

# Literacy Choice with Externality: Some Evidences from India

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## Abstract

Numerous studies exist on the impact of education on the several socio economic choices made by the individual as well as the families. It is generally argued that the improvement in literacy raises the income prospect of the individuals. It raises the health awareness and has a positive impact on the life expectancy and the reduction of morbidity and mortality. Instances are many. However there is a reverse causation. The actual educational attainment of a family (including the literacy rate) should itself depend on the other socio economic features of the family. This paper tries to discuss the causation with respect to the literacy rate. For this we take a new view of literacy as postulated by Basu and Foster (1998). Literacy improves the welfare not only the literate but also those who are close proximity with him or her. Using the NSSO 64th round data we try to find out the impact of various socio economic variables as the family literacy rate. The analysis find supportive evidence that the level of family literacy is directly related with family assets, income and other economic variables. Education level of household head is also a major stimulating factor. In all, it is the poor families who have low family literacy rate and even isolated illiterates. Economic empowerment is the key to bias the family decision in favour of more of its member literates.

**Keywords:** externality, literacy, human capital, tobit

## 1 Introduction

Human capital decisions are crucial for families. Family decision about the endowment of human capital to its members at their early age decides the productivity and income earning opportunities not only to its members alone but also to the whole family in some future time period. Lots of studies have been made with this issue over the years.

Becker (1974) in his theory of social interaction and later in another work jointly with Tomes (Becker & Tomes, 1976) has developed the wealth model incorporating the human capital investment decision within the sphere of the

household. The crux of this wealth model is that wealthy and altruist parents provide rational and optimum level of education to all of its children. Later on Behrman, Pollak, and Toubman (1982), McGary and Schoeni (1995), Altonji, Hayashi, and Kotlikoff (1992) and in lots of other works this altruistic principle of the parents have been modified and extended over the years. Sometimes basic household characteristics such as income, level of parental education (Becker, 1974) determine the schooling decision of the children.

From the broad view of human capital formation, in this paper we move to a more mundane case-the causes and determinants behind acquisition of very basic literacy. Generally literacy refers to a minimal functional requirement of the ability to decode simple written or printed documents that requires only minimal skill<sup>1</sup> acquisition. Long ago the Indian Nobel Laureate poet Rabindranath Tagore opined that only basic ability to read should transform the life of a people steeped in ignorance and poverty. In many developed countries, this is a basic human right of a child. It is enshrined in the Millennium Development Goals. However the picture is dismal for most poor countries. In India, the Right to Education has been recently enshrined in our Constitution. Still, much is left of its implementation. Literacy acquisition is not always related to the broader objectives of return to human capital. An aged person becoming literate will not bestow any quantifiable monetary return to himself/herself and his/her family. For a poor family in the underdeveloped country, however, acquisition of this basic skill requires a cost-the cost of the foregone income that the times spend on literacy acquisition invokes. In a sense, then the problem of literacy acquisition is closely related to the incidence of poverty.

However when poor people become acquainted of the fruits of basic literacy, they may somehow try to bear this cost. However literacy brings externality. The basic

<sup>1</sup> In many developed countries, this may be designated in the bracket of basic life saving skills such as standing upright, walking or speech. However Lucas (2003) treated such basic skills within the ambit of human capital. "Human capital is a broad term, encompassing cognitive achievements that range from basic scientific discoveries to a child's learning how to read or how to plough behind a horse" (Lucas, 2003).

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functions of decoding may be acquired by family members who are literate and transmitted to their illiterate co-members. Thus it may not be worthwhile for a poor family to put effort in making all its members literate. The family may choose members on whom it will spend its limited resources. The apathy to make people literate may lie not so much in its cost but rather on the externality that literacy produces. Like many goods of positive externality, it is under produced.

This concept of externality has been first introduced by Basu and Foster (1998) (hence after BF). They have opened up the dynamics of literacy analysis. The argument is that this spread of literacy may be unequally divided even within a family. However it is better to have at least one member literate (proximate illiteracy) within a family than to have none. Numerous studies have developed the basic idea of Basu and Foster (1998) showing on the facets of literacy achievements and their inputs. Literacy sharing or spreading within the household is thus one of the important issues that the parents or household head have to decide carefully.

However Subramanian (2004) brought out an important flaw in the Basu and Foster (1998) specification of effective literacy. In their approach the measure of effective literacy is simply  $E = R + \alpha P$  where  $R$  is the standard Literacy rate and  $P$  the proportion of proximate illiterates. Since the measure adds up to the common literacy rate, it may give a distorted picture (or a false solace to the policy makers). Subramanian corrects this aberration by imposing fine on isolated illiterates to make the measure  $E^S = R - \alpha I$ , where  $I$  is the fraction of isolated illiterates. To force it between zero and unity, he takes  $\alpha = R$  so that we get  $E^S = R(1 - I)$ .

The nature of externality is crucial. Many commentators supposed it to be independent on the number of literates. Consequently, the greater the family literacy rate, the lower would be the marginal benefit of adding an extra family member into the literacy bracket. This is simply because such extension lowers the number of illiterate family members.

Still another relation is possible. It may be argued that externality in literacy is a family variable. Hence it does not matter whether one or more of the members become literate. In this case the externality rises from a zero level (isolated illiterate family) to a high level when one of its members becomes literate. The value stays at that level until everybody in the family becomes literate (fully literate). In effect thus it attains two values -- zero (for isolated illiterate and full literate families) and a high constant value for all other level of family literacy. With full literacy, the externality effect falls to zero. In both

these cases, the externality is positive only when atleast one member is literate but not when all are literates<sup>2</sup>.

However, an alternative formulation is possible (Sengupta & Mukherjee 2013; Sengupta, Sengupta, & Ghosh 2008). The logic is simply that literacy externality may be a reasoned decision making process rather than a mere dissipation of some given stock of knowledge. A single member may wrongfully decode that his/her co-member will correct. There can be variation in view regarding decoded information that can be settled only through discussion and debate within the family. Like all public opinion making, it would be fruitful if the family has a larger number of literate persons than otherwise. The common argument is that decisions involving a larger number of informed persons are always better than few. Hence its dimension rises with the proportion of literate family members<sup>3</sup>. It is a monotonic function of the number of literates with the highest value attained when all but the members in the family are fully literate. In both cases, the situation changes radically. Here externality effect rises with the expansion of family literacy.

Thus there is a debate regarding the externality effect of literacy-whether it is an individual effect or an effect of group decision making process within the family. We may term the external effects as  $E^I$  and  $E^G$  with the condition  $E^G \leq E^S$ . We may now posit the debate in a different way. The externality of literacy can be regarded as subjective rather than objective. The family's evaluation about externality may be regarded as  $U(E)$  such that  $U(E) \in (E^G, E^S)$ . Undoubtedly if  $U(E)$  tends towards  $E^S$ , family literacy rate will rise and vice-versa. It can now be argued that this evaluation function depends on a lot of demographic, social and economic factors. The task of an empirical economist is to ascertain the strength of the factors that determine the spate of  $U(E)$  and hence the determinants of literacy attainment.

In this paper we try to explore the ongoing debate of literacy attainment choice decision of the household from this externality point of view. By using NSSO unit level data (Published by Ministry of Statistics and Programme Implementation Government of India, 2010) we have done

<sup>2</sup> In fact Basu and Lee (2008) stated this explicitly in their "strong normalisation axiom." To quote explicitly from them -- "The second part is what makes it 'strong.' Most standard measures of literacy (Basu and Foster [2], Dutta [6], and Gibson [7] for instance) do not satisfy this; the only exception is Subramanian [14]. What this part of the axiom says is that, if there are no isolated illiterates in a society, then the literacy of that society is equal to the standard literacy rate. This, coupled with the next axiom, means that our measure of literacy will always be less than or equal to the literacy rate." -- (Basu & Lee, 2008, p. 8).

<sup>3</sup> In fact Subramanian (2004) has pointed out that the Basu and Foster (1998) paper also endorsed such a possibility.

rigorous and extensive analysis regarding this issue for each and every state of India separately.

This paper is divided as follows. Section 2 gives us a justification of logical structure of this paper. The basic data structure is given in Section 3 while the main analysis is given in Section 4. Some concluding remarks are given in the last section.

## 2 The Methodological Issues and the Estimation Procedure

To analyse the apparent paradox of educational heterogeneity across the households, we have used the Tobit regression technique. The Tobit model (proposed by James Tobin, 1958) shows the relationship between a non negative dependent variable  $Y_i$  and an independent variable or vector  $X_i$ . Tobit model assumes that there is a latent variable  $Y_i^*$  which depends linearly on  $X_i$  through a parameter vector  $\beta$ . Suppose that  $Y_i^*$  is observed only when  $Y_i^* > 0$  and otherwise if  $Y_i^* \leq 0$ . Then the structural equation for the observed  $Y_i^*$  (known as Type1 Tobit) can be defined as

$$Y_i = \begin{cases} Y_i^* = \beta X_i + U_i & \text{if } Y_i^* > 0 \\ 0 & \text{if } Y_i^* \leq 0 \end{cases} \quad U_i \sim \text{IDN}(0, \sigma^2).$$

This model is also known as censored regression model since some observation of the dependent variable  $Y_i^*$  (for  $Y_i^* \leq 0$ ) are censored. According to Wooldbridge (2002), censored regression are of two types, namely, 1. Censored regression application and; 2. Corner solution model. In the first type, the censor regression model is designed to estimate the variables when there is either left or right censoring in the dependent variables. Censoring from above takes place when in some cases there exist some values which are at or above the pre-specified threshold limit. In these cases the true value might be equal to, or higher than, the threshold limit. For the values below the threshold limit, below censoring procedure is appropriate. Ordinary least square technique for the estimation of the dependent variable in these cases produce downward bias (Green, 1997).

In the second type, the dependent variable  $y$  is not censored. Here  $y$  as observable choice takes on the value 0 and it is a continuous random variable over strictly positive values. For this type, agent's optimum choice will be the corner solution. Here the issue is not the data observability or censoring rather than finding out the distributional aspect of the dependent variable  $y$ . According to Woolbridge (2002), like in the first type, ordinary least square is not an appropriate technique to use in this setting either.

Our work is more closely associated with the application of the second type of Tobit model, known as

Corner Solution model. As we have explained earlier, households are classified into three groups according to their spreading of literacy within the household. The most superior households in terms of households' level of literacy are those who possess the highest literacy rate within the household, i.e., where all members of the family are literate. The moderate literate households or proximate households are those where at least one family member is literate. The worst families which Basu and Foster (1998) termed as "isolate" are those where all the household members have been denied from the access of literacy.

In our analysis using the Tobit model, we have used the family literacy rate as the dependent variable which takes the value 0 for the isolated illiterate household and 1 for the full literates. In between the two the significance of the proximate illiterate households is being verified. In other words, our threshold limit is zero for the isolate illiterate households. As the literacy rate increases within the households the values of dependent variables tends to the upper maximum level of 1. Our analysis is not constrained with data observability. Rather, the null value in the dependent variable comes strictly from the household choice regarding their educational pattern. Our estimation is based on the following Tobit equation:

$$Y_{ij} = \beta \sum X_{k,ij} + U_i$$

Where  $Y_{ij}$  is the dependent variable describing the character of the family,  $X_k$  are the vector of explanatory variables,  $\beta$  is the estimated slope coefficient,  $i$  is number of households ( $= 1, \dots, n$ ) and  $j$  is the household types ( $= 1, \dots, 3$ ).

## 3 Data Description

In this paper we have used National Sample Survey Organisation's 64th round unit level data published in May 2010 by the Ministry of Statistics and program implementation of the government of India. In this short data descriptive part we have at first shown the state wise ranking of the full literate, proximate illiterate and isolated illiterate households (shown in Table 1 in the appendix A1) along with the actual literacy rankings. The number of full literate family is highest in Marjoram followed by Kerala, Meghalaya and others. These three states also holds the top three positions if we take into account the actual literacy ranking. The number of isolate and proximate families is minimum in the literacy advanced states and is on the higher side in the low literate states. For example Bihar take the first position in the ranking of isolate illiterate family and it's ranking in the actual literacy rate is the last. Similarly, Rajasthan takes the last position in the raking

Table 1 State-wise Family Literacy Ranking

Dependent Variable	Family literacy rate
Independent Variables	Sector (higher value is assigned with urban areas) Sex of the household head (females given greater value). Age of the household head. Religion (Higher value is assigned for minority religious community) Social Group (Higher value is assigned for general caste community) Household size. Distance of primary schools. Distance of upper primary schools. Distance of secondary schools. Land Holdings (Greater values are the indication of more land holding capacity of the households) Monthly consumption expenditure. Household type
No of Regressions	26

of full literate family but its ranking is highest among the proximate illiterate rankings. The literacy rate of some states is high simply because most of the family members in these states are highly educated and literate. This in turn not only improves the overall literacy rankings of these states but also can bring them to top positions in the full literate ranking table. This table clearly demonstrates that government should have to take some policy initiatives that not only can bring more isolated families in the light of literacy but also can spread literacy among the proximate illiterates so that the targeted growth rate in literacy can be fulfilled in short duration.

In the second table we shown the literacy distribution within the households across the various states of India. This table exhibits percentage of full literate and isolate families along with the degree of proximity within the households. From this table it is seen that families with high proximity rate (is highest in Rajasthan. In this state the percentage of full literate households is on the lower side (only 22.48% families belonging to the full literate category). On the other hand in Marjoram the percentage of higher proximity is minimum since majority of the families (more than 91%) are fully literate. Again in Bihar more than 22% of the families are fall in the category of isolated illiterate families. Only 25% of the families are fully literate. The percentage of high proximity is also very low in this state.

## 4 Analytics of Literacy

### 4.1 Parameter Specifications

As noted earlier, the dependent variable we huse is the family literacy rate. It can take three types of values -- one if full literates, zero if isolated illiterate and between zero and unity if proximate illiterate. Thus this variable tends to capture the effect of externality based literacy rate. In the

Tobit regression analysis we incorporate 12 independent variables. We classify these variables into three broad headings -- social variables, institutional variables and the economic variables. Households' basic characteristics such as age and sex of the family head, their religion, castes, and sector are grouped under the heading of social variable. These are some of the factors that can jointly and/or independently have an influence on the children's level and standard of learning.

Institution or government can play an important role in promoting educational campaign across the households. Availabilities of educational institutions nearest to the place of living of the households are supposed to create a substantial impact on the choice of the educational investment decision of the families. It certainly affects the access of education and the attendance rate of the children in the schools. In our analysis we have taken into consideration this issue and have used the distance parameter (distance of primary, upper primary and secondary schools) under the heading of institutional variable to assess its impact on family decision on education.

Household's assets, consumption expenditure and working status are some of the good indicators of their living standard and wealth. Lack of enough resources among the poorest of the poor families sometimes has restricted the investment choice decision of the families on education. In our analysis the availability of land is used to describe the role of asset on the level of literacy. Consumption expenditure can be used as a proxy of family income which have a direct impact on level and standard of education. Working status of the family head and other members also plays a crucial role on the family literacy rate. All of these characteristics of the families are clubbed together under the category of economic variable in our



regression analysis. The detail breaks up and weights of these variables are given in the following table.

We now see how far our data support these conjectures.

#### 4.2 Regression Results

The state specific Tobit regression result is given in the appendix. From these findings it can be seen that among the social variables importance of sector on the level of literacy is enormous. Households in the urban areas are substantially more equipped with better facilities and opportunities compared to their rural counterpart. Urban parents are more aware of their sibling's educational matter than the rural parents. It may be because the majority of rural parents are illiterate and their children are the first generation learners. So it is not possible for these illiterate parents to know the importance of education on their wellbeing. Lower income earning opportunities as well as shortage of quality and easy accessibility of greater number of educational institution are supposed to constrain the steady flow of literacy in the rural areas. In our analysis it is seen that in all states in India, sector has a significant impact on literacy rate of the households. The urban families are endowed with the greater family literacy rate and full literate families are more common in the urban areas. The spreading of literacy among the members of the families is not equitable in the rural areas. The disease of isolated illiteracy is still a major cause of concern in the rural areas.

Next we consider the sex of the family head. India is known to be a male dominated country. Gender disparity in various sphere of life is still a major cause of concern in this country. This phenomenon is clearly manifested in our regression analysis. Family literacy rate in the female headed households is quite worst in all parts of India (except in Tripura, Nagaland, Orissa, Mizoram and Aunachal Pradesh where female headed households are positively significant with family literacy rate). Social and economic factors associated with these female headed families have forced their literacy rate to fall in the downward direction.

Religion and caste are two other important social dimensions which should also be taken into consideration for making the determination of family literacy rate. India is a multi-cultural country and all types of community are living together here. In terms of community, Hindus are the majority followed by Muslim, Christian and others. The percentage of different communities varies substantially in different states of India. In our analysis in most of the states, family literacy rate of the minority communities are comparatively lower than that of the majority section of population (except in Jharkhand & Tamil Nadu religion significant positively with the dependent variable). Despite huge literacy enhancement programs particularly for these

minority communities, it fails to take a substantial impact on their level of literacy. Sometimes social norms and family ethics of these minority communities have forced them to remain in the pocket of illiteracy.

Like religion, caste differentiation also is a major of cause of concern in India. From the regression analysis it can be seen that in most of the states of India (except in Meghalaya, Mizoram, & Nagaland), social group has a positive significant impact on the family literacy rate. Educational endowment among the general caste is on the higher side compared to the socially unprivileged section of population. Lower sections of population in India are still fighting hard for their subsistence level of living. Many educational enhancement programs of Indian government such as setting up of educational institutions in the tribal and hill areas, introduction of different scholarship facilities in various age groups and level of learning for this lower section of population are not suitable enough to bring the equitable sharing of literacy. Subsistence income sometimes forces them to take the decision of small and negligible human capital investment decision.

Next comes to the institutional variables. Distance of institution from the place of residence of the households is another factor that could have an impact on household's educational decision making process. In our analysis in most situation distance variable have a negative impact on the dependent variable. Distance of institution place a huge burden on the children to take part in the educational system for a longer period of time. This is particularly more severe for the female children since distance discourages the parents to enrol them in the schools. In the regression analysis the distance parameters have a negative impact on the dependent variable. Greater distance from the place of residence particularly in the primary section has increased the probability of isolated illiteracy in the households. The direct and opportunity cost of education are so high that the parents are very reluctant to send their children in the away schools.

Now let us move to the economic factors. In this case the extent of family literacy is mixed. For most of the states there has been a positive relation between land possession and family literacy. If we take land possession as an indicator of family wealth then this is what is expected. A richer family generally invest more on human capital formation per capita. Consequently the family literacy rate will improve. An exceptional case is West Bengal where the relation becomes negative. A reason may be that due to land reform a ceiling has been imposed on the upper limit of land possession. As a consequence, the resources have been shifted from land to non-land items. It is those who have not been able to do so are left behind. Generally they are weaker in terms of other assets and are reflected by

the perverse relation.

The positive relation with the per capita consumption expenditure is also expected. As household consumption expenditure is escalated more should be allocated to the educational items tool.

The household type is indexed in an ascending order with permanent employees at the top and the casual worker at the bottom. The relationship with family literacy is positive whenever significant. The stability in income sources is an important factor towards escalating human capital expenditure.

## 5 Conclusion

Traversing the long torturous path, it becomes clear to us that the effect of educational externality of literacy choice cannot be determined apriori. Theoretically literacy externality lies between two extreme values -- low value when it is assumed to be individualistic and a high one if it is a group decision. Literacy acquisition depends on the family's assessment on this externality. The relationship is mediated through the prism of a host of socio economic factors (such as caste, religion and others). The influence of institutional factors also cannot be neglected. Nearness to the educational institution often acts as an additional incentive towards expansion of family literacy. It is in this light that the debate of the nature of educational externality has to be finally settled.

This paper tries to discuss the causation with respect to the literacy rate. For this we take a new view of literacy as postulated by Basu and Foster (1998). Literacy improves the welfare not only the literate but also those who are close proximity with him or her. Using the NSSO 64th round data we are tries to find out the impact of various socio economic variables as the family literacy rate. It is verified that the level of family literacy is directly related with family assets, income and other economic variables. Education level of household head is also a major stimulating factor. In all, it is the poor families who have low family literacy rate and even isolated illiterates. Economic empowerment is the key to bias the family decision in favour of more of its member literates.

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## Appendix

(all the tables are based on NSSO 64th round unit level data with own calculation and modifications)

Table A1 State Wise Literacy Family Ranking

States	Ranking full literate family	Ranking of isolate family	Ranking of Proximate family	Ranking Actual literacy
Andaman & Nicobar	11	30	23	8
Andhra Pradesh	30	5	7	31
Arunachal Pradesh	18	10	22	26
Assam	10	23	27	10
Bihar	34	1	5	35
Chandigarh	6	20	31	9
Chhattisgarh	27	9	8	25
Dadra, Nagar, Haveli	21	25	13	19
Daman & Diu	4	28	32	5
Delhi	9	26	29	11
Goa	12	27	25	12
Gujarat	24	15	12	23
Haryana	29	14	4	24
Himachal Pradesh	19	18	16	17
Jammu & Kashmir	32	8	3	30
Jharkhand	31	2	11	33
Karnataka	25	12	9	27
Kerala	2	31	34	2
Lakshadweep	7	35	28	6
Madhya Pradesh	28	6	6	28
Maharashtra	14	21	20	14
Meghalaya	3	33	33	3
Mizoram	1	34	35	1
Momipur	17	24	18	16
Nagaland	5	32	30	4
Orissa	26	7	10	29
Pondicherry	8	29	26	7
Punjab	22	16	14	20
Rajasthan	35	3	1	34
Sikkim	13	22	24	13
Tamil Nadu	15	17	21	15
Tripura	16	19	19	18
Uttar Pradesh	33	4	2	32
Uttaranchal	23	11	15	22
West Bengal	20	13	17	21

Table A2 Distribution of Family Literacy

States	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.89	0.99	1
Andaman & Nicobar	1.89	0.00	0.00	0.47	2.13	4.73	4.02	8.27	12.29	2.84	0.47	63.12
Andhra Pradesh	14.98	0.00	0.85	2.19	8.46	15.72	4.06	7.79	9.30	1.36	0.07	35.22
Arunachal Pradesh	10.72	0.00	1.33	1.95	5.05	10.98	3.72	5.05	7.44	2.13	0.09	51.55
Assam	5.51	0.00	0.08	0.86	2.55	6.17	2.18	5.10	8.18	4.28	0.21	64.88
Bihar	22.51	0.03	2.08	3.07	8.43	14.02	3.56	7.34	9.90	3.84	0.14	25.07
Chandigarh	5.93	0.00	0.59	0.89	0.89	4.45	1.19	4.75	5.93	2.97	0.00	72.40
Chattisgarh	10.84	0.00	0.63	2.14	5.47	11.42	4.38	7.82	13.56	3.60	0.42	39.73
Dadra, Nagar, Haveli	4.30	0.00	1.17	0.39	5.08	12.11	3.13	7.81	10.94	6.25	0.39	48.44
Daman & Diu	3.52	0.00	0.00	0.00	0.78	3.13	1.17	3.13	7.81	3.52	0.00	76.95
Delhi	4.04	0.00	0.17	0.50	1.60	8.24	2.27	4.54	10.34	4.54	0.25	66.86
Goa	3.85	0.00	0.35	0.70	2.45	4.90	3.85	3.85	15.03	3.15	0.00	61.89
Gujarat	7.61	0.05	0.73	1.94	5.02	10.03	3.93	7.68	13.09	5.28	0.24	44.40
Haryana	7.80	0.00	1.10	1.20	4.45	12.24	5.44	8.63	15.86	5.70	0.31	37.26
Himachal Pradesh	6.55	0.00	0.28	0.39	2.52	9.12	3.92	8.67	14.33	4.20	0.06	49.97
Jammu & Kashmir	11.41	0.00	1.65	3.06	7.17	12.58	5.47	10.05	12.58	4.88	0.24	30.92
Jharkhand	17.70	0.00	1.98	2.07	6.89	12.52	3.77	7.29	10.37	3.28	0.12	34.02
Karnataka	8.87	0.00	1.26	1.84	6.17	10.75	4.67	8.53	11.87	3.79	0.10	42.15
Kerala	1.88	0.00	0.04	0.07	0.50	2.88	0.57	3.45	6.18	2.20	0.21	82.02
Lakshadip	0.52	0.52	0.00	0.52	1.04	4.69	0.52	5.21	6.77	7.81	2.08	70.31
Madhya Pradesh	12.05	0.00	0.85	1.73	5.76	12.20	4.90	7.72	11.91	4.72	0.25	37.91
Maharashtra	5.91	0.00	0.52	0.48	3.39	8.10	2.88	6.88	11.51	4.37	0.26	55.70
Meghalaya	1.49	0.00	0.07	0.14	0.85	2.91	1.07	3.98	5.47	2.84	0.07	81.11
Mizoram	0.70	0.00	0.08	0.08	0.47	1.25	0.31	1.56	2.58	1.41	0.00	91.56
Momipur	5.21	0.04	0.52	0.78	3.17	9.47	3.26	7.04	11.42	4.52	0.09	54.47
Nagaland	1.78	0.00	0.07	0.00	1.07	2.49	1.28	3.27	7.60	5.75	0.21	76.49
Orissa	11.71	0.00	1.26	2.41	6.66	11.44	4.01	7.51	11.10	3.86	0.22	39.83
Pondichari	2.90	0.00	0.00	0.45	1.34	5.13	1.12	4.46	15.63	1.34	0.22	67.41
Punjab	7.54	0.00	0.78	1.21	3.75	9.42	5.59	6.49	12.39	5.98	0.31	46.54
Rajasthan	15.43	0.02	1.86	3.31	9.17	15.99	5.83	9.26	11.98	4.45	0.23	22.48
Sikkim	5.65	0.00	0.00	0.26	2.35	7.48	3.04	6.61	11.39	3.39	0.09	59.74
Tamil Nadu	6.81	0.00	0.16	0.58	3.67	10.31	2.70	7.12	11.07	2.12	0.07	55.39
Tripura	6.05	0.00	0.48	0.83	4.61	9.44	3.57	7.22	10.79	2.44	0.04	54.53
Uttar Pradesh	15.21	0.02	1.67	2.36	7.58	15.09	5.01	9.04	11.97	6.04	0.35	25.67
Uttaranchal	9.21	0.08	0.60	1.06	2.79	9.74	4.00	8.99	13.22	4.91	0.08	45.32
West Bengal	8.03	0.01	0.57	1.54	5.34	10.98	3.42	7.65	9.87	2.93	0.11	49.53



Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy

Variables		Signf + ve	Signf -ve	Insignif
Variables				
Social Variables	Sector	AP, AS, AR, BIH, CHAT, HAR, HIM, JHAR, J & K, KAR, KER, MEGH, MIJO, MP, MANI, OR, NAG, PU, RAJ, TN, UT, UP, WB		GUJ, MAH, TR
	Sex of the head	GUJ, MAH, MIJO, OR, NAG, TR	AP, AS, AR, BIH, CHAT, HIM, JHAR, J & K, KAR, KER, MEGH, MP, MANI, RAJ, TN, UT, WB	HAR, PU, UP
	Age of HH head	OR, PU, TR	AP, AS, AR, BIH, CHAT, HAR, GUJ, HIM, JHAR, KAR, KER, MAH, MEGH, MIJO, MP, MANI, NAG, RAJ, TN, UT, UP, WB	J & K
	Religion	CHAT, HIM, JHAR, TN	AP, AS, AR, HAR, GUJ, KER, MEGH, MIJO, RAJ, TR, UT, UP, WB	BIH, J & K, KAR, MAH, MP, MANI, OR, NAG, PU
	Social Group	AP, CHAT, HAR, HIM, JHAR, J & K, KAR, KER, MAH, MP, OR, TN, UT, UP, WB	MEGH, MIJO, NAG	AS, AR, BIH, GUJ, MANI, PU, RAJ, TR
	HH Size	AP, BIH, CHAT, GUJ, HIM, KER, MAH, MP, TN, UP, WB	J & K, MEGH, MIJO, PU	AS, AR, HAR, JHAR, KAR, MANI, OR, NAG, RAJ, TR, UT
Institutional Variable	Distance Primary	CHAT, KAR, TN, TR, UT, UP	BIH, HAR, J & K, MIJO, WB	AP, AS, AR, GUJ, HIM, JHAR, KER, MAH, MEGH, MIJO, MP, MANI, OR, NAG, PU, RAJ
	Distance Upper Primary	KAR, PU, TR, UT	AP, CHAT, JHAR, MAH, MEGH, MIJO, OR, NAG, RAJ, TN, UP, WB	AS, AR, BIH, HAR, GUJ, HIM, J & K, KAR, KER, MP, MANI
	Distance Secondary	AP, AR, BIH, HAR, MEGH, MANI, PU, TR, UT, WB	J & K, KER, MAH, OR, RAJ, TN	AS, CHAT, GUJ, HIM, JHAR, KAR, MIJO, MP, NAG, UP
Economic Variables	Asset (Land)	AP, AS, HIM, JHAR, KAR, KER, MAH, MEGH, MP, NAG, TN, UT	GUJ, WB	AR, BIH, CHAT, HAR, J & K, MIJO, MANI, OR, PU, RAJ, TR, UP
	Consumption Expenditure	AP, AS, CHAT, HAR, HIM, JHAR, J & K, KAR, MAH, MEGH, MIJO, MP, MANI, OR, NAG, RAJ, TN, TR, UT, UP, WB		AR, BIH, GUJ, KER, PU
	HH Type	AP, BIH, CHAT, GUJ, JHAR, KAR, MAH, MP, OR, TN, UP	AR, HIM, NAG, PU	AS, HAR, J & K, KER, MEGH, MIJO, MANI, RAJ, TR, UT, WB

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)

Andhra Pradesh (N = 6,963)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.40	0.03	10.43*
	Sex of the head	-0.19	0.03	-5.15*
	Age of HH head	-0.02	0.09	-28.32*
	Religion	-0.06	0.02	-2.35*
	Social Group	0.06	0.04	13.74*
	HH Size	0.05	0.07	7.13*
Institutional Variable	Distance Primary	-0.03	0.08	-0.37
	Distance Upper Primary	-0.07	0.01	-5.08*
	Distance Secondary	0.01	0.09	2.11**
Economic Variables	Asset (Land)	0.02	0.07	3.55*
	Consumption Expenditure	0.09	0.05	17.78*
	HH Type	0.03	0.01	2.49*
Constant		1.9	0.12	15.54
Log-Likelihood Function = -3,190.40. Mean-Square Error = 0.08.				
Assam (N = 2,432)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.55	0.06	8.30*
	Sex of the head	-0.41	0.07	-5.62*
	Age of HH head	-0.64	0.01	-3.65*
	Religion	-0.32	0.03	-8.41*
	Social Group	-0.67	0.06	-1.04
	HH Size	-0.01	0.01	-1.41
Institutional Variable	Distance Primary	0.01	0.05	0.2
	Distance Upper Primary	-0.01	0.02	-0.36
	Distance Secondary	-0.03	0.02	-1.35
Economic Variables	Asset (Land)	0.12	0.01	7.53*
	Consumption Expenditure	0.06	0.09	6.77*
	HH Type	-0.03	0.02	-1.4
Constant		3.15	0.18	17.1

Log-Likelihood Function = -411.59.

Mean-Square Error = 0.62 (\*significant at 1% level; \*\* significant at 5% level).

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (continued)

Arunachal Pradesh (N= 1,059)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.63	0.07	8.55*
	Sex of the head	-0.23	0.1	-2.17**
	Age of HH head	-0.02	-0.29	-8.57*
	Religion	-0.02	0.11	-2.47**
	Social Group	0.03	0.1	0.33
	HH Size	0.01	0.01	0.55
Institutional Variable	Distance Primary	0.07	0.05	1.41
	Distance Upper Primary	0.05	0.05	1.1
	Distance Secondary	0.01	0.04	2.66**
Economic Variables	Asset (Land)	0.07	0.01	0.62
	Consumption Expenditure	0.07	0.01	4.34*
	HH Type	-0.08	0.33	-2.57**
Constant		2.51	0.22	11.02
Log-Likelihood Function = -462.15. Mean-Square Error = 0.93.				
Bihar (N = 6,983)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.46	0.03	13.03*
	Sex of the head	-0.46	0.43	-10.75*
	Age of HH head	-0.1	0.09	-1.67***
	Religion	-0.02	0.03	-0.83
	Social Group	-0.02	0.05	-0.41
	HH Size	0.03	0.06	5.78*
Institutional Variable	Distance Primary	-0.01	0.05	-2.16**
	Distance Upper Primary	0.05	0.01	0.36
	Distance Secondary	0.02	0.09	2.44**
Economic Variables	Asset (Land)	0.08	0.09	0.09
	Consumption Expenditure	-0.08	0.7	-0.1
	HH Type	0.02	0.01	1.77**
Constant		0.93	0.09	10.24

Log-Likelihood Function = -5,014.84.

Mean-Square Error = 0.12 (\*significant at 1% level; \*\*significant at 5% level).

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)Table A3 Tobit Analysis (countided)

Chattisgarh (N = 1,911)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.11	0.07	1.44***
	Sex of the head	-0.34	0.08	-4.29*
	Age of HH head	-0.02	0.01	-14.64*
	Religion	0.1	0.04	2.19**
	Social Group	0.07	0.01	6.67*
	HH Size	0.09	0.01	7.38*
Institutional Variable	Distance Primary	0.07	0.03	1.95**
	Distance Upper Primary	-0.07	0.02	-3.18*
	Distance Secondary	-0.01	0.01	-0.96
Economic Variables	Asset (Land)	-0.07	0.01	-0.49
	Consumption Expenditure	0.07	0.01	6.13*
	HH Type	0.19	0.02	7.47*
Constant		2.46	0.18	13.54
Log-Likelihood Function = -658.25. Mean-Square Error = 0.77.				
Haryana (N = 1,911)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.4	0.06	5.86*
	Sex of the head	-0.09	0.09	-1.1
	Age of HH head	-0.01	0.01	-7.98*
	Religion	-0.04	0.03	-1.37***
	Social Group	0.07	0.08	9.28*
	HH Size	0.01	0.01	1.24
Institutional Variable	Distance Primary	-0.19	0.1	-1.86**
	Distance Upper Primary	-0.05	0.05	-1.02
	Distance Secondary	0.05	0.02	2.23**
Economic Variables	Asset (Land)	0.01	0.01	0.95
	Consumption Expenditure	0.07	0.08	8.92*
	HH Type	0.07	0.02	0.26
Constant		1.97	0.19	10.24

Log-Likelihood Function = -508.67.  
Mean-Square Error = 0.71 (\*significant at 1% level; \*\* significant at 5% level).

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)

Gujrat (N = 4,126)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	2.5	0.14	16.82
	Sex of the head	0.29	0.05	5.74*
	Age of HH head	-0.24	0.05	-4.13*
	Religion	-0.01	0.01	-10.17*
	Social Group	-0.02	0.03	-0.71
	HH Size	0.06	0.05	11.21*
Institutional Variable	Distance Primary	0.07	0.08	0.89
	Distance Upper Primary	-0.05	0.07	-0.66
	Distance Secondary	0.01	0.01	-0.62
Economic Variables	Asset (Land)	0.09	0.01	-6.10*
	Consumption Expenditure	-0.04	0.09	-0.51
	HH Type	0.08	0.07	11.29*
Constant		2.5	0.14	16.82
Log-Likelihood Function = -1,080.82. Mean-Square Error = 0.71.				
Himachal Pradesh (N = 1,787)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.35	0.07	4.56*
	Sex of the head	-0.16	0.06	-2.58**
	Age of HH head	-0.02	0.01	-15.21*
	Religion	-0.07	0.02	3.18*
	Social Group	0.03	0.07	4.73*
	HH Size	0.06	0.01	4.76*
Institutional Variable	Distance Primary	0.02	0.05	0.38
	Distance Upper Primary	0.01	0.03	0.53
	Distance Secondary	-0.07	0.02	-2.93*
Economic Variables	Asset (Land)	0.05	0.01	2.71*
	Consumption Expenditure	0.07	0.09	7.54*
	HH Type	-0.05	0.02	-2.14**
Constant		3.35	0.2	16.16

Log-Likelihood Function = -319.15.  
Mean-Square Error = 0.61 (\*significant at 1% level; \*\* significant at 5% level).



Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)Table A3 Tobit Analysis (countided)

Jkharkhand (N = 2,465)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.57	0.06	8.33*
	Sex of the head	-0.36	0.07	-4.85*
	Age of HH head	-0.08	0.01	-4.99*
	Religion	0.02	0.01	1.87**
	Social Group	0.04	0.08	5.12*
	HH Size	0.08	0.01	0.74
Institutional Variable	Distance Primary	-0.02	0.03	-0.54
	Distance Upper Primary	-0.06	0.01	-3.77*
	Distance Secondary	0.01	0.01	1.14
Economic Variables	Asset (Land)	0.02	0.01	1.38***
	Consumption Expenditure	0.06	0.01	4.83*
	HH Type	0.05	0.02	2.43**
Constant		0.99	0.16	6.08
Log-Likelihood Function = -1,478.36. Mean-Square Error = 0.71.				
Janmu & Kashmir (N = 1,701)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.27	0.07	3.72*
	Sex of the head	0.54	0.09	0.58
	Age of HH head	-0.01	0.01	-5.59*
	Religion	-0.29	0.04	-6.68*
	Social Group	0.02	0.09	2.43**
	HH Size	-0.05	0.01	-3.50*
Institutional Variable	Distance Primary	-0.11	0.08	-1.35***
	Distance Upper Primary	0.03	0.03	0.88
	Distance Secondary	-0.05	0.02	-2.08**
Economic Variables	Asset (Land)	0.01	0.02	0.05
	Consumption Expenditure	0.01	0.01	12.98*
	HH Type	0.07	0.02	0.28
Constant		2.03	0.23	8.8
Log-Likelihood Function = -669.54. Mean-Square Error = 0.82 (*significant at 1% level; ** significant at 5% level).				

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)

Karnataka (N = 4,195)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.31	0.05	6.17*
	Sex of the head	-0.19	0.04	-4.45*
	Age of HH head	-0.01	0.01	-12.47*
	Religion	-0.03	0.02	1.26
	Social Group	0.04	0.05	8.85*
	HH Size	-0.03	0.08	-0.03
Institutional Variable	Distance Primary	0.27	0.05	5.30*
	Distance Upper Primary	-0.02	0.03	-0.72
	Distance Secondary	-0.05	0.01	-0.32
Economic Variables	Asset (Land)	0.01	0.08	1.63***
	Consumption Expenditure	0.09	0.06	13.87*
	HH Type	0.14	0.01	7.81*
Constant		1.7	0.12	13.76
Log-Likelihood Function = -1,324.82. Mean-Square Error = 0.76.				
Kerala (N = 2,814)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.15	0.05	2.85*
	Sex of the head	-0.24	0.04	-5.34*
	Age of HH head	-0.01	0.01	-13.47*
	Religion	-0.02	0.02	-1.02
	Social Group	0.04	0.07	6.69*
	HH Size	0.03	0.01	3.53*
Institutional Variable	Distance Primary	-0.04	0.03	-1.31
	Distance Upper Primary	0.03	0.03	1.04
	Distance Secondary	-0.04	0.02	-2.22*
Economic Variables	Asset (Land)	0.07	0.02	3.90*
	Consumption Expenditure	0.05	0.07	6.99
	HH Type	0.11	0.02	0.44
Constant		5.84	0.16	35.59

Log-Likelihood Function = 846.60.

Mean-Square Error = 0.28 (\*significant at 1% level; \*\* significant at 5% level).

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)Table A3 Tobit Analysis (countided)

Mahaarastra (N = 8,054)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.42	0.03	11.97
	Sex of the head	-0.29	0.03	7.75*
	Age of HH head	-0.01	0.08	-20.81*
	Religion	0.03	0.09	0.35
	Social Group	0.03	0.03	9.06*
	HH Size	0.02	0.05	5.06*
Institutional Variable	Distance Primary	-0.03	0.03	-0.93
	Distance Upper Primary	-0.02	0.01	-1.55***
	Distance Secondary	-0.04	0.01	-3.90*
Economic Variables	Asset (Land)	0.02	0.05	5.02*
	Consumption Expenditure	0.04	0.01	15.13*
	HH Type	0.04	0.01	3.73*
Constant		2.92	0.08	32.6
Log-Likelihood Function = -1,492.91. Mean-Square Error = 0.64.				
Meghaloya (N = 1,374)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.12	0.08	1.49***
	Sex of the head	-0.21	0.08	-2.66**
	Age of HH head	-0.02	0.02	-8.44*
	Religion	-0.04	0.01	-2.30**
	Social Group	-0.17	0.01	-1.42***
	HH Size	-0.06	0.01	-3.45*
Institutional Variable	Distance Primary	0.07	0.07	0.98
	Distance Upper Primary	0.04	0.02	-1.66***
	Distance Secondary	0.01	0.04	2.31**
Economic Variables	Asset (Land)	0.02	0.02	1.44***
	Consumption Expenditure	0.05	0.01	4.01*
	HH Type	-0.02	0.02	-0.87
Constant		5.41	0.22	23.93
Log-Likelihood Function = -800.86. Mean-Square Error = 0.17 (*significant at 1% level; ** significant at 5% level).				

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)

Mejoram (N = 1,276)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.11	0.06	1.68***
	Sex of the head	0.13	0.08	1.67***
	Age of HH head	-0.09	0.01	-5.28*
	Religion	-0.53	0.04	-11.49*
	Social Group	-0.14	0.04	-3.29*
	HH Size	-0.03	0.01	-3.24*
Institutional Variable	Distance Primary	0.03	0.25	0.12
	Distance Upper Primary	-0.42	0.06	-6.36*
	Distance Secondary	0.06	0.08	0.8
Economic Variables	Asset (Land)	0.03	0.09	0.34
	Consumption Expenditure	0.03	0.01	2.98*
	HH Type	-0.02	0.03	-0.76
Constant		13.64	0.43	31.58
Log-Likelihood Function = 896.63. Mean-Square Error = 0.12.				
Madhya Pradesh (N = 5,518)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.45	0.03	11.52*
	Sex of the head	-0.17	0.05	-3.19*
	Age of HH head	-0.01	0.01	-17.54*
	Religion	0.03	0.02	1.33
	Social Group	0.08	0.05	15.56*
	HH Size	0.04	0.07	6.89*
Institutional Variable	Distance Primary	0.05	0.09	0.59
	Distance Upper Primary	0.03	0.04	0.73
	Distance Secondary	0.07	0.08	0.85
Economic Variables	Asset (Land)	0.04	0.07	5.72*
	Consumption Expenditure	0.07	0.07	9.66*
	HH Type	0.09	0.01	5.92*
Constant		1.25	0.09	13.03

Log-Likelihood Function = -2,290.82.  
Mean-Square Error = 0.86 (\*significant at 1% level; \*\* significant at 5% level).

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)Table A3 Tobit Analysis (countided)

Monipur (N = 2,214)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.23	0.05	4.64
	Sex of the head	-0.28	0.05	-4.85*
	Age of HH head	-0.02	0.01	-16.92*
	Religion	-0.01	0.01	-1.2
	Social Group	-0.08	0.09	-0.88
	HH Size	-0.02	0.01	-1.68
Institutional Variable	Distance Primary	0.05	0.03	1.8
	Distance Upper Primary	0.02	0.03	0.88
	Distance Secondary	0.02	0.09	2.67**
Economic Variables	Asset (Land)	-0.05	0.01	-0.29
	Consumption Expenditure	0.01	0.01	7.10*
	HH Type	-0.08	0.02	-3.32*
Constant		4.01	0.16	24.16
Log-Likelihood Function = -1,976.26. Mean-Square Error = 0.29.				
Orissa (N = 4,141)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.31	0.04	6.33*
	Sex of the head	0.04	0.01	3.05*
	Age of HH head	0.02	0.01	2.49*
	Religion	-0.03	0.04	-0.78
	Social Group	0.02	0.05	5.06*
	HH Size	-0.01	0.08	-1.44
Institutional Variable	Distance Primary	0.05	0.03	1.43
	Distance Upper Primary	-0.17	0.01	-9.33*
	Distance Secondary	-0.09	0.04	-1.84**
Economic Variables	Asset (Land)	-0.04	0.01	-0.41
	Consumption Expenditure	0.06	0.01	6.05*
	HH Type	0.05	0.01	3.01*
Constant		1.21	0.11	10.35
Log-Likelihood Function = -2,036.1. Mean-Square Error = 0.10 (*significant at 1% level; ** significant at 5% level).				



Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)

Nagaland (N = 1,404)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.46	0.07	5.89*
	Sex of the head	0.24	0.12	1.94**
	Age of HH head	-0.44	0.02	-17.64*
	Religion	-0.06	0.08	-0.07
	Social Group	-0.1	0.03	-3.05*
	HH Size	-0.03	0.02	-1.39
Institutional Variable	Distance Primary	0.02	0.03	1.07
	Distance Upper Primary	-0.09	0.03	-2.60*
	Distance Secondary	-0.01	0.01	-0.77
Economic Variables	Asset (Land)	0.07	0.01	4.26*
	Consumption Expenditure	0.04	0.01	3.72*
	HH Type	-0.14	0.02	-5.08*
Constant		5.64	0.36	15.35
Log-Likelihood Function = -757.63. Mean-Square Error = 0.15.				
Punjab (N = 1,279)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.65	0.23	2.83*
	Sex of the head	-0.02	0.02	-1.24
	Age of HH head	0.05	0.09	5.64*
	Religion	0.01	0.01	0.89
	Social Group	-0.12	0.09	-1.37
	HH Size	0.38	0.22	-1.72**
Institutional Variable	Distance Primary	-0.01	0.03	-0.39
	Distance Upper Primary	0.04	0.09	4.84*
	Distance Secondary	0.05	0.03	1.58***
Economic Variables	Asset (Land)	0.01	0.05	0.26
	Consumption Expenditure	0.01	0.01	0.8
	HH Type	0.58	0.09	-1.72**
Constant		1.12	0.2	5.61

Log-Likelihood Function = -373.93.  
Mean-Square Error = 0.74 (\*significant at 1% level; \*\* significant at 5% level).

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)Table A3 Tobit Analysis (countided)

Rajasthan (N = 4,408)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.31	0.04	6.63*
	Sex of the head	-0.31	0.05	-5.75*
	Age of HH head	-0.01	0.01	-15.38*
	Religion	-0.09	0.02	-3.70*
	Social Group	0.08	0.05	13.53
	HH Size	0.03	0.07	4.18
Institutional Variable	Distance Primary	-0.03	0.04	-0.8
	Distance Upper Primary	-0.07	0.02	-3.33*
	Distance Secondary	-0.08	0.01	-6.87*
Economic Variables	Asset (Land)	0.01	0.07	0.15
	Consumption Expenditure	0.01	0.08	14.85*
	HH Type	0.02	0.01	1.33
Constant		1.88	0.12	15.27
Log-Likelihood Function = -1,873.92. Mean-Square Error = 0.80.				
Tamil Nadu (N = 5,672)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.21	0.04	5.25*
	Sex of the head	-0.29	0.03	-7.69*
	Age of HH head	-0.02	0.01	-24.06*
	Religion	0.11	0.02	4.27*
	Social Group	0.08	0.09	8.60*
	HH Size	0.08	0.09	8.73*
Institutional Variable	Distance Primary	0.08	0.04	2.16*
	Distance Upper Primary	-0.05	0.01	-2.98*
	Distance Secondary	-0.45	0.01	-3.48*
Economic Variables	Asset (Land)	0.03	0.01	3.79*
	Consumption Expenditure	0.07	0.06	11.53*
	HH Type	0.05	0.01	3.21*
Constant		2.99	0.11	25.52
Log-Likelihood Function = -1,204.00. Mean-Square Error = 0.66 (*significant at 1% level; ** significant at 5% level).				

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)

Tripura (N = 2,279)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.61	0.41	0.14
	Sex of the head	0.05	0.02	2.28*
	Age of HH head	0.02	0.01	1.85**
	Religion	-0.05	0.02	-1.99**
	Social Group	0.04	0.06	0.73
	HH Size	0.48	0.41	1.17
Institutional Variable	Distance Primary	0.01	0.07	2.07**
	Distance Upper Primary	0.04	0.02	1.42***
	Distance Secondary	0.01	0.01	1.43***
Economic Variables	Asset (Land)	-0.46	0.01	-0.02
	Consumption Expenditure	0.01	0.01	1.55*
	HH Type	-0.01	0.02	-0.53
Constant		1.68	0.13	12.22
Log-Likelihood Function = -664.45. Mean-Square Error = 0.79.				
Uttaranchal (N = 1,309)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.47	0.08	5.73*
	Sex of the head	-0.24	0.07	-3.16*
	Age of HH head	-0.02	0.02	-9.66*
	Religion	-0.16	0.04	-3.42*
	Social Group	0.76	0.09	8.12*
	HH Size	0.04	0.01	0.32
Institutional Variable	Distance Primary	0.03	0.01	2.27*
	Distance Upper Primary	0.08	0.02	2.99*
	Distance Secondary	0.01	0.06	1.62**
Economic Variables	Asset (Land)	0.04	0.02	1.86**
	Consumption Expenditure	0.01	0.01	7.30*
	HH Type	-0.01	0.03	-0.4
Constant		2.07	0.21	9.85

Log-Likelihood Function = -405.02.

Mean-Square Error = 0.74 (\*significant at 1% level; \*\* significant at 5% level).

Table A3 Summary of Tobit Analysis Dependent Variable: Proportion of Family Literacy (countided)Table A3 Tobit Analysis (countided)

Uttar Pradesh (N = 10,078)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.42	0.03	14.02*
	Sex of the head	-0.04	0.03	-1.34
	Age of HH head	-0.01	0.007	-17.69*
	Religion	-0.34	0.02	-14.88*
	Social Group	0.08	0.04	20.33*
	HH Size	0.05	0.004	11.29*
Institutional Variable	Distance Primary	0.01	0.07	6.97*
	Distance Upper Primary	-0.05	0.01	-4.65*
	Distance Secondary	0.09	0.02	0.39
Economic Variables	Asset (Land)	0.04	0.07	6.97
	Consumption Expenditure	0.09	0.05	17.23*
	HH Type	0.05	0.01	4.70*
Constant		1.056	0.077	13.68
Log-Likelihood Function = -4,804.20. Mean-Square Error = 0.09.				
West Bengal(N = 7,018)				
Variables		Coefficients	SE	T ratio
Social Variables	Sector	0.58	0.03	16.55*
	Sex of the head	-0.3	0.03	-7.78*
	Age of HH head	-0.02	0.09	-2.56*
	Religion	-0.09	0.01	-5.89*
	Social Group	0.01	0.03	2.88*
	HH Size	0.03	0.06	5.77*
Institutional Variable	Distance Primary	-0.12	0.03	-3.22*
	Distance Upper Primary	-0.05	0.01	-4.75*
	Distance Secondary	0.03	0.04	10.63*
Economic Variables	Asset (Land)	-0.04	0.09	-4.84*
	Consumption Expenditure	0.04	0.04	10.63*
	HH Type	-0.01	0.01	-0.89
Constant		2.08	0.09	22.54

Log-Likelihood Function = -2,591.57.  
Mean-Square Error = 0.87-0.89(\*significant at 1% level; \*\*significant at 5% level).