South, enrolment rates for Hindu

[19] That is, non-SCT persons.

[20] In such schools, educated women, who are specifically trained for the purpose, conduct primary school level teaching in the courtyards (*aangan*) of their homes. This system of instruction has the advantage that mothers who cannot afford to send their children to formal schools can, instead, send their children to *anganwadi* schools.

boys and girls were considerably higher than those for their Muslim and SCT counterparts. In terms, of parental literacy, enrolment rates for children (both boys and girls) were substantially higher for children with literate parents relative to children whose parents were illiterate. When both parents were illiterate the gap between the enrolment rate of Hindu children, on the one hand, and Muslim and SCT children, on the other, was considerable; however, when both parents were literate, the inter-community gap in enrolment rates was almost non-existent. Lastly, in terms of occupation, children whose fathers were labourers had the lowest rate of enrolment and children with fathers in non-manual occupations had the highest enrolment rate.

So, one reason why reason that enrolment rates differed by community, as Table 1 so clearly indicates they did, is that the distribution of the 'enrolment-determining factors' – region, parental occupation and literacy, availability of educational facilities – were unequally distributed between the communities. The other is that there were significant inter-community differences in 'attitudes' to education, both with respect to children in their entirety and with respect to boys and girls separately.

Table 2 pursues the theme of inter-community inequality in the endowment of enrolment-determining factors. This shows that a smaller proportion of Hindu boys and girls lived in the Central region, compared to boys and girls from other communities, and a considerably larger proportion of Muslim boys and girls lived in the East than did Hindu and SCT boys and girls. Table 2 also shows that a much larger proportion of Hindu boys and girls had parents who were both literate – and a much smaller proportion of Hindu boys and girls had parents who were both illiterate – compared to children from the other communities. Lastly, Hindu boys and girls could also be seen to have an advantage, over children from other communities, in terms of their fathers' occupation: over half the Hindu children, in the relevant sample, had fathers who were cultivators while, by contrast, well over one-third of SCT children had fathers who were labourers.

6. Econometric specification and results

In the light of the discussion in section 3, the determining variables used to specify the equations for the five dependent variables were grouped as:

1. *Caste and religion* variables (discussed in section 3).

2. *Regional variables* (discussed in section 3).

3. The *educational attainments* of the women and of the men. These were classed as:

(i) illiterate
(ii) low, if the person was literate but had not completed primary school
(iii) medium, if the person was educated to primary level or above, but below that of matric
(iv) high, if the person was educated to matric level or above

In the schooling equations, the 'women' were the mothers, and the 'men' were the fathers, of the children whose schooling experience was being studied[21].

4. The *occupations* of the men and of the women. The mutually exclusive and collectively exhaustive occupational categories were:

(i) cultivator: if the man was (primarily) engaged in cultivation or allied agricultural activities
(ii) labourer: if the man was (primarily) a (agricultural or non-agricultural) labourer, cattle tender or domestic servant
(iii) non-manual worker
(iv) unoccupied

[21] In the schooling equations, the educational attainments of the father and mother were defined only if the relevant parent was in the household. If the relevant parent was not in the household (say, due to bereavement, divorce or separation), then it was undefined. An identical remark applies to the occupation of the father and mother in these equations.

5. *Personal* and *household* variables. These were: household income; household size; number of siblings[22]; gender.
6. *Village level* variables relating to educational facilities (discussed in section 3).

The logit estimates from the school enrolment equation (equation (1)) are shown in Table 3 for boys and in Table 4 for girls, with the equation statistics being reported in Table 5. Before discussing the estimates, it is worth making two general points.

The first point is that variables whose associated coefficients were 'insignificant' at a 10% level were dropped from the equation and a likelihood ratio test comparing the 'restricted' with the 'unrestricted' equation (that is equation (2)) was employed to judge whether the zero restrictions had, in fact been validly imposed. Many of the variables that were dropped represented 'interaction' terms: these composite variables, as equation (2) indicates, allowed the size of the coefficients on the generic variables to be different between the three communities. Dropping such interaction terms meant that changes in the values of the generic variables had the same effect on the likelihood of a child being enrolled at school, regardless of whether he/she was Hindu, Muslim or SCT.

There were, however, some variables for which the coefficients were significantly different between the communities: in the language of equation (2), the a_j^M and/or the a_j^S were significantly different from zero implying that, associated with these variables, there were additional effects from being Muslim or SCT. Such variables are clearly identified in Tables 3 (boys) and 4 (girls). Some of these effects were regional: Muslim and SCT boys and Muslim girls living in the Central region had *ceteris paribus* a lower likelihood of being enrolled at school than their Hindu counterparts. Some of these effects related to parental occupation: in particular, *ceteris paribus* SCT

[22] The number of persons with the same mother; if the mother was not present in the household, then the number of persons with the same father.

children with fathers who were cultivators had a lower likelihood of being enrolled at school than their Hindu and Muslim counterparts. Some of these effects related to institutional infrastructure: the presence of *anganwadis* in villages did more to boost the school enrolment rates of Muslim and SCT, relative to Hindu girls.

The second point is that the logit coefficient estimates shown in Tables 3 and 4 represent the 'odds-ratios', discussed earlier[23]. They report by how much the relevant odds-ratio would change, given a unit change in the associated determining variable. A positive/negative sign (before a coefficient estimate) in Tables 3 and 4 implies that the relevant odds-ratio would increase/decrease - or equivalently that the probability of being enrolled in school would rise/fall - for a *ceteris paribus* unit increase in the associated variable.

As observed earlier, the 'pseudo-R^{2}' values for binary models often need to be supplemented by other indicators of goodness of fit. Table 6 shows the 2x2 table of 'hits' and 'misses' when p*=0.5. This shows that the probabilities predicted from the school enrolment equations correctly classified 78% of the 19,845 boys, and 74% of the girls, studied. When the cut-off probability was varied from 1 to 0, the area under the ROC curve (discussed earlier) was 77% for the enrolment equation for boys and 80% for the enrolment equation for girls. On all indications, therefore, the 'fit' of the logit equations for school enrolment and was satisfactory.

The discussion of the coefficient estimates, associated with the determining variables (Tables 3 and 4), is cast in terms of the effects of changes in the values of the determining variables on the average probabilities of boys and girls of being enrolled at school. Following the earlier discussion, the discussion of the results focussed on the coefficients associated with four variables: community (Table 7); parental educational levels (Table 8); region of residence (Table 9); parental occupation (Table 10). The effect of changes in the 'binary' variables were traced by comparing the outcomes that resulted

[23] That is, the coefficient estimates of Table 3 refer to $\exp(\alpha_j)$ *not* to the α_j of equation (2).

when the binary variable took one value with the outcomes associated with it taking the other value, the values of the other variables remaining unchanged between the two comparisons.

6.1 A decomposition of inter-community differences in school enrolment rates

Three scenarios were constructed in order to quantify the effects of community on the number of children enrolled at school. In the first, 'all-Hindu', scenario *all* the 19,845 boys (and all the 17,721 girls) in the school enrolment equations were assumed to be Hindu. In the second, 'all-Muslim', scenario they were all assumed to be Muslim and in the third, 'all-SCT' scenario, they were all assumed to be SCT. If p_i^c (c = H [Hindu]; M [Muslim); S [SCT]) represent, respectively, the (estimated) probability a boy being enrolled at school under each of the three scenarios then, for any boy i (i=1…19,845) the difference between say p_i^H and p_i^M is *entirely* due to the effect of community since nothing was changed between the 'all-Hindu' and the 'all-Muslim' scenarios *except* the community of the respondents. The computation of p_i^M is by means of the 'Muslim coefficients' in Table 1 being 'switched on' and the computation of p_i^H is by means of the Muslim and the SCT coefficients in Tables 3 and 4 being 'switched off'[24].

The mean values of the p_i^H and p_i^M, denoted respectively p^H and p^M, may be termed the average 'community-determined' enrolment rates and $l^H = p^H - p^M$ may be termed the 'community-determined' *enrolment gap* between Hindu and Muslim boys. If q^H and q^M, respectively, represent the average of the *observed* enrolment rates of Hindu and Muslim boys, then the observed enrolment gap (between Hindu and Muslim boys) can be decomposed as:

$$\begin{aligned} m^H &= q^H - q^M = q^H - p^H + p^H - q^M + p^M - p^M \\ &= p^H - p^M + [(q^H - p^H) - (q^M - p^M)] = l^H + p^H \end{aligned} \qquad (3)$$

[24] Note that Hindu is the 'residual' category.

The term π^H in equation (1) can be interpreted as the 'secularly-determined' enrolment gap between Hindu and Muslim, boys. If $\pi^H = 0$, then $\mu^H = \lambda^H$ and the observed gap is equal to the 'community-determined' gap. But if $\pi^M \neq 0$, then $\mu^M \neq \lambda^M$; interposing between the two gaps is the effect of differences between Muslims and Hindus in their respective endowments of the factors which affect enrolment rates (household income; parent's educational levels; region of residence etc.). If $\mu^H > \lambda^H$ ($\pi^H > 0$), these differences *add to* the community-determined gap; on the other hand, these differences *subtract from* the community-determined gap if $\mu^H < \lambda^H$ ($\pi^H < 0$).

The averages of the observed and the 'community-determined' enrolment rates are shown – separately for boys and girls - in Table 7 for the three communities: Hindu, Muslim and SCT. Also shown in Table 7 - in parentheses, below the average numbers - are the observed, and the community-determined, enrolment gaps between Hindu boys and girls and their Muslim and SCT counterparts. So, for example, for boys, $p^H = 80.4\%$ and $p^M = 71.4\%$, while $q^H = 84.3\%$ and $q^M = 67.5\%$. In consequence, the observed enrolment gap (between Hindu and Muslim boys) is $\mu^M = q^M - q^H = 16.8$ percentage points (pp) while the community-determined gap is $\lambda^M = p^M - p^H = 9.0$ pp implying that $\pi^M = 7.8$ pp. These numbers suggest that 46% of the observed enrolment gap of Hindu over Muslim boys was due to differences between Muslims and Hindus in their respective values of the enrolment determining variables and that 54% of the observed gap was the result of differences between Muslims and Hindus in the sizes of their coefficients associated with these determining variables[25]. For girls, 48% of the observed enrolment gap of Hindus over Muslims was due to differences in variable values and 52% was due to differences in coefficient values[26].

The position relating to the observed enrolment gap between Hindu and SCT children was different to the enrolment gap, discussed above, between Hindus and Muslims. Now, with $\pi^S = \mu^S - \lambda^S = 14.4 - 5.2 = 9.2$ for boys and $\pi^S = \mu^S -$

[25] Respectively, 7.8pp and 9.0pp out of the observed surplus of 16.8 pp.
[26] Respectively, 7.4pp and 8.3pp out of the observed difference of 15.7 pp.

λ^S=17.8-4.8=13.0, 64% of the observed enrolment gap between Hindu and SCT boys and 73% of the of the observed enrolment gap between Hindu and SCT girls was due to differences between the communities in their respective values of the enrolment determining variables (for example, as Table 2 shows, SCT children had, on average, parents with much lower educational levels and lived in considerably poorer households than Hindu children); for boys, only 37% - and, for girls, only 27% - of the observed Hindu-SCT enrolment gap was the result of inter-community differences in the sizes of the coefficients associated with the enrolment-determining variables.

6.2 The effects of parental education on the likelihood of school enrolment

In order to assess the influence of educational attainment on the likelihood of school enrolment and of continuation after enrolment, four scenarios were constructed: in the first ('all-illiterate') scenario, both parents of all the children were assumed to be illiterate; in the second ('all-low') scenario, both parents of all the children were assumed to be literate but with a 'low' level of educational attainment; in the third ('all-medium') scenario, both parents of all the children were assumed to have a 'medium' level of educational attainment; in the fourth ('all-high') scenario, both parents of all the children were assumed to have a 'high' level of educational attainment.

The probabilities of enrolment under these scenarios are shown in Table 8. These show that, in terms of determining the educational future of children, the crucial divide was between children with parents who were both illiterate and children with literate parents[27]. When both parents were illiterate, the average chances of boys and girls being enrolled at school were, respectively, only 65% and 48%; when both parents were literate, albeit with a 'low' level of educational attainment, the two probabilities rose, respectively, to 93% and

[27] As Dreze and Sen (1996, p.109) have observed: "literacy is a basic tool of self-defence in a society where social interaction often involves the written media...an illiterate person is that much less equipped to defend herself in court, to obtain a bank loan, to enforce her inheritance rights, to take advantage of new technology, to compete for secure employment, to get on the right bus, to take part in political activity, in short to participate successfully in the modern economy and society".

87%. Thereafter, further improvements in the educational attainment of parents raised the probabilities of both boys and girls being enrolled at school but these increases were much less impressive than those effected by the transition from parental illiteracy to parental literacy.

It should also be mentioned that when both parents were assumed to be illiterate there was a large difference between the communities in the enrolment rates of boys and of girls: the enrolment rate for Hindu boys was nearly 20 pp higher – and that for Hindu girls nearly 15pp higher - than the corresponding rates for Muslims. However, when both parents were assumed to be literate (albeit, at a 'low' level of educational attainment), the Hindu-Muslim gap in the enrolment rate for boys to 7pp and the gap for girls was non-existent. However, further increases in the level of parental education benefited Hindu girls more than they did Muslim girls: when both parents had a 'high' level of education, the predicted enrolment for Hindu girls was 95% compared to 90% for Muslim girls.

6.3 The effect of region on the likelihood of school enrolment

Tables 3 and 4 shows that even after controlling for non-regional factors in the schooling enrolment equations, the region in which a child lived had a significant effect on the likelihood of it being enrolled at school. In that sense, one could plausibly refer to a 'regional factor' affecting educational outcomes. In order to assess the strength of this factor, five scenarios were constructed: in the first, *all* the children, under study, were assumed to live in the Central region; in the second, third, fourth and fifth scenarios they were *all* assumed to live in, respectively, the South, the West, the East and the North[28].

The differences between the scenarios in the number of pregnancies and in the probabilities of school enrolment (Table 9) could then be ascribed to 'the regional factor' since the values of all the non-regional variables were the same between the scenarios.

[28] See an earlier section for the definition of the regions in terms of their constituent states.

For the South, the West, the East and the North the sample average of the number of pregnancies (shown parenthetically in Table 9) was lower than the 'synthetic' average - that is the average value computed under each of the above five scenarios - shown in Table 10. Since differences in the sample averages incorporate the effects of inter-regional differences in the values of the non-regional variables, while the synthetic averages abstract from them, the inference is that in these regions the non-regional factors worked towards *increasing* the likelihood of school enrolment. On the other hand, for the Central region, the sample average of 69.4% was lower than the synthetic average of 72.4%: in this region the non-regional factors worked towards *decreasing* the likelihood of school enrolment.

6.4 The effects of parental occupation on the likelihood of school enrolment

Tables 3 and 4 show that children with fathers working as cultivators or in non-manual occupations had a higher likelihood of being enrolled at school than children with fathers who were labourers. Tables 3 and 4 also show that children with mothers who worked as labourers or in non-manual occupations were less likely to be enrolled at school than children whose mothers worked as cultivators or were 'unoccupied'.

The effects of the occupation of fathers on the on the probability of their children being enrolled at school were traced through three scenarios. In the first of these scenarios, the fathers of *all* the children studied in the schooling equations, were assumed to work as cultivators. In the second scenario, they were all assumed to work as labourers and, in the third scenario, they were all assumed to be in non-manual occupations.

Similarly, the effects of the occupation of mothers on the on the probability of their children being enrolled at school were traced through four scenarios. In the first of these scenarios, the mothers of *all* the children studied in the schooling equations, were assumed to work as cultivators. In the second scenario, they were all assumed to work as labourers. In the third scenario,

they were all assumed to be in non-manual occupations and, in the fourth scenario, they were all assumed to be unoccupied.

The upper panel of Table 10 shows the results from the three scenarios relating to the occupations of the fathers, while the lower panel of Table 10 shows the results from the four scenarios relating to the occupations of the mothers, of the children in the schooling equations. Since, the values of the other variables were unchanged between these the scenarios, differences between the results for the three scenarios shown in Table 10 (upper panel) are purely the consequence of differences in occupations of fathers. Similarly, differences between the results for the four scenarios, shown in Table 10 (lower panel) are purely the consequence of differences in occupations of the of the mothers of the children.

The likelihood of boys and girls with non-manual fathers being enrolled in school (respectively, 80% and 69%) were, respectively, 2 and 5 pp higher than that for boys and girls with cultivator fathers and, respectively, 7 and 9 pp higher than that for boys and girls whose fathers were labourers. The likelihood of boys and girls with unoccupied mothers being enrolled in school (respectively, 77% and 65%) were, respectively, 1pp and 3pp higher than that for boys and girls with mothers who worked as labourers and, respectively, 5 and 0 pp higher than that for boys and girls whose mothers were in non-manual occupations.

7. The relative strength of factors which affect the likelihood of school enrolment

The econometric estimates of the school enrolment equations - discussed in the previous section - identified four important factors operating on the likelihood of children being enrolled at school. The first factor was a purely community effect: Table 7, above, suggested that, *even after controlling for other factors*, enrolment rates varied markedly by community. For example, in their study of education in four North Indian states, Drèze and Kingdon (1999) found that being Muslim was not inimical to schooling decisions. But one reason for this might have been that Muslims were a homogenous entity over

this region. By allowing the Muslim (and Dalit) coefficients to vary across the regions, this study allows for communal/regional heterogeneity.[29]

The second factor related to the educational level of the parents: Table 8, above, suggested that children whose parents were literate had – irrespective of community - a much higher chance of being enrolled ate school than children with illiterate parents. Consequently, one of the reasons for observed differences between the enrolment rates of Hindu, Muslim and SCT children could have been inter-community differences in parental literacy rates (Tab 2).

The third factor was the regional effect: Table 9, above, suggested that living in the South, or the West or the North resulted in a higher likelihood of school enrolment, irrespective of the community of the children, than living elsewhere. Consequently, one of the reasons for observed differences between the enrolment rates of Hindu, Muslim and SCT children could have been differences in their geographical dispersion across India (Table 2). The fourth factor related to parental occupation: Table 10, above, suggested that children whose fathers were cultivators or non-manual workers were more likely to enrolled at school than children whose parents were labourers.

Five cumulative simulations were carried out with a view to identifying the relative importance of these four factors in explaining differences between Hindu and Muslim women in the average number of their pregnancies. The first simulation represented the 'base scenario'. In this scenario it was assumed that:

(i) all the 19,845 boys and all the 17,721 girls had fathers who were labourers, and mothers who were all unoccupied, so that, in effect, all the occupational coefficients were 'switched off'

(ii) all the children lived in the Central region, so that, in effect, all the regional coefficients were 'switched off'

[29] For example, in an early study of education in southern India, Caldwell *et al* (1985) argued that schooling spread faster in Karnataka and other states in southern India because it was viewed as a 'vote-winner': schooling was considered the main path to modernisation and rising incomes.

(iii) both parents of all the children were illiterate so that, in effect, all the coefficients associated with the parental educational variables were 'switched off'

Under this scenario, the two samples of 19,845 boys and 17,721 girls were treated first as all-Hindu; then all-Muslim; and, lastly, all-SCT. The likelihood of the children being enrolled at school was computed under each of these 'community sub-scenarios'. These probabilities, shown in Table 11, against the row labelled 'Simulation 1', indicate that under the base scenario, set out under (i), (ii) and (iii) above, 58.4% of Hindu boys and 30.8% of Hindu girls – against: 35.0% of Muslim boys and 23.5% of Muslim girls; and 49.1% of SCT boys and 27.8% of SCT girls – would have been enrolled at school. This yielded a Hindu-Muslim 'enrolment rate gap' of 23.4 percentage points (pp) for boys and 7.3 pp for girls and a Hindu-SCT 'enrolment rate gap' of 9.3 percentage points (pp) for boys and 3 pp for girls.

In the next simulation (Simulation 2), it was assumed that all the fathers were cultivators, instead of labourers, the mothers continuing to be unoccupied. Under this scenario, the average likelihood of being enrolled at school rose for children from all the communities: for Hindus, to 67.3% for boys and 37.8% for girls; for Muslims, to 44.1% for boys and 29.6% for girls; and for the SCT, to 55.2% for boys and 31.4% for girls.

In the third simulation (Simulation 3), it was assumed that, in addition to having cultivator fathers, all the children lived in the West. Under this scenario, for all three communities, the average likelihood of enrolment for boys and for girls rose further to: 80.1% and 65.9% for Hindu boys and girls, respectively; 75.5% and 50.6% for Muslim boys and girls; 73.7% and 59.1% for SCT boys and girls.

In the fourth simulation (Simulation 4), it was assumed that, in addition to living in the West, all the children had fathers who were literate. Under this scenario, there was a further rise, for all the communities, in the average likelihood of enrolment for boys and girls to: 91.8% and 81.9% for Hindu boys

and girls, respectively; 89.5% and 70.5% for Muslim boys and girls; 88.6% and 77.0% for SCT boys and girls.

In the last simulation (Simulation 5), it was assumed that all the mothers, as well as all the fathers, of the children were literate. Under this scenario, the average likelihood of enrolment rose for boys and for girls from all the communities to: 96.7% and 93.9% for Hindu boys and girls, respectively; 95.7% and 93.8% for Muslim boys and girls; 95.3% and 91.9% for SCT boys and girls.

Between Simulation 1 and Simulation 5 there was, for Hindu children, a difference of 38.3 pp and 63.1 pp in the enrolment for boys and girls, respectively. The corresponding figures for Muslim boys and girls were 60.7 pp and 70.3 pp, respectively; and the corresponding figures for SCT boys and girls were 46.2 pp and 64.1 pp, respectively. These differences between Simulations 1 and 5 arose because between the two simulations four factors were altered: fathers' occupation (labourer to cultivator); region of residence (Central to West); fathers' literacy (illiterate to literate); mothers' literacy (illiterate to literate).

The proportionate contribution of each of these factors to the overall difference in enrolment rates between Simulations 1 and 5 can be computed for each of the communities. For each community, the difference between two successive simulations can be ascribed entirely to the factor that was varied between the simulations. So, for example, the difference of 12.3 pp between Simulations 2 and 3, in the average enrolment rate of Hindu boys, can be ascribed entirely to the effect of a regional change (from Central to West) since that was the only change made to Simulation 2 in order to arrive at Simulation 3: consequently, the percentage contribution of this regional change to the likelihood of Hindu boys being enrolled at school is (12.3/38.3)*100=33%.

Table 13 shows the percentage contributions that each of the four factors - fathers' occupation (labourer to cultivator); region of residence (Central to

West); fathers' literacy (illiterate to literate); mothers' literacy (illiterate to literate) - made to the likelihood of boys and girls, from each of the three communities, of being enrolled at school. For boys, the largest boost to their chances of being enrolled at school came from the regional factor: the change from the Central to the Western region contributed 33%, 52% and 40% to the overall improvement in the likelihood of enrolment of Hindu, Muslim and SCT boys, respectively, generated by the collective of the four factors. The next most important factor for boys was the literacy of their fathers: this contributed 31%, 23% and 32%, respectively, to the overall improvement in the likelihood of enrolment of Hindu, Muslim and SCT boys. As Table 13 makes clear, the regional and the 'father literate' factors collectively accounted for 64%, 75% and 72% of the overall increase in the enrolment rate - between Simulations 1 and 5 - for, respectively, Hindu, Muslim and SCT boys. Given the strength of these effects, the literacy of the mothers and the occupation of the fathers made a relatively smaller contribution.

The relative contribution of the four factors to the overall improvement in the likelihood of school enrolment - between Simulations 1 and 5 - was, however, quite different for girls. For Muslim girls, the fact that their mothers were literate contributed 33% to their improved chances of school enrolment; for Muslim boys, the corresponding contribution was only 10%. The fact that both parents were literate contributed 61% to the rise in the enrolment rate for Muslim girls from 23.5% in Simulation 1 to 93.8% in Simulation 5; by contrast, the corresponding contribution was only 33% for Muslim boys.

For Hindu and SCT children, as well, the fact that their mothers were literate made a significantly larger contribution to the enrolment rate improvement of girls than of boys; on the other hand, the fact that the fathers were literate made a significantly larger contribution to the enrolment rate improvement of Hindu and SCT boys, relative to girls. Consequently, the collective contribution of having both parents literate was roughly the same for boys and girls from the Hindu and SCT communities: 44% for Hindu boys and girls; and 47% and 51%, respectively, for SCT boys and girls.

8. The strength of the 'community-effect' in determining the likelihood of school enrolment

The previous section estimated - for each of the Hindu, Muslim and SCT communities - the contribution of four, non-community, factors to improvements in the likelihood of school enrolment of boys and girls. These four factors were: fathers' occupation (labourer to cultivator); region of residence (Central to West); fathers' literacy (illiterate to literate); mothers' literacy (illiterate to literate). However, overlaying these four factors is a fifth factor - the effect of the community to which a child belongs on the likelihood of it being enrolled at school. The community effects are evident in Table 12 since, under identical scenarios, the likelihood of the children in the sample being enrolled at school differed according to whether it was assumed that they were Hindu, Muslim or SCT. This section estimates, using the results shown in Table 12, the size of the community effect on the likelihood of boys and girls being enrolled at school.

According to Table 12, the enrolment rates for Muslim boys under Simulation 1 and 2 were, respectively, 35.0% and 95.7%: this rise in the enrolment rate, as argued in the previous section, represented the collective effect of the four 'non-community' factors, enumerated above. However, under Simulation 5, the enrolment rate of Hindu boys was 96.7%. This further rise in the enrolment rate from 95.7% to 96.7% (a rise of 1pp) was entirely due to the community effect since - under the conditions of Simulation 5 - the lower enrolment rate of 95.7% was the result of assuming that all the boys in the sample were Muslim while the higher enrolment rate of 96.7% was the result of assuming that all the boys in the sample were Hindus.

Thus, of the total difference of 61.7 pp in the enrolment rate of Muslim boys under Simulation 1 (35.0%) and the enrolment rate of Hindu boys under Simulation 5 (96.7%), only 1 pp (2%) was the result of the community effect, the remaining 60.7 pp (98%) being accounted for by the collective effect of the four non-community factors. Thus, under a situation in which all the boys had fathers and mothers who were literate, lived in the West and had cultivator fathers - that is, the conditions of Simulation 5 prevailed - the size of the

community effect, in explaining differences in enrolment rates between Hindu and Muslim boys, was very small. On a similar calculation, the size of the community effect in explaining differences in the enrolment rates between Hindu and Muslim girls was zero. Similarly, the size of the community effect in explaining differences in the enrolment rates between Hindu and SCT children was 3% for boys and for girls. These numbers are shown in Table 14 against the heading 'Scenario A', where this scenario simply mirrors the assumptions of Simulation 5.

However, under conditions different from those in Scenario A, the size of the community effect was larger. Table 14 shows that under Scenario B - which is Scenario A, but with all the mothers assumed to be illiterate - the size of the community effect rose for boys and for girls - both on a Hindu/Muslim and on a Hindu/SCT comparison - the rise being particularly steep for Muslim girls. In other words, when the mothers of all the children were illiterate, 20% of the difference in the enrolment rate of Muslim girls in Simulation 1 and Hindu girls in Simulation 4 (Scenario B) could be explained by the fact that, in one instance the girls were Muslim and that, in the other instance, they were Hindu.

Under Scenario C - which is Scenario B, but with all the fathers assumed to be illiterate - the size of the community effect rose for boys and for girls - both on a Hindu/Muslim and on a Hindu/SCT comparison: now, 36% of the difference in the enrolment rate of Muslim girls in Simulation 1 and Hindu girls in Simulation 3 (Scenario C) could be explained by the fact that, in one instance the girls were Muslim and that, in the other instance, they were Hindu. Under Scenario D - which is Scenario C, but with all the children assumed to be living in the Central region - the size of the community effect was, on a Hindu/Muslim comparison, 72% and 57%, respectively, for boys and girls while, on a Hindu/SCT comparison, it was 66% and 64%, respectively, for boys and girls. Under Scenario E - which mirrors Simulation 1, the base simulation - all the difference in Hindu/Muslim and Hindu/SCT enrolment rates, for boys and for girls, may be ascribed to the community effect.

These calculations provide a more clearly delineated answer, compared to that provided in Table 7, to the question: how much of the difference in school enrolment rates between Hindu and Muslim boys and girls - and between Hindu and SCT boys and girls - can be explained by the fact of their belonging to different communities (and, therefore, being subject to different community norms: the community effect) and how much can be explained by differences in their (non-community) circumstances. On the basis of the results shown in Table 7, the conclusion of section 4.1 was that, on average, 54% and 52%, respectively, of the difference in enrolment rates between Hindu and Muslim boys and girls - and 37% and 27%, respectively, of the difference in enrolment rates between Hindu and SCT boys and girls - was due to the community effect.

The results of this section shade this answer: the size of the community effect depends on the non-community circumstances in which the children are placed: when all the children live in the West and have parents who are literate, the size of the community effect is negligible; when all the children live in the Central region and have parents who are illiterate, the size of the community effect is considerable.

9. Conclusion

The main purpose of this study was to examine whether the likelihood of a child being enrolled at school was affected by the religious or caste group to which it belonged. On average, 54% and 52%, respectively, of the difference in enrolment rates between Hindu and Muslim boys and girls - and 37% and 27%, respectively, of the difference in enrolment rates between Hindu and Dalit boys and girls - was due to the community effect. However, the size of the community effect depended on the non-community circumstances in which the children were placed. Under favourable circumstances - when all the children lived in the West of India and had parents who were literate - the size of the community effect was negligible. Under less favourable circumstances - when all the children lived in the Central region and had

parents who were illiterate - the size of the community effect was considerable.

The results, therefore, draw attention to the importance of parental literacy in improving the likelihood of a child being enrolled at school and, therefore, growing up to be (at the very least) a literate adult. In this connection it is important to point out that even when the father was literate, maternal literacy had an additional and important role to play in boosting a child's likelihood of being enrolled at school. In particular, the chances of girls being enrolled at school was considerably enhanced when their mothers were literate.

But, parental literacy also had an important role to play in breaking down inter-community differences in the likelihood of children being enrolled at school. Although the raw data shows significant differences between Hindus, Muslims and Dalits in the proportion of children enrolled at school, an important lesson of this study is that such differences are not immutable. Indeed, for all three communities, an important staging post on the route towards school-going children are parents who, being themselves literate, appreciate the importance of education.

But such findings beg the question of how to boost the enrolment of children in general, but Muslim and Dalit children in particular, when they are faced with circumstances which are not the most favourable for ensuring their education. Raising awareness among parents, even when they are illiterate, about the importance of education is an important aspect. In this context, the role of the *anganwadi* schools in India is significant. The usefulness of having these schools is particularly evident for Muslim communities since it overcomes the restrictions imposed by *purdah*. Since, the scheme also specifically targets Dalits it is important for raising school enrolment among the poorer groups in Indian society.

Discrimination in schools against Dalit children is an important disincentive for these children to enrol at school. In order to reduce the level of effective segregation in the educational system, it may be very worthwhile to

reconsider the concept of the ‘neighbourhood school’, put forward by the National Policy on Education in 1986 but which was never implemented (Sadgopal, 2000). It is also important that, in addition to formal schooling, the indigenous knowledge of Dalit artisans be integrated into the school curriculum (Sadgopal, 2000). This would increase the attractiveness of schooling for Dalits. For poorer families, a major barrier to education is the high opportunity cost of education. In turn, this could be overlaid by the belief among Muslims and Dalits that discrimination against them in the job market There are also real problems with the absence of role models in white-collar jobs in the public and private sector (Khalidi, 1995).

The Muslim community has invested in institutions of religious learning, and the future of *madrasas* in this context is critical. As this study has argued, *madrasas* need to be regulated and their curriculum altered to allow students learning in them to make the transition easily to the formal schooling sector. Social activists in India have noted recently that post-1992 and the demolition of the Babri Masjid mosque in Ayodhya, Muslim women have become much more aware of the importance of an education, and are much more strident in their pursuit of it (Engineer 2002). In order to further this therefore, an important policy measure would be to translate high-quality text material, both written in India and abroad, up to the undergraduate level into regional languages, including Urdu (Sadgopal 2000; Shahabuddin, 2001).

In summary, this study has argued that *Vidya, Veda* and *Varna* in India are profoundly and fundamentally inter-linked. While economic and regional factors may mediate their interactions, recognition of these inter-linkages has significant implications for education policy in particular, and more widely, for development policy in India.

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Table 0
Reasons for not Enrolling Children in School by Religion and Caste

Reasons↓	Hindu	Muslim	Dalit
Supply-Side*	6	6	6
Demand-Side**	29	26	34
Education not important	17	23	18
Child unwilling	13	12	11
Tradition/married off	9	11	10
Other	26	22	21
Total	100	100	100
Total children	4,135	1,625	5,190

** School too far/school dysfunctional
** Domestic duties/Economic activity

Table 1
Selected Data for School Enrolments by Community:
Children Aged 6-14

	Hindus (10, 178 boys; 9,200 girls)	Muslims (2,300 boys; 2,026 girls)	SCT (7,367 boys 6,495 girls)
% boys enrolled	84	68	70
% girls enrolled	68	57	55
% boys enrolled: Central	79	59	61
% boys enrolled: South	86	91	80
% boys enrolled: West	91	83	81
% boys enrolled: East	86	62	73
% boys enrolled: North	93	68	81
% girls enrolled: Central	60	44	39
% girls enrolled: South	79	84	70
% girls enrolled: West	85	66	71
% girls enrolled: East	77	57	59
% girls enrolled: North	84	30	72
% boys enrolled: both parents literate	96	93	92
% boys enrolled: both parents illiterate	70	50	58
% girls enrolled: both parents literate	94	92	89
% girls enrolled: both parents illiterate	49	35	40
% boys enrolled: cultivator father	85	67	69
% boys enrolled: labourer father	74	57	64
% boys enrolled: non-manual father	89	74	80
% girls enrolled: cultivator father	72	57	52
% girls enrolled: labourer father	57	47	48
% girls enrolled: non-manual father	83	64	69

Children whose both parents were present in the household
Source: NCAER Survey

Table 2
Selected Data for Factors Influencing School Enrolments, by Community: Children Aged 6-14

	Hindus (10, 178 boys; 9,200 girls)	Muslims (2,300 boys; 2,026 girls)	SCT (7,367 boys 6,495 girls)
% boys enrolled	84	68	70
% girls enrolled	68	57	55
% boys living in Central	45	48	48
% boys living in South	19	19	15
% boys living in West	14	6	10
% boys living in East	10	22	16
% boys living in North	12	5	11
% girls living in Central	42	42	45
% girls living in South	19	23	16
% girls living in West	14	6	12
% girls living in East	12	24	15
% girls living in North	13	5	12
% boys with both parents literate	29	22	13
% boys with both parents illiterate	33	48	56
% girls with both parents literate	31	24	12
% girls with both parents illiterate	31	44	56
% boys with cultivator father	54	40	40
% boys with labourer father	16	22	37
% boys with non-manual father	28	37	22
% boys with unoccupied father	2	1	1
% girls with cultivator father	55	40	39
% girls with labourer father	15	24	38
% girls with non-manual father	27	34	21
% girls with unoccupied father	3	2	2

Children whose both parents were present in the household
Source: NCAER Survey

Table 3
Logit Estimates of the School Enrolment Equation: 19,845 Boys, 6-14 years

Determining Variables	Coefficient Estimate (z value)
Muslim	-0.4075898 (5.16)
Scheduled Caste/Tribe	-0.7991797 (2.49)
Central	-0.5079733 (9.91)
South	-
West	-
East	-0.6417705 (4.08)
Household Income	1.002299 (3.01)

Father educated: low	2.792598
	(20.84)
Mother educated: low*	2.634748
	(11.44)
Father educated: medium**	2.921865
	(14.48)
Mother educated: medium**	2.114656
	(5.14)
Father educated: high**	3.890858
	(16.71)
Mother educated: high***	2.1909003
	(4.01)
Father cultivator	1.474474
	(6.37)
Father labourer	-
Father non-manual	1.550021
	(7.45)
Mother Cultivator	-
Mother labourer	-0.7691638
	(3.06)
Mother non-manual	-0.5848008
	(3.22)
No anganwadi in village	-0.8018316
	(5.07)
No primary school in village	-
No middle school within 2 km	-0.8358139
	(4.21)
Number of Siblings	-0.8985882
	(7.20)
Additional Effects of Muslims	
Central	-0.4962503
	(4.10)
East	-0.3896603
	(4.80)
Father educated: medium	1.734144
	(2.70)
Mother labourer	1.795181
	(2.62)
Mother non-manual	6.466559
	(2.41)
Anganwadi	1.739127
	(4.40)
Middle School	1.508577
	(3.55)
Number of Siblings	1.091813
	(2.56)
Additional Effects of SCT	
Central	-0.8562861
	(1.71)
Father cultivator	-0.8704603
	(1.77)
Mother labourer	1.221465
	(1.88)

Figures in parentheses are z-values and coefficients are shown in terms of 'odds-ratios'

Table 4
Logit Estimates of the School Enrolment Equation: 17,721 Girls, 6-14 years

Determining Variables	Coefficient Estimate (z value)
Muslim	-0.4356139 (5.54)
Scheduled Caste/Tribe	-
Central	-0.3089527 (26.88)
South	-
West	-
East	-0.5169435 (11.05)
Household Income	1.00319 (4.78)
Father educated: low	2.350878 (19.43)
Mother educated: low*	3.428642 (15.73)
Father educated: medium**	2.942974 (17.30)
Mother educated: medium**	4.325608 (9.74)
Father educated: high***	5.050743 (21.53)
Mother educated: high***	3.599749 (5.83)
Father cultivator	1.368566 (5.85)
Father labourer	-
Father non-manual	1.860384 (9.25)
Mother Cultivator	-
Mother labourer	-0.8536829 (2.99)
Mother non-manual	-
No anganwadi in village	-
No primary school in village	-0.8915088 (1.83)
No middle school within 2 km	-0.8127895 (5.16)
Number of Siblings	-0.8840795 (8.68)
Additional Effects of Muslims	
Central	1.313066 (2.17)
Mother educated: medium	1.868902 (3.05)
Anganwadi	-0.8419142 (1.44)
Primary School	-0.8915088 (1.83)
Number of Siblings	1.08058 (2.12)

Additional Effects of SCT	
Mother's Education: high	-0.4294966
	(2.30)
Father cultivator	-0.8729938
	(2.17)
Mother non-manual	0.8309909
	(2.07)
Anganwadi	-0.7305937
	(5.82)

Figures in parentheses are z-values and coefficients are shown in terms of 'odds-ratios'

Table 5
School Enrolment: Equation Statistics

	School Enrolments Boys	School Enrolment Girls
Observations	19,845	17,721
Psuedo-R2	0.1573	0.2123
Test of 'intercept' only model	$\chi^2(30)=3371.89$	$\chi^2(25)=4886.25$
LR test of zero restrictions	$\chi^2(22)=12.67$	$\chi^2(27)=28.08$

Table 6
'Hits' and 'Misses' from the Estimated School Enrolment Equation

	School Enrolment Boys		School Enrolment Girls	
Actually→ Classified as↓	Enrolled	Not-Enrolled	Enrolled	Not-Enrolled
Enrolled	14,388 (sensitivity=94.2)	3,456	9,544 (sensitivity=84.1)	2,743
Not-Enrolled	880	1,121 (specificity=24.5)	1,804	3,630 (specificity=57.0)
Total	15,268	4,577	11,348	6,373

Table 7
Percentage of children between 6-14 years enrolled at school: by community

	Observed	Community
Boys (19,845):	76.9	
Hindus (10,178)	84.3	80.4
Muslims (2,300)	67.5 (16.8)	71.4 (9.0)
SCT (7,367)	69.8 (14.4)	75.2 (5.2)
Girls (17,721):	64.0	
Hindus (9,200)	72.4	66.7
Muslims (2,026)	56.7 (15.7)	58.4 (8.3)
SCT (6,495)	54.6 (17.8)	61.7 (4.8)

Note: Children whose both parents were present in the household
Figures in parentheses are the Hindu-Muslim and the Hindu-SCT enrolment gaps.

Table 8
The Effects of the Educational Attainment of Parents on the Probability of School Enrolment:

Variable→ Scenario↓	School Enrolment Boys	School Enrolment Girls
Sample Average		
All children	76.9	64.0
Hindu children	84.3	72.4
Muslim children	67.5	56.7
SCT children	69.8	54.6
Both parents are illiterate		
All children	65.2	47.6
Hindu children	71.9	53.3
Muslim children	52.8	37.3
SCT children	59.7	42.6
Both parents have 'low' level of educational attainment		
All children	92.5	86.7
Hindu children	94.7	88.7
Muslim children	88.0	88.6
SCT children	91.0	83.3
Both parents have 'medium' level of educational attainment		
All children	92.0	90.4
Hindu children	93.8	92.4
Muslim children	91.3	86.9
SCT children	89.6	88.5
Both parents have 'high' level of educational attainment		
All children	93.2	90.0
Hindu children	95.2	94.6
Muslim children	89.1	90.3
SCT children	91.8	82.9

'low' is literate, but educational attainment primary or less;
'medium' is educational attainment more than primary but less than matric;
'high' is educational attainment of matric or higher;
Note: The effect of parental education, on the probability of being enrolled at school, differs by community (Tables 3 and 4).

Table 9
The Effects of Region on the Probabilities of School Enrolment

Variable→ Scenario↓	School Enrolment Boys	School Enrolment Girls
Sample Average		
All children	76.9	64.0
Hindu children	84.3	72.4
Muslim children	67.5	56.7
SCT children	69.8	54.6
Central		
All children	72.4	54.5
	(69.4)	(50.1)
Hindu children	80.8	63.1
Muslim children	61.2	50.8
SCT children	64.5	43.4
South		
All children	84.8	75.0
	(85.4)	(76.8)
Hindu children	88.6	81.9
Muslim children	84.1	67.5
SCT children	79.4	67.6
West		
All children	84.8	75.0
	(87.6)	(79.0)
Hindu children	88.6	81.9
Muslim children	84.1	67.5
SCT children	79.4	67.6
East		
All children	74.3	63.5
	(75.8)	(66.2)
Hindu children	83.8	72.1
Muslim children	61.0	55.3
SCT children	65.6	54.1
North		
All children	84.8	75.0
	(86.2)	(76.6)
Hindu children	88.6	81.9
Muslim children	84.1	67.5
SCT children	79.4	67.6

Figures in parentheses represent sample proportions of *all* boys/girls enrolled in school in the region

Note: The effect of region of residence, on the probability of being enrolled at school, differs by community (Tables 3 and 4).

Table 10
The Effects of Parental Occupation on the Probabilities of School Enrolment

Variable→ Scenario↓	School Enrolment Boys	School Enrolment Girls
All fathers cultivators		
All children	78.1	64.2
Hindu children	85.2	72.4
Muslim children	68.9	56.4
SCT children	71.1	55.0
All fathers labourers		
All children	73.0	59.6
Hindu children	80.3	67.2
Muslim children	61.9	50.7
SCT children	66.4	51.5
All fathers non-manual		
All children	79.6	69.2
Hindu children	85.8	77.0
Muslim children	69.8	62.0
SCT children	74.4	60.1
All mothers cultivators		
All children	77.3	64.5
Hindu children	84.8	72.3
Muslim children	66.9	55.3
SCT children	70.2	55.0
All mothers labourers		
All children	75.9	61.8
Hindu children	81.6	69.7
Muslim children	72.5	52.4
SCT children	69.0	51.9
All mothers non-manual		
All children	72.1	64.5
Hindu children	77.8	72.3
Muslim children	86.3	55.3
SCT children	59.8	55.0
All mothers unoccupied		
All children	77.3	64.5
Hindu children	84.8	72.3
Muslim children	66.9	55.3
SCT children	70.2	55.0

Note: The effect of parental occupation, on the probability of being enrolled at school, differs by community (Tables 3 and 4).

Table 11
The Effects of Village-Level Infrastructure on the Probability of Being Enrolled at School

Scenario↓	School Enrolment Boys	School Enrolment Girls
Sample Average		
All children	76.9	64.0
Hindu children	84.3	72.4
Muslim children	67.5	56.7
SCT children	69.8	54.6
Anganwadi in Every Village		
All children	78.1	65.4
Hindu children	85.6	72.4
Muslim children	64.0	58.4
SCT children	72.0	57.6
Primary School in Every Village		
All children	-	64.1
Hindu children	-	72.4
Muslim children	-	55.8
SCT children	-	52.4
Middle School within 2 km of Every Village		
All children	77.5	65.2
Hindu children	84.9	73.4
Muslim children	66.0	58.0
SCT children	70.9	55.7
No Primary School in Any Village		
All children	77.5	65.2
Hindu children	75.7	61.6
Muslim children		
SCT children		

Note: The effect of village-level infrastructure, on the probability of being enrolled at school, differs by community (Tables 3 and 4).

Table 12
The Likelihood of Being Enrolled at School Under Different Scenarios

Scenario↓	School Enrolment Hindus Boys (Girls)	School Enrolment Muslim Boys (Girls)	School Enrolment SCT Boys (Girls)
Simulation 1 I. All fathers are labourers II. All mothers are unoccupied III. All live in the Central region IV. Both parents are illiterate	58.4 (30.8)	35.0 (23.5)	49.1 (27.8)
Simulation 2 I. All fathers are cultivators II. All mothers are unoccupied III. All live in the Central region IV. Both parents are illiterate	67.3 (37.8)	44.1 (29.6)	55.2 (31.4)
Simulation 3 I. All fathers cultivators II. All mothers are unoccupied III. All live in the West IV. Both parents are illiterate	80.1 (65.9)	75.5 (50.6)	73.7 (59.1)
Simulation 4 I. All fathers are cultivators II. All mothers are unoccupied III. All live in the West IV. Father is literate; mother illiterate	91.8 (81.9)	89.5 (70.5)	88.6 (77.0)
Simulation 5 I. All fathers are cultivators II. All mothers are unoccupied III. All live in the West IV. Both parents are literate	96.7 (93.9)	95.7 (93.8)	95.3 (91.9)

Table 13
The Contribution of Different Factors to the Probability of School Enrolment of Boys (Girls)

	Hindu	Muslim	SCT
Occupation Labourer→Cultivator	23 (11)	15 (9)	13 (6)
Region Central→West	33 (45)	52 (30)	40 (43)
Fathers' Literacy Illiterate→Literate	31 (25)	23 (28)	32 (28)
Mothers' Literacy Illiterate→Literate	13 (19)	10 (33)	15 (23)
Total	100 (100)	100 (100)	100 (100)

Table 14
The Contribution of Community-specific Effects to the Probability of School Enrolment of Boys and Girls

When↓	Hindu/Muslim		Hindu/SCT	
	Boys	Girls	Boys	Girls
Scenario A All fathers are cultivators All mothers are unoccupied All live in the South Fathers are literate Mothers are literate	2	0	3	3
Scenario B As in Scenario A, but: Mothers are illiterate	4	20	7	9
Scenario C As in Scenario B, but: Fathers are illiterate	10	36	21	18
Scenario D As in Scenario C, but: All live in the Central region	72	57	66	64
Scenario E As in Scenario D, but: All fathers are labourers	100	100	100	100