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ABSTRACT

Has Gender Bias in Intra-Household Allocation of Education in Rural India Fallen over Time? A Comparison of 1995 and 2017

This paper employs a hurdle model approach to ask whether the extent of gender bias in education expenditure within rural households in India changed over time from 1995 to 2017-18. Our most striking finding is that there has been a change over time in *the way that gender bias is practiced within the household*. In 1995, gender bias occurred through a significantly higher probability of school-enrolment of boys than girls, but by 2017-18, gender bias was practiced via significantly higher conditional education expenditure on boys than girls, and this was largely achieved via pro-male *private school enrolment* decisions. Households practicing gender equality in school enrolment by 2017-18 is a desirable trend. However, girls' significant disadvantage vis-à-vis boys in terms of lower education expenditure, achieved via their lower private school enrolment rate by 2017-18, is problematic if lower expenditure is associated with lower levels of cognitive skills (literacy, numeracy, etc.) since both individual economic returns and national economic growth accrue to cognitive skills and not independently to completing a given number of years in school. Household fixed effects analysis shows that the observed gender biases are a within-household phenomenon rather than an artefact of differences in unobservables across households.

JEL Classification: I24, I240

Keywords: gender bias, education expenditure, education and gender, India

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1. Introduction

It is widely discussed in the literature that within-household gender bias exists in Indian society in various forms, be it in household allocation of food, healthcare expenditure, education expenditure, etc. In general, researchers have used two approaches to detect gender bias in the intra-household allocation of consumption and expenditure: a direct comparison of consumption of males and females if there is data availability at the level of the individual, and an indirect household expenditure methodology known as the Engle Curve Approach. However, the efficacy of the conventional Engle curve approach in detecting within-family gender bias has been questioned by Deaton (1997) and Case and Deaton (2003), and Kingdon (2005) finds that individual-level data has greater power to detect such bias.

There are two main ways through which gender bias may occur in educational expenditure: (i) via zero spending on education for daughters and positive spending on sons and (ii) conditional on positive educational spending for both daughters and sons, via lower educational expenditure on daughters than sons. She showed that gender bias occurs in rural India mostly via the decision of lower enrolment of daughters than sons, and not through differential spending once both are enrolled. Using a hurdle model, she showed that in many cases the conventional Engle curve approach using household-level data failed to detect gender bias in educational spending even where individual-level data showed bias existed, and she concluded that individual-level data is better able to 'pick up' gender bias where it exists.

The main goal of this paper is to present a 23-year comparative scenario of gender bias in educational expenditure in 2017-18 vis-à-vis that in 1995. It is expected that differentiated treatment of girls and boys in education can have changed much in India over this period for a number of reasons. Firstly, starting immediately after the economic liberalisation of India, this period witnessed strong economic growth, increasing incomes and poverty reduction, and this would have eased the economic constraints that may compel parents to choose a higher level of educational investment in boys than girls, since in Indian society generally boys provide old-age support while any benefits from a girl's education are reaped by her in-laws and not by the investing parents. Secondly, India's central government brought in a District Primary Education Program (DPEP) in 1994 which targeted educational interventions towards girls, and this was replaced by the 'Education for All' program – the *Sarva Shiksha Abhiyan* – in 2003 which also provided free books, uniforms, and school meals for children of both genders, which virtually eliminated the economic barriers to girls' education in government elementary schools (these were already free of tuition fee for girls before 1993-94). Thirdly, it may be that attitudes have become more pro-equality over time, due to possible dismantling of age-old conservative gender norms, not least through cinema, TV and media presenting empowered female role models who have education and employment.

However, there are forces in the opposite direction too, and it is not inevitable that there will be greater gender equality in education within the household over time. The supply of fee-charging (private) schooling has greatly increased in rural India over time: in 1993-94, only 10% of total rural elementary-level enrolment was in private schools (Kingdon, 1996) but by 2014, it was 31% (Kingdon 2017); the greater availability of private schools by 2017 provided more of a channel for the exercise/expression of intra-household gender-discrimination in education compared to 23 years previously when rural parents had little choice to send boys to fee-charging (private) schools and girls to fee-free government schools. Consequently, whether overall gender differentiated treatment within the household increased or decreased over time is an empirical question.

Various studies have investigated gender bias in intra-household education expenditure allocation in Indian states (Saha, 2013; Zimmerman, 2012) using different data sources, e.g. NSS 64^{th} Round data of 2007 and IHDS 2005 data. Kingdon (2005) investigated gender bias in education expenditure across 16 Indian states using the 1993-94 NCEAR household survey of rural India. However, these studies do not provide a temporal comparison of intra-household gender bias in education.

In the present paper, we examine *the temporal change between 1995 and 2017* in the extent and form of gender bias in the within-household allocation of education expenditure in rural India. To do this, we use the National Sample Survey (NSS) 52^{nd} round and 75^{th} round data on education, both at the household and individual levels. We have restricted our analysis to rural areas of 16 major Indian states. To compare the quantum of household education expenditure on an individual in 2017-18 with that in 1995, as well as with 1994 data of Kingdon (2005), all the price related terms are converted to 1994 prices using the overall consumer price index (CPI) of agricultural workers of 16 major Indian states.

The paper finds that gender bias in educational enrolment has greatly reduced but not the gender bias in educational expenditure, conditional on enrolling both sons and daughters. Most importantly, the channel for the practice of gender bias has changed over time: In 1995 gender bias occurred in many states through the enrolment of sons and non-enrolment of daughters, but by 2017-18, the major channel of bias was through higher educational expenditure on enrolled sons than on enrolled daughters, and this bias expressed itself in the tendency to enrol sons in (fee-charging) private schools and daughters in (fee-free) government schools.

2. Data and Estimation Procedure

2.1 Methodology

In this analysis, we first use the conventional Engle curve method to detect intra-household gender bias using household-level education spending data. The following equation is estimated to detect the gender bias by using conventional Engle Curve approach.

$$s_i = \alpha + \beta \ln(x_i / n_i) + \gamma \ln n_i + \left\{ \sum_{j=1}^{J-1} \theta_j (n_{ji} / n_i) \right\} + \eta z_i + u_i \qquad (1)$$

where, x_i is total expenditure of the household i; s_i is the budget share of education i.e. total household education expenditure divided by total household expenditure, i.e. eduexp/x_i ; n_i is household size; z_i is a vector of other household characteristics such as religion, caste, household head's education and u_i is the error term. The term $\ln(n_i)$ allows for an independent scale effect for household size, while j = 1, ... , J refers to the Jth age-gender class within the household and n_{ji}/n_i is the fraction of household members in the jth age-gender class. Since this fraction adds up to unity, therefore one of them is omitted from the regression and forms the base or reference group. In this analysis there are 14 age-gender groups. These are the males and females in the seven age groups 0

– 4, 5 – 9, 10 – 14, 15 – 19, 20 – 24, 25 – 60 and 61 and above years. The fraction of women age 61 and over in the household is the omitted category. Of main interest are the school-going age children that is 5 – 19 age group. The testing of gender differences in education expenditure among the school-going age children is simply the testing of the hypothesis that the coefficient on 'proportion of Males aged 5 – 9 years old' (M5to9) is equal to the coefficient on the 'proportion of females aged 5 – 9 years old' (F5to9), and similarly for the other age two age groups – '10 to 14' and '15 to 19'. This helps us to detect gender bias – if any – in each age group. The Engle curve approach includes all households with both zero and positive education expenditure. The dependent variable (budget share of education in total household expenditure) in rural areas is censored at zero for 19.8 percentage of households in 1995 and for 21.3 percentage of households in 2017-18, so an important estimation issue is the choice of appropriate model. While a large literature has used OLS, there is a well-justified reluctance to include both zero and positive values in an OLS regression.

The standard solution often suggested for the above problem is a Tobit model. However, a Tobit suffers from the problem of heteroskedasticity and it also assumes that a single mechanism determines the decision whether to spend anything at all (s=0 versus s>0), and the decision of how much to spend, given positive spending (s | s>0). In particular, the marginal effects $\partial P(s>0\,|\,x)/\partial x_j$ and $\partial E(s\,|\,x, s>0)/\partial x_j$ are constrained to have the same sign.

An alternative to censored Tobit that allows the initial decision of s=0 versus s>0 to be separate from the decision of how much s is, given that s>0, is the 'hurdle model' (Wooldridge, 2002: 536). These models allow the effect of a variable to differently affect the decision s=0 versus s>0, and the conditional decision how much to spend (s | s>0). A simple hurdle model can be written down as:

$$P(s=0\,|\,x) = 1-\Phi(x\gamma) \qquad (2)$$

$$\log(s)\,|\,(x, s>0) \sim Normal(x\beta, \sigma^2) \qquad (3)$$

Where s is the budget share of education, x a vector of explanatory variables, β and γ are parameters to be estimated, and σ is the standard deviation of s. Equation (2) stipulates the probability that s is zero or positive (estimated using a binary probit). Equation (3) states that, conditional on s>0, s|x, follows a lognormal distribution (estimated from an OLS regression of log(s) on x using observations for which s>0). The conditional expectation of *E(s|x, s>0)* and the unconditional expectation of *E(s|x)* are easy to obtain using properties of the lognormal distribution:

$$E(s\,|\,x, s>0) = \exp(x\beta + \sigma^2/2) \qquad (4)$$

$$E(s\,|\,x) = \Phi(x\gamma)\exp(x\beta + \sigma^2/2) \qquad (5)$$

and, these are easily estimated given $\hat{\beta}$, $\hat{\sigma}$, and $\hat{\gamma}$.

Therefore, the marginal effect of x on s can be obtained by transforming the marginal effect of x on log(s) using the exponent. Thus, the marginal effect of x on s in the OLS regression of log(s) conditional on s>0 is obtained by taking the derivative of the conditional expectation of s with respect to x:

$$\frac{\partial E(s\,|\,x, s>0)}{\partial x} = \beta.\exp(x\beta + \sigma^2/2) \qquad (6)$$

The marginal effect of a variable x on s - taking into account the effect of x on both the probability that s>0 and on the size of s conditional on s>0 - is obtained by taking the derivative of the unconditional expectation of s with respect to x. Differentiating (5) using the product rule:

$$\frac{\partial E(s \mid x)}{\partial x} = \gamma\phi(x\gamma)\exp(x\beta+\sigma^2/2)+\Phi(x\gamma)\beta\exp(x\beta+\sigma^2/2)$$

$$= \{\gamma\phi(x\gamma)+\Phi(x\gamma)\beta\}.\exp(x\beta+\sigma^2/2) \qquad (7)$$

where, $\phi(.)$ is the standard normal density function and $\Phi(.)$ is the cumulative normal distribution function.

In our analysis, estimated a probit equation and an OLS of conditional educational expenditure i.e. when the educational expenditure is positive. To compute the marginal effect of the conditional and unconditional OLS, we have estimated equations (6) and (7). The equation (7) provides us the unconditional OLS using hurdle model which makes a departure from the conventional Engle curve approach and helps us to detect the gender bias in a more nuanced manner. The results of the above estimations are reported in Tables 6 and 7.

2.2. Data

We use data from two rounds of India's National Sample Survey (NSS) titled *Education in India* – the 52nd Round carried out in 1995, and the 75th Round conducted in 2017-18. In 1995, NSS data was collected from 43,076 rural households from 7663 villages, and from 29,807 urban households from 4991 urban blocks. In 2017-18, NSS data was collected from 64,519 rural households from 8,097 villages, and from 49,238 urban households from 6,188 urban blocks. We have confined our analysis to *rural areas of 16 major Indian states*. The NSS 2017-18 collected detailed data on education on all persons enrolled in any educational institute and aged 5 - 35 years old, and the NSS 1995 collected equivalent data on all young people aged 5-24 years old. We have limited our analysis only to the 5 – 19 year age group, i.e. the school-going age group, which yields a sub-sample of 45,944 rural households with 90,377 young people aged 5-19 in 2017-18, and a sub-sample of 33,353 rural households with 83,797 young people aged 5 to 19 years old in 1995.

3. Discussion of Results

We present the results in three subsections. The first explores gender bias by means of descriptive statistics using individual and household level NSS data from both the 52nd and 75th rounds. The second sub-section uses *household level* data to detect gender bias in the within-household allocation of education expenditure using the conventional Engel curve approach, and it examines whether incorrect functional form (estimating a single equation for both the zero and positive education-expenditure decisions) is responsible for any failure of the Engel curve approach to detect gender bias; we examine this by estimating a probit of whether the household incurs any positive education expenditure and then a conditional OLS of educational expenditure, conditional on positive education expenditure. The third sub-section asks whether aggregation of data at the household level is to blame for the failure of the Engel curve approach to detect gender bias in states where there is apparently no bias as per the Engel curve results, i.e. it presents results from the analysis of *individual child level* data. Finally, we estimate family fixed effects equations to see whether any gender biases detected are within-household phenomena. In all sub-sections, we present a comparative picture of gender bias in 1995 and 2017-18 to see how gender bias has changed in rural India over two decades.

3.1. Descriptive Statistics

Descriptive statistics are presented in Tables 1 to 5. The second column of table 1 shows the sex ratio in the 0-14 age group in the sample households in 1995 and 2017-18. It shows that the proportion of girls has slightly decreased from 46.6% to 46.3% during a span of two decades in rural India, which means 3 fewer girls born per 1000 births in 2017-18 compared to 1995. There exists considerable variation across states. In Andhra Pradesh, Assam, Bihar, Haryana, Madhya Pradesh, Punjab, Rajasthan and Uttar Pradesh, the sex ratio was below the national average in 1995. This picture did not change much in 20 years except for Andhra Pradesh, Rajasthan and Uttar Pradesh; the sex ratio in the child population worsened most in Karnataka, Haryana, Odisha and Punjab, and to a smaller extent in Kerala, Madhya Pradesh, Maharashtra and West Bengal (see column 2.3, negative sign indicates that the sex-ratio became more skewed over time). This first column of the table gives us the prior belief that pro-boy bias in educational expenditure is likely to be the strongest in these states, where the sex-ratio has deteriorated further over time.

In the remaining columns of Table 1, we divide all households with children upto age 14 years old into two groups: 'all-girl households' (where all children below age 15 are girls), and 'at-least-one-boy households' (where there are one or more boys in the households). The percentage of 'all girl' households in all households increased nationally from 18.9% in 1995 to 24.1% in 2017-18 (see column 3, last row), and it increased in all states. This represents some dismantling of boy preference over time as it shows that a greater percentage of households are content to be son-less now, compared to twenty years ago.

Columns 4, 5 and 6 show that in 1995 there was a dramatic difference in the percentage of households incurring positive educational expenditure depending on whether they are 'all-girl' or 'at-least one boy' household (Rajasthan and Haryana being extreme examples, with a gender gap of 44.2 and 36.0 percentage points respectively). Looking at the national picture in the last row, in 1995, all-girl households in rural India were nearly 21.1 percentage points more likely to report zero educational outlay than at-least-one-boy households, but by 2017-18 this figure had dramatically reduced to 9.6 percentage points, though this is still a large gender gap which is highly statistically significant (as seen in column 7). There is a clear correlation between the gender composition of the household child population and the household's decision to incur positive educational spending, even in 2017-18. In other words, substantial gender differentiated treatment is seen even in 2017-18.

Table 2 shows that enrolment rates of both girls and boys rose dramatically in all three age groups, between 1995 and 2017, and the gender gap hugely narrowed to merely 1 percentage point in the 5-9 age group, and to merely 2 percentage points in the 10-14 age group. However, in the 15-19 age group, though much smaller than in 1995, the gender gap in enrolment rate in 2017-18 remained large at 8 percentage points nationally, and was substantial in most of the states (except in West Bengal where the gender gap reversed to pro-female). The great improvement in enrolment rates and the reduction in the gender gap in school enrolment between 1995 and 2017-

18 can be attributed partly to the various public educational programs e.g. Sarva Siksha Abhiyan (SSA) and partly to poverty reduction over this period, inter alia.

Table 3 shows the picture of private school enrolment. It shows that while enrolment of both genders in private schools dramatically increased over the two decades (1995 to 2017-18) in almost all the states, it increased more for boys than for girls. Over the 23 year period to 2017-18, the pro-male gender gap remained the same in the primary age group, rose by two percentage points in the middle school age group, and rose by six percentage points in the secondary age group (last row of Table 3). The number of states where the gender difference in private school enrolment rate is statistically significant, has *increased over time* in the higher two age categories (10-14 and 15-19 year olds). In 1995, the gender difference in *school enrolment rate* was the major driver of gender differences in educational spending (Table 2), but by 2017-18 it was no longer the driver in the 5-9 age group and its importance as the driver had greatly dwindled in the upper two age groups. By 2017-18, gender difference in *private school enrolment rate* had become the dominant driver of gender differences in educational spending.

Table 4 shows average educational expenditure, conditional on enrolment. It shows that, once enrolled in school, girls and boys were not treated differently in 1995 in terms of educational spending in most of the states. However, this picture changed after two decades. By 2017-18, significantly less was spent on enrolled girls' education in 8 out of 16 states in the 10-14 age group, and in 10 out of 16 states in the 15-19 age group. In other words, the incidence of gender bias in conditional education expenditure rose over time. Combining this with the findings of Table 3 suggests that the spread of private schooling over time provided parents the mechanism through which they could practice gender differentiated treatment in their children's education.

Table 5 includes the zero expenditure (i.e. non-enrolled) children, i.e. it shows unconditional education expenditure. It suggests strong gender bias in the higher two age groups across most states in 1995. Comparing the columns here with those in Table 4 (conditional education expenditure table) suggests that in 1995 the gender gap in educational spending could be attributed mainly to the higher probability of non-enrolment of girls (i.e. via zero education expenditure), and much less so via lower expenditures once enrolled, because the gender gap in educational expenditure is significant in many more states in Table 5 than in Table 4. But by 2017-18 the picture had changed: gender bias in 2017-18 seemed to be practiced less through lower enrolment (i.e. lower incidence of positive education spending) and more via lower educational expenditure once enrolled.

The question is what explains the emergence of significant gender gaps in conditional educational spending in many states by 2017-18? Table 3 suggests a part of the answer: enrolment in private schools increased substantially in the two decade period, and the gender gap in enrolment rates in the private schools is statistically significant in more of the states in 2017 than in 1995. In several cases there is correspondence of the gender gap in enrolment in private school (Table 3) and the gender gap in conditional educational spending (Table 4) in all three age categories.

An important fact that emerges from Tables 4 and 5 is that absolute household education expenditure has sharply increased in all the states (in real terms) in all the age groups over the near-20 year period under consideration. Moreover, the share of education expenditure in total household consumption expenditure rose from 7.6% to

8.7% between 1995 and 2017-18 in rural India. This large increase in educational expenditure is due partly to a significant rise in private school enrolment.

3.2. Detecting gender bias using household level data

The conventional Engel curve method – using household level data – to detect intra-household disparities in education expenditure allocation across individuals (sons and daughters) may have a problem in detecting gender bias because the method combines/conflates two different educational decisions in which gender bias could potentially go in opposite directions: the positive purchase decision, and the conditional expenditure decision, conditional on positive purchase. While there may be pro-male bias in the enrolment (positive purchase/positive expenditure) decision, there may be pro-female bias in the conditional educational expenditure decision, e.g. if more is spent on enrolled girls' education than on enrolled boys' education which could be for example if boys can walk or go by bicycle or bus to school but girls have to go in a (more expensive) private rickshaw for safety reasons, or if girls' school clothes cost more than boys' because girls have to be well wrapped up. This conflating of the two decisions in household-data methodology could have been the reason why Subramanian and Deaton (1991) using NSS data of the Indian state of Maharashtra did not find any gender bias in household education expenditure in the 5 – 9 and 15 – 54 age groups[1]. To address this issue, we divide the household educational expenditure decision into two components for separate modelling: one, the decision to incur positive education expenditure, i.e. a positive budget share of education (that is, to enrol children in schooling), and two, conditional on this positive budget share, the decision of the size/amount of the budget share of education.

We estimate three equations for the rural areas of each of 16 major Indian states using household level data obtained from NSS 52nd (conducted in July 1995 - July 1996) and NSS 75th round (conducted in July 2017 – June 2018): (i) the conventional Engle curve equation; (ii) a binary probit of whether the educational budget share of household is positive or zero; and (iii) an OLS of the natural log of education budget share (this share is lognormally distributed), conditional on positive budget share. All the results i.e. 96 regression estimates (16 states * 3 equations * two time periods) are presented in Appendix Tables A1 and A2.

The first column of Table A1 under each state presents the conventional Engel curve of the share of education expenditure in total household expenditure (or ESHARE) fitted on all (zero and positive education expenditure) households.

Overall, the budget share of education in rural India was 7.6% in 1995 and 8.7% in 2017-18, i.e. the proportion of the household budget spent on education has increased substantially in the 20-year period between 1995 and 2017-18. The education budget-share of rural households in 2017-18 varies substantially across states from 5.3% in Karnataka to 12.9% in West Bengal, vis-à-vis 6.1% and 13.8% in Madhya Pradesh and Punjab respectively in

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[1] Using NSS 52nd Round (1995-96) data we have also obtained similar results. Our analysis suggests that there is no evidence of pro-male gender bias in intra-household education expenditure allocation in Maharashtra in the 5 – 9 and 10 – 14 age groups but the 15 – 19 age group indicates pro-male gender bias. Similarly, Ahmad and Morduch (1993) find no evidence of gender bias in Bangladesh. Identical treatment of Boys and Girls are confirmed for Pakistan by Deaton (1997) and Bhalotra and Attfield (1998).

1995. The goodness of fit of the unconditional OLS varies across states from 33% to 53% (see Appendix Table A1).

We find that log of per capita expenditure (LNPCE), is a highly significant predictor of the education budget share, and the elasticity of education expenditure with respect to LNPCE is greater than unity for all the states except Assam (0.51), Bihar (0.75), Gujarat (0.99), Himachal Pradesh (0.89), Madhya Pradesh (0.79), Maharashtra (0.79) and West Bengal (0.99). This suggests that education expenditure is a luxury good in rural India in many of the major states. This is similar to the situation in 1994 in rural India in Kingdon (2005). The average elasticity has remained roughly the same over time, i.e. 1.17 in 1995 and 1.18 in 2017-18.

In Appendix Table A1, the log of household size has a positive coefficient and head's years of education is also positively associated with the budget share of education expenditure across all Indian states, suggesting a higher demand for education in educated households. Caste plays a significant role in determining the budget share of education expenditure. The results show that in 13 out of 16 states (i.e. in all states except Assam, Bihar, and Maharashtra) Schedule Caste households spend significantly lesser on education than General and other backward castes (the omitted category) in 2017-18, vis-à-vis in only 4 out of 16 states in 1995. In 2017-18, in 4 out of 16 states (Gujarat, Rajasthan, Uttar Pradesh and West Bengal), was Muslim households' education budget share significantly lower than that of the Hindus and Sikhs. In NSS 52nd round, there was no variable related to religion therefore we could not incorporate the variable 'religion' in our 1995 NSS analysis. In 2017-18, as in 1995, the education budget share increases as the share of school going children increases within the household.

To detect gender bias in educational expenditure within the household under the Engel Curve approach, we inspected the p-values of the F-test of the null hypothesis that the coefficient of the demographic variables in each age group (M5to9 & F5to9; M10to14 & F10to14; and M15to19 & F15to19) are equal in the Appendix Tables A1 (for 2017-18) and A2 (for 1995). Table 6 shows the 'difference in marginal effect' (DME) of these gender variable by age group, for example, the difference in the coefficient on M5to9 (proportion of males aged 5-9 in the household) and the coefficient on F5to9 (proportion of females aged 5-9 in the household) using 2017-18 data, taken from Appendix Table A1. Table 6.1 shows the equivalent estimates using 1995 data, from Appendix Table A2.

Lack of evidence of gender bias using the conventional Engle curve method leads us to divide the household's education expenditure decision into two components, and use the hurdle model: the first decision being the 0/1 decision of whether or not to incur any positive education expenditure at all 'ANYEDEXP' (education budget-share being positive or zero), and the second decision of '*how much* to spend on education', conditional on incurring positive education expenditure i.e. an equation of the log of actual budget share of education (log of ESHARE). In the second and third columns of Appendix Table A1 we estimate these equations.

To measure gender bias, the coefficients on the demographic variables M5to9 (household's proportion of males aged 5 – 9) and F5to9 (proportion of females aged 5-9) in Appendix Table A1 are compared; similarly the coefficients on M10to14 and on F10to14 (household's proportion of males and females aged 10 – 14) are compared, and finally the coefficients on M15to19 and on F15to19 (household's proportion of males and females aged 15 – 19) are compared, i.e. we inspect the difference in the marginal effects of these male and female demographic variables in each equation. For example, in the probit equation of 'any educational expenditure' ANYEDEXP (or 'positive education budget share' ESHARE), the marginal effect on the variable M5to9 minus the marginal effect on the variable F5to9 is the 'Difference in Marginal Effect' (DME) of these two gender variables in the 5–9 age group. The DME is a scalar.

Table 6 presents the DMEs of the demographic variables for the 5–9, 10–14, and 15–19 age groups, respectively, calculated from the results in Appendix Table A1. Since the DME is a scalar, and we need to know whether the DME is statistically significantly different from zero, we obtained bootstrapped standard error in 500 replications of each equation. The figures in parentheses below each DME are the p-values of the F-test that the DME is equal to zero. The statistically significant DMEs (at the 5% level or better) are identified with an asterisk. In Table 6, the probit results in column 1 refer to male-female DME from the probit of whether the household had a positive education budget share (ANYEDEXP). Column 2 refers to the male-female DME in the conditional OLS of the log of education budget share (LNESHARE). Since the dependent variable here is in logs, the marginal effects of the male and female demographic variables were transformed before taking differences, so that the DMEs reported in column 2 are comparable to those in column 4, where the dependent variable is absolute budget share of education (ESHARE). Column 3 shows the DME from the combined marginal effects from the probit and conditional OLS equations, the combined marginal effect having been derived in the way shown in equation (7). Column 4 pertains to the DME in the unconditional OLS results, that is, in the OLS of the absolute budget share of education fitted on all (including zero education expenditure) households—the commonly reported Engel curve equation.

Discussion of results of Tables 6 and 6.1

A comparison of 2017-18 and 1995 results in the last rows of Tables 6 and 6.1 shows that, in India as a whole, whereas there was large and statistically significant pro-male bias in both enrolment and conditional educational expenditure decisions in all three age groups (5-9, 6-14 and 15-19) in 1995, by 2017-18, pro-male gender bias in either decision has reduced significantly in the lower two age groups, and in the 15-19 age group, there is a much reduced gender bias in the enrolment decision and conditional expenditure decision (compared to 1995)[2].

Delving deeper by age group and coming to the different states of India, a comparison of Tables 6 and 6.1 for the age group 5 to 9 shows that whereas in 1995 there was statistically significant pro-male gender bias in four states in the decision to incur any positive education expenditure (ANYEDEXP) i.e. in the decision to enrol a child in school, by 2017-18 there was such bias in 2 of the 16 major Indian states (Surprisingly, we notice statistically significant reverse gender bias in Andhra Pradesh and Odisha). According to Table 6.1, in 1995, having an extra boy in the 5 – 9 age group in the household raised the probability of the household 'having positive education expenditure' significantly more than having an extra girl in the 5-9 age group, in Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. But by 2017, there is pro-male bias in enrolment decision only in Gujarat and Madhya Pradesh and gender-bias in conditional educational expenditure has disappeared from all the states except Himachal Pradesh (Table 6). The results of conventional Engle curve estimates (unconditional OLS of education budget-

[2] While all our state level analysis is with village fixed effects, for the All-India analysis, it was not possible to use village fixed effects in STATA due to its being computationally very demanding, with 500 replications, on a very large sample of villages. However, our state level results show that adding village fixed effects does not alter the point estimates significantly.

share, i.e OLS of ESHARE) in column 4 show no gender bias in 2017-18, but in 1995 (Table 6.1) we do see that there was significant bias in Uttar Pradesh[3].

Moving to the 10 – 14 age group, in 2017-18 (Table 6), the gender DME in the probit equation may be positive for all states except Kerala, Maharashtra, Tamil Nadu and West Bengal but it is statistically significant in Andhra Pradesh, Bihar, Gujarat, Rajasthan and Uttar Pradesh, vis-à-vis its being positive, large and statistically significant in nine states in 1995 (see Table 6.1), suggesting that gender bias has reduced very markedly in the enrolment decision over the course of more than two decades in this 'junior'/middle/upper-primary school age too. Similarly, the gender DME in the conditional OLS is insignificant in all states expect Kerala (similar in all India level) where we notice pro-female bias in educational spending. However, the conventional Engle curve results in column 4 show no gender bias in any of the states in 2017-18, whereas in 1995 there was a large and very statistically significant pro-male bias in nine states. At the 'all India' level also, we observe a similar trend. The hurdle model (combined probit and OLS in column 3, Table 6) for the 10–14 age group detects gender bias only in Rajasthan, whereas, a striking *pro-female* bias in the unconditional educational spending in Kerala and West Bengal in 2017. However, both the hurdle model and Engle curve approach detect the presence of large and statistically significant gender bias in many states in 1995, leading to the conclusion that gender bias in educational spending in the upper-primary age group has virtually disappeared in two decades.

Our analysis for the 15 – 19 age group throws some strikingly different findings compared to those for the two younger age groups. In the 15-19 age group in 2017-18 (Table 6) the gender DME in the probit of ANYEDEXP is significantly positive in nine states, whereas in 1995, it was significantly positive in thirteen states. The gender DME in the conditional educational expenditure OLS is significantly positive in four states in 2017-18, and in ten states in 1995, and it is noteworthy that the gender DME in conditional education expenditure is much smaller in 2017-18 than in 1995 in most of the states. The hurdle model detects the presence of gender bias in six states in 2017-18 vis-à-vis nine states in 1995 (Table 6.1). Thus, in the secondary/higher-secondary school age group, although the extent of pro-male gender bias in the intra-household allocation of educational spending has fallen over time, it has not disappeared; it continues to exist in the northern states of UP, Bihar and Rajasthan but also in Andhra Pradesh, Tamil Nadu and somewhat surprisingly Gujarat.

In summary, our analysis using household level data suggests that, over roughly two decades from 1995 to 2017-18, gender bias in household education expenditure has significantly reduced in the primary and upper primary ages but that, in the 15-19 age group, though reduced, it still persists in many states. Gender-differentiated treatment in educational expenditure may persist at the secondary-school level because of a variety of factors: conservative attitudes to girls going out to school post-puberty, compounded perhaps by fear of gender violence; the greater distance of secondary schools (which are far fewer than primary and upper primary schools), especially of single-sex secondary schools; the higher cost of secondary education since government freebies under *Sarva Shiksha Abhiyan* (free school uniforms, free books, bags, etc.) stop after elementary education; closeness to the high-stakes 'further education' courses and to employment, etc. Our descriptive statistic Table 3 showed that

[3] The results using NSS data 1995 are somewhat similar to those from NCAER data 1994 reported in Kingdon (2005) which showed that in six states, there was significant within-household gender bias in the school enrolment (ANYEDEXP) decision and in three states there was bias in the unconditional education expenditure decision. Karnataka shows pro-female bias in conditional and combined educational spending in 1995. This trend is similar while comparing our results with Kingdon (2005)

enrolment in private schools substantially increased over more than two decades in rural India in all age groups, but most dramatically in the 15-19 year age group (from 5% of enrolled males and 7% of enrolled females in 1995, to 24% for females and 28% for males by 2017-18), and thus the scope for gender differentiated treatment via the private schooling decision was greater by 2017-18 – there was a greater 'supply' of private schools by 2017-18, compared to the limited supply in 1995. We observe that, in fact, in the secondary age group, girls' lower enrolment in private schools than boys' is an important mechanism for gender bias in educational spending within the household in 2017-18.

3.3. Detecting gender bias using individual-level data

If it is the case that individual child level education expenditure data is more capable of detecting gender bias than household level data (as found in Kingdon, 2005), then our finding of little gender bias in education spending in 2017-18 (using the above household data or Engel Curve approach) may not be correct; it could be that in fact gender bias existed but that household data was incapable of detecting it. Our most reliable estimates of the gender effect then would be based on *individual level* education expenditure data.

The 2017-18 NSS 75th round and 1995-96 NSS 52nd Round provide education expenditure data at the individual level, which we had aggregated at the household level in the previous section. In individual level analysis, our dependent variable is educational expenditure on an individual child in absolute terms (rather than the household's education budget share). However, to compare our results with those of Kingdon (2005) which had used 1993-94 data, we converted all the price variables for 1995 and 2017-18 i.e. individual education expenditure and household per-capita consumption expenditure, into 1994 prices by using the overall consumer price index (CPI) for each state[4] and have also retained the model specification of Kingdon (2005). In the individual level analysis, instead of using household demographic variables such as M5to10, F5to10, etc., the gender variable of interest is simply the dummy variable MALE, which takes the value of one for male and zero for female child. The remaining variables are identical to the household level analysis (for remaining variables see the first column of Appendix Table A1).

The marginal effects on the household variables in the individual-level and household-level equations are not comparable because the demographic variables in the household level equations differ from the MALE dummy variable in the individual-level equations, and because the dependent variable in the conditional and unconditional OLS in the individual level analysis (presented in Table 7 and 7.1) is educational expenditure on a person in absolute terms, whereas the dependent variable in the household-level analysis was the share of education expenditure in total household expenditure. Thus, the DME in Tables 6 and 6.1 are not comparable to the coefficient on the MALE dummy variable in the individual level analysis (Tables 7 and 7.1). However, we are interested mainly in finding whether, for each state that shows *insignificant* gender bias in household level analysis (in Tables 6 and 6.1), individual-level analysis shows *significant* gender bias (in Table 7 and 7.1), i.e. whether we were unable to detect gender bias even where it exists, when we use household-level analysis.

[4] CPI Data for Himachal Pradesh and Haryana were not available in 1994, therefore to obtain the data in real terms (1994 prices) for these two states, we have used all India CPI.

In the individual level analysis, we estimate 288 different regression equations for 16 states, i.e. 3 different equations for each of 3 different age groups at 2 different time periods (16 states * 3 Age Groups * 3 equations * 2 years). We do not report all 288 regression results for space reasons; instead we have reported the marginal effect on the gender variable MALE in Table 7 and 7.1 for all the states. Our results here are directly comparable to the results in Table 6 of Kingdon (2005) for the year 1994 using NCAER rural survey data for the same 16 states.

Discussion of results of Tables 7 and 7.1

The individual level results are set out in Table 7 for 2017-18 and Table 7.1 for 1995. The last row is for India as a whole. It shows that in 1995, in all age groups, gender bias was manifest both in the enrolment decision (ANYEDEXP) and also in the decision of how much to spend, conditional on school enrolment (see Table 7.1), but that by 2017-18, gender bias in the enrolment decision had dramatically fallen both in the 5 – 9 and 10 – 14 years age group: in the latter age group, while in 1995, boys were 20 percentage points more likely to be enrolled than girls, by 2017-18, they were only 1.8 percentage points more likely to be school enrolled. At the secondary age level, in 1995, boy's enrolment probability was about 30 percentage points higher than girls' but by 2017-18 this fell to only 7.5 percentage points higher. In a surprising contrast, in conditional education expenditure, we see a dramatic *increase* in gender bias in all the age categories. In the 5-9 age group, whereas on enrolled boys in 1995, only Rs. 21.62 more was spent than on enrolled girls, by 2017-18, this male advantage had increased to Rs. 65.86 more than girls (both figures are in real i.e. inflation-adjusted terms), i.e. an increase by 3.04 times over this near 20-year period. In the 10-14 age group, conditional education spending on boys was Rs. 38.09 more than girls in 1995, but by 2017-18, it rose to Rs. 87.91, i.e. by a factor of 2.3. Finally in the 15-19 age group, pro-male bias in conditional expenditure rose from Rs. 35.35 to Rs. 505.95, a dramatic 14.3 time increase over more than two decades.

Doing state-wise analysis, in the 5-9 age group in 1995, gender bias existed in 7 of the 16 states, but by 2017-18 it persists only in three states: Assam, Bihar and Odisha (though point estimates are statistically significant, but magnitudes are close to zero.). Similarly, in the 10-14 age group in 1995, gender bias existed in 15 of the 16 states, but by 2017-18 it existed only in five states: Bihar, Gujarat, Maharashtra and Uttar Pradesh (though point estimates are statistically significant, but magnitudes are close to zero.). Instead, by 2017-18, gender–differentiated treatment in these two younger age groups occurs mostly only at the stage of educational spending after both sons and daughters are enrolled in school and here point estimates are significantly larger than in 1995. However, in the 15-19 age group, gender bias persisted even in the enrolment decision, with ten of the 16 states continuing to display statistically significant gender difference in the probit of ANYEDEXP in 2017-18, compared to 15 of the 16 states in 1995.

The hurdle model (column 4 of each age group) detects gender bias in the 5 – 9 age group in eight states in 1995 but in only three states in 2017-18; in the 10-14 age group, the hurdle model finds significant gender bias in fourteen states in 1995 and seven states in 2017-18. In the 15-19 age group, the hurdle shows gender bias in 15 out of the 16 states in 1995 but in only eleven states in 2017-18.

In summary, the most important finding to emerge from the temporal comparison of gender bias trends in Tables 6 & 6.1 (household level data) and Tables 7 & 7.1 (individual level data) is that gender-differentiated treatment is statistically significant in many more states when we use individual child level data as compared to household level data, which indicates that individual-level data has more power to discern gender bias than household level data. The other important overall finding to emerge is that over the period 1995 to 2017-18, gender bias in educational enrolment (or positive education expenditure) decision has drastically fallen in the 5-9 and 10-14 age groups and reduced in the 15-19 group, but there is an increase in gender bias in the conditional expenditure decision in all age groups, and in the 15-19 age group the most.

Private school enrolment as a channel for gender bias in conditional education spending

The descriptive statistic Table 3 showed statistically significant gender differences in private school enrolment rates in 2017-18 but not in 1995, as in rural India in 1995 there was a very low rate of enrolment in private schools but by 2017-18 there had been a dramatic increase in private school attendance rate.

To investigate further, in Tables 8 and 8.1 (for 2017-18 and 1995 respectively), we fitted a probit equation of private school enrolment (on the sample of all enrolled children) which takes the value of 1 if the child is enrolled in a private school and of 0 if the child is school-enrolled but not in a private school. We also fitted OLS equations of conditional spending on attending private school for each of our three age groups. Finally we also estimated the unconditional OLS of absolute education expenditure, fitted on all children enrolled in any kind of school (private and non-private schools). The Table shows the marginal effect on the gender dummy variable MALE in each equation for each state and age group. Looking at the India row at the bottom, it is seen that the pro-male bias in both the probability of private school attendance, and in conditional private school expenditure, increased in all three age-groups, but most of all in the 15-19 age group. Examining the tables by state shows that in the 5-9 age group, there is significant pro-male gender bias in private school enrolment probability in only 3 states in 1995 but in 5 states in 2017-78; in the 10-14 age group, there is significant gender bias in private school enrolment probability in only 2 states in 1995 but in 4 states in 2017-18; in the 15-19 age group, there was gender bias in private school enrolment in 0 states in 1995 but in 6 states by 2017-18. This finding is similar to the trend detected in Maitra et. al. (2011). Even in the conditional expenditure decision within private schools, there was evidence of gender bias in 2017-18 and lack of it in 1995 in several states. It appears then that the dynamics of gender bias in educational spending have shifted over the course of twenty years. Earlier it used to occur through the non-enrolment of girls in any educational institution and now it is occurring through the non-enrolment of girls in private educational institutions.

Family Fixed Effects estimation

Jensen (2002) argued that gender inequality in outcomes could originate through parental fertility behaviour (differential stopping rule after the birth of a son and a daughter) even when there is no parental bias against born daughters. Under son-preference, a family may continue to try for more children after the birth of a girl child (in the hope that the next birth may be a boy) and may stop trying for more children after the birth of a boy child. Thus, in general, girls will tend to live in larger households than boys. If this is the case, then the observed significant male-female differences in education expenditure so far may represent not parental bias *per se* after a child is born, but a prior son-preference before the child is born. Since household size is the outcome of the parental behaviour, it is endogenous in our model. So, controlling for household size will not control adequately for this effect. Thus, to control for the household's unobserved factors, we have recomputed the education outcome equations at the individual level after controlling for household fixed effects. By doing this we get identification from gender differences in educational outcomes *within* the household and not across households. For estimation in each of the three age groups, we have taken the subset of only those households where there is at least one girl and one boy in that age group. We also added *age of the child* as a control in the household fixed effects equations. The family fixed effects results are reported in Tables 9 and 9.1 for 2017-18 and 1995 respectively. These show that the size of the marginal effects on MALE fell greatly in all the probit ANYEDEXP equations between 1995 and 2017-18, and the number of states with significant gender bias in the within-household allocation of school enrolment fell in all three age groups over time. Moving to the coefficient on MALE in the family fixed effects conditional and unconditional education expenditure equations, pro-male gender bias greatly increased, both in terms of the number of states that display such bias, and in terms of the size of the bias (the number of rupees more spent on sons' education than on daughters' education). These family fixed effects results mirror the simple OLS results of Tables 7 and 7.1. Thus, it is clear that most of the observed gender differences are due to the differential treatment of sons and daughters by parents within the home, rather than being an artefact of across-household differences in unobserved factors.

4. Conclusion

This paper presented a comparative picture of gender bias in educational spending in rural India over more than two decades, using NSS 1995 and NSS 2017-18 data, after converting all price related variables to 1994 prices.

The descriptive statistics showed powerful temporal trends in household gender-bias in education in rural India. Table 1 showed that in 1995, 'all-girl' households in rural India were nearly 21 percentage points more likely to report zero educational outlay than 'at-least-one-boy' households, but that by 2017-18 this figure had reduced to 9.6 points, indicating (reduced) continuation of a clear correlation between the gender composition of a household and its decision to incur positive educational spending, even in 2017-18. Table 2 showed that in 1995, the gender difference in *school enrolment rate* was the major driver of gender differences in educational spending, but by 2017-18 it was no longer the driver in the 5-9 year age group and its importance as the driver had greatly dwindled in the upper two age groups (10-14 and 15-19). Table 4 showed that the incidence of gender bias in conditional education expenditure i.e. among *enrolled* young people, rose over time. Combining this with the findings of Table 3 suggested that the spread of private schooling over time provided parents the *mechanism* through which they could practice gender differentiated treatment in their children's education and that, by 2017-18, gender difference in *private school enrolment rate* had become the dominant driver of gender differences in educational spending. Increased use of private education is probably an important factor in explaining why the budget share of education in total household consumption expenditure increased from 7.6% to 8.7% between 1995 and 2017-18 in rural India.

We found that individual level data has more power to detect within-household gender differences than household level analysis. We analysed two distinct processes by which gender bias occurs (bias in the enrolment decision and bias in the conditional educational expenditure decision), and found that jointly modelling these two processes dilutes the strong gender-differentiation that exists in many states in one or the other decision, or because the bias goes in the opposite direction in the two decisions, e.g. pro-male enrolment decision but pro-female conditional expenditure decision. Family fixed effects results mirrored our simple OLS results, indicating that the observed gender gaps are due to the differential treatment of sons and daughters by parents within the home, rather than an artefact of across-family differences in unobserved factors.

The best-buy individual level results show that gender bias in school enrolment in rural India dramatically fell between 1995 and 2017-18 but that conditional education expenditure dramatically rose. Between 1995 and 2017-18, in the 5-9 and 10-14 age groups respectively, gender bias in the enrolment decision had dramatically fallen from 9.4 and 20.0 percentage point enrolment-gaps between boys and girls in 1995 to only a 0.9 and 1.8 percentage point gaps respectively by 2017-18. At the secondary age level, boys' enrolment probability was about 30 percentage points higher than girls' in 1995, and this gender gap too fell to only 7.5 percentage points by 2017-18. In a surprising contrast to this falling gender bias in educational enrolment, in conditional education expenditure there was a dramatic *increase* in gender bias in all the age categories, and most of all in the 15-19 age group where, in inflation-adjusted terms, pro-male gender-gap increased 14.3 times over 20 years. We found that pro-male bias in both the probability of private school enrolment, and in conditional private school expenditure, increased between 1995 and 2017-18 in all three age-groups, but most of all in the secondary school 15-19 age group. This would seem to explain the increased bias in conditional education expenditure over time.

Thus, our most important finding is that there has been a change over time in *the way that gender bias is practiced within the household*. In 1995, gender bias occurred through a significantly higher probability of school-enrolment of boys than girls, but by 2017-18, gender bias was practiced via significantly higher conditional education expenditure on boys than girls, which was largely achieved via pro-male *private school enrolment* decisions. Households practicing gender equality in school enrolment (in the elementary school age group) by 2017-18 is a positive trend. However, girls' significant disadvantage vis-à-vis boys in terms of lower education expenditure, achieved via their lower private school enrolment rate by 2017-18, is problematic if lower expenditure is associated with lower levels of cognitive skills (literacy, numeracy, etc.)[5], since research internationally shows that both individual economic returns and national economic growth, accrue to cognitive skills and not independently to completing a given number of years in school[6].

[5] Lower expenditure on girls is mainly via their lower chances of attending fee-charging private schools. While survey data show a large gap in raw test scores between private and public schools in India (e.g. ASER in rural India, and IHDS 2005 data on India; and others), private schools' learning-achievement advantage falls sharply after controlling for students' home backgrounds. However, it is still significant in studies using stringent family fixed effects estimation of the achievement production function (Desai et. al., 2008, using IHDS data; French and Kingdon, 2010, using rural ASER data), with private school attendance associated with a 0.17 to 0.33 SD higher test score, after controlling for family fixed effects, age, gender, etc. The literature using other methods is more equivocal.

[6] Hanushek and Woessmann (2008); Aslam et. al. (2012); Hanushek and Rivkin (2012). Hanushek et. al. (2015) find that, across 23 countries, a one SD increase in the cognitive skill score raises incomes by an average of 18%.

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Table 1:

Descriptive Statistics by States

	Proportion of Girls in all children in the household (Ages 0-14)			**Proportion of All-Girl households in all households**			**% of 'at-least one boy' households that incurred any positive education expenditure**			**% of 'all-girl' households that incurred any positive education expenditure**			**Percentage Point Difference (columns 4-5)**		**t-value of difference in columns 4 and 5**	
1	**2**			**3**			**4**			**5**			**6**		**7**	
	2.1	2.2	2.3	3.1	3.2	3.3	4.1	4.2	4.3	5.1	5.2	5.3	6.1	6.2	7.1	7.2
States/Year	2017	1995	Diff	2017	1995	Diff	2017	1995	Diff	2017	1995	Diff	2017	1995	2017	1994
Andhra Pradesh	46.7	46.3	0.4	29.6	21.2	8.4	86.5	72.7	13.8	83.2	53.3	29.9	3.3	19.4	2.0	8.3
Assam	44.8	43.6	1.2	26.1	17.7	8.4	84.8	65.8	19.0	79.4	54.1	25.3	5.4	11.7	2.8	3.6
Bihar	45.5	46.2	-0.7	20.0	16.5	3.5	82.9	62.8	20.1	67.9	35.5	32.4	15.0	27.3	9.7	12.2
Gujarat	46.5	46.8	-0.3	22.2	17.0	5.2	83.7	74.7	9.0	69.7	52	17.7	14.0	22.7	4.9	6.5
Haryana	43.1	45.6	-2.5	18.4	16.4	2.0	77.9	79.5	-1.6	60.6	43.5	17.1	17.3	36.0	4.4	7.2
Himachal Pradesh	49.2	47.2	2.0	25.3	19.2	6.1	91.0	80.0	11.0	75.0	66.7	8.3	16.0	13.3	5.9	3.4
Karnataka	44.2	48.0	-3.8	25.7	19.0	6.7	84.5	75.7	8.8	80.3	58.1	22.2	4.2	17.6	1.7	5.4
Kerala	46.7	47.6	-0.9	33.2	27.8	5.4	87.7	78.0	9.7	80.9	68.3	12.6	6.8	9.7	2.9	3.4
Madhya Pradesh	46.0	46.4	-0.4	21.4	17.7	3.7	86.2	65.3	20.9	73.8	38.9	34.9	12.4	26.4	8.0	10.6
Maharashtra	47.1	47.8	-0.7	25.0	19.4	5.6	83.6	75.4	8.2	77.9	53.2	24.7	5.7	22.2	2.8	8.6
Odisha	46.9	49.1	-2.2	27.6	21.4	6.2	86.8	68.9	17.9	82.4	42.9	39.5	4.4	26.0	2.5	8.6
Punjab	42.4	44.3	-1.9	21.7	15.8	5.9	84.1	76.1	8.0	71.5	59.4	12.1	12.6	16.7	3.7	4.5
Rajasthan	46.8	44.3	2.5	20.4	14.8	5.6	80.3	72.4	7.9	64.1	28.2	35.9	16.2	44.2	6.9	13.9
Tamil Nadu	49.3	48.3	1.0	32.8	27.6	5.2	88.2	77.7	10.5	83.5	66.6	16.9	4.7	11.1	2.4	4.7
Uttar Pradesh	46.4	45.7	0.7	20.5	13.8	6.7	81.6	73.5	8.1	65.8	41.1	24.7	15.8	32.4	11.1	16.2
West Bengal	47.5	47.9	-0.4	28.7	21.1	7.6	85.9	73.3	12.6	76.9	54.5	22.4	9.0	18.8	5.4	8.0
All India	46.3	46.6	-0.3	24.1	18.9	5.2	84.2	71.3	12.9	74.6	50.2	24.4	9.6	21.1	19.1	24.4

Source: Authors' own calculations from the raw NSS 52nd and 75th Rounds, for 1995-96 and for 2017-18 respectively.

Table 2:
Current enrolment rate of children by age group and gender, Rural India

	Age 5 to 9						Age 10 to 14						Age 15 to 19					
	2017			1995			2017			1995			2017			1995		
State	**Male**	**Female**	**Gap**	**Male**	**Female**	**Gap**	**Male**	**Female**	**Gap**	**male**	**Female**	**Gap**	**Male**	**Female**	**Gap**	**male**	**Female**	**Gap**
Andhra Pradesh	97	95	2	75	68	7*	97	95	2*	78	60	18*	87	74	13*	40	17	23*
Assam	95	93	2	63	63	0*	96	95	1	85	80	5*	63	58	5	63	49	13*
Bihar	88	84	4*	55	39	15*	96	93	3*	78	49	29*	73	60	13*	58	19	39*
Gujarat	94	90	4	74	66	8*	94	91	3	86	65	20*	72	51	21*	41	19	23*
Haryana	90	92	-2	80	71	9*	95	92	3	92	79	13*	76	67	9*	50	24	26*
Himachal Pradesh	98	97	1	82	79	3	100	99	1	97	89	8*	87	89	-2	72	56	16*
Karnataka	90	90	0	73	67	6*	96	97	-1	78	58	19*	83	77	6*	37	18	19*
Kerala	98	98	0	93	91	2	100	99	1	95	97	-1	93	93	0	51	53	-2
Madhya Pradesh	88	86	2	53	44	9*	94	92	2*	77	53	24*	65	58	7*	57	18	39*
Maharashtra	90	90	0	78	74	3	98	96	2*	86	73	13*	86	75	11*	52	28	24*
Odisha	92	94	-2	70	60	10*	95	95	0	76	61	16*	68	54	14*	52	24	28*
Punjab	97	99	-2	85	82	3	97	96	1	91	81	10*	83	79	4	46	31	15*
Rajasthan	88	87	1	68	42	26*	94	86	8*	86	38	48*	73	59	14*	57	8	48*
Tamil Nadu	98	98	0	92	87	5*	98	99	-1	87	77	10*	89	88	1	41	24	18*
Uttar Pradesh	85	82	3	66	52	14*	92	87	5*	85	53	31*	70	60	10*	57	18	39*
West Bengal	94	93	1	67	60	7*	93	97	-4*	83	75	8*	66	75	-9*	53	36	17*
All India	90	89	1*	68	58	10*	95	93	2*	83	64	19*	76	68	8*	54	25	29*

Source: Authors' own calculations from the raw NSS 52nd and 75th Rounds for 1995-96 and for 201-18 respectively.
Note: The * signifies that the gender gap is statistically significant at 5% level

Table 3:
Percentage of enrolled children studying in private schools, by age group and gender, Rural India

States	Age 5 to 9						Age 10 to 14						Age 15 to 19					
	2017			1995			2017			1995			2017			1995		
	Male	Female	Gap	Male	Female	Gap	Male	Female	Gap	Male	Female	Gap	Male	Female	Gap	Male	Female	Gap
Andhra Pradesh	39	35	4	11	6	5*	22	21	1	8	7	1	62	65	-3	10	6	4
Assam	9	8	1	0	1	-1	6	5	1	0	0	0	5	6	-1	1	0	1
Bihar	9	8	1	7	5	2	8	6	2	5	6	-1	10	3	7*	3	6	-3
Gujarat	6	5	1	0	1	-1	7	6	1	0	0	0	14	14	0	0	1	-1
Haryana	46	43	3	25	20	5	44	34	10*	16	10	6	31	38	-7	9	8	1
Himachal Pradesh	37	27	10*	4	1	3	28	24	4	3	1	2*	17	13	4	5	5	0
Karnataka	19	15	4	1	0	1	10	11	-1	3	1	2	25	23	2	9	8	1
Kerala	29	35	-6	12	8	4	14	20	-6*	3	4	-1	30	29	1	22	32	-10*
Madhya Pradesh	16	13	3	2	2	0	10	8	2	2	2	0	16	11	5*	2	3	-1
Maharashtra	9	6	3	0	0	0	6	4	2	1	2	-1	10	10	0	2	2	0
Odisha	8	9	-1	1	2	-1	3	2	1	4	3	1	23	12	11*	10	17	-7
Punjab	34	30	4	16	12	4	33	27	6	10	4	6*	33	34	-1	5	5	0
Rajasthan	34	25	9*	5	4	1	30	21	9*	2	3	-1	40	31	9*	1	5	-4*
Tamil Nadu	25	21	4	4	2	2	17	13	4	2	1	1	52	40	12*	3	2	1
Uttar Pradesh	38	33	5*	19	17	2	36	33	3	18	18	0	38	33	5*	6	10	-4
West Bengal	11	9	2	1	0	1	3	2	1	0	1	-1	7	2	5*	1	1	0
All India	21	19	2*	8	6	2*	17	14	3*	6	5	1*	28	24	4*	5	7	-2*

Source: Authors' own calculations from the raw NSS 52nd and 75th Rounds for 1995-96 and for 201-18 respectively.

Note: The * signifies that the gender gap is statistically significant at 5% level

Table 4:

Conditional Educational Expenditure (i.e. on enrolled children only), by age group and gender, Rural India

States	Age 5 to 9						Age 10 to 14						Age 15 to 19					
	2017			1995			2017			1995			2017			1995		
	Male	Female	t-value of Gap	Male	Female	t-value of Gap	Male	Female	t-value of Gap	Male	Female	t-value of Gap	Male	Female	t-value of Gap	Male	Female	t-value of Gap
Andhra Pradesh	1076	1015	0.7	131	116	1.1	1118	1056	0.7	367	341	1.2	4377	3982	1.9	1039	814	1.2
Assam	566	520	0.7	140	150	-0.7	687	645	0.7	288	296	-0.6	1884	1789	0.7	751	746	0.1
Bihar	563	508	1.5	155	140	1.2	783	655	3.6*	331	331	0.0	2821	1508	7.6*	760	761	0.0
Gujarat	582	493	0.9	125	114	0.9	913	640	3.1*	309	279	1.6	3037	2694	1.2	932	822	1.1
Haryana	1671	1702	-0.1	677	528	1.1	2159	1527	2.9*	864	749	1.2	3393	3507	-0.4	1403	1445	-0.2
Himachal Pradesh	2186	1587	2.3*	384	360	0.9	2389	1803	2.4*	697	687	0.3	4559	3394	3.5*	1362	1183	2.0*
Karnataka	827	741	0.9	102	92	0.9	820	755	0.7	306	315	-0.4	3152	2517	3.5*	764	726	0.4
Kerala	1703	1844	-0.8	499	431	1.3	1551	1715	-1.2	583	567	0.4	4298	4371	-0.2	1014	1236	-1.8
Madhya Pradesh	672	516	2.9*	143	129	1.4	663	585	1.6	345	306	2.8*	2248	1538	4.6*	653	545	2.4*
Maharashtra	586	488	1.3	174	158	1.9	905	598	3.4*	368	377	-0.6	3625	2818	3.7*	812	781	0.5
Odisha	479	507	-0.5	119	123	-0.3	672	581	2.0	365	336	1.4	3923	1947	7.4*	900	709	2.5*
Punjab	2276	2083	0.7	611	645	-0.5	2457	2114	1.3	1009	885	2.5*	4621	4400	0.7	1788	2111	-2.2*
Rajasthan	962	758	2.9*	230	188	2.5*	1141	885	3.3*	424	339	4.1*	3380	2208	5.6*	877	815	0.4
Tamil Nadu	1318	1025	2.2*	203	157	2.2*	1188	948	2.2*	416	406	0.4	5620	4032	6.0*	1191	1047	1.0
Uttar Pradesh	946	821	1.9	245	225	1.4	1097	915	3.7*	500	422	4.2*	3582	2297	8.0*	945	839	2.0*
West Bengal	705	616	1.4	165	128	2.4*	1015	961	1.2	544	530	0.6	3284	2302	4.9*	1247	1157	1.4
All India	865	767	4.4*	220	199	3.4*	1038	874	8.1*	447	428	2.8*	3650	2745	15.1*	965	986	-0.9

Source: Authors' own calculations from the raw NSS 52nd and 75th Rounds for 1995-96 and for 2017-18 respectively.
Note: Expenditure is measured in rupees and the 2017-18 figures are converted to 1995 prices using aggregate deflator of CPI (Consumer Price index). The gender gap column shows the t-value of the gender gap. * means that the gap is statistically significant at the 5% level.

Table 5:

Unconditional Education Expenditure (i.e. on both non-enrolled and enrolled children), by age group and gender, Rural India

States	Age 5 to 9						Age 10 to 14						Age 15 to 19					
	2017			1995			2017			1995			2017			1995		
	Male	Female	t of Gap	Male	Female	t of Gap	Male	Female	t of Gap	Male	Female	t of Gap	Male	Female	t of Gap	Male	Female	t of Gap
Andhra Pradesh	1039	969	0.9	98	79	1.9	1087	1005	1.0	287	204	4.9*	3791	2941	4.8*	414	137	5.2*
Assam	539	481	0.9	87	94	-0.6	661	614	0.8	244	237	0.6	1193	1038	1.5	470	367	3.0*
Bihar	493	424	2.1*	84	55	4.8*	753	608	4.2*	258	163	8.0*	2045	898	9.5*	439	141	11.8*
Gujarat	544	444	1.1	93	75	1.9	859	580	3.4*	265	182	5.2*	2176	1367	4.2*	386	155	5.9*
Haryana	1503	1559	-0.3	542	376	1.6	2049	1407	3.1*	793	593	2.4*	2594	2341	1.0	707	352	3.6*
Himachal Pradesh	2146	1541	2.4*	317	286	1.2	2383	1784	2.4*	676	612	2.0*	3969	3014	3.1*	979	666	4.2*
Karnataka	748	665	0.9	75	62	1.5	784	730	0.6	238	184	3.5*	2617	1942	4.3*	283	132	4.6*
Kerala	1675	1804	-0.8	465	393	1.5	1547	1700	-1.1	556	548	0.2	4000	4077	-0.2	515	656	-1.9
Madhya Pradesh	590	441	3.1*	76	56	3.4*	624	539	1.9	266	163	9.5*	1455	890	5.6*	369	97	13.5*
Maharashtra	528	441	1.3	135	117	2.4*	886	573	3.5*	317	276	3.2*	3108	2123	5.4*	419	219	6.1*
Odisha	438	474	-0.7	83	74	1.0	640	555	1.9	278	204	4.5*	2677	1046	9.0*	467	171	8.1*
Punjab	2209	2060	0.6	522	530	-0.1	2382	2030	1.4	919	716	4.4*	3826	3482	1.2	821	657	1.9
Rajasthan	842	658	2.9*	156	78	7.6*	1073	763	4.4*	363	127	16.7*	2474	1296	7.9*	498	68	10.2*
Tamil Nadu	1292	1000	2.2*	186	136	2.6*	1162	935	2.1*	363	314	2.3*	4983	3536	6.0*	494	246	4.6*
Uttar Pradesh	802	677	2.3*	163	118	5.0*	1011	795	4.9*	423	225	14.5*	2496	1381	10.0*	543	152	17.0*
West Bengal	659	575	1.4	111	77	3.2*	944	936	0.2	451	396	2.6*	2157	1714	2.9*	661	413	6.1*
All India	780	680	4.9*	150	116	8.2*	989	812	9.1*	372	273	18.8*	2774	1854	19.8*	508	251	23.8*

Source: Authors' own calculations from the raw NSS 52nd and 75th Rounds for 1995-96 and for 2017-18 respectively
Note: Expenditure is measured in rupees. The figures of 2017-18 and 1995 are both converted to 1994 prices using aggregate deflator of CPI (Consumer Price index). The gender gap column shows the t-value of the gender gap. * signifies that the gender gap is statistically significant at the 5% level.

Table 6: Difference in marginal effect (DME) * 100 of gender variables by age group (household-level data) of 2017-18, NSS 75th round, Rural India

States	**DME for Ages 5-9**				**DME for Ages 10-14**				**DME for Ages 15-19**			
	Probit of ANYEDEXP (positive ESHARE)	**OLS of Conditional LNESHARE**	**Combined Probit +OLS**	**OLS of Unconditional ESHARE (Conventional Engel Curve)**	**Probit of ANYEDEXP (positive ESHARE)**	**OLS of Conditional LNESHARE**	**Combined Probit +OLS**	**OLS of Unconditional ESHARE (Conventional Engel Curve)**	**Probit of ANYEDEXP (positive ESHARE)**	**OLS of Conditional LNESHARE**	**Combined Probit +OLS**	**OLS of Unconditional ESHARE (Conventional Engel Curve)**
	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)
Andhra Pradesh	**-33.916***	-1.626	-6.210	-0.142	**22.369***	1.423	4.438	2.09	**13.029***	6.017	**7.649***	**5.84***
	(0.001)	(0.717)	(0.207)	(0.963)	(0.000)	(0.695)	(0.191)	(0.397)	(0.000)	(0.089)	(0.008)	(0.012)
Assam	-2.910	-1.528	-1.621	0.584	13.464	-0.869	-0.106	-1.094	**13.436***	1.308	1.978	2.076
	(0.770)	(0.325)	(0.283)	(0.776)	(0.167)	(0.563)	(0.940)	(0.583)	(0.016)	(0.447)	(0.224)	(0.317)
Bihar	1.592	-1.194	-1.049	0.236	**25.861***	-1.031	0.644	1.273	**19.772***	**7.261***	**8.243***	**15.634***
	(0.753)	(0.390)	(0.431)	(0.882)	(0.000)	(0.437)	(0.579)	(0.415)	(0.000)	(0.000)	(0.030)	(0.000)
Gujarat	**37.340***	1.352	3.760	2.241	**29.428***	-0.907	1.081	1.198	**30.129***	**4.890***	**6.659***	5.426
	(0.041)	(0.671)	(0.247)	(0.580)	(0.049)	(0.728)	(0.692)	(0.718)	(0.000)	(0.046)	(0.004)	(0.062)
Haryana	-79.588	4.737	-7.071	5.277	24.854	8.670	11.324	18.483	**52.057***	-5.881	2.125	-2.471
	(0.108)	(0.616)	(0.515)	(0.463)	(0.324)	(0.266)	(0.165)	(0.001)	(0.000)	(0.334)	(0.412)	(0.571)
Himachal Pradesh	0.000	**12.931***	12.931	13.379	0.000	0.017	0.017	5.972	0.000	2.301	2.301	4.771
	(0.476)	(0.022)	(0.054)	(0.007)	NA	(0.997)	(0.997)	(0.175)	(0.207)	(0.553)	(0.573)	(0.153)
Karnataka	-22.917	-2.247	-4.934	-0.182	1.503	-1.546	-1.301	-0.760	10.78	5.050	6.152	**6.418***
	(0.167)	(0.685)	(0.367)	(0.967)	(0.904)	(0.714)	(0.741)	(0.827)	(0.079)	(0.173)	(0.058)	(0.027)
Kerala	0.465	4.476	4.540	0.788	**-5.376***	**-12.836***	**-13.589***	**-9.808***	0.085	-6.368	-6.354	-5.501
	(0.454)	(0.496)	(0.496)	(0.877)	(0.000)	(0.007)	(0.004)	(0.007)	(0.534)	(0.095)	(0.084)	(0.061)
Madhya Pradesh	**18.285***	-2.308	-0.972	0.689	15.681	-2.744	-1.544	1.141	**15.093***	0.647	1.570	**3.909***
	(0.037)	(0.147)	(0.536)	(0.716)	(0.141)	(0.059)	(0.274)	(0.513)	(0.007)	(0.676)	(0.267)	(0.022)
Maharashtra	4.942	-0.416	0.057	2.893	-16.686	-0.089	-1.590	3.031	**25.016***	**5.072***	**7.001***	**6.987***
	(0.721)	(0.889)	(0.985)	(0.369)	(0.359)	(0.974)	(0.562)	(0.310)	(0.000)	(0.023)	(0.000)	(0.002)
Odisha	**-32.651***	0.505	-2.330	1.112	-0.235	-0.583	-0.575	0.871	**16.985***	-0.679	0.815	2.385
	(0.006)	(0.830)	(0.267)	(0.616)	(0.977)	(0.792)	(0.771)	(0.674)	(0.001)	(0.798)	(0.750)	(0.306)
Punjab	-24.082	-12.722	-15.825	-4.716	-12.404	-2.922	-4.781	-3.767	-4.158	-4.041	-4.445	1.325
	(0.528)	(0.228)	(0.193)	(0.468)	(0.646)	(0.754)	(0.639)	(0.512)	(0.719)	(0.579)	(0.467)	(0.755)
Rajasthan	15.71	0.969	2.635	4.394	**31.388***	5.400	**8.442***	5.884	**25.561***	2.323	4.973	**6.175***
	(0.260)	(0.815)	(0.509)	(0.206)	(0.025)	(0.149)	(0.012)	(0.063)	(0.002)	(0.494)	(0.093)	(0.022)
Tamil Nadu	-11.931	9.145	7.005	2.473	-5.92	5.786	4.720	5.746	-1.051	9.242	**9.023***	**8.082***
	(0.326)	(0.280)	(0.466)	(0.604)	(0.015)	(0.387)	(0.447)	(0.122)	(0.266)	(0.073)	(0.045)	(0.004)
Uttar Pradesh	9.746	-1.827	-0.693	0.348	**37.064***	-3.512	0.483	1.114	10.782	**5.870***	**6.3937***	**(5.732)***
	(0.266)	(0.468)	(0.790)	(0.858)	(0.000)	(0.135)	(0.824)	(0.542)	(0.093)	(0.015)	(0.002)	(0.001)
West Bengal	7.646	-4.527	-3.515	-1.582	-9.062	-4.546	**-5.304***	-0.937	8.039	-4.538	-3.484	2.235
	(0.436)	(0.099)	(0.217)	(0.504)	(0.291)	(0.071)	(0.015)	(0.666)	(0.057)	(0.075)	(0.121)	(0.264)
All India	0.532	**-2.471***	-2.085	0.358	**17.766***	**-2.297***	0.078	1.131	**20.409***	**1.855***	**3.996***	**4.888***
	(0.894)	(0.013)	(0.057)	(0.622)	(0.000)	(0.009)	(0.080)	(0.081)	(0.000)	(0.031)	(0.000)	(0.000)

Note: The probit of ANYEDEXP represents a probit of whether the household has a positive ESHARE (i.e. positive budget share of education). ESHARE in column 4 (in each age group) is the household's 'share of education expenditure in total household expenditure' (also called the education budget share). In the conditional OLS equation fitted only for households with positive education spending, the dependent variable is natural log of the education budget share (LNESHARE). The coefficients on the gender dummy variables were transformed so that the marginal effects reported in col. 2 are comparable to those in col. 4, where the dependent variable is in absolute ESHARE rather than log terms. Col. 4 shows the unconditional OLS of ESHARE, fitted on all households, including those with zero education budget shares. The table displays 100 times the difference in marginal effects (DME) of the variables 'proportion of males aged 5–9' and 'proportion of females aged 5–9', etc. The figures in parentheses are p-values of the t-test of the DME, where standard errors for the t-test in each cell of col. 3 were obtained by bootstrapping with 500 replications. * Statistically significant at 5% level.

Table 6.1 Difference in marginal effect (DME) * 100 of gender variables by age group (household-level results) of 1995-96 (NSS 52nd Round), Rural India

	DME for Ages 5 to 9				**DME for Ages 10-14**				**DME for Ages 15-19**			
	Probit of ANYEDEXP (positive ESHARE)	**OLS of Conditional LNESHARE**	**Combined Probit +OLS**	**OLS of Unconditional ESHARE (Conventional Engel Curve)**	**Probit of ANYEDEXP (positive ESHARE)**	**OLS of Conditional LNESHARE**	**Combined Probit +OLS**	**OLS of Unconditional ESHARE (Conventional Engel Curve)**	**Probit of ANYEDEXP (positive ESHARE)**	**OLS of Conditional LNESHARE**	**Combined Probit +OLS**	**OLS of Unconditional ESHARE (Conventional Engel Curve)**
States	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)
Andhra Pradesh	1.200	-1.20	-1.11	-0.11	**4.810***	**3.98***	**4.25***	**3.43***	**4.390***	**5.10***	**5.34***	**8.45***
	(0.473)	(0.573)	(0 .636)	(0.949)	(0.000)	(0.026)	(0.017)	(0.028)	(0.004)	(0.051)	(0.052)	(0.000)
Assam	0.750	-2.11	-2.04	-1.61	1.640	-1.49	-1.35	-0.21	**4.150***	-0.60	-0.28	**8.26***
	(0.415)	(0.302)	(0.360)	(0.485)	(0.101)	(0.424)	(0.498)	(0.925)	(0.000)	(0.804)	(0.926)	(0.001)
Bihar	**14.21***	-2.59	-1.39	1.37	**43.450***	**5.03***	**7.84***	**5.35***	**41.570***	**19.94***	**21.61***	**15.83***
	(0.011)	(0.153)	(0.446)	(0.340)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Gujarat	0.270	3.64	3.64	1.24	1.620	1.13	1.22	**4.26***	**2.320***	4.56	4.68	**10.71***
	(0.774)	(0.130)	(0..164)	(0.629)	(0.081)	(0.567)	(0.576)	(0.049)	(0.006)	(0.079)	(0.093)	(0.000)
Haryana	-0.270	-0.36	-0.39	4.58	0.230	-0.38	-0.35	3.28	**0.570***	4.45	4.53	**11.72***
	(0.284)	(0.959)	(0.957)	(0.459)	(0.256)	(0.949)	(0.953)	(0.531)	(0.002)	(0.563)	(0.588)	(0.032)
Himachal Pradesh	0.000	-3.90	-3.90	-3.61	0.000	0.92	0.92	5.29	0.000	**12.25***	**12.25***	**14.00***
	(0.314)	(0.379)	(0.445)	(0.454)	(0.152)	(0.796)	(0.790)	(0.177)	(0.226)	(0.000)	(0.004)	(0.000)
Karnataka	1.570	**-10.56***	**-10.43***	-2.25	**2.220***	3.37	3.50	**6.16***	**1.910***	**5.39***	5.50	**7.96***
	(0.072)	(0.000)	**(0.000)**	(0.362)	(0.000)	(0.108)	(0.098)	(0.001)	(0.018)	(0.087)	(0.112)	(0.002)
Kerala	0.000	-4.36	-4.36	-2.96	0.000	-0.89	-0.89	-0.561	0.000	-1.08	-1.08	-0.267
	(0.345)	(0.271)	(0.326)	(0.438)	(0.836)	(0.752)	(0.741)	(0.842)	(0.727)	(0.754)	(0.752)	(0.929)
Madhya Pradesh	**8.040***	0.009	0.560	1.09	**17.330***	**3.54***	**4.67***	**5.70***	**14.050***	**7.87***	**8.69***	**12.60***
	(0.001)	(0.996)	(0.778)	(0.482)	(0.000)	(0.030)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Maharashtra	-0.070	3.27	3.27	-0.08	**0.530***	1.35	1.40	1.97	**0.770***	**7.36***	**7.43***	**8.64***
	(0.725)	(0.124)	(0.150)	(0.964)	(0.001)	(0.459)	(0.436)	(0.245)	(0.000)	(0.009)	(0.013)	(0.000)
Odisha	-3.190	2.98	2.58	1.61	**14.260***	5.14	**6.07***	**8.45***	**16.730***	**17.16***	**17.73***	**12.58***
	(0.678)	(0.333)	(0.437)	(0.516)	(0.042)	(0.051)	(0.021)	(0.000)	(0.015)	(0.000)	(0.000)	(0.000)
Punjab	0.030	2.81	2.81	4.94	**0.100***	4.30	4.31	**7.16***	-0.020	5.56	5.55	4.15
	(0.523)	(0.580)	(0.592)	(0.253)	(0.049)	(0.305)	(0.257)	(0.047)	(0.665)	(0.306)	(0.353)	(0.313)
Rajasthan	**1.690***	3.67*	3.79	3.22	**5.390***	**8.30***	**8.69***	**11.12***	**3.770***	**14.01***	**14.26***	**16.44***
	(0.008)	(0.139)	(0.173)	(0.110)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tamil Nadu	0.180	**6.28***	**6.30***	3.58	0.470	-2.64	-2.59	0.99	**0.800***	**8.73***	**8.80***	**13.27***
	(0.512)	(0.029)	(0.037)	(0.173)	(0.012)	(0.258)	(0.267)	(0.631)	(0.000)	(0.005)	(0.014)	(0.000)
Uttar Pradesh	**1.400***	2.46	2.59	**4.42***	**4.240***	**6.96***	**7.36***	**10.38***	**3.280***	**17.34***	**17.61***	**15.74***
	(0.000)	(0.222)	(0.250)	**(0.006)**	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
West Bengal	1.260	-2.32	-2.16	-0.87	0.240	5.55	**5.56***	2.17	**4.150***	8.00	**8.46***	**10.29***
	(0.081)	(0.520)	(0.576)	(0.714)	(0.747)	(0.075)	(0.048)	(0.318)	(0.000)	(0.054)	(0.031)	(0.000)
All India	**12.421***	1.258	**2.281***	**1.651***	**37.227***	**2.061***	**5.431***	**2.948***	**35.704***	**9.006***	**10.982***	**9.549***
	(0.000)	(0.117)	(0.005)	(0.004)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note: Same as in Table 6.

Table 7: Marginal effect of the gender dummy variable MALE (individual-level data) of 2017-18, NSS 75th round, Rural India

	Children Aged 5-9				**Children Aged 10-14**				**Children Aged 15-19**			
	Probit of ANYEDEXP (i.e. positive EDEXP)	**OLS of Conditional lnEDEXP**	**Combined Probit +OLS**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP (i.e. positive EDEXP)**	**OLS of Conditional lnEDEXP**	**Combined Probit +OLS**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP (i.e. positive EDEXP)**	**OLS of Conditional lnEDEXP**	**Combined Probit +OLS**	**OLS of Unconditional EDEXP**
States	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)
Andhra Pradesh	0.000	101.103	**101.103***	135.770	0.000	40.988	40.988	50.525	**0.002***	**423.962***	**430.303***	**659.944***
	(0.285)	(0.087)	(0.000)	(0.062)	(0.092)	(0.265)	(0.500)	(0.454)	(0.000)	(0.020)	(0.016)	(0.000)
Assam	**0.000***	26.365	26.365	31.695	0.000	43.430	43.430	93.081	0.024	**222.755***	**227.177***	146.667
	(0.000)	(0.154)	(0.509)	(0.565)	(0.170)	(0.053)	(0.313)	(0.054)	(0.295)	(0.022)	(0.014)	(0.108)
Bihar	**0.000***	**28.357***	**28.389***	**63.140***	**0.000***	**35.201***	**35.201***	**112.962***	**0.043***	**729.312***	**750.540***	**730.240***
	(0.000)	(0.018)	(0.003)	(0.014)	(0.002)	(0.032)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Gujarat	0.000	33.492	**33.492***	137.245	**0.000***	50.332	50.333	**152.38***	**0.194***	**561.343***	**832.960***	**608.775***
	(0.124)	(0.089)	(0.001)	(0.089)	(0.006)	(0.111)	(0.081)	(0.029)	(0.000)	(0.000)	(0.000)	(0.000)
Haryana	0.000	30.366	30.362	52.491	0.000	253.033	**253.033***	**309.813***	**0.040***	**351.385**	**420.975***	**361.840***
	(0.328)	(0.780)	(0.554)	(0.716)	(0.282)	(0.081)	(0.036)	(0.046)	(0.000)	(0.037)	(0.039)	(0.036)
Himachal Pradesh	0.000	138.032	138.032	377.343	0.000	108.154	**108.154***	153.966	**-0.000***	**436.517***	436.108	124.188
	(0.968)	(0.144)	(0.970)	(0.069)	(0.991)	(0.212)	(0.000)	(0.372)	(0.013)	(0.027)	(0.084)	(0.595)
Karnataka	0.000	59.125	59.126	108.208	0.000	-12.641	-12.641	4.535	**0.002***	**898.340***	**900.948***	**702.252***
	(0.458)	(0.170)	(0.241)	(0.202)	(0.490)	(0.667)	(0.272)	(0.946)	(0.010)	(0.000)	(0.000)	(0.000)
Kerala	0.000	87.939	87.939	-51.037	0.000	-125.373	-125.360	-102.403	0.000	-161.734	-161.733	-194.347
	(0.293)	(0.638)	(0.221)	(0.777)	(0.998)	(0.250)	(0.063)	(0.446)	(0.345)	(0.486)	(0.057)	(0.436)
Madhya Pradesh	0.000	21.967	**21.965***	74.613	0.000	**29.722***	**29.722***	**70.392***	**0.065***	**221.174***	**254.415***	**329.395***
	(0.970)	(0.106)	(0.048)	(0.063)	(0.460)	(0.027)	(0.028)	(0.042)	(0.000)	(0.000)	(0.000)	(0.000)
Maharashtra	0.000	19.576	19.576	88.828	**0.000***	**79.350***	**79.350***	**136.067***	**0.002***	**405.650***	**408.571***	**682.818***
	(0.919)	(0.271)	(0.869)	(0.100)	(0.021)	(0.001)	(0.000)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)
Odisha	**0.000***	10.288	10.288	5.770	0.000	**51.451***	**51.451***	27.619	**0.102***	**340.754***	456.444	**545.599***
	(0.014)	(0.601)	(0.430)	(0.901)	(0.954)	(0.025)	(0.022)	(0.426)	(0.000)	(0.027)	(0.080)	(0.000)
Punjab	0.000	229.695	229.695	32.130	-0.000	104.738	**104.738***	221.256	0.001	458.276	461.356	408.784
	(0.864)	(0.378)	(0.303)	(0.892)	(0.592)	(0.481)	(0.004)	(0.271)	(0.061)	(0.118)	(0.070)	(0.102)
Rajasthan	0.000	48.032	48.030	**111.071***	**0.000***	**187.924***	**187.930***	**276.323***	**0.132***	**822.115***	**970.537***	**996.118***
	(0.978)	(0.077)	(0.196)	(0.021)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tamil Nadu	0.000	**291.818***	291.818	**488.207***	-0.000	44.484	44.484	57.483	0.000	**1802.188***	**1802.06***	**1052.609***
	(0.440)	(0.002)	(0.462)	(0.001)	(0.756)	(0.345)	(0.746)	(0.582)	(0.695)	(0.000)	(0.000)	(0.000)
Uttar Pradesh	-0.000	**74.584***	**74.498***	74.078	**0.000***	**110.233***	**110.242***	**153.259***	**0.063***	**510.053***	**568.107***	**722.345***
	(0.471)	(0.001)	(0.018)	(0.116)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
West Bengal	0.000	29.521	29.521	66.874	**-0.000***	-39.588	-39.588	-27.080	**-0.045***	152.957	**56.190***	87.152
	(0.415)	(0.375)	(0.264)	(0.150)	(0.000)	(0.326)	(0.086)	(0.484)	(0.000)	(0.096)	(0.017)	(0.375)
All India	**0.009***	**65.858***	**64.891***	**69.964***	**0.018***	**87.905***	**97.649***	**138.019***	**0.075***	**505.951***	**532.000***	**570.391***
	(0.027)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note. ANYEDEXP in column 1 implies whether the household incurred any positive education expenditure. “EDEXP” in columns 2 and 4 is “educational expenditure”. In the conditional OLS fitted only for children with positive education spending, the dependent variable is the natural log of education expenditure (LNEDEXP). The coefficients on the gender dummy variables were transformed so that the marginal effects reported in col. 2 are comparable to those in col. 4, where the dependent variable is in absolute rather than log terms. Col. 4 relates to the unconditional OLS of absolute education expenditure, fitted on all children, including those with zero education expenditure. The table shows the marginal effect on the gender dummy variable MALE. The figures in parentheses are p-values of the t-test of the marginal effect of MALE.

Table 7.1: Marginal effect of the gender dummy variable MALE (individual-level data) of 1995-96 (NSS 52nd Round), Rural India

	Children Aged 5-9				**Children Aged 10-14**				**Children Aged 15-19**			
	Probit of ANYEDEXP (i.e. positive EDEXP)	**OLS of Conditional lnEDEXP**	**Combined Probit +OLS**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP (i.e. positive EDEXP)**	**OLS of Conditional lnEDEXP**	**Combined Probit +OLS**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP (i.e. positive EDEXP)**	**OLS of Conditional lnEDEXP**	**Combined Probit +OLS**	**OLS of Unconditional EDEXP**
States	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)	(1)	(2)	(3)=f(1,2)	(4)
Andhra Pradesh	**0 .034***	**11.88***	13.74	**20.90***	**0.074***	**45.91***	**62.37***	**94.86***	**0.029***	**99.48***	**17.36***	**202.19***
	(0.000)	(0.015)	(0 .409)	(0.033)	(0.000)	(0.000)	(0.012)	(0.000)	(0.000)	(0.163)	(0.000)	(0.000)
Assam	0.047	0.04	**5.78***	-5.86	**0.000***	13.33	13.39	22.37	**0.246***	26.52	**172.51***	**155.05***
	(0.053)	(0.994)	(0.033)	(0.566)	(0.003)	(0.131)	(0.431)	(0.052)	(0.000)	(0.387)	(0.000)	(0.000)
Bihar	**0.154***	**10.83***	**18.70***	**21.97***	**0.321***	**53.48***	**124.23***	**120.35***	**0.468***	**75.52***	**319.91***	**312.31***
	(0.000)	(0.039)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.158)	(0.000)	(0.000)
Gujarat	0.016	0.93	**2.23***	4.26	**0.032***	**33.67***	**40.85***	**67.82***	**0.074***	46.24	**46.42***	**229.67***
	(0.109)	(0.813)	(0.005)	(0.593)	(0.000)	(0.016)	(0.009)	(0.000)	(0.000)	(0.541)	(0.004)	(0.000)
Haryana	0.003	62.78	**64.10***	52.14	**0.000***	**70.29***	70.53	**182.29***	**0.273***	**285.60***	**385.98***	**453.20***
	(0.225)	(0.056)	(0.007)	(0.536)	(0.000)	(0.037)	(0.128)	(0.003)	(0.000)	(0.010)	(0.000)	(0.000)
Himachal Pradesh	0.001	14.46	14.92	31.52	**0.000***	**52.43***	52.43	**124.50***	**0.113***	**149.01***	**257.08***	**318.33***
	(0.259)	(0.334)	(0.709)	(0.188)	(0.000)	(0.016)	(0.134)	(0.000)	(0.000)	(0.008)	(0.000)	(0.000)
Karnataka	0.023	-2.66	-1.06	11.00	**0.061***	10.39	25.23	**65.75***	**0.055***	-62.43	42.02	**136.20***
	(0.069)	(0.575)	(0.165)	(0.155)	(0.000)	(0.490)	(0.812)	(0.000)	(0.000)	(0.576)	(0.060)	(0.000)
Kerala	0.000	-3.04	-3.03	**97.01***	0.000	17.12	17.12	42.89	-0.030	-99.14	-82.15	-65.81
	(0.365)	(0.895)	(0.506)	(0.024)	(0.616)	(0.337)	(0.287)	(0.160)	(0.566)	(0.106)	(0.314)	(0.293)
Madhya Pradesh	**0.135***	**9.94***	**16.98***	**19.20***	**0.180***	**38.45***	**82.64***	**105.24***	**0.386***	**109.89***	**194.69***	**268.19***
	(0.000)	(0.043)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.003)	(0.000)	(0.000)
Maharashtra	0.001	**4.23***	**4.38***	7.36	**0.004***	6.67	8.13	**44.20***	**0.244***	48.80	**201.31***	**211.94***
	(0.724)	(0.518)	(0.004)	(0.260)	(0.000)	(0.539)	(0.421)	(0.000)	(0.000)	(0.415)	(0.013)	(0.000)
Odisha	**0.111***	-3.49	**8.45***	2.61	**0.112***	**36.65***	**65.44***	**80.68***	**0.199***	**150.60***	**107.23***	**275.17***
	(0.001)	(0.596)	(0.053)	(0.780)	(0.000)	(0.020)	(0.000)	(0.000)	(0.000)	(0.001)	(0.033)	(0.000)
Punjab	0.001	-9.35	-8.49	22.89	**0.000***	**96.00***	96.34	**155.10***	**0.211***	86.60	**325.93***	**140.26***
	(0.261)	(0.756)	(0.936)	(0.686)	(0.000)	(0.004)	(0.084)	(0.000)	(0.000)	(0.464)	(0.000)	(0.092)
Rajasthan	**0.405***	19.26	**94.27***	**64.44***	**0.475***	**119.08***	**251.34***	**243.45***	**0.383***	**174.29***	**286.75***	**434.23***
	(0.000)	(0.055)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.033)	(0.000)	(0.000)
Tamil Nadu	**0.000***	**18.17***	18.18	**47.88***	**0.000***	8.81	9.11	**45.27***	**0.076***	-51.78	57.78	**251.15***
	(0.003)	(0.020)	(0.288)	(0.012)	(0.000)	(0.594)	(0.397)	(0.025)	(0.000)	(0.641)	(0.181)	(0.000)
Uttar Pradesh	**0.191***	**19.91***	**48.46***	**51.78***	**0.139***	**89.59***	**136.30***	**212.96***	**0.494***	**105.41***	**415.16***	**415.17***
	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.013)	(0.000)	(0.000)
West Bengal	0.039	**18.27***	**19.04***	**27.93***	**0.004***	**70.49***	**72.45***	**65.18***	**0.286***	**171.92***	**334.94***	**264.66***
	(0.078)	(0.003)	(0.000)	(0.005)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)
All India	**0.094***	**21.62***	**29.42***	**30.271***	**0.205***	**38.09***	**108.55***	**97.056***	**0.299***	**35.35***	**254.64***	**252.60***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.012)	(0.000)	(0.000)

Note. Same as in Table 7.

Table 8: Marginal effect of the gender dummy variable MALE in private school enrolment and in private school expenditure equations (individual-level data), 2017-18, NSS 75th round, Rural India

	Children Aged 5-9			Children Aged 10-14			Children Aged 15-19		
	Probit of private school enrolment	**OLS of conditional private school expenditure**	**OLS of Unconditional private school expenditure**	**Probit of private school enrolment**	**OLS of conditional private school expenditure**	**OLS of Unconditional private school expenditure**	**Probit of private school enrolment**	**OLS of conditional private school expenditure**	**OLS of Unconditional private school expenditure**
States	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Andhra Pradesh	**0.066***	-128.150	131.234	0.000	117.649	42.381	-0.014	**706.234***	**504.743***
	(0.001)	(0.268)	(0.081)	(0.227)	(0.297)	(0.550)	(0.675)	(0.000)	(0.002)
Assam	0.000	-1379.888	22.434	-0.000	-1224.464	83.919	0.000	4002.999	288.547
	(0.051)	(0.383)	(0.703)	(0.753)	(0.101)	(0.096)	(0.701)	(NA)	(0.039)
Bihar	0.000	-222.902	**62.548***	**0.000***	-36.663	**98.669***	**0.000***	879.215	**955.001***
	(0.084)	(0.332)	(0.034)	(0.002)	(0.607)	(0.000)	(0.000)	(0.829)	(0.000)
Gujarat	0.000	-159.707	154.067	0.000	-167.125	112.636	0.000	1221.658	406.594
	(0.870)	(0.133)	(0.092)	(0.383)	(0.491)	(0.135)	(0.827)	(0.344)	(0.120)
Haryana	0.053	-130.890	116.553	**0.001***	180.879	**375.982***	-0.000	-191.924	164.436
	(0.332)	(0.342)	(0.449)	(0.011)	(0.225)	(0.022)	(0.734)	(0.711)	(0.478)
Himachal Pradesh	0.003	808.804	357.254	0.000	366.945	163.533	0.005	-3180.756	348.143
	(0.087)	(0.248)	(0.084)	(0.854)	(0.211)	(0.346)	(0.441)	(0.079)	(0.179)
Karnataka	**-0.000***	-157.284	98.806	0.000	86.192	-8.181	**0.000***	**1233.777***	**820.188***
	(0.006)	(0.547)	(0.284)	(0.691)	(0.620)	(0.907)	(0.003)	(0.001)	(0.000)
Kerala	-0.003	-293.370	-12.835	-0.000	92.595	-111.114	-0.003	294.187	-271.347
	(0.731)	(0.678)	(0.943)	(0.940)	(0.748)	(0.413)	(0.635)	(0.589)	(0.311)
Madhya Pradesh	0.000	90.832	59.893	0.000	-35.145	56.759	0.000	706.235	**344.342***
	(0.072)	(0.705)	(0.178)	(0.101)	(0.708)	(0.121)	(0.090)	(0.174)	(0.003)
Maharashtra	0.000	-45036.36	85.814	0.000	154.596	**140.115***	-0.000	192.226	**722.100***
	(0.248)	(0.491)	(0.160)	(0.897)	(0.196)	(0.003)	(0.284)	(0.151)	(0.000)
Odisha	0.000	673.917	-7.136	-0.000	-44532.45	38.964	**0.000***	**1491.49***	**653.839***
	(0.545)	(0.116)	(0.888)	(0.752)	(0.136)	(0.282)	(0.034)	(0.016)	(0.000)
Punjab	**0.063***	-269.990	72.985	0.004	109.907	141.892	0.005	-346.781	294.389
	(0.028)	(0.285)	(0.761)	(0.380)	(0.824)	(0.498)	(0.858)	(0.416)	(0.324)
Rajasthan	**0.007***	130.389	100.262	**0.002***	**504.129***	**257.016***	**0.037***	**1004.127***	**1074.680***
	(0.002)	(0.419)	(0.069)	(0.000)	(0.038)	(0.000)	(0.000)	(0.003)	(0.000)
Tamil Nadu	**0.012***	152.635	**529.500***	0.000	678.565	82.187	**0.118***	**986.885***	**1267.829***
	(0.002)	(0.714)	(0.000)	(0.585)	(0.434)	(0.441)	(0.000)	(0.005)	(0.000)
Uttar Pradesh	**0.022***	58.678	99.832	**0.012***	**190.146***	**133.429***	0.013	**763.713***	**826.994***
	(0.002)	(0.421)	(0.086)	(0.021)	(0.001)	(0.000)	(0.065)	(0.000)	(0.000)
West Bengal	-0.000	567.477	**80.615***	0.000	-768.816	16.925	**0.000***	-426.897	**385.439***
	(0.642)	(0.342)	(0.109)	(0.070)	(0.512)	(0.669)	(0.031)	(0.938)	(0.003)
All India	**0.024***	90.559	**72.846***	**0.021***	**274.429***	**130.594***	**0.036***	**789.053***	**597.129***
	(0.000)	(0.063)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note. The probit in column 1 is fitted on the sample of all enrolled children, and it takes the value of 1 if the child is enrolled in a private school and of 0 otherwise. In the conditional OLS equation fitted only for children enrolled in private schools, the dependent variable is natural log of education expenditure in private schooling. Thus, the coefficient of the gender dummy variable was transformed so that the marginal effects reported in col. 2 are comparable to those in col. 3, where the dependent variable is in absolute rather than log terms. Col. 3 pertains to the unconditional OLS of absolute education expenditure, fitted on all children enrolled in any kind of school (private and non-private schools). The table shows the marginal effect on the gender dummy variable MALE in each equation for each state and age group.

Table 8.1: Marginal effect of the gender dummy variable MALE in private school enrolment and private school expenditure equations (Individual-level data), 1995-96 (NSS 52nd Round), Rural India

	Children Aged 5-9			**Children Aged 10-14**			**Children Aged 15-19**		
	Probit of private school enrolment	**OLS of conditional private school expenditure**	**OLS of Unconditional private school expenditure**	**Probit of private school enrolment**	**OLS of conditional private school expenditure**	**OLS of Unconditional private school expenditure**	**Probit of private school enrolment**	**OLS of conditional private school expenditure**	**OLS of Unconditional private school expenditure**
States	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Andhra Pradesh	**0.000***	-59.47	**35.97***	**0.000***	634.44	**68.56***	0.000	**-2920.04***	106.28
	(0.004)	(0.648)	(0.010)	(0.014)	(0.255)	(0.000)	(0.210)	(0.005)	(0.378)
Assam	-0.000	N.A	9.23	-0.000	316.57	9.98	0.000	N.A.	68.12
	(N.A.)	(N.A)	(0.315)	(0.317)	(N.A.)	(0.386)	(N.A.)	(N.A.)	(0.121)
Bihar	**0.000***	47.94	21.54	0.000	36.57	**79.83***	-0.992	701.95	135.48
	0.033)	(0.567)	(0.077)	(0.064)	(0.564)	(0.000)	(0.358)	(0.336)	(0.069)
Gujarat	-0.000	N.A	-6.57	0.000	N.A.	-1.86	0.000	N.A.	148.62
	(0.999)	(N.A.)	(0.496)	(0.993)	(N.A.)	(0.920)	(N.A)	(N.A)	(0.276)
Haryana	0.000	-154.10	68.22	0.000	135.92	66.63	0.000	-5.27	**401.23***
	(0.470)	(0.588)	(0.218)	(0.102)	(0.176)	(0.187)	(0.988)	(0.978)	(0.034)
Himachal Pradesh	0.000	523.00	15.64	**0.000***	334.29	**71.30***	0.000	-371.32	**206.11***
	(0.214)	(0.362)	(0.539)	(0.016)	(0.140)	(0.006)	(0.024)	(0.035)	(0.024)
Karnataka	0.000	N.A.	6.55	0.000	108.31	14.37	-1.000	-2319.30	6.29
	(1.000)	(N.A.)	(0.550)	(0.613)	(N.A.)	(0.434)	(0.964)	(N.A.)	(0.967)
Kerala	0.000	-28.16	**97.00***	-0.000	-0.02	47.94	-0.001	-174.01	-36.55
	(0.198)	(0.857)	(0.038)	(0.157)	(0.997)	(0.127)	(0.592)	(0.448)	(0.718)
Madhya Pradesh	0.000	80.80	15.29	0.000	9466.47	**48.20***	0.000	-72.22	**166.83***
	(0.998)	(0.098)	(0.143)	(0.395)	(0.310)	(0.000)	(1.000)	(0.426)	(0.001)
Maharashtra	0.000	N.A.	5.34	0.000	-161.02	-2.15	0.000	-3583.58	119.77
	(1.000)	(N.A.)	(0.475)	(0.258)	(0.186)	(0.861)	(N.A.)	(N.A.)	0.105
Odisha	0.000	1.39	-5.17	0.000	-51.45	**48.38***	0.000	**6356.73***	**266.06***
	(1.000)	(0.789)	(0.723)	(0.930)	(0.358)	(0.012)	(0.896)	(0.001)	(0.007)
Punjab	0.000	35.20	-23.27	0.000	24.43	80.78	0.000	-718.55	-13.84
	(0.295)	(0.713)	(0.728)	(0.087)	(0.919)	(0.056)	(0.800)	(0.096)	(0.937)
Rajasthan	0.000	-148.05	28.45	0.000	-62.11	**116.57***	-0.000	1484.86	276.12
	(0.241)	(0.087)	(0.056)	(0.865)	(0.745)	(0.000)	(1.000)	(N.A.)	(0.034)
Tamil Nadu	**0.000***	157.00	40.20	0.000	156.97	12.79	0.000	648.49	90.86
	(0.046)	(0.393)	(0.063)	(0.355)	(0.095)	(0.587)	(1.000)	(N.A.)	(0.656)
Uttar Pradesh	0.000	41.23	**29.49***	0.000	2.41	**94.01***	**-0.000**	-468.79	**140.59***
	(0.140)	(0.142)	(0.009)	(0.229)	(0.915)	(0.000)	(0.000)	(0.728)	(0.022)
West Bengal	0.000	-1174.29	**36.56***	0.000	200.02	**38.01***	-0.000	N.A.	**226.62**
	(0.978)	(N.A.)	(0.024)	(0.176)	(N.A.)	(0.054)	(0.998)	(N.A.)	(0.001)
All India	**0.019***	40.65	**24.32***	**0.014***	**105.00***	**41.88***	**-0.023***	17.58	**74.97***
	(0.000)	(0.087)	(0.000)	(0.000)	0.000	(0.000)	(0.000)	(0.797)	(0.000)

Note. Same as in table 8. "N.A." denotes the non-availability of estimates due to insufficient observation

Table 9: Coefficient of MALE dummy in the Family Fixed Effects probit of enrolment and in the OLS of education expenditure (Individual level), NSS 2017-18, Rural India

	Children Aged 5-9			**Children Aged 10-14**			**Children Aged 15-19**		
	Probit of ANYEDEXP	**OLS of Conditional LNEDEXP**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP**	**OLS of Conditional LNEDEXP**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP**	**OLS of Conditional LNEDEXP**	**OLS of Unconditional EDEXP**
States	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Andhra Pradesh	-0.000	77.168	139.719	0.000	50.732	105.811	**0.022***	**955.779***	**1063.511***
	(0.981)	(0.102)	(0.071)	(0.357)	(0.085)	(0.114)	(0.000)	(0.011)	(0.000)
Assam	**0.000***	**39.616***	**102.460***	-0.000	**61.375***	**109.030***	0.004	440.124	227.196
	(0.001)	(0.029)	(0.015)	(0.312)	(0.002)	(0.005)	(0.940)	(0.058)	(0.130)
Bihar	**0.000***	10.787	**86.507***	0.000	**50.127***	**113.372***	**0.026***	**928.430***	**845.811***
	(0.000)	(0.179)	(0.001)	(0.098)	(0.005)	(0.001)	(0.036)	(0.000)	(0.000)
Gujarat	0.003	10.652	-12.204	**0.003***	**68.735***	**205.288***	**0.476***	**659.552***	**791.095***
	(0.656)	(0.365)	(0.530)	(0.013)	(0.023)	(0.003)	(0.000)	(0.003)	(0.000)
Haryana	-0.000	81.585	-105.454	0.000	89.403	193.807	**0.063***	**556.734***	**486.838***
	(0.344)	(0.464)	(0.464)	(0.141)	(0.380)	(0.075)	(0.000)	(0.007)	(0.030)
Himachal Pradesh	0.000	49.411	273.487	-0.000	29.677	29.590	-0.000	271.743	-153.079
	(0.997)	(0.236)	(0.114)	(NA)	(0.605)	(0.766)	(0.065)	(0.395)	(0.689)
Karnataka	0.000	16.829	17.102	-0.000	34.578	89.905	0.000	**1637.505***	**1324.924***
	(0.694)	(0.457)	(0.823)	(0.675)	(0.117)	(0.291)	(0.102)	(0.000)	(0.000)
Kerala	-0.000	-69.345	-189.317	-0.000	-93.517	-117.924	-0.000	279.154	38.429
	(0.293)	(0.602)	(0.358)	(NA)	(0.332)	(0.281)	(0.318)	(0.591)	(0.936)
Madhya Pradesh	0.003	14.811	63.093	0.000	**44.917***	**99.256***	**0.097***	**204.800***	**455.326***
	(0.724)	(0.127)	(0.121)	(0.493)	(0.004)	(0.016)	(0.002)	(0.023)	(0.000)
Maharashtra	0.000	20.699	10.801	**0.000***	17.539	45.942	**0.039***	347.212	**399.532***
	(0.264)	(0.214)	(0.863)	(0.001)	(0.398)	(0.243)	(0.000)	(0.050)	(0.021)
Odisha	-0.000	4.107	-18.582	0.002	42.778	68.872	**0.256***	**607.168***	**730.586***
	(0.108)	(0.757)	(0.599)	(0.117)	(0.059)	(0.239)	(0.001)	(0.034)	(0.000)
Punjab	-0.000	45.713	110.560	0.000	34.600	85.615	0.000	-332.449	-349.952
	(NA)	(0.293)	(0.354)	(0.209)	(0.590)	(0.431)	(0.031)	(0.441)	(0.320)
Rajasthan	0.000	**49.423***	**119.920***	**0.0007***	**108.259***	**225.606***	**0.377***	**941.554***	**1207.128***
	(0.939)	(0.001)	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Tamil Nadu	-0.000	129.990	**498.554***	-0.454	46.407	32.339	-0.000	**3502.851***	**1825.188***
	(0.993)	(0.058)	(0.023)	(0.998)	(0.208)	(0.760)	(0.052)	(0.001)	(0.000)
Uttar Pradesh	**-0.000***	**55.839***	**83.631***	**0.000***	**114.285***	**204.214***	**0.087***	**662.555***	**865.196***
	(0.006)	(0.000)	(0.006)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
West Bengal	-0.000	0.134	14.494	**-0.004***	-17.770	**-63.323***	**-0.198***	206.572	**42.096***
	(0.368)	(0.997)	(0.693)	(0.010)	(0.698)	(0.204)	(0.000)	(0.209)	(0.762)
All India	0.000	**31.517***	**77.045***	**0.000***	**57.540***	**115.637***	**0.026***	**642.259***	**720.400***
	(0.384)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note. The first column shows the marginal effect on the MALE dummy variable in the probit equation of enrolment (any positive educational expenditure, ANYEDEXP). The regression includes, inter alia, age of student. In the conditional OLS equation fitted only for children with positive education spending, the dependent variable is the natural log of education expenditure (LNEDEXP). The coefficients on the gender dummy variables were transformed so that the marginal effects reported in col. 2 are comparable to those in col. 3, where the dependent variable is education expenditure (EDEXP) in absolute rupee rather than log rupee terms. Col. 3 pertains to the unconditional OLS of absolute education expenditure (EDEXP), fitted on all children, including those with zero education expenditure. The table shows the marginal effect on the gender dummy variable MALE. The figures in parentheses are p-values.

Table 9.1: Coefficient on the MALE dummy variable in the Family Fixed Effects probit of enrolment and in the OLS of education expenditure (Individual level), NSS 1995, Rural India

	Children Aged 5-9			**Children Aged 10-14**			**Children Aged 15-19**		
	Probit of ANYEDEXP	**OLS of Conditional LNEDEXP**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP**	**OLS of Conditional LNEDEXP**	**OLS of Unconditional EDEXP**	**Probit of ANYEDEXP**	**OLS of Conditional LNEDEXP**	**OLS of Unconditional EDEXP**
States	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Andhra Pradesh	**0.033***	**11.34***	**23.84***	**0.190***	22.25	**112.99***	**0.004***	**95.04***	**255.71***
	(0.000)	(0.000)	(0.005)	(0.000)	(0.130)	(0.000)	(0.000)	(0.018)	(0.000)
Assam	0.013	-1.19	0.325	**0.0003***	14.08	**29.62***	**0.177***	28.88	**182.16***
	(0.447)	(0.807)	(0.976)	(0.000)	(0.088)	(0.011)	(0.000)	(0.294)	(0.000)
Bihar	**0.481***	6.55	**26.90***	**0.511***	**51.98***	**168.03***	**0.398***	-13.04	**258.83***
	(0.000)	(0.107)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.822)	(0.000)
Gujarat	0.000	2.87	-2.84	**0.024***	15.89	**91.23***	**0.029***	98.80	**268.01***
	(0.686)	(0.234)	(0.564)	(0.000)	(0.275)	(0.000)	(0.000)	(0.384)	(0.000)
Haryana	0.013	40.91	**66.81***	**0.000***	**117.37***	**191.97***	**0.297***	174.39	**451.57***
	(0.289)	(0.057)	(0.045)	(0.000)	(0.001)	(0.000)	(0.000)	(0.358)	(0.002)
Himachal Pradesh	-0.000	18.27	37.58	**0.000***	20.56	**87.07***	**0.062***	93.40	**224.66***
	(0.560)	(0.162)	(0.069)	(0.001)	(0.351)	(0.011)	(0.004)	(0.069)	(0.028)
Karnataka	0.0087	1.63	8.97	**0.125***	12.81	**67.95***	**0.003***	42.20	**112.77***
	(0.476)	(0.564)	(0.104)	(0.000)	(0.282)	(0.000)	(0.003)	(0.748)	(0.027)
Kerala	0.000	-10.24	22.40	0.000	-13.23	-5.58	-0.425	-82.90	-84.57
	(0.997)	(0.485)	(0.529)	(0.095)	(0.403)	(0.769)	(0.041)	(0.447)	(0.216)
Madhya Pradesh	**0.377***	0.68	9.40	**0.241***	**18.52***	**116.13***	**0.363***	**182.91***	**251.23***
	(0.000)	(0.838)	(0.071)	(0.000)	(0.003)	(0.000)	(0.000)	(0.003)	(0.000)
Maharashtra	**0.001***	11.14	**14.08***	**0.001***	14.11	**37.57***	**0.317***	**126.04***	**265.45***
	(0.005)	(0.051)	(0.041)	(0.000)	(0.227)	(0.035)	(0.000)	(0.041)	(0.000)
Odisha	**0.113***	0.63	**13.33***	**0.067***	15.88	**82.47***	**0.382***	101.80	**249.03***
	(0.001)	(0.891)	(0.043)	(0.000)	(0.210)	(0.000)	(0.000)	(0.180)	(0.001)
Punjab	**0.000***	29.79	105.59	**0.000***	**130.08***	**168.19***	**0.147***	104.13	**248.57***
	(0.035)	(0.307)	(0.056)	(0.000)	(0.000)	(0.000)	(0.000)	(0.525)	(0.013)
Rajasthan	**0.687***	**16.79***	**72.08***	**0.716***	**81.13***	**239.92***	**0.531***	223.28	**476.50***
	(0.000)	(0.005)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.076)	(0.000)
Tamil Nadu	-0.000	-2.71	23.67	**0.0005***	20.79	**70.57***	**0.008***	-45.47	**305.60***
	(0.738)	(0.627)	(0.203)	(0.000)	(0.230)	(0.002)	(0.000)	(0.319)	(0.001)
Uttar Pradesh	**0.329***	6.25	**46.86***	**0 .151***	**62.13***	**215.06***	**0.432***	91.75	**452.01***
	(0.000)	(0.076)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.143)	(0.000)
West Bengal	**0.209***	5.48	9.04	**0.0009***	**51.69***	**73.79***	**0.378***	**165.08***	**262.67***
	(0.002)	(0.256)	(0.494)	(0.000)	(0.009)	(0.000)	(0.000)	(0.003)	(0.000)
All India	**0.115***	**22.41***	**35.48***	**0.228***	**45.28***	**109.64***	**0.312***	**57.74***	**267.59***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note. Same as in Table 9.

Appendix Table A1

Village Fixed Effects regressions of (a) the budget share of education (ESHARE); (b) binary probit of any (positive) education expenditure (ANYEDEXP); and (c) OLS of log of budget share of education (LNESHARE), conditional on positive education expenditure. Household level data, NSS 75th Round, 2017-18.

	Andhra Pradesh			**Assam**			**Bihar**			**Gujarat**		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
VARIABLES	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.03***	0.07***	0.02	0.00	0.06***	-0.48***	0.01**	0.05***	-0.24***	0.04***	0.12***	-0.01
	(0.01)	(0.02)	(0.10)	(0.00)	(0.02)	(0.08)	(0.00)	(0.01)	(0.06)	(0.01)	(0.03)	(0.12)
LNHHSIZE	0.06***	0.16***	0.06	0.03***	0.22***	-0.15*	0.03***	0.20***	-0.07	0.04***	0.24***	0.17
	(0.01)	(0.04)	(0.09)	(0.00)	(0.04)	(0.09)	(0.00)	(0.03)	(0.07)	(0.01)	(0.04)	(0.11)
M0TO4	-0.22***	-0.17***	-3.19***	-0.06**	-0.28***	-3.11***	-0.09***	-0.06	-2.45***	-0.11***	-0.20*	-3.22***
	(0.03)	(0.05)	(0.53)	(0.02)	(0.09)	(0.52)	(0.02)	(0.06)	(0.44)	(0.04)	(0.11)	(0.67)
M5TO9	0.04*	0.82***	-1.97***	0.05**	1.07***	-1.83***	0.00	0.92***	-1.65***	0.02	1.66***	-2.07***
	(0.03)	(0.18)	(0.42)	(0.02)	(0.17)	(0.45)	(0.02)	(0.12)	(0.42)	(0.03)	(0.25)	(0.58)
M10TO14	0.03	0.75***	-1.15***	0.06***	0.90***	-0.37	0.06***	0.99***	-0.05	0.06*	1.15***	-0.55
	(0.02)	(0.16)	(0.40)	(0.02)	(0.15)	(0.44)	(0.02)	(0.12)	(0.40)	(0.03)	(0.19)	(0.56)
M15TO19	0.29***	0.47***	1.86***	0.16***	0.41***	0.81*	0.23***	0.57***	1.79***	0.18***	0.67***	1.39**
	(0.02)	(0.11)	(0.40)	(0.02)	(0.10)	(0.45)	(0.02)	(0.09)	(0.42)	(0.03)	(0.14)	(0.54)
M20TO24	0.17***	0.18***	1.84***	0.04	0.03	1.03**	0.08***	0.18***	1.10**	0.11***	0.28***	1.35**
	(0.02)	(0.05)	(0.42)	(0.02)	(0.07)	(0.48)	(0.02)	(0.06)	(0.45)	(0.03)	(0.10)	(0.59)
M25TO60	-0.04**	0.01	0.09	-0.03	-0.11	-1.77***	-0.02	0.03	-0.97**	0.00	-0.05	-0.04
	(0.02)	(0.03)	(0.41)	(0.02)	(0.07)	(0.46)	(0.02)	(0.06)	(0.44)	(0.03)	(0.09)	(0.59)
M61MORE	-0.04*	-0.08*	0.28	-0.01	-0.04	-0.94	-0.03	-0.03	-0.62	0.01	0.04	-0.29
	(0.02)	(0.05)	(0.57)	(0.03)	(0.10)	(0.61)	(0.02)	(0.07)	(0.56)	(0.04)	(0.14)	(0.81)
F0TO4	-0.24***	-0.22***	-3.71***	-0.05**	-0.22**	-1.98***	-0.11***	-0.10*	-2.43***	-0.06	-0.16	-2.13***
	(0.03)	(0.06)	(0.54)	(0.03)	(0.09)	(0.51)	(0.02)	(0.06)	(0.43)	(0.04)	(0.11)	(0.68)
F5TO9	0.04*	1.16***	-1.85***	0.04*	1.10***	-1.55***	-0.00	0.90***	-1.46***	0.00	1.28***	-2.27***
	(0.03)	(0.23)	(0.42)	(0.02)	(0.18)	(0.46)	(0.02)	(0.12)	(0.42)	(0.04)	(0.23)	(0.61)
F10TO14	0.01	0.52***	-1.26***	0.08***	0.77***	-0.21	0.05***	0.73***	0.11	0.05	0.86***	-0.41
	(0.02)	(0.12)	(0.40)	(0.02)	(0.14)	(0.45)	(0.02)	(0.10)	(0.41)	(0.03)	(0.17)	(0.56)
F15TO19	0.24***	0.34***	1.42***	0.14***	0.27***	0.57	0.08***	0.37***	0.65	0.13***	0.37***	0.65
	(0.02)	(0.08)	(0.42)	(0.02)	(0.09)	(0.47)	(0.02)	(0.07)	(0.43)	(0.03)	(0.11)	(0.56)
F20TO24	0.10***	0.09**	1.58***	0.01	-0.09	0.02	-0.05***	0.02	-0.93**	0.04	0.15	0.45
	(0.02)	(0.04)	(0.45)	(0.02)	(0.08)	(0.51)	(0.02)	(0.06)	(0.46)	(0.03)	(0.09)	(0.59)
F25TO60	-0.02	-0.01	-0.35	0.00	0.00	-1.03**	-0.03*	0.07	-1.25***	0.01	0.12	-0.86
	(0.02)	(0.03)	(0.40)	(0.02)	(0.07)	(0.44)	(0.01)	(0.05)	(0.40)	(0.03)	(0.09)	(0.55)
HEDYRS	0.00***	0.00***	0.05***	0.00***	0.01***	0.05***	0.00***	0.00***	0.05***	0.00***	0.01***	0.05***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
SC	-0.01***	0.01	-0.28***	-0.01	-0.05	-0.06	-0.00	-0.02*	-0.16***	-0.02***	-0.04	-0.21*
	(0.01)	(0.01)	(0.07)	(0.01)	(0.04)	(0.11)	(0.00)	(0.01)	(0.05)	(0.01)	(0.03)	(0.11)
ST	-0.01	-0.03	-0.05	-0.00	0.00	-0.18*	-0.01	-0.03	0.08	-0.04***	-0.03	-0.45***
	(0.01)	(0.03)	(0.14)	(0.01)	(0.02)	(0.10)	(0.01)	(0.02)	(0.10)	(0.01)	(0.04)	(0.15)
MUSLIM	-0.01	-0.05	-0.13	-0.01	-0.01	-0.11	-0.01	0.01	-0.23***	-0.05***	0.01	-0.62***
	(0.01)	(0.03)	(0.11)	(0.01)	(0.02)	(0.10)	(0.01)	(0.01)	(0.08)	(0.01)	(0.03)	(0.17)
Constant	-0.31***		-4.00***	-0.06		0.67	-0.08		-0.09	-0.31***		-2.73**
	(0.07)		(1.05)	(0.05)		(0.92)	(0.05)		(0.81)	(0.08)		(1.23)
Observations	4,126	4,126	3,001	2,660	2,660	1,974	5,311	5,311	3,893	1,824	1,824	1,354
R-squared	0.40		0.51	0.39		0.55	0.41		0.55	0.35		0.58
Elasticity	1.02			0.51			0.75			0.99		

Appendix Table A1 (continued)

	Haryana			Himachal Pradesh			Karnataka			Kerala		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
VARIABLES	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.06***	0.22***	0.33***	0.02**	0.00	-0.10	0.03***	0.13***	0.01	0.01	0.00	-0.00
	(0.01)	(0.04)	(0.11)	(0.01)	(0.00)	(0.10)	(0.01)	(0.03)	(0.11)	(0.01)	(0.00)	(0.08)
LNHHSIZE	0.08***	0.41***	0.41***	0.06***	0.00	0.19*	0.05***	0.21***	-0.02	0.06***	0.00	0.20*
	(0.01)	(0.05)	(0.12)	(0.01)	(0.00)	(0.10)	(0.01)	(0.04)	(0.10)	(0.01)	(0.00)	(0.10)
M0TO4	-0.22***	-0.53***	-2.34***	-0.04	0.00	-1.54**	-0.14***	-0.19*	-3.08***	-0.03	-0.00	-0.08
	(0.06)	(0.18)	(0.79)	(0.05)	(0.00)	(0.61)	(0.04)	(0.10)	(0.63)	(0.04)	(0.00)	(0.55)
M5TO9	0.08	1.66***	-0.70	0.17***	0.00	-0.36	-0.00	1.15***	-2.49***	0.12***	0.03*	0.16
	(0.06)	(0.26)	(0.69)	(0.04)	(0.00)	(0.54)	(0.04)	(0.20)	(0.48)	(0.04)	(0.02)	(0.47)
M10TO14	0.19***	1.28***	0.55	0.12***	0.00	-0.23	0.01	1.03***	-1.54***	0.07**	0.01	0.08
	(0.05)	(0.21)	(0.64)	(0.03)	(0.00)	(0.48)	(0.03)	(0.18)	(0.44)	(0.03)	(0.01)	(0.38)
M15TO19	0.12***	0.84***	0.92	0.27***	0.00	1.66***	0.29***	0.74***	1.56***	0.24***	0.01	1.57***
	(0.04)	(0.17)	(0.61)	(0.03)	(0.00)	(0.44)	(0.03)	(0.14)	(0.43)	(0.03)	(0.01)	(0.37)
M20TO24	0.07*	0.38**	1.21**	0.18***	0.00	2.00***	0.14***	0.25***	1.49***	0.24***	0.01	2.07***
	(0.04)	(0.15)	(0.62)	(0.03)	(0.00)	(0.46)	(0.03)	(0.08)	(0.45)	(0.03)	(0.00)	(0.37)
M25TO60	-0.07*	-0.17	0.33	-0.03	0.00	-0.38	-0.06**	-0.01	-0.53	-0.03	-0.00	0.16
	(0.04)	(0.14)	(0.62)	(0.02)	(0.00)	(0.42)	(0.03)	(0.07)	(0.44)	(0.02)	(0.00)	(0.34)
M61MORE	-0.02	-0.10	0.95	-0.05*	-0.00	0.40	-0.09**	-0.03	-0.48	-0.04	-0.00	0.72
	(0.06)	(0.20)	(0.89)	(0.03)	(0.00)	(0.58)	(0.04)	(0.10)	(0.59)	(0.03)	(0.00)	(0.50)
F0TO4	-0.18***	-0.20	-2.54***	-0.10**	-0.00	-1.91***	-0.13***	-0.13	-2.46***	-0.17***	-0.00	-1.46**
	(0.06)	(0.19)	(0.78)	(0.05)	(0.00)	(0.63)	(0.04)	(0.10)	(0.61)	(0.05)	(0.00)	(0.57)
F5TO9	0.02	2.45***	-1.03	0.04	0.00	-1.42***	-0.00	1.37***	-2.31***	0.11***	0.02*	-0.15
	(0.06)	(0.40)	(0.72)	(0.04)	(0.00)	(0.52)	(0.04)	(0.24)	(0.51)	(0.04)	(0.01)	(0.47)
F10TO14	0.00	1.03***	-0.06	0.06	0.00	-0.23	0.02	1.01***	-1.42***	0.17***	0.07	0.99**
	(0.06)	(0.25)	(0.67)	(0.04)	(0.00)	(0.47)	(0.03)	(0.18)	(0.45)	(0.03)	(0.04)	(0.39)
F15TO19	0.14***	0.32*	1.33**	0.22***	0.00	1.47***	0.23***	0.64***	1.14**	0.30***	0.01	2.02***
	(0.05)	(0.17)	(0.63)	(0.03)	(0.00)	(0.45)	(0.03)	(0.13)	(0.45)	(0.03)	(0.01)	(0.38)
F20TO24	0.11**	0.03	1.94***	0.14***	0.00	1.24***	0.03	0.08	1.19**	0.20***	0.01	1.92***
	(0.05)	(0.15)	(0.62)	(0.03)	(0.00)	(0.46)	(0.03)	(0.07)	(0.51)	(0.03)	(0.00)	(0.38)
F25TO60	0.05	0.23*	1.34**	-0.01	0.00	0.43	-0.04	-0.05	-0.99**	0.01	0.00	-0.02
	(0.04)	(0.13)	(0.58)	(0.02)	(0.00)	(0.43)	(0.03)	(0.07)	(0.45)	(0.02)	(0.00)	(0.35)
HEDYRS	0.00***	0.01***	0.04***	0.00***	0.00	0.04***	0.00***	0.00**	0.04***	0.00***	0.00	0.04***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)
SC	-0.02**	0.05**	-0.35***	-0.02**	0.00	-0.20**	-0.02**	-0.02	-0.23***	-0.03***	-0.00	-0.24**
	(0.01)	(0.02)	(0.09)	(0.01)	(0.00)	(0.08)	(0.01)	(0.02)	(0.08)	(0.01)	(0.00)	(0.09)
ST	-0.02	-0.16	0.02	-0.03**	-0.00	-0.18	-0.02*	-0.07	-0.19	-0.02	-0.00	-0.60***
	(0.04)	(0.18)	(0.41)	(0.01)	(0.00)	(0.16)	(0.01)	(0.04)	(0.12)	(0.02)	(0.01)	(0.19)
MUSLIM	-0.02	-0.03	-0.04	0.03	0.00	0.32	-0.01	-0.02	-0.19*	-0.00	-0.00	0.04
	(0.02)	(0.09)	(0.23)	(0.03)	(0.00)	(0.28)	(0.01)	(0.03)	(0.11)	(0.01)	(0.00)	(0.09)
CONSTANT	-0.61***		-7.75***	-0.19**		-2.22**	-0.27***		-2.65**	-0.16**		-3.69***
	(0.10)		(1.25)	(0.09)		(1.07)	(0.09)		(1.07)	(0.08)		(0.90)
Observations	1,455	1,455	1,064	1,604	1,604	1,161	2,263	2,263	1,658	2,174	2,174	1,584
R-squared	0.34		0.47	0.44		0.56	0.40		0.54	0.37		0.35
Elasticity	1.32			0.89			1.01			1.00		

Appendix Table A1 (continued)

	Madhya Pradesh			Maharashtra			Odisha			Punjab		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
VARIABLES	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.02***	0.11***	-0.22***	0.03***	0.16***	-0.04	0.02***	0.10***	0.00	0.02**	0.13***	0.05
	(0.00)	(0.02)	(0.06)	(0.01)	(0.02)	(0.07)	(0.01)	(0.03)	(0.08)	(0.01)	(0.03)	(0.11)
LNHHSIZE	0.03***	0.31***	-0.14**	0.06***	0.30***	0.18**	0.03***	0.21***	-0.08	0.07***	0.31***	0.16
	(0.00)	(0.03)	(0.06)	(0.00)	(0.03)	(0.07)	(0.00)	(0.05)	(0.09)	(0.01)	(0.05)	(0.12)
M0TO4	-0.13***	-0.07	-3.31***	-0.16***	-0.39***	-3.91***	-0.09***	-0.24**	-2.61***	-0.10*	-0.23	-1.75**
	(0.02)	(0.09)	(0.45)	(0.03)	(0.09)	(0.49)	(0.03)	(0.10)	(0.55)	(0.05)	(0.15)	(0.74)
M5TO9	0.01	1.31***	-1.98***	0.01	1.55***	-2.23***	0.06***	1.11***	-0.79*	0.03	2.00***	-3.59***
	(0.02)	(0.12)	(0.41)	(0.03)	(0.17)	(0.38)	(0.02)	(0.25)	(0.46)	(0.05)	(0.30)	(0.65)
M10TO14	0.03*	1.27***	-0.75*	0.02	1.22***	-0.80**	0.09***	0.90***	0.37	0.03	1.30***	-2.41***
	(0.02)	(0.12)	(0.40)	(0.02)	(0.15)	(0.36)	(0.02)	(0.21)	(0.45)	(0.05)	(0.23)	(0.60)
M15TO19	0.12***	0.66***	0.69*	0.25***	0.80***	1.85***	0.24***	0.56***	1.92***	0.17***	0.75***	-0.49
	(0.02)	(0.09)	(0.41)	(0.02)	(0.11)	(0.36)	(0.02)	(0.14)	(0.46)	(0.04)	(0.16)	(0.56)
M20TO24	0.05***	0.17**	1.08**	0.17***	0.33***	2.13***	0.10***	0.12*	1.83***	0.07*	0.34***	-0.33
	(0.02)	(0.08)	(0.43)	(0.02)	(0.07)	(0.36)	(0.02)	(0.07)	(0.50)	(0.04)	(0.12)	(0.57)
M25TO60	-0.04**	0.02	-0.59	-0.02	-0.04	-0.45	-0.02	-0.10	0.03	-0.07**	-0.08	-1.61***
	(0.01)	(0.08)	(0.43)	(0.02)	(0.06)	(0.35)	(0.02)	(0.07)	(0.47)	(0.04)	(0.11)	(0.53)
M61MORE	-0.07***	-0.01	-0.74	-0.03	-0.16*	0.02	-0.03	-0.15	0.39	-0.04	0.02	-0.76
	(0.02)	(0.11)	(0.58)	(0.02)	(0.09)	(0.47)	(0.03)	(0.10)	(0.64)	(0.05)	(0.16)	(0.80)
F0TO4	-0.12***	-0.15*	-3.11***	-0.15***	-0.27***	-3.83***	-0.09***	-0.18**	-2.43***	-0.20***	-0.49***	-3.95***
	(0.02)	(0.08)	(0.45)	(0.03)	(0.09)	(0.45)	(0.03)	(0.09)	(0.54)	(0.06)	(0.18)	(0.85)
F5TO9	0.00	1.12***	-1.62***	-0.02	1.50***	-2.18***	0.05**	1.44***	-0.85*	0.07	2.24***	-2.83***
	(0.02)	(0.12)	(0.42)	(0.03)	(0.18)	(0.39)	(0.02)	(0.32)	(0.47)	(0.06)	(0.36)	(0.69)
F10TO14	0.02	1.12***	-0.32	-0.01	1.38***	-0.79**	0.08***	0.90***	0.44	0.07	1.43***	-2.24***
	(0.02)	(0.12)	(0.41)	(0.03)	(0.16)	(0.37)	(0.02)	(0.21)	(0.45)	(0.05)	(0.27)	(0.66)
F15TO19	0.08***	0.51***	0.59	0.18***	0.55***	1.28***	0.21***	0.39***	2.00***	0.16***	0.80***	-0.25
	(0.02)	(0.09)	(0.41)	(0.02)	(0.09)	(0.36)	(0.02)	(0.11)	(0.47)	(0.05)	(0.17)	(0.57)
F20TO24	0.02	0.06	0.39	0.07***	0.07	1.05***	0.02	0.02	0.56	0.16***	0.44***	0.51
	(0.02)	(0.08)	(0.46)	(0.02)	(0.07)	(0.40)	(0.03)	(0.07)	(0.51)	(0.04)	(0.13)	(0.56)
F25TO60	-0.00	0.16**	-0.80*	0.02	-0.02	0.05	0.00	0.07	0.05	-0.02	0.06	-0.08
	(0.01)	(0.08)	(0.41)	(0.02)	(0.06)	(0.35)	(0.02)	(0.07)	(0.46)	(0.03)	(0.10)	(0.54)
HEDYRS	0.00***	0.01***	0.06***	0.00***	0.01***	0.04***	0.00***	0.01***	0.04***	0.00***	0.01***	0.05***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)
SC	-0.02***	-0.07***	-0.20***	-0.01	0.02	-0.15**	-0.02***	-0.00	-0.30***	-0.04***	-0.00	-0.42***
	(0.00)	(0.02)	(0.06)	(0.01)	(0.01)	(0.07)	(0.01)	(0.01)	(0.08)	(0.01)	(0.02)	(0.08)
ST	-0.02***	-0.05***	-0.17***	-0.03***	-0.01	-0.33***	-0.02***	-0.03	-0.30***	0.04	0.03	-0.30
	(0.00)	(0.02)	(0.06)	(0.01)	(0.02)	(0.09)	(0.01)	(0.02)	(0.09)	(0.03)	(0.06)	(0.32)
MUSLIM	-0.01	-0.00	-0.12	0.01	0.00	0.00	-0.02	0.04**	-0.11	-0.02	0.04	-0.50*
	(0.01)	(0.04)	(0.14)	(0.01)	(0.03)	(0.11)	(0.02)	(0.02)	(0.26)	(0.02)	(0.04)	(0.27)
CONSTANT	-0.09*		-0.13	-0.28***		-2.73***	-0.24***		-3.59***	-0.16		-2.01
	(0.05)		(0.80)	(0.06)		(0.84)	(0.06)		(0.93)	(0.10)		(1.23)
Observations	4,802	4,802	3,550	3,686	3,686	2,634	2,944	2,944	2,160	1,624	1,624	1,191
R-squared	0.36		0.56	0.40		0.60	0.38		0.53	0.33		0.48
Elasticity	0.79			0.96			1.00			1.05		

Appendix Table A1 (continued)

	Rajasthan			Tamil Nadu			Uttar Pradesh			West Bengal		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
VARIABLES	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.06***	0.22***	0.21**	0.07***	0.02	0.43***	0.04***	0.15***	0.17***	0.04***	0.11***	-0.01
	(0.01)	(0.03)	(0.09)	(0.01)	(0.10)	(0.11)	(0.00)	(0.02)	(0.06)	(0.01)	(0.02)	(0.07)
LNHHSIZE	0.06***	0.33***	0.14*	0.07***	0.03	0.30**	0.05***	0.36***	0.23***	0.06***	0.22***	0.01
	(0.01)	(0.03)	(0.08)	(0.01)	(0.14)	(0.13)	(0.00)	(0.02)	(0.06)	(0.00)	(0.03)	(0.07)
M0TO4	-0.15***	-0.29***	-1.60***	-0.18***	-0.00	-1.47**	-0.14***	-0.34***	-2.91***	-0.18***	-0.22***	-3.36***
	(0.03)	(0.10)	(0.52)	(0.04)	(0.02)	(0.70)	(0.02)	(0.08)	(0.41)	(0.03)	(0.07)	(0.44)
M5TO9	0.02	1.34***	-1.16**	0.05	0.31	-1.65***	0.02	1.39***	-1.42***	-0.01	1.20***	-1.94***
	(0.03)	(0.15)	(0.49)	(0.04)	(1.25)	(0.54)	(0.02)	(0.11)	(0.38)	(0.02)	(0.14)	(0.39)
M10TO14	0.05*	1.22***	0.16	0.06**	0.13	-0.46	0.05***	1.23***	-0.22	0.07***	0.82***	0.04
	(0.03)	(0.14)	(0.47)	(0.03)	(0.54)	(0.49)	(0.02)	(0.10)	(0.37)	(0.02)	(0.11)	(0.38)
M15TO19	0.16***	0.67***	0.85*	0.36***	0.10	2.45***	0.17***	0.68***	1.36***	0.15***	0.42***	0.76**
	(0.03)	(0.11)	(0.46)	(0.03)	(0.41)	(0.46)	(0.02)	(0.08)	(0.37)	(0.02)	(0.07)	(0.38)
M20TO24	0.10***	0.16*	1.73***	0.22***	0.05	2.33***	0.09***	0.28***	1.06***	0.06***	0.06	1.10***
	(0.03)	(0.09)	(0.49)	(0.03)	(0.19)	(0.49)	(0.02)	(0.08)	(0.39)	(0.02)	(0.05)	(0.40)
M25TO60	-0.05**	-0.17*	-0.22	-0.04**	-0.02	1.08**	-0.04***	-0.05	-0.87**	-0.03	-0.07	-0.38
	(0.02)	(0.09)	(0.49)	(0.02)	(0.07)	(0.48)	(0.01)	(0.07)	(0.38)	(0.02)	(0.05)	(0.38)
M61MORE	-0.05*	-0.18	-0.18	-0.07**	-0.03	0.44	-0.05**	-0.17*	-0.35	-0.08***	-0.22***	-1.39***
	(0.03)	(0.13)	(0.67)	(0.03)	(0.13)	(0.70)	(0.02)	(0.10)	(0.53)	(0.02)	(0.07)	(0.51)
F0TO4	-0.11***	-0.11	-1.42***	-0.12***	-0.01	-1.35**	-0.13***	-0.20**	-2.76***	-0.18***	-0.23***	-3.30***
	(0.03)	(0.11)	(0.53)	(0.04)	(0.03)	(0.64)	(0.02)	(0.08)	(0.41)	(0.03)	(0.07)	(0.44)
F5TO9	-0.03	1.18***	-1.25**	0.02	0.43	-2.17***	0.02	1.29***	-1.23***	0.00	1.12***	-1.51***
	(0.03)	(0.15)	(0.50)	(0.04)	(1.73)	(0.55)	(0.02)	(0.11)	(0.39)	(0.02)	(0.14)	(0.40)
F10TO14	-0.00	0.90***	-0.32	0.01	0.19	-0.79	0.04**	0.86***	0.13	0.08***	0.91***	0.47
	(0.03)	(0.13)	(0.48)	(0.03)	(0.79)	(0.50)	(0.02)	(0.09)	(0.38)	(0.02)	(0.12)	(0.39)
F15TO19	0.10***	0.42***	0.64	0.27***	0.11	1.93***	0.12***	0.57***	0.77**	0.13***	0.34***	1.19***
	(0.03)	(0.11)	(0.46)	(0.03)	(0.46)	(0.47)	(0.02)	(0.08)	(0.38)	(0.02)	(0.07)	(0.38)
F20TO24	0.08***	0.14	1.24**	0.24***	0.05	2.65***	0.04**	-0.01	1.18***	0.06***	0.09	0.58
	(0.03)	(0.09)	(0.49)	(0.03)	(0.20)	(0.53)	(0.02)	(0.07)	(0.41)	(0.02)	(0.06)	(0.40)
F25TO60	0.04**	0.18**	0.70	0.01	0.02	0.78	0.01	0.14**	0.48	0.02	0.07	-0.38
	(0.02)	(0.08)	(0.47)	(0.02)	(0.07)	(0.50)	(0.01)	(0.07)	(0.37)	(0.02)	(0.05)	(0.37)
HEDYRS	0.00***	0.01***	0.03***	0.00***	0.00	0.04***	0.00***	0.01***	0.05***	0.00***	0.01***	0.04***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
SC	-0.02***	-0.02	-0.36***	-0.02***	-0.00	-0.22***	-0.02***	-0.03**	-0.32***	-0.01**	-0.04**	-0.14**
	(0.01)	(0.02)	(0.07)	(0.01)	(0.00)	(0.08)	(0.00)	(0.01)	(0.05)	(0.01)	(0.02)	(0.07)
ST	-0.01	-0.01	-0.25**	-0.03	-0.01	-0.42	-0.02*	-0.01	-0.25*	-0.01	-0.07*	-0.26**
	(0.01)	(0.03)	(0.11)	(0.03)	(0.04)	(0.36)	(0.01)	(0.04)	(0.14)	(0.01)	(0.04)	(0.11)
MUSLIM	-0.03**	-0.04	-0.44***	0.02	-0.00	0.49**	-0.03***	-0.14***	-0.47***	-0.01**	-0.01	-0.07
	(0.01)	(0.05)	(0.15)	(0.02)	(0.01)	(0.24)	(0.01)	(0.04)	(0.08)	(0.01)	(0.02)	(0.08)
CONSTANT	-0.45***		-4.42***	-0.65***		-6.90***	-0.41***		-5.17***	-0.25***		-1.63*
	(0.08)		(1.06)	(0.09)		(1.26)	(0.05)		(0.80)	(0.06)		(0.84)
Observations	2,959	2,959	2,186	2,979	2,979	2,097	6,870	6,870	5,041	3,866	3,866	2,839
R-squared	0.38		0.48	0.44		0.48	0.39		0.52	0.36		0.48
Elasticity	1.20			1.42			1.16			0.99		

Note: The elasticity of education expenditure with respect to log of per capita expenditure (LNPCE), the proxy for smoothed income, is greater than unity for all the states except Assam (0.95), Kerala (1.00) and West Bengal (0.88), i.e. education is a luxury good in rural India in most of the major states. Standard errors are reported in parenthesis. The p-values of the difference in marginal effect between the male and female demographic variable in each of the above equations has been calculated using bootstrapping with 500 iterations, and these p-values have been reported in parenthesis.

Appendix Table A2

Village Fixed Effects regressions of (a) the budget share of education (ESHARE); (b) binary probit of any (positive) education expenditure (ANYEDEXP); and (c) OLS of log of budget share of education (LNESHARE), conditional on positive education expenditure. Household level data, NSS 52nd Round, 1995-96

	Andhra Pradesh			**Assam**			**Bihar**			**Gujarat**		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
VARIABLES	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.05***	0.03	0.69***	0.06***	0.03	0.06	0.06***	0.23	0.29***	0.03***	0.01	0.07
	(0.01)	(0.04)	(0.12)	(0.01)	(0.02)	(0.12)	(0.01)	(0.18)	(0.09)	(0.01)	(0.01)	(0.15)
LNHHSIZE	0.01**	0.03	0.03	0.05***	0.03	0.02	0.03***	0.28	0.08	0.02***	0.02	0.05
	(0.01)	(0.05)	(0.10)	(0.01)	(0.02)	(0.09)	(0.00)	(0.22)	(0.06)	(0.01)	(0.01)	(0.11)
M0TO4	-0.13***	-0.11	-2.41***	-0.08	-0.00	-1.61**	-0.08**	-0.17	-1.32**	-0.05	-0.01	-0.84
	(0.03)	(0.18)	(0.64)	(0.05)	(0.02)	(0.63)	(0.03)	(0.18)	(0.53)	(0.04)	(0.02)	(0.69)
M5TO9	-0.13***	0.05	-3.56***	-0.11**	0.06	-2.84***	-0.16***	0.17	-3.58***	-0.05	0.03	-1.88***
	(0.03)	(0.07)	(0.55)	(0.05)	(0.04)	(0.61)	(0.03)	(0.18)	(0.51)	(0.04)	(0.02)	(0.63)
M10TO14	-0.06*	0.06	-1.40**	0.02	0.09	-0.94	-0.03	0.73	-1.46***	0.04	0.06	-0.32
	(0.03)	(0.08)	(0.55)	(0.05)	(0.06)	(0.60)	(0.03)	(0.59)	(0.50)	(0.04)	(0.04)	(0.61)
M15TO19	-0.08***	-0.02	-1.57***	0.08	0.05	-0.26	0.02	0.25	-0.20	0.08*	0.02	0.24
	(0.03)	(0.05)	(0.57)	(0.05)	(0.04)	(0.61)	(0.03)	(0.24)	(0.51)	(0.04)	(0.02)	(0.63)
M20TO24	-0.16***	-0.17	-1.75**	-0.05	0.01	-0.23	-0.14***	-0.33	-1.72***	-0.07	-0.04	-0.24
	(0.04)	(0.26)	(0.70)	(0.06)	(0.02)	(0.67)	(0.03)	(0.29)	(0.58)	(0.05)	(0.03)	(0.81)
M25TO60	-0.12***	-0.08	-1.76***	0.03	0.03	-0.50	-0.08**	-0.19	-1.44***	-0.01	-0.03	0.93
	(0.03)	(0.13)	(0.60)	(0.05)	(0.03)	(0.62)	(0.03)	(0.20)	(0.52)	(0.04)	(0.02)	(0.67)
M61MORE	-0.07*	-0.11	-1.11	-0.04	0.02	-0.48	-0.03	-0.03	-1.04	0.08	-0.00	1.01
	(0.04)	(0.17)	(0.87)	(0.07)	(0.03)	(0.76)	(0.04)	(0.17)	(0.69)	(0.06)	(0.02)	(0.93)
F0TO4	-0.14***	-0.09	-2.82***	-0.04	0.01	-0.78	-0.09***	-0.23	-1.45***	-0.06	-0.01	-1.20*
	(0.03)	(0.15)	(0.65)	(0.05)	(0.02)	(0.63)	(0.03)	(0.22)	(0.51)	(0.04)	(0.02)	(0.71)
F5TO9	-0.13***	0.04	-3.38***	-0.09*	0.05	-2.56***	-0.17***	0.02	-3.22***	-0.06	0.02	-2.50***
	(0.03)	(0.06)	(0.56)	(0.05)	(0.04)	(0.61)	(0.03)	(0.13)	(0.50)	(0.04)	(0.02)	(0.64)
F10TO14	-0.09***	0.01	-2.01***	0.02	0.08	-0.75	-0.08**	0.30	-2.16***	-0.00	0.05	-0.51
	(0.03)	(0.03)	(0.56)	(0.05)	(0.05)	(0.60)	(0.03)	(0.27)	(0.51)	(0.04)	(0.03)	(0.62)
F15TO19	-0.17***	-0.07	-2.36***	-0.01	0.01	-0.18	-0.14***	-0.16	-2.97***	-0.03	-0.01	-0.53
	(0.03)	(0.12)	(0.60)	(0.05)	(0.02)	(0.62)	(0.03)	(0.18)	(0.53)	(0.04)	(0.02)	(0.65)
F20TO24	-0.14***	-0.09	-1.97**	0.07	0.03	0.12	-0.05	-0.04	-0.50	-0.07	-0.03	0.20
	(0.04)	(0.15)	(0.81)	(0.06)	(0.03)	(0.70)	(0.04)	(0.15)	(0.59)	(0.05)	(0.03)	(0.82)
F25TO60	-0.08***	-0.06	-1.18**	0.01	0.03	-0.62	-0.06**	0.15	-0.98**	-0.03	0.01	-0.62
	(0.03)	(0.10)	(0.55)	(0.05)	(0.03)	(0.62)	(0.03)	(0.17)	(0.50)	(0.04)	(0.02)	(0.66)
HEDYRS	0.00***	0.00	0.05***	0.00***	0.00	0.05***	0.00***	0.01	0.03***	0.00***	0.00	0.04***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)
SC	-0.02***	-0.01	-0.26***	0.01	0.00	-0.02	-0.01**	-0.06	-0.11*	0.01	0.00	0.16
	(0.00)	(0.02)	(0.09)	(0.01)	(0.00)	(0.09)	(0.00)	(0.05)	(0.06)	(0.01)	(0.00)	(0.11)
ST	-0.03***	-0.10	-0.61***	0.00	0.00	-0.05	-0.00	-0.01	-0.00	-0.02	-0.01	0.02
	(0.01)	(0.12)	(0.21)	(0.01)	(0.00)	(0.11)	(0.01)	(0.03)	(0.13)	(0.01)	(0.01)	(0.15)
CONSTANT	-0.26***		-6.66***	-0.44***		-1.85	-0.38***		-3.79***	-0.23**		-4.45***
	(0.07)		(1.23)	(0.10)		(1.19)	(0.06)		(0.97)	(0.09)		(1.52)
Observations	2,244	2,244	1,694	1,475	1,475	1,121	3,292	3,292	2,221	1,160	1,160	917
R-squared	0.47		0.59	0.53		0.71	0.45		0.56	0.45		0.64
Elasticity	1.68			1.06			1.29			1.08		

Appendix Table A2 (continued)

VARIABLES	Haryana			Himachal Pradesh			Karnataka			Kerala		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.01	0.00	-0.18	0.00	0.00	-0.17	0.01	0.01	-0.01	0.00	0.00	-0.23***
	(0.01)	(0.02)	(0.13)	(0.02)	(0.00)	(0.10)	(0.01)	(0.02)	(0.14)	(0.01)	(0.00)	(0.09)
LNHHSIZE	0.04***	0.00	0.07	0.05***	0.00	0.04	0.00	0.01	-0.16	0.04***	0.00	-0.02
	(0.01)	(0.03)	(0.13)	(0.01)	(0.00)	(0.07)	(0.01)	(0.02)	(0.11)	(0.01)	(0.00)	(0.09)
M0TO4	-0.07	0.00	-1.97**	-0.10	-0.00	-0.49	-0.15***	-0.02	-2.99***	-0.09	0.00	-1.61***
	(0.09)	(0.02)	(0.85)	(0.07)	(0.00)	(0.48)	(0.05)	(0.02)	(0.85)	(0.06)	(0.00)	(0.51)
M5TO9	-0.07	0.01	-2.70***	-0.12*	0.00	-1.81***	-0.17***	0.04	-5.15***	-0.16***	0.00	-3.02***
	(0.09)	(0.07)	(0.81)	(0.06)	(0.00)	(0.41)	(0.04)	(0.04)	(0.78)	(0.05)	(0.00)	(0.45)
M10TO14	0.01	0.01	-1.79**	0.15***	0.00	0.31	-0.00	0.06	-1.45*	-0.03	0.00	-1.56***
	(0.09)	(0.14)	(0.77)	(0.06)	(0.00)	(0.39)	(0.04)	(0.06)	(0.77)	(0.05)	(0.00)	(0.41)
M15TO19	-0.10	0.00	-2.31***	0.15**	0.00	0.57	-0.05	0.01	-1.45*	-0.06	0.00	-1.27***
	(0.09)	(0.04)	(0.81)	(0.06)	(0.00)	(0.40)	(0.04)	(0.02)	(0.77)	(0.05)	(0.00)	(0.43)
M20TO24	-0.16*	-0.00	-2.54***	-0.01	-0.00	0.34	-0.10**	-0.03	-1.55*	-0.19***	-0.00	-0.93*
	(0.09)	(0.02)	(0.91)	(0.07)	(0.00)	(0.47)	(0.05)	(0.03)	(0.87)	(0.05)	(0.00)	(0.52)
M25TO60	0.00	-0.00	-0.62	-0.01	0.00	-0.11	-0.10**	-0.01	-1.55*	-0.04	-0.00	-0.80*
	(0.09)	(0.01)	(0.86)	(0.06)	(0.00)	(0.40)	(0.04)	(0.02)	(0.79)	(0.05)	(0.00)	(0.42)
M61MORE	0.07	0.00	-0.49	0.01	0.00	0.31	-0.06	0.00	-1.76*	-0.09	-0.00	-0.99
	(0.13)	(0.04)	(1.14)	(0.08)	(0.00)	(0.52)	(0.06)	(0.02)	(1.05)	(0.07)	(0.00)	(0.61)
F0TO4	-0.21**	-0.00	-2.78***	-0.04	0.00	-0.24	-0.13***	-0.02	-2.99***	-0.11*	0.00	-2.01***
	(0.10)	(0.04)	(0.92)	(0.07)	(0.00)	(0.44)	(0.04)	(0.02)	(0.82)	(0.06)	(0.00)	(0.54)
F5TO9	-0.12	0.01	-2.68***	-0.08	0.00	-1.55***	-0.15***	0.02	-3.44***	-0.13**	0.00	-2.67***
	(0.09)	(0.10)	(0.81)	(0.06)	(0.00)	(0.41)	(0.04)	(0.03)	(0.76)	(0.05)	(0.00)	(0.46)
F10TO14	-0.02	0.01	-1.76**	0.10	0.00	0.25	-0.07	0.03	-1.99***	-0.02	0.00	-1.49***
	(0.09)	(0.11)	(0.85)	(0.06)	(0.00)	(0.41)	(0.04)	(0.04)	(0.75)	(0.05)	(0.00)	(0.42)
F15TO19	-0.22**	-0.00	-2.63***	0.01	0.00	-0.24	-0.13***	-0.01	-2.33***	-0.06	0.00	-1.18***
	(0.09)	(0.03)	(0.86)	(0.06)	(0.00)	(0.40)	(0.04)	(0.02)	(0.80)	(0.05)	(0.00)	(0.42)
F20TO24	-0.03	0.00	-1.20	0.04	0.00	0.37	-0.09*	-0.03	-1.16	-0.19***	-0.00	-1.48***
	(0.12)	(0.03)	(1.11)	(0.08)	(0.00)	(0.53)	(0.05)	(0.04)	(0.90)	(0.06)	(0.00)	(0.57)
F25TO60	0.02	0.00	-0.63	0.09	0.00	0.41	-0.11***	-0.02	-1.91**	-0.03	0.00	-0.98**
	(0.09)	(0.03)	(0.87)	(0.06)	(0.00)	(0.40)	(0.04)	(0.03)	(0.79)	(0.05)	(0.00)	(0.45)
HEDYRS	0.00**	0.00	0.02**	0.00	0.00	0.01	0.00***	0.00	0.05***	0.00***	0.00	0.04***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)
SC	-0.02	-0.00	-0.14	-0.01	0.00	-0.12*	-0.01	0.00	-0.33***	-0.03***	-0.00	-0.05
	(0.01)	(0.00)	(0.10)	(0.01)	(0.00)	(0.07)	(0.01)	(0.00)	(0.11)	(0.01)	(0.00)	(0.09)
ST	0.00		0.00	-0.00	-0.01	0.11	-0.01	-0.01	-0.36**	-0.03	-0.00	-0.63***
	(0.00)		(0.00)	(0.03)	(0.10)	(0.23)	(0.01)	(0.01)	(0.14)	(0.03)	(0.00)	(0.22)
CONSTANT	0.00		0.95	-0.06		-1.54	0.08		-0.44	-0.03		0.10
	(0.14)		(1.29)	(0.14)		(0.98)	(0.08)		(1.49)	(0.11)		(0.95)
Observations	504	504	411	757	757	667	1,218	1,218	954	1,099	1,099	953
R-squared	0.39		0.39	0.41		0.56	0.42		0.62	0.45		0.58
Elasticity	0.84			0.79			1.03			0.73		

Appendix Table A2 (continued)

	Madhya Pradesh			Maharashtra			Odisha			Punjab		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
VARIABLES	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.04***	0.10	0.14	0.01	0.00	-0.07	0.05***	0.18	0.40***	0.08***	0.00	0.28**
	(0.01)	(0.10)	(0.10)	(0.01)	(0.00)	(0.09)	(0.01)	(0.15)	(0.12)	(0.01)	(0.00)	(0.13)
LNHHSIZE	0.03***	0.10	0.25***	0.03***	0.00	0.19**	0.05***	0.23	0.21**	0.07***	0.00	0.35***
	(0.00)	(0.10)	(0.07)	(0.01)	(0.00)	(0.07)	(0.01)	(0.19)	(0.09)	(0.01)	(0.00)	(0.12)
M0TO4	-0.02	-0.12	-0.14	-0.09**	-0.00	-0.70	-0.06	-0.17	0.40	-0.10	-0.00	-1.25*
	(0.03)	(0.14)	(0.52)	(0.03)	(0.00)	(0.46)	(0.04)	(0.19)	(0.70)	(0.08)	(0.00)	(0.70)
M5TO9	-0.09***	0.09	-1.95***	-0.09***	0.01	-1.46***	-0.08**	0.28	-1.37**	-0.04	0.00	-1.43**
	(0.03)	(0.10)	(0.48)	(0.03)	(0.01)	(0.42)	(0.04)	(0.26)	(0.61)	(0.07)	(0.00)	(0.62)
M10TO14	0.04	0.27	0.34	0.03	0.02	0.21	0.05	0.52	0.33	0.08	0.00	-0.06
	(0.03)	(0.29)	(0.47)	(0.03)	(0.02)	(0.40)	(0.04)	(0.45)	(0.60)	(0.07)	(0.00)	(0.62)
M15TO19	0.06**	0.09	0.98**	0.02	0.01	0.48	0.06	0.20	1.78***	-0.02	0.00	-0.28
	(0.03)	(0.11)	(0.48)	(0.03)	(0.01)	(0.42)	(0.04)	(0.21)	(0.63)	(0.07)	(0.00)	(0.63)
M20TO24	-0.06*	-0.15	0.36	-0.08**	-0.01	0.20	-0.07*	-0.21	-0.07	-0.17**	-0.00	-0.63
	(0.03)	(0.17)	(0.58)	(0.04)	(0.01)	(0.50)	(0.04)	(0.22)	(0.73)	(0.08)	(0.00)	(0.74)
M25TO60	0.01	-0.04	0.57	-0.02	0.00	0.20	-0.02	-0.05	0.54	-0.06	0.00	0.09
	(0.03)	(0.06)	(0.52)	(0.03)	(0.00)	(0.42)	(0.04)	(0.13)	(0.65)	(0.07)	(0.00)	(0.66)
M61MORE	0.07*	-0.08	1.31*	-0.05	-0.00	0.25	-0.02	-0.05	1.12	-0.04	0.00	-0.25
	(0.04)	(0.11)	(0.73)	(0.04)	(0.00)	(0.56)	(0.05)	(0.16)	(0.84)	(0.10)	(0.00)	(0.86)
F0TO4	-0.04	-0.08	-0.25	-0.08**	-0.00	-1.02**	-0.09**	-0.17	-0.87	-0.10	-0.00	-0.99
	(0.03)	(0.10)	(0.52)	(0.03)	(0.00)	(0.46)	(0.04)	(0.19)	(0.70)	(0.08)	(0.00)	(0.73)
F5TO9	-0.10***	0.01	-1.96***	-0.09***	0.01	-1.84***	-0.09**	0.32	-1.74***	-0.09	0.00	-1.64**
	(0.03)	(0.05)	(0.49)	(0.03)	(0.01)	(0.42)	(0.04)	(0.29)	(0.64)	(0.07)	(0.00)	(0.65)
F10TO14	-0.01	0.10	-0.18	0.02	0.01	0.06	-0.04	0.38	-0.30	0.01	0.00	-0.38
	(0.03)	(0.11)	(0.48)	(0.03)	(0.01)	(0.40)	(0.04)	(0.34)	(0.64)	(0.07)	(0.00)	(0.61)
F15TO19	-0.06**	-0.05	-0.18	-0.07*	-0.00	-0.36	-0.07*	0.04	-0.32	-0.07	0.00	-0.69
	(0.03)	(0.07)	(0.51)	(0.03)	(0.00)	(0.46)	(0.04)	(0.12)	(0.66)	(0.07)	(0.00)	(0.63)
F20TO24	0.03	-0.08	0.93	-0.02	-0.00	0.26	-0.03	-0.28	0.57	-0.11	-0.00	-0.31
	(0.03)	(0.10)	(0.61)	(0.04)	(0.01)	(0.59)	(0.05)	(0.27)	(0.77)	(0.07)	(0.00)	(0.71)
F25TO60	0.03	0.02	1.01**	0.00	0.00	0.04	0.02	0.12	0.79	-0.04	-0.00	0.45
	(0.03)	(0.05)	(0.50)	(0.03)	(0.00)	(0.42)	(0.04)	(0.15)	(0.62)	(0.07)	(0.00)	(0.67)
HEDYRS	0.00***	0.00	0.04***	0.00***	0.00	0.02***	0.00***	0.01	0.04***	0.00***	0.00	0.04***
	(0.00)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)
SC	-0.00	0.00	-0.02	0.00	0.00	0.04	-0.01	0.01	-0.04	-0.00	0.00	-0.10
	(0.00)	(0.01)	(0.07)	(0.01)	(0.00)	(0.06)	(0.01)	(0.02)	(0.09)	(0.01)	(0.00)	(0.08)
ST	-0.01**	-0.04	-0.00	-0.01**	-0.00	-0.04	-0.01	-0.11	-0.19*	-0.10	-0.98***	0.00
	(0.00)	(0.04)	(0.08)	(0.01)	(0.00)	(0.09)	(0.01)	(0.09)	(0.11)	(0.10)	(0.01)	(0.00)
CONSTANT	-0.32***		-4.84***	-0.03		-2.16**	-0.41***		-6.59***	-0.63***		-4.61***
	(0.06)		(1.05)	(0.07)		(0.98)	(0.09)		(1.40)	(0.15)		(1.38)
Observations	2,475	2,475	1,782	1,914	1,914	1,527	1,462	1,462	1,014	987	987	821
R-squared	0.49		0.60	0.47		0.58	0.49		0.61	0.42		0.50
Elasticity	1.13			0.94			1.37			1.26		

Appendix Table A2 (continued)

	Rajasthan			Tamil Nadu			Uttar Pradesh			West Bengal		
	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)	Unconditional OLS (ESHARE)	Probit (ANYEDEXP)	Conditional OLS (LNESHARE)
VARIABLES	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient	Coefficient	Marginal Effect	Coefficient
LNPCE	0.02***	0.02	-0.04	0.06***	0.01	0.37***	0.03***	0.01	0.10	0.14***	0.03	1.13***
	(0.01)	(0.01)	(0.12)	(0.01)	(0.02)	(0.11)	(0.01)	(0.03)	(0.06)	(0.01)	(0.02)	(0.12)
LNHHSIZE	0.03***	0.02	0.06	0.04***	0.01	0.09	0.05***	0.02	0.20***	0.06***	0.03	0.39***
	(0.01)	(0.02)	(0.08)	(0.01)	(0.02)	(0.10)	(0.00)	(0.04)	(0.05)	(0.01)	(0.02)	(0.09)
M0TO4	-0.04	-0.00	-1.22**	-0.08	-0.00	-1.29**	-0.08***	-0.02	-1.29***	-0.09*	-0.02	-1.42**
	(0.04)	(0.01)	(0.62)	(0.05)	(0.01)	(0.61)	(0.03)	(0.04)	(0.38)	(0.05)	(0.02)	(0.63)
M5TO9	-0.09**	0.04	-2.78***	-0.05	0.02	-1.81***	-0.13***	0.01	-2.96***	-0.20***	0.03	-2.84***
	(0.04)	(0.03)	(0.59)	(0.04)	(0.06)	(0.53)	(0.03)	(0.03)	(0.36)	(0.04)	(0.02)	(0.56)
M10TO14	0.02	0.07	-1.38**	0.01	0.02	-0.74	0.02	0.05	-1.23***	0.01	0.05	-0.34
	(0.04)	(0.06)	(0.58)	(0.04)	(0.06)	(0.53)	(0.03)	(0.09)	(0.35)	(0.04)	(0.03)	(0.54)
M15TO19	0.04	0.04	-0.64	0.02	0.00	-0.05	0.03	0.02	-0.48	-0.04	0.01	-0.44
	(0.04)	(0.03)	(0.59)	(0.04)	(0.01)	(0.54)	(0.03)	(0.04)	(0.36)	(0.04)	(0.02)	(0.55)
M20TO24	-0.07*	-0.03	-1.20*	-0.05	-0.01	0.26	-0.13***	-0.03	-1.92***	-0.24***	-0.05	-1.86***
	(0.04)	(0.02)	(0.69)	(0.05)	(0.03)	(0.61)	(0.03)	(0.06)	(0.43)	(0.05)	(0.04)	(0.66)
M25TO60	-0.03	-0.02	-1.05*	-0.04	0.00	-0.78	-0.07***	-0.01	-1.36***	-0.09*	-0.03	-0.31
	(0.04)	(0.02)	(0.60)	(0.04)	(0.00)	(0.55)	(0.03)	(0.03)	(0.37)	(0.05)	(0.03)	(0.59)
M61MORE	-0.00	0.00	-1.33	-0.08	-0.00	-0.44	-0.03	-0.01	-0.69	-0.10*	-0.03	-0.43
	(0.05)	(0.02)	(0.87)	(0.06)	(0.01)	(0.76)	(0.04)	(0.02)	(0.49)	(0.06)	(0.02)	(0.80)
F0TO4	-0.07*	-0.01	-1.75***	-0.09**	-0.00	-1.79***	-0.09***	-0.01	-1.66***	-0.11**	-0.04	-2.01***
	(0.04)	(0.01)	(0.63)	(0.05)	(0.02)	(0.60)	(0.03)	(0.03)	(0.37)	(0.05)	(0.03)	(0.62)
F5TO9	-0.12***	0.02	-3.26***	-0.09**	0.02	-2.45***	-0.18***	-0.00	-3.21***	-0.19***	0.02	-2.64***
	(0.04)	(0.02)	(0.61)	(0.04)	(0.05)	(0.53)	(0.03)	(0.01)	(0.36)	(0.04)	(0.02)	(0.55)
F10TO14	-0.09**	0.02	-2.48***	0.00	0.01	-0.47	-0.09***	0.00	-1.94***	-0.01	0.04	-0.81
	(0.04)	(0.02)	(0.60)	(0.04)	(0.04)	(0.52)	(0.03)	(0.01)	(0.36)	(0.04)	(0.03)	(0.55)
F15TO19	-0.12***	0.00	-2.50***	-0.11**	-0.01	-0.95*	-0.12***	-0.01	-2.24***	-0.14***	-0.03	-1.12*
	(0.04)	(0.01)	(0.64)	(0.04)	(0.02)	(0.54)	(0.03)	(0.03)	(0.38)	(0.04)	(0.02)	(0.57)
F20TO24	-0.01	0.00	-0.85	-0.07	-0.01	-0.37	-0.01	-0.01	0.03	-0.11**	-0.05	-0.04
	(0.04)	(0.01)	(0.73)	(0.05)	(0.03)	(0.68)	(0.03)	(0.03)	(0.45)	(0.05)	(0.04)	(0.70)
F25TO60	-0.01	0.00	-0.74	0.00	-0.01	0.20	-0.01	-0.00	-0.44	-0.05	-0.02	0.26
	(0.04)	(0.01)	(0.60)	(0.04)	(0.02)	(0.54)	(0.03)	(0.01)	(0.36)	(0.04)	(0.02)	(0.59)
HEDYRS	0.00***	0.00	0.02***	0.00***	0.00	0.03***	0.00***	0.00	0.03***	0.00***	0.00	0.03***
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
SC	-0.00	-0.00	-0.04	-0.00	-0.00	0.03	-0.01**	-0.00	-0.11**	0.00	0.00	-0.05
	(0.00)	(0.00)	(0.08)	(0.01)	(0.00)	(0.07)	(0.00)	(0.00)	(0.04)	(0.01)	(0.00)	(0.08)
ST	-0.01	-0.00	-0.10	-0.10**	-0.00	-0.89*	-0.00	-0.00	-0.47**	0.01	-0.01	0.09
	(0.01)	(0.00)	(0.10)	(0.04)	(0.01)	(0.48)	(0.02)	(0.00)	(0.23)	(0.01)	(0.01)	(0.15)
CONSTANT	-0.17**		-1.22	-0.25***		-4.05***	-0.14**		-1.92**	-1.01***		-11.41***
	(0.08)		(1.43)	(0.09)		(1.08)	(0.06)		(0.75)	(0.09)		(1.20)
Observations	1,532	1,532	1,183	1,733	1,733	1,394	4,135	4,135	3,236	2,205	2,205	1,690
R-squared	0.45		0.51	0.42		0.57	0.42		0.52	0.47		0.53
Elasticity	0.96			1.39			1.07			2.12		

Note: In the 1995-96 (52nd round) NSS data, no information was available on religion. The elasticity of education expenditure with respect to LNPCE (log of per capita expenditure, the proxy for smoothed income), is close to unity or greater than unity for all the states except Haryana (0.84), Himachal (0.79), Kerala (0.73), Maharashtra (0.94) and Rajasthan (0.96), i.e. education expenditure is a luxury good in rural India in almost all the major states. However, in many states it has become less of a luxury good over time, i.e. the responsiveness of education expenditure to household income was high in 1995 in West Bengal (elasticity of 2.12) but fell to below unity by 2014. Standard errors are reported in the parenthesis and p-values of DME of Age 5-9, Age 10-14 & Age 15-19 are reported parenthesis.