Conditional Cash Transfer and Educational Gender Gaps: Insights from Bangladeshi households*

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Abstract

This paper documents a reverse gender gap in secondary schooling outcomes in Bangladesh drawing upon nationally representative household survey data. In terms of enrolment status and years of schooling completed, boys are found to lag behind girls in the rural as well as in the urban area. These findings are robust to extensive control for demand and supply-side determinants of schooling and common family unobservables. We test to what extent the reversal of gender gap in secondary school outcomes in urban area is driven by a conditional cash transfer program – female secondary school stipend program. Whilst boys residing in the program area have more education compared to those in the non-program area, they fare poorly when compared to girls. Boys are also more likely to be in employment in the program area. Consequently urban gender gap is widest in the intervention area. We consider a number of hypotheses to reconcile these findings.

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I Introduction

Acknowledging the socio-economic importance of female education, the UN Millennium Development Goals (MDGs) project has set a target of eliminating gender disparities in primary and secondary education at all levels by 2015. For a variety of micro- and macro-economic reasons, promoting gender equality and empowering women matters for economic development. Increase in female education reduces spousal gaps in schooling and age thereby improving the balance of power within the family. This in turn lowers fertility and improves welfare of both boys and girls measured in terms of reduced mortality, stunting, wasting and greater school participation and attainment. Education of girls has substantial macroeconomic returns too. Low levels of female enrollment in school and gender imbalance in school enrollment are harmful to economic growth (Knowles et al, 2002; Klasen, 2002). Yet, in most developing countries, girls lag markedly behind boys in education. Governments in these countries should favor girls when investing in education because social returns, in terms of child health and fertility, are higher from girls' than from boys' education (Schultz, 2002). Recognizing this, the government of Bangladesh has introduced a number of reform programs over the last two decades to remove various supply- and demand-side constraints to female education. Strategies to improve girls' educational participation have included two broad policy interventions: (a) social transfers and (b) educational investments on the supply side -- building more schools, providing girl-friendly facilities, recruiting more women teachers etc.

Growth in female enrolment in Bangladesh has been phenomenal since the introduction of the female secondary stipend (FSS) program in 1994. Analysis of school-level data shows that boys' enrolment has suffered in coeducational schools, however (Khandker *et al*., 2003) which are attended by the vast majority of Bangladeshi children[i]. Similar conclusions were reached by Arends-Kuenning and Amin (2004a) who examined the impact of the secondary-school female stipend scheme. Using longitudinal data on households, they document a gender-differentiated increase in school participation rates between 1992 and 1996. Their findings suggest that adolescent boys were less likely to remain in school and more likely to do wage work following the introduction of the stipend scheme. The authors conjecture that parents may have decided to send adolescent girls to school and adolescent boys to work in response to the incentives. These two pieces of evidence–relative fall in enrolment of boys in co-educational schools and within household sex inequality–suggest that the program aided the process of closing gender gap not solely by raising female enrolment but also in an unintended way: cutting back participation of boys in secondary school.

Findings from these two studies are difficult to generalize, however. Data used in the second study come from just two villages limiting its use for policy. Turning to school data-based evidence, under-enrolment of boys in co-educational schools could arise purely due to unanticipated changes in school policies induced by the female incentive

program. Clearly, none of the existing studies provide a systematically account of the effect of the FSS program on boys' education. Neither is the nature and extent of gender parity in secondary schooling well-documented using nationally representative household survey data. Knowledge about any spill-over effects of the program on boys is important for similar interventions are either in place or under consideration in a number of developing countries[ii]. More importantly, negative impact on boys' schooling, if true, is likely to undermine present efforts of the government to meet the MDG target of achieving gender parity by 2015.

This paper sets out to systematically document gender imbalance in primary and secondary school age population using recent national household survey data. We assess whether a gap favoring girls exists at the household level and if so, how it varies by program exposure. Whilst the program covered all of rural Bangladesh, only a part of the urban area has benefited from it -- households in metropolitan areas have remained unexposed. Therefore, comparison of outcomes by gender across metropolitan and non-metropolitan areas yields crude estimate of the program's impact on gender gap in schooling and child labor outcomes for the urban population. As a by-product, this study provides a comprehensive description of the determinants of households' educational choices by gender with a focus on sibling composition and school quality and availability in Bangladesh. We investigate this for a number of outcomes (such as child labour, current enrolment status, and grade completion) and input (individual level educational expenditure). By focusing on the latter, we also contribute to the existing literature on sex-bias in intra-household allocations in Bangladesh.

We explain background of the study in the next section. In section 3, we describe data and methodology. In section 4, we present regression results on the determinants of educational outcomes, child labour and educational expenditure by gender. In section 5 we conclude by discussing the implications of our findings.

II Background: Female stipend program and girl's schooling in Bangladesh

Significant gender imbalances prevailed in educational outcomes in Bangladesh in the early 1980s. Substantial progress has been made in recent years, however. Between 1990 and 2000, Bangladesh has seen steep rise in girls' gross primary enrollment ratio from 64 to 98 percent respectively. While only 65 percent of children who enroll in primary school make it to fifth grade, the proportion has improved significantly since 1990 when it was only 47 percent (UNESCO, 2006). Similar progress has been made at the secondary level. Two incentive programs have been central in the educational expansion, namely the female secondary school stipend (FSS) scheme and the Food for Education (FFE) program[iii].

Private returns to education enjoyed by females in Bangladesh are substantially higher than those for males[iv]. Despite this, households may under-invest in girls for a number of reasons. For instance, if there's sex-discrimination in the labour market, households would rationally under-invest in girl's schooling. Intra-household differences may also emerge despite equal treatment of children if there's sex-preference in fertility so that

girls are over-represented in larger families. In such setting, conditional cash transfer (CCT) can create incentives for households to adjust their investment behavior toward matching the social optimum optimum (Janvry and Sadoulet, 2004). The girl-specific stipend intervention can reduce the cost/benefit ratio at the level of the household more for girls than boys thereby boosting education of the former[v].

The FSS scheme is essentially a CCT intervention launched by the Bangladesh Government in 1994 with the assistance from the World Bank and other donor agencies. Graduates of primary schools who enroll in grade 6 in a junior/high school are automatically eligible for the stipend. The program spans all rural and non-metropolitan secondary schools (secular or religious) that are recognized by the government. All eligible female students are awarded stipends under the following conditions: (i) The girl students must attend at least 85% of the classes in an academic year; (ii) They must obtain, on an average 45% marks at the half yearly/annual examination; (iii) They must remain unmarried until passing the SSC examination. Students fulfilling all three criteria receive stipends up to grade 10. Stipends cover full tuition and other related costs (e.g. examination, school fees, textbooks, school supplies, uniforms etc.), total stipend amount received being progressive across grades. The tuition part of the stipend is paid directly to the school and the rest of the stipend is directly deposited in two installments annually to the saving account of the student in a commercial bank.

The FSS scheme, apart from being a form of social transfer targeted at girls, includes a number of important supply-side innovations. Other non-incentive aspects of the program are: (i) improvement in school quality; (ii) deliberate efforts to increase the number of female teachers[vi]; (iii) pluralistic educational provision -- significant growth in secular and religious co-educational schools (Asadullah and Chaudhury, 2006). Therefore, the net impact of the program on sex-parity depends on the elasticity of girls' and boys' schooling with respect to stipend and provision of educational facilities.

On the demand side, extant evidence in support of gender discrimination in intra-household allocations in Bangladesh is weak or non-existent (Ahmad and Murdoch, 2002). And observed intra-household disadvantages suffered by girls in schooling outcomes are attributed to non-discriminatory behavior of the parents e.g. pre-natal son preference which leads to more siblings for girls (Jensen, 2002). In this context, sex-specific distortions of school price restores gender parity in educational outcomes within the household in favor of girls by offsetting the disadvantage of larger family or sib-ship size.

Net effect of the stipend scheme on gender parity is further subject to relative elasticity of girl's schooling to supply-side reforms. Glewwe and Kremer (2005) argue that the elasticity of demand for schooling may be higher for girls than for boys, so that even programs that do not exclusively target girls may result in greater increases in school participation for girls than for boys. There is ample empirical evidence using South Asian data in support of greater elasticity of girl's schooling to changes in educational supplies. Compared to boys, schooling outcomes of girls are found to be more responsive to local school availability (Alderman et al, 1996; Sathar and Lloyd, 1994; Lloyd et al. 2002),

reduction in distance to school (Duraisamy (1992), provision of a mid-day meal in school (Dreze and Kingdon, 2001), the presence of a bus stop in the village (Bhat, 2002), school having electricity (Arends-Kuenning and Ahmed, 2004b), the availability of NGO-run schools in villages (Sukontamarn, 2005) and provision of additional (female) teachers (Banerjee et al., 2000). Therefore, gender parity in the program area is likely to be driven by supply-side reforms as well.

Nonetheless, even when supply-side changes are entirely specific to girl students, significant positive supply-side externalities may arise for boys. For instance, in order to ensure the physical safety of their daughters while they attend schools, parents may send daughters to schools only when they are accompanied by sons. In this case, gender gap will narrow if boy-specific externalities are non-existent or weak[vii].

Summing up, distortion of sex-specific school price in the FSS area is likely to induce changes in intra-household allocations. Whilst this unambiguously raises female schooling, for a number of reasons exact impact of this on gender-equality within household remains ambiguous. Factors such as sex-preference in fertility, boy-specific externalities and relative elasticity of female schooling with respect to supply-side changes interact in a complex way and often have offsetting effects. Which of these effects dominate in the deciding the gender gap remains a matter for empirical investigation.

3. Data and Methodology

We use data from the Household Income and Expenditure Survey (HIES) 2000 survey conducted by the Bangladesh Bureau of Statistics. The survey is designed after the World Bank's Living Standard Measurement Surveys. Sampling is based on a two-staged methodology where in the first stage, primary sampling units (PSU) are selected from all divisions. Households were randomly selected from each PSU in the second stage. The HIES 2000 sampled 7,440 households. Our working sample comprises of 3088 urban and 6959 rural children all of whom are children of household-heads. We primarily focus on the urban sample to evaluate the impact of the FSS program by gender. Schools in metropolitan part of the urban area have remained unexposed to the FSS program so that it is possible to get some crude measure of the program impact by looking across outcomes in the non-metro and metropolitan area. Households located in the metro areas constitute our control (non-program) group whilst those in non-metro area constitute treatment (program) group[viii].

Simple reduced form regressions are estimated for a sample of children aged 6-17 years using four different dependent variables--grade completion, current enrolment in school, participation in child labor and household expenditure on individual children. The rationale for using several models is to document gender disparity in terms of outcomes as well as intra-household allocation process. Amongst outcomes, focusing on school participation and attainment is not sufficient. Households may respond to incentive schemes simply by reducing children's leisure time; school enrolment can increase without large-scale reduction in child labor (Ravallion and Wodon, 1999). If so, sons may

simultaneously work and attend school in the stipend area to compensate for the fact that daughters are enrolled in secondary school. In this setting, one may observe a widening (and reversal) of gender gap in child work as well as school participation. Lastly, measures such as grade completion and enrolment status may not adequately capture disparities in intra-household allocation of resources for education. Sons may continue to attend better quality schools than daughters and receive a higher share of the household budget.

We use regression models to explicate variation in each of the dependent variables in terms FSS program exposure and gender of the child, additionally accounting for differences in family backgrounds (parental education and age; sex of the household head; household's per capita expenditure and landholding), sibling profile (number of brothers and number of sisters) and individual characteristics (religion; birth order; age and age-squared) of the child.

To test the program effect, we include a dummy for non-metropolitan area (treatment indicator) as a RHS variable in the regression model. To test whether the program effect differs by gender, we interact the treatment dummy with the child's sex. Given the existence of girl-specific incentives in the treatment (i.e. non-metropolitan) area, sisters of secondary age are more likely to be in school compared to their peers in control (metropolitan) area. To indirectly test for any spill-over effects arising from sisters' education, we interact the treatment dummy with number of sisters in the household.

To test the hypothesis that girls' schooling responds more to supply-side changes, we additionally control for school availability and quality using the rural sample for which we complete information on school facilities and quality in the village. Lastly, we report all regressions splitting the sample by age. This exercise allows us to study the effect of the program separately on primary and secondary schooling outcomes.

The approach taken in this paper is purely descriptive. The regressions do not guarantee causal estimates for a number of well-known reasons related to issues of sample selection and censoring of the dependant variable. Furthermore, as cautioned in Murdoch (2000), establishing the direction of causality regarding the sibling variables is not straightforward. There is evidence of sex-bias in mortality and fertility of children in the South Asian context so that the assumption of exogeneity of household composition is unlikely to hold. Whilst we do not have data to address these issues, we provide siblings-fixed effects estimates of gender gap for various sub-samples that are not subject to problems of selection and endogeneity bias. This approach, we argue, yields by far the best account of gender gap in schooling outcomes and how they differ across treatment and control area in Bangladesh.

[Table 1 about here]

[Table 2 about here]

Descriptive stats are reported in Tables 1 and 2. Gender gaps in grade completion, current enrolment status, incidence of child labor are evident. In all cases, boys are the disadvantaged sex in terms of educational outcomes. At the same time, number of boys is higher in the sample highlighting the fact that girls are disadvantaged in terms of mortality rate. The next three sections investigate how the evidence of reverse gender gap in educational outcomes and inputs vary once we account for gender-differences in household conditions and school supplies.

4. Results

This section presents results from schooling and child labor regressions (sections 4.1-4.3). Child labor regressions are specified similar to schooling regressions[ix]. The dependent variable equals 1 if the child was reportedly (i) in employment, (ii) was looking for work and (iii) was available for work in the past 7 days. We also report regressions on the determinants of total household educational expenditure on each sample child. All regressions of schooling outcomes and inputs control for large number of covariates such as child's religion, age, parental education and age, sex of the household head, household expenditure and landlessness. Whilst discussing the results, we abstract away from these covariates for the sake of brevity. Rather we limit our discussion to variables related to sibling background, child's gender and child's exposure to stipend program and its interaction effects.

For reasons related to sample selection and endogeneity of sibling variables, one may question the OLS/probit estimates of gender gaps in educational outcomes and expenditure. If true, this undermines our analysis from a policy point of view. Therefore, in section 4.1 we first poresent sibling fixed-effects of gender gaps in educational outcomes and inputs. Although this framework does not yield estimates of correlates specific to common household and village attributes, it yields precise estimates of gender gap in inputs and outputs that are robust to the omission of common observed and unobserved factors. Sections 4.2 and 4.3 then present detailed regression analysis fully controlling for various correlates of schooling outcomes and household allocations.

4.1 Sibling fixed-effects estimates of gender gaps

Tables 3-5 present coefficients on male dummy with and without control for child's age. The coefficient estimates are obtained by restricting data to households that have at least one brother and sister of relevant age. In addition to full sample (children aged 6-17 years old), results are reported separately for the primary and secondary school age groups.

For pooled sample (Table 3), sibling fixed-effects estimates yield no evidence of gender gap in household expenditure on children's education in the rural. For the urban sample, coefficient on male dummy is significant and negative. However, this becomes insignificant once we control for the child's age. This is also true for the program (urban) area. These results hold for the primary as well as secondary school age children (Tables 4 and 5 respectively). The finding of no gender bias in household expenditure is

consistent with earlier attempts to investigate gender bias in intra-household allocations in Bangladesh (e.g. Ahmad and Morduch, 2002)[x].

What is puzzling however is the robust evidence of sex bias in favour of girls in educational outcomes and child labour participation probability. In the sample comprising children of ages 6-17 years, boys complete significantly fewer grades, have a lower enrolment rate and are more likely to engage in child labour (Table 3). Separating primary and secondary school aged kids reveals that these gaps arise purely in case of secondary school aged kids. For primary aged kids, coefficients on male dummy are rarely significant (Table 4). However, for the secondary sample, boys are systematically worse-off in the rural area. In the urban sample, boys lag behind girls in the program area only (Table 5). These results hold true even after controlling for age and age-squared of the child.

[Tables 3-5 about here]

Summing up, our analysis clearly documents a reverse gender gap in schooling and child labor outcomes in Bangladesh amonst secondary school age kids. The only exception is the metropolitan area which has not been exposed to the FSS intervention. This suggests that the introduction of sex-specific secondary school incentives have played a significant role in reversing the gender gap in favour of girls in Bangladesh.

Disaggregate analysis reveals that reverse gender gap is exclusive to secondary school aged children (11-17 year olds). We therefore strive to understand the sources of these gaps at the secondary level in the remaining part of the paper. Two potential hypotheses are considered next. We test whether girls' educational gains over boys is driven by greater elasticity of female education to supply-side changes (e.g. increased supply of local schools). Second, we examine whether boys are disadvantaged because they suffer more from sibling rivalry within households compared to girls.

4.2 Determinants of school participation, attainment, child labour and intra-household allocations in urban area

Table 6 reports regressions for secondary school aged (11-17 years) children in the urban area. Pooled regression results show that boys are clearly disadvantaged in terms of educational outcomes and allocation of inputs. These differences are always significant at the conventional level. Pooled specification masks important differences along the gender line, however. Gender-specific regressions reveal that among boys, no significant difference exists on grade completion because of exposure to the FSS program. Boys in the treatment area have a marginally significant and higher probability of enrolment in school. On the contrary, among girls, those in treatment area have significantly greater probability of enrolment and grade completion than their peers in the program area. This finding is reassuring and bears testimony to the effect of the stipend scheme, given the fact that intervention area constitutes the economically less developed part of urban Bangladesh.

[Table 6 about here]

Turning to sibling-specific effects, no differences in schooling outcomes exist due to co-residence with brothers (Table 6; pooled sample). This is true for both sexes. Whilst increase in the number of siblings significantly lowers educational expenses for all kids, the effects of number of brothers and sisters do not differ. This finding is puzzling given the commonly held view that parents in developing countries and South Asia in particular have pro-son biases and/or children with more brothers are worse-off compared to more sisters. If anything, split sample estimates show that number of sisters exerts a positive significant effect when the child resides in the treatment area (Table 6; pooled sample). However, this is only true for male sample. Boys with more sisters and living in treatment area complete more grades and are less likely to be observed in work.

Similar results are obtained for child labour regressions. The program has an insignificant (albeit negative) effect on child labor. Splitting sample by gender yields a positive impact for boys, however[xi]. It is difficult to infer whether this finding is due to FSS program or whether it simply captures the fact that boys in the intervention area belong to poorer households and hence more likely to work. Turning to sibling-specific effects, no differences in child labor outcomes exist due to co-residence with brothers. This is true for both sexes. Sibling variables–number of brother and sisters–do not matter significantly for boys as well as girls. The only exception is boys residing in the treatment area for whom having more sisters significantly reduces the probability of child labor.

In sum, the absence of sibling effects for females in the treatment area suggests that impact of the stipend does not differ for girls who have more siblings[xii]. Similarly, little evidence is found in support of the hypothesis that boys co-residing with sisters are worse-off.

4.3 Determinants of school participation, attainment, child labour and intra-household allocations in rural area

As pointed out earlier in section 2, a potential explanation for the gender differentiated impact of the FSS program relates to supply-side feature of the intervention. In the absence of community level information on school available and quality, we could not test this for the urban sample. However, such information is available for the rural sample. Hence, despite the fact that this sample precludes non-program households, analysis of determinants of educational outcomes in the rural area can inform us about a key source of gender gap in the FSS program area, namely differential response of male and female schooling to educational supplies.

[Table 7 about here]

Table 7 reports regressions for secondary school aged (11-17 years) children in the rural area. Regression estimates based on specification 1 (without control for village characteristics) show that the coefficient on the male dummy is a large and negative in current enrolment and grade completion regression. It is also positively signed in child

labour regression indicating that boys are not only less likely to be in school, they are also more likely to be at work. Specification 2 introduces detailed control for village infrastructure, school availability and quality. However, the coefficient on male dummy does not fall when we extensively control for village-level covariates suggesting that schooling outcomes do not differ significantly by gender with respect to changes in supply side conditions.

We further estimated regressions splitting the sample observations by gender (results suppressed). It was found that boys' and girls' schooling did not systematically respond to village infrastructure (e.g. school quality, availability etc). Variables such as presence of a secondary school, madrasa and fraction of female teachers in primary school did not have significant influence on either boys or girls. The only three variables that exerted significant effect on grade completion were availability of FFE scheme in the village, distance to bus station and STR in primary school. FFE program had a positive effect on boys but no impact on females. On the other hand, primary school STR had a significantly negative effect on grade completion of both sexes but the effect was stronger for girls. Distance to nearest bus station from the village centre negatively impacted both boys and girls. Among other notable gender-differentiated effects, we find evidence that the incidence of child labour varies by sibling backgrounds. Greater number of brothers and sisters increase the probability of child labour. Greater number of brothers negatively affects boys but has no effect on girls. On the other hand, increase in the number of sisters increases the probability of work but only among girls.

On the balance, these results suggest that evidence of a reverse gender gap reported is unlikely to be driven by the fact that female students have benefited disproportionately from supply-side reforms in the FSS area.

5. Summary and policy implications

This paper has provided a first-hand account of the impact of a female stipend program on schooling outcomes, child labour and intra-household allocations by gender in Bangladesh. This intervention, now in its tenth year of operation, has been the cornerstone for achieving gender-parity in secondary school participation and completion. Our analysis of household data suggests that more than closing the gender gap, the scheme has led to a reversal of the gap. A systematic educational gender imbalance prevails in favour girls in rural as well as urban areas. Within urban area, boys are mostly disadvantaged in the stipend area suggesting that the program has negatively affected boys' schooling vis-à-vis girls'.

Nonetheless, no evidence of gender gap is found for primary school kids. At the primary level, outcomes (school attendance, completion and participation in child labor) are not sensitive to the FSS program exposure within urban areas. This is consistent with the fact that primary education in Bangladesh is free for all children and the FSS scheme had no spill-over effects on primary education in the intervention area.

Despite the robust evidence of gender disparity favoring girls at the secondary level, what drives these inequalities remains a puzzle. Two hypotheses were considered as explanations for the relatively excessive growth in female school participation and attainment. Analysis of household data yields no evidence to suggest that this is due to greater responsiveness of female education to the expansion of educational facilities in the stipend area. Neither do we find evidence of sex bias in intra-household allocation of educational expenditure. Similarly, evidence suggesting negative effect of sibship size is weak.

Household's response regarding female education is well-understood, however. Within the urban area, girls' enrolment rate and years of education completed are systematically higher in the treatment area. Girls also have a significantly smaller probability of child work suggesting that households have responded to girl-specific school incentive programs not just by enrolling girls in school but also withdrawing them from paid employment.

The finding that Bangladesh has marginally more girls than boys in secondary school implies that it has joined ranks with Latin American countries. The result is striking in the South Asian context where household fertility choices demonstrate a preference for son, as evidenced from skewed sex ratio and missing women in the population. But the same finding also means that Bangladesh is now one of the countries off track to meet the gender disparity target by 2015 (UNESCO, 2006). This reversal of the gender gap does not mean that Bangladesh has succeeded in removing female disadvantage in all spheres of education. Women's literacy still remains extremely low when compared to that of men. The continuing disadvantages faced by girls are also reflected in cognitive outcomes and SSC exam results (Asadullah, 2005; Asadullah et al. 2006). Poor quality of girls' education in the FSS area undermines one of the key objectives of the program, namely to economically empower females via acquisition of market skills.

The evidence presented in this paper therefore does not necessarily call for a removal of pro-female incentive schemes and reform initiatives. Bangladesh still has a long way to go to overcome the barriers facing women and girls in and beyond school. At the same time, responses to female incentive schemes needs to be better understood from a household perspective. Policy priority should be to promote female education minimizing any perverse effect on boys within the household. Furthermore, given the achievement of parity in participation, the focus should shift to closing gender gap in learning outcomes in school. Careful targeting of children of both sexes in poorer households provides a way forward.

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Table 1: Summary statistics, urban sample

	Children aged 6-17 years						Children aged 11-17 years					
	Pooled		Male		Female		Pooled		Male		Female	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Grade completed	3.18	3.49	2.97	3.46	3.4	3.5	4.97	3.47	4.6	3.62	5.38	3.26
Currently in school	0.72	0.45	0.68	0.47	0.77	0.42	0.68	0.47	0.62	0.49	0.75	0.43
Child in work	0.11	0.32	0.15	0.35	0.08	0.27	0.17	0.38	0.23	0.42	0.11	0.31
Total educational expenditure	7.05	1.6	7.07	1.62	7.03	1.59	7.64	1.33	7.65	1.36	7.64	1.31
Age in years	11.34	3.28	11.39	3.32	11.27	3.24	13.75	1.91	13.83	1.97	13.67	1.85
Age squared	1.39	0.75	1.41	0.77	1.38	0.74	1.93	0.53	1.95	0.55	1.9	0.52
Male	0.52	0.5					0.52	0.5				
Non-Muslim	0.07	0.25	0.07	0.26	0.06	0.24	0.07	0.25	0.08	0.27	0.06	0.24
Birth order	0.51	0.39	0.49	0.39	0.54	0.39	0.58	0.38	0.56	0.39	0.6	0.37
# of brothers	1.44	1.1	1.38	1.12	1.51	1.07	1.54	1.11	1.47	1.13	1.61	1.08
# of sisters	1.21	1.09	1.21	1.03	1.2	1.15	1.2	1.1	1.17	1.01	1.24	1.2
Head is female	0.08	0.28	0.08	0.28	0.08	0.28	0.1	0.3	0.09	0.29	0.1	0.3
Father's age	36.91	13.4	36.96	13.58	36.85	13.2	38.25	14.53	38.31	14.54	38.19	14.53
Father's age missing	0.08	0.27	0.08	0.27	0.07	0.26	0.09	0.29	0.09	0.29	0.09	0.29
Mother's age	39.96	10.65	39.96	10.78	39.96	10.52	41.96	10.99	42.07	11.22	41.83	10.74
Mother's age missing	0.01	0.1	0.01	0.1	0.01	0.09	0.01	0.11	0.01	0.12	0.01	0.1
Father's education	3.55	4.33	3.55	4.32	3.55	4.34	3.75	4.42	3.72	4.44	3.78	4.4
Father's education missing	0.08	0.27	0.08	0.27	0.07	0.26	0.09	0.29	0.09	0.29	0.09	0.29
Mother's education	3.87	4.41	3.81	4.45	3.93	4.36	4.14	4.52	4.1	4.58	4.19	4.45
Mother's education missing	0.01	0.1	0.01	0.1	0.01	0.09	0.01	0.11	0.01	0.12	0.01	0.1
Landless household	0.87	0.33	0.87	0.33	0.87	0.33	0.86	0.35	0.86	0.35	0.86	0.35
Data on land is missing	0.78	0.42	0.78	0.42	0.78	0.41	0.77	0.42	0.77	0.42	0.77	0.42
Treatment area	0.58	0.49	0.58	0.49	0.57	0.49	0.56	0.5	0.58	0.49	0.54	0.5
Treatment*(child is male)	0.3	0.46	0.58	0.49	0	0	0.3	0.46	0.58	0.49	0	0
Treatment*(# of sisters)	0.67	1.01	0.68	0.96	0.67	1.06	0.65	1.01	0.64	0.92	0.66	1.11
Log of per capita expenditure	6.52	0.47	6.51	0.47	6.52	0.46	6.57	0.47	6.56	0.48	6.57	0.46
N	3088		1610		1478		1766		921		845	

Note: Data on educational expenditure is available only for children who attended school the previous year (N=2166).

Table 2: Summary statistics, rural sample

	Children aged 6-17 years						Children aged 11-17 years					
	Pooled		Male		Female		Pooled		Pooled			
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Grade completed	2.28	3.12	2.19	3.13	2.39	3.1	4	3.4	3.75	3.49	4.3	3.27
Currently in school	0.69	0.46	0.64	0.48	0.74	0.44	0.62	0.48	0.55	0.5	0.71	0.45
Child in work	0.13	0.34	0.2	0.4	0.05	0.22	0.22	0.42	0.34	0.48	0.08	0.27
Total educational expenditure	5.95	1.48	5.97	1.5	5.94	1.46	6.76	1.29	6.81	1.3	6.72	1.28
Age in years	10.86	3.23	11.05	3.32	10.66	3.12	13.61	1.84	13.79	1.88	13.39	1.76
Age squared	1.28	0.73	1.33	0.75	1.23	0.69	1.89	0.51	1.94	0.52	1.82	0.48
Male	0.53	0.5	1	0	0	0	0.54	0.5	1	0	0	0
Non-Muslim	0.08	0.27	0.08	0.28	0.08	0.27	0.09	0.28	0.09	0.28	0.09	0.28
Birth order	0.55	0.38	0.54	0.38	0.56	0.37	0.62	0.36	0.62	0.37	0.62	0.36
# of brothers	1.65	1.25	1.63	1.27	1.67	1.23	1.78	1.29	1.73	1.31	1.83	1.25
# of sisters	1.27	1.09	1.25	1.05	1.28	1.12	1.27	1.11	1.25	1.06	1.29	1.15
Head is female	0.06	0.24	0.06	0.24	0.07	0.25	0.07	0.25	0.07	0.25	0.06	0.25
Father's age	38	13.26	38.07	13.01	37.92	13.52	40.5	13.83	40.31	13.74	40.73	13.95
Father's age missing	0.06	0.23	0.06	0.23	0.06	0.24	0.06	0.24	0.06	0.24	0.06	0.24
Mother's age	40.32	11.74	40.45	11.88	40.17	11.58	42.98	12.13	43	12.37	42.95	11.86
Mother's age missing	0.01	0.12	0.02	0.12	0.01	0.12	0.02	0.13	0.02	0.13	0.01	0.12
Father's education	1.84	3.22	1.7	3.12	2	3.33	1.98	3.34	1.73	3.17	2.28	3.51
Father's education missing	0.06	0.23	0.06	0.23	0.06	0.24	0.06	0.24	0.06	0.24	0.06	0.24
Mother's education	2.23	3.54	2.16	3.48	2.31	3.61	2.45	3.67	2.29	3.55	2.63	3.81
Mother's education missing	0.01	0.12	0.02	0.12	0.01	0.12	0.02	0.13	0.02	0.13	0.01	0.12
Landless household	0.49	0.5	0.49	0.5	0.49	0.5	0.45	0.5	0.45	0.5	0.45	0.5
Land data missing	0.3	0.46	0.29	0.45	0.3	0.46	0.28	0.45	0.26	0.44	0.29	0.45
Log of per capita expenditure	6.25	0.4	6.25	0.39	6.25	0.41	6.3	0.4	6.3	0.39	6.3	0.41
FFE program in village	0.28	0.45	0.28	0.45	0.28	0.45	0.28	0.45	0.28	0.45	0.27	0.45
Data on FFE missing	0.05	0.21	0.05	0.21	0.04	0.21	0.05	0.22	0.05	0.23	0.05	0.21
Village distance of bus station	5.45	6.71	5.46	6.65	5.44	6.79	5.21	6.4	5.28	6.61	5.13	6.15
Data on bus station missing	0.01	0.12	0.01	0.11	0.02	0.12	0.02	0.12	0.01	0.12	0.02	0.13
STR in village primary school	71.55	42.68	71.63	42.95	71.45	42.38	71.56	42.72	71.62	43.38	71.48	41.94
Data on STR missing	0.08	0.28	0.09	0.28	0.08	0.28	0.08	0.27	0.08	0.27	0.08	0.27
% female teachers in village primary school	0.29	0.25	0.28	0.25	0.29	0.25	0.29	0.25	0.29	0.25	0.29	0.24
Data on female teachers missing	0.08	0.27	0.08	0.27	0.08	0.26	0.07	0.26	0.07	0.26	0.07	0.26

Village has a secondary school	0.33	0.47	0.34	0.47	0.33	0.47	0.35	0.48	0.35	0.48	0.34	0.47
Village has a madrasa	0.26	0.44	0.27	0.44	0.26	0.44	0.27	0.44	0.27	0.44	0.26	0.44
N	6959		3664		3295		3524		1907		1617	

Note: Data on educational expenditure is available only for children who attended school the previous year (N=4585).

Table 3: Siblings fixed-effects estimates of gender gap in school participation, attainment, child labour and educational expenditure (Children aged 6-17 years)

Rural sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.336	-0.088	0.143	-0.054	-0.465	-0.061	0.127	0.041
	(3.65)**	(6.20)**	(14.37)**	-1	(6.63)**	(4.68)**	(14.31)**	-1.24
N	7204	7204	7204	4739	7204	7204	7204	4739
Urban (pooled) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.645	-0.068	0.056	-0.178	-0.429	-0.069	0.065	-0.025
	(4.43)**	(3.34)**	(3.82)**	(2.73)**	(4.21)**	(3.62)**	(4.77)**	-0.54
N	3224	3224	3224	2267	3224	3224	3224	2267
Treatment (urban) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.632	-0.118	0.095	-0.205	-0.507	-0.1	0.093	-0.006
	(3.14)**	(4.30)**	(5.58)**	(2.25)*	(3.88)**	(3.89)**	(5.86)**	-0.1
N	1875	1875	1875	1365	1875	1875	1875	1365
Control (urban) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.662	-0.001	0.003	-0.136	-0.314	-0.029	0.025	-0.045
	(3.20)**	-0.04	-0.12	-1.54	(1.97)*	-1.02	-1.09	-0.63
N	1349	1349	1349	902	1349	1349	1349	902

Note: Robust t-stats are reported. + significant at 10%; * significant at 5%; ** significant at 1%. Grade completion regression and expenditure regressions are estimated by OLS. Enrolment and child labour regressions are estimated by linear probability models. All regressions control for siblings-fixed effects.

Table 4: Siblings fixed-effects estimates of gender gap in school participation, attainment, child labour and educational expenditure (Children aged 6-10 years)

Rural sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.143	-0.032	0.016	-0.045	-0.076	-0.013	0.018	0.052
	-1.46	-1.06	-1.6	-0.53	-0.87	-0.47	(1.80)+	-0.79
N	3552	3552	3552	2521	3552	3552	3552	2521
Urban (pooled) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	0.082	-0.043	0.014	0.043	0.066	-0.034	0.014	0.024
	-0.42	-0.83	-0.88	-0.32	-0.41	-0.72	-0.89	-0.22
N	1396	1396	1396	1043	1396	1396	1396	1043
Treatment (urban) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.042	-0.092	0.019	0.102	0.05	-0.06	0.022	0.112
	-0.17	-1.38	-1.02	-0.66	-0.24	-0.98	-1.04	-0.93
N	841	841	841	642	841	841	841	642
Control (urban) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	0.3	0.044	0.005	-0.054	0.148	0.012	0.001	-0.127
	-0.93	-0.57	-0.17	-0.21	-0.54	-0.16	-0.04	-0.59
N	555	555	555	401	555	555	555	401

Note: Robust t-stats are reported. + significant at 10%; * significant at 5%; ** significant at 1%. Grade completion regression and expenditure regressions are estimated by OLS. Enrolment and child labour regressions are estimated by linear probability models. All regressions control for siblings-fixed effects.

Table 5: Siblings fixed-effects estimates of gender gap in school participation, attainment, child labour and educational expenditure (Children aged 11-17 years)

Rural sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.373	-0.15	0.271	0.002	-0.648	-0.105	0.236	-0.007
	(2.27)*	(5.81)**	(12.38)**	-0.02	(4.55)**	(4.43)**	(11.62)**	-0.1
N	3652	3652	3652	2218	3652	3652	3652	2218
Urban (pooled) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.664	-0.11	0.103	-0.17	-0.547	-0.118	0.108	-0.094
	(3.05)**	(2.95)**	(3.44)**	(1.84)+	(2.98)**	(3.52)**	(3.83)**	-1.2
N	1828	1828	1828	1224	1828	1828	1828	1224
Treatment (urban) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.679	-0.185	0.158	-0.054	-0.764	-0.174	0.144	0.038
	(2.34)*	(3.58)**	(4.17)**	-0.4	(3.05)**	(3.70)**	(4.17)**	-0.33
N	1034	1034	1034	723	1034	1034	1034	723
Control (urban) sample	No control for age of the child				Control for age and age-squared			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Male dummy	-0.647	-0.021	0.039	-0.319	-0.266	-0.057	0.063	-0.251
	(1.97)+	-0.4	-0.83	(2.69)**	-1	-1.2	-1.41	(2.58)*
N	794	794	794	501	794	794	794	501

Note: Robust t-stats are reported. + significant at 10%; * significant at 5%; ** significant at 1%. Grade completion regression and expenditure regressions are estimated by OLS. Enrolment and child labour regressions are estimated by linear probability models. All regressions control for siblings-fixed effects.

Table 6: Determinants of school completion, current enrolment, child labor and educational expenditure in urban areas [Children aged 11-17 years]

	Pooled				Male				Female			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Age	2.37	-0.079	0.051	0.553	2.192	-0.082	0.077	0.626	2.598	-0.079	0.039	0.539
	(4.64)**	-0.82	-0.76	(2.22)*	(3.01)**	-0.56	-0.73	(1.76)+	(3.67)**	-0.65	-0.55	-1.52
Age squared	-6.225	0.008	-0.065	-1.385	-5.55	-0.025	-0.075	-1.614	-7.096	0.051	-0.085	-1.392
	(3.36)**	-0.02	-0.27	-1.55	(2.11)*	-0.05	-0.2	-1.27	(2.76)**	-0.12	-0.34	-1.09
Male	-0.591	-0.094	0.058	-0.201	0			0	0			0
	(3.15)**	(2.82)**	(2.68)**	(2.28)*	(.)			(.)	(.)			(.)
Non-Muslim	0.412	0.101	0.006	0.156	0.316	0.135	-0.042	0.17	0.443	0.06	0.063	0.133
	(1.92)+	(2.31)*	-0.18	(1.70)+	-1.02	(2.06)*	-0.72	-1.26	-1.56	-1.02	-1.41	-1.08
Birth order	-0.417	-0.052	0.066	0.053	-0.673	-0.109	0.085	-0.005	-0.062	0.012	0.023	0.143
	(2.29)*	-1.37	(2.56)*	-0.57	(2.71)**	(2.00)*	(2.00)*	-0.03	-0.23	-0.24	-0.8	-1.06
# of brothers	0.02	0.002	0.005	-0.138	0.006	0.016	0.001	-0.151	0.013	-0.006	0.008	-0.118
	-0.31	-0.22	-0.67	(4.58)**	-0.06	-0.93	-0.1	(3.57)**	-0.15	-0.44	-0.94	(2.65)**
# of sisters	-0.08	0.015	0.022	-0.146	-0.058	0.02	0.028	-0.147	-0.11	0.009	0.018	-0.15
	-0.88	-1	(2.19)*	(3.93)**	-0.44	-0.77	-1.5	(2.43)*	-0.88	-0.52	(1.96)+	(3.13)**
Treatment area	0.668	0.192	-0.049	-0.759	-0.015	0.132	0.083	-0.626	0.844	0.156	-0.054	-0.757
	(3.06)**	(4.13)**	-1.47	(7.34)**	-0.06	(2.21)*	(2.01)*	(4.68)**	(3.31)**	(3.48)**	(1.93)+	(6.52)**
Treatment*Male	-0.47	-0.097	0.111	0.114	0			0	0			0
	(1.94)+	(2.01)*	(3.11)**	-0.94	(.)			(.)	(.)			(.)
Treatment*(# of Sisters)	0.22	-0.017	-0.021	0.093	0.388	-0.026	-0.071	0.05	0.114	-0.013	0.005	0.113
	(1.99)*	-0.81	-1.31	(1.69)+	(2.27)*	-0.76	(2.76)**	-0.58	-0.78	-0.54	-0.32	-1.63
Head is female	-1.835	-0.035	0.125	-0.38	-1.061	-0.201	0.163	-0.06	-2.597	0.027	0.089	-0.92
	(2.71)**	-0.31	-1.57	-0.91	-0.94	-0.82	-1.2	-0.12	(3.86)**	-0.24	-0.96	-1.56
Father's age	0.004	-0.004	0.002	0.015	-0.007	-0.006	0.003	0.011	0.018	-0.001	0	0.019
	-0.46	(2.26)*	-1.58	(3.39)**	-0.55	(2.27)*	(1.89)+	-1.58	-1.54	-0.67	-0.17	(3.45)**
Mother's age	-0.01	-0.001	-0.001	0.008	-0.009	-0.001	-0.001	0.006	-0.008	0	-0.002	0.011

	Pooled				Male				Female			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
	-1.2	-0.4	-1.27	(1.73)+	-0.79	-0.39	-0.48	-0.85	-0.72	-0.09	(1.98)*	-1.6
Father's education	0.105	0.02	-0.013	0.07	0.14	0.037	-0.025	0.073	0.067	0.003	-0.002	0.067
	(4.85)**	(4.78)**	(4.54)**	(7.05)**	(4.50)**	(5.81)**	(5.18)**	(4.48)**	(2.30)*	-0.56	-0.78	(5.30)**
Mother's education	0.23	0.02	-0.009	0.079	0.236	0.017	-0.005	0.079	0.22	0.024	-0.012	0.08
	(10.92)**	(5.10)**	(3.22)**	(7.72)**	(7.81)**	(2.83)**	-1.06	(5.02)**	(7.50)**	(4.85)**	(4.60)**	(5.75)**
Landless household	-1.067	-0.124	0.115	-0.152	-1.221	-0.187	0.144	-0.181	-0.992	-0.075	0.083	-0.103
	(4.27)**	(2.84)**	(5.37)**	-1.19	(3.32)**	(2.87)**	(3.94)**	-0.91	(2.93)**	-1.27	(3.60)**	-0.61
Log of per capita expenditure	1.264	0.304	-0.046		1.128	0.374	-0.151		1.411	0.234	0.033	
	(7.17)**	(7.85)**	(1.96)*		(4.26)**	(6.75)**	(4.00)**		(6.09)**	(4.58)**	-1.39	
Constant	-24.17			1.789	-22.275			1.425	-27.222			1.507
	(6.37)**			-1.03	(4.11)**			-0.58	(5.23)**			-0.61
N	1766	1766	1766	1179	921	921	921	558	845	845	836	621
Adjusted R-squared/Pseudo	0.48	0.29	0.21	0.4	0.47	0.32	0.25	0.41	0.47	0.25	0.18	0.39

Note: Heteroscedasticity robust t-stats are reported. + significant at 10%; * significant at 5%; ** significant at 1%. Grade completion and expenditure regressions are estimated using an OLS. Enrolment and child labour regressions are estimated using a probit model. For probit estimates, only marginal effects (computed as means of the variables) are presented.

Table 7: Determinants of school completion, current enrolment, child labor and educational expenditure in rural areas [Children aged 11-17 years]

	Specification 1 (without control for village infrastructure)				Specification 2 (with control for village infrastructure)			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Age	2.692	-0.134	0.064	0.647	2.65	-0.153	0.072	0.655
	(6.22)**	(1.70)+	-1.07	(3.17)**	(6.15)**	(1.93)+	-1.22	(3.22)**
Age, squared	-7.604	0.213	-0.04	-1.182	-7.478	0.274	-0.064	-1.216
	(4.78)**	-0.75	-0.19	-1.6	(4.72)**	-0.96	-0.31	(1.65)+
Child is male	-0.641	-0.144	0.241	0.064	-0.634	-0.144	0.24	0.064
	(6.86)**	(8.30)**	(16.78)**	-1.4	(6.81)**	(8.24)**	(17.19)**	-1.41
non Muslim	-0.187	-0.001	0.038	0.245	-0.281	-0.013	0.038	0.251
	-1.04	-0.03	-1.6	(3.10)**	-1.57	-0.42	-1.61	(3.05)**
Birth order	-0.383	-0.137	0.064	-0.018	-0.324	-0.127	0.059	-0.008
	(2.40)*	(4.75)**	(2.90)**	-0.24	(2.02)*	(4.37)**	(2.72)**	-0.11
# of brothers	-0.097	-0.006	0.017	-0.009	-0.058	0.001	0.011	-0.016
	(2.46)*	-0.79	(3.41)**	-0.45	-1.44	-0.14	(2.05)*	-0.88
# of sisters	-0.139	0	0.013	-0.038	-0.103	0.005	0.008	-0.043
	(3.12)**	-0.06	(2.20)*	(1.70)+	(2.31)*	-0.61	-1.28	(1.95)+
HH head is female	0.074	-0.163	0.008	0.43	0.159	-0.137	-0.009	0.424
	-0.12	-1.22	-0.07	-1.31	-0.27	-1.08	-0.08	-1.23
Father's age	-0.009	-0.002	0.001	-0.003	-0.007	-0.002	0.001	-0.002
	-1.5	(1.74)+	-1.27	-0.83	-1.16	-1.39	-0.97	-0.69
Mother's age	0.003	-0.004	0.001	0.008	0.003	-0.004	0.001	0.009
	-0.58	(3.97)**	-1.36	(3.12)**	-0.47	(4.14)**	(1.76)+	(3.17)**
Father's education	0.167	0.023	-0.006	0.072	0.161	0.021	-0.006	0.07
	(9.96)**	(6.43)**	(2.38)*	(9.93)**	(9.55)**	(6.03)**	(2.34)*	(9.70)**
Mother's education	0.173	0.025	-0.013	0.037	0.171	0.025	-0.013	0.039
	(10.87)**	(8.18)**	(5.36)**	(5.46)**	(10.76)**	(7.97)**	(5.27)**	(5.65)**
Landless household	-0.951	-0.148	0.078	-0.228	-0.913	-0.14	0.081	-0.281
	(7.11)**	(6.37)**	(4.49)**	(3.20)**	(6.75)**	(5.93)**	(4.63)**	(3.92)**

	Specification 1 (without control for village infrastructure)				Specification 2 (with control for village infrastructure)			
	Grade completion	Currently in school	Child work	Educational Expenditure	Grade completion	Currently in school	Child work	Educational Expenditure
Log of per capita expenditure	1.191	0.183	-0.003		1.306	0.203	-0.023	
	(9.23)**	(7.39)**	-0.15		(9.78)**	(7.86)**	-1.23	
Village has FFE scheme					0.167	0.004	0.091	0.059
					-1.55	-0.2	(5.72)**	-1.13
Village distance to buss					-0.035	-0.006	0.002	0.003
					(5.09)**	(4.54)**	(1.75)+	-0.91
STR in village primary school					-0.005	-0.001	0	0.002
					(3.86)**	(3.07)**	(2.46)*	(2.92)**
Female teachers in village primary school					0.195	0.006	-0.009	0.146
					-0.93	-0.14	-0.31	-1.37
Village has secondary school					0.189	0.041	0.019	-0.044
					(1.76)+	(2.08)*	-1.23	-0.9
Village has madrasa					0.186	-0.011	-0.045	0.101
					-1.62	-0.54	(3.00)**	(1.96)+
Constant	-24.963			-0.215	-25.186			-0.522
	(8.24)**			-0.15	(8.33)**			-0.37
N	3524	3524	3524	2150	3524	3524	3524	2150
Adjusted R-squared/Pseudo	0.33	0.19	0.21	0.35	0.34	0.19	0.22	0.36

Note: Heteroscedasticity robust t-stats are reported. + significant at 10%; * significant at 5%; ** significant at 1%. Grade completion and expenditure regressions are estimated using an OLS. Enrolment and child labour regressions are estimated using a probit model. For probit estimates, only marginal effects (computed as means of the variables) are presented.

Endnotes

[i] Whilst Khandker et al (2003) use both household and school level data, their household analysis finds no effect on boys; strong negative effect is gathered only from school data.

[ii] More than 150,000 girls enrolled in grades six to eight in the poorer districts of Punjab are now receiving a stipend, an as encouragement to stay in school (Chaudhuri and Parajuli, 2006). The stipend initiative is part of a three-year education reform program launched to address issues of high illiteracy, low primary enrollment, and high drop out rates. Similar programs are underway in Yemen and Chad.

[iii] This FEE scheme provides poor households whose children attend primary school for at least 85% of the classes with 15-20 kilograms of grain a month.

[iv] Females enjoy higher average returns to schooling than males in Bangladesh. For males returns to primary, secondary and tertiary education are 3.4%, 3.2% and 12.7% respectively. For females, the respective figures are much higher: 8.9%, 9.6% and 12.4% (Asadullah, 2006a).

[v] Lower household investment in girls could be also rational in presence of labour market discrimination (Rosenzweig and Schultz, 1982). An educational gender gap prevails, given wage differentials in labour market in favour of men. Indeed there is evidence that similar wage gaps prevail in favour of men in Bangladeshi labour market (Asadullah 2006a, Asadullah, 2006b).

[vi] Interventions such as increased employment of female teachers are likely to have changed social norms in favor of female employment in rural societies.

[vii] Clear evidence of such externalities can be found in a girls' fellowship program in Baluchistan province of Pakistan. Under this scheme, new private schools for girls were opened in selected urban and rural neighborhoods with financial aid from the government. Evaluation of the program indicates that within urban areas, neighborhoods that benefited from the scheme saw an increase in girls and boys' school enrolment by equal magnitude (Alderman et al (2003). Boys' enrolment increased despite the fact that schools didn't receive any subsidy for enrolling males. Alderman et al. reconcile this finding by arguing that boys' schooling was equally supply-constrained in the treatment neighbourhoods which have been relaxed with the opening of new low priced private schools.

[viii] This classification could be problematic if a large number of households in the control area send kids to schools located in the treatment area. HIES reports data on the amount of stipend received for metropolitan as well as non-metropolitan households. Only a small fraction of girls were enrolled in secondary schools and residing in metro area report receiving stipend money. Nonetheless, the possibility of residential mobility (induced by the stipend scheme) across program and non-program areas cannot be ruled out.

[ix] In an alternative regression specification (not reported), we experimented by including adult male and female wages in the village in the list of regressors. However, this did not change our estimate of gender gap for the rural sample.

[x] Using Bangladesh Household Expenditure Survey 1988 data, Ahmad and Morduch (2002) studied how household allocation of expenditure varies by sex and age of household members. In the absence of individual level data on expenditure, their analysis was carried out at the aggregate (i.e. household) level. They found no evidence in support of the hypothesis that parents favour boys in intra-household distribution of resources.

[xi] This finding is consistent with Ravallion and Wodon (1999) who found that the FFE stipend had a significant negative effect on children's labour force participation and a significant positive effect on their schooling.

[xii] If true, this implies that schooling disadvantage due to sibling composition was not significant in the first place. Evidence presented in Ahmad and Murdoch (2002) also supports this possibility. However, this question needs further investigation: we need to see how girls with more brothers in the stipend area compare vis-à-vis girls in the control area.