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# Child Labor in Bangladesh

## Are Children the Last Economic Resource of the Household?

Claire Salmon\*

### ABSTRACT

*This article uses data from the Bangladesh Labor Force Survey 2000 to analyze the magnitude, nature and determinants of child labor in Bangladesh. The magnitude of the 'child labor' problem is large in Bangladesh, with around 5.4–7.9 million, or about one-fifth of all Bangladeshi children between the ages of 5 and 14 years, being classified as child workers in 2000. Most of these child workers work in the agricultural sector. Among the poorest quintile of households, the share of family income contributed by child workers reaches nearly 50 percent. The article finds support for the widely-held hypothesis that poverty compels children to work. The analysis of links between adult employment and child labor also lends support to the hypothesis that children are the last economic resource of the household. Children are much more likely to work when they live in a household where the potential of income generation is low and where this potential has already been used up.*

**Keywords:** adult employment and child work, Bangladesh, child labor, poverty

### 1. Introduction

In recent years, child labor has increasingly drawn the attention of policy-makers, governments, nongovernmental organizations, and international agencies. There is also a rich literature – both theoretical and empirical – analyzing this important issue and proposing policy measures to deal with it. In the case of Bangladesh, the issue of child labor is important for at least two reasons. First, the scale of child labor in Bangladesh is substantial. In 2000, child labor constituted 9–11 percent of the total labor force. Nearly a fifth of all children aged 5–14 years, or 5.4 to 7.9 million children, work actively in the labor market. Second, the child labor issue has been extensively debated in Bangladesh after the adoption of the Harkin Bill (Child Labor Deterrence Act, 1993) in the United States. The threat of American trade sanctions against countries employing child workers has led to thousands of Bangladeshi children losing

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their job, particularly in the garment industry. Some have argued that these retrenchments have often pushed children to more hazardous jobs (Rahman et al., 1999; Bissell, 2001). In this context, it is important to understand the context and determinants of child labor in Bangladesh.

Several articles have already studied the issue of child labor in Bangladesh. Among the more recent studies, Amin et al. (2004), using the 1996 Household Expenditure Survey (HES), find household poverty as one of the main predictors of child labor. Ravallion and Wodon (2000) focused on the effect of a targeted school subsidy on child labor and school attendance in the rural areas of the country. Their results, also based on the 1996 HES data set, indicate that the enrollment subsidy has significantly reduced the incidence of child labor. Using data collected from Dhaka slums in 1996, Delap (2001) finds that girls are more likely than boys to be the last economic resource of the household. According to Delap, this finding is likely to be explained by cultural norms, such as the importance of *purdah*. The possible impact of Harkin's Bill on Bangladesh is discussed in Rahman et al. (1999) and Bissell (2001).

In this article, we try to contribute to the empirical literature on child labor in Bangladesh by analyzing the 2000 Labor Force Survey data.<sup>1</sup> The first section of the article describes the main features of child labor in Bangladesh, including the scale of the problem. Following the hypothesis suggested by Delap (2001), we explore if children are driven to work when the household's full potential of income generation has already been used. The second section presents the characteristics of children's work – the age, gender and rural/urban composition of child labor. This section describes the sectoral distribution of child labor, the duration of work, and the typical contribution of children to the total income of the household. The third section presents how working children – and their households – differ from non-working children in terms of poverty and adult employment patterns. The usual determinants of children's work are discussed in the fourth section, while the results of the econometric estimation are presented in the fifth section. Finally, the research findings are summarized in the concluding section.

## **2. Scale of the Child Labor Problem**

According to the Bangladesh Bureau of Statistics, child workers are defined as children in the age group of 5–14 years who were found to be working during the survey reference period. Theoretically, it means that a child is said to work if he or she was found working one or more hours for pay or profit in an establishment or for no pay in a family farm or enterprise during the reference period.<sup>2</sup> Moreover, for all persons aged 10 years and over, two definitions of what counts as labor can be adopted. The *extended* definition of labor contains all economic activities, paid or unpaid, including own household economic activities, such as care of poultry and livestock, threshing, boiling, drying, and

processing and preservation of food. The *usual* definition excludes these own household activities. Of course, the first definition leads to inclusion in the labor force a large proportion of women or girls who would be excluded from the definition of the active population otherwise. In this article, we have adopted the extended definition of child labor in order to capture unpaid household activities. The latter are often poorly observed in many studies on child labor, and this leads to an underestimation of the participation of girls in the labor market.

Table 1 shows that, in 2000, the number of child laborers in Bangladesh numbered 5.4 million or 7.9 million, depending on the definition of the labor force that is adopted. Of these, around 1.1 million were under the age of 10 years. Given that the 2000 LFS questionnaire does not enable a distinction between the usual and extended definitions of the labor force for children under 10, these figures must be taken as the upper bound of child labor estimates. In other words, it means that, at the most, 21 percent of the child population aged 5–14 is economically active according to the extended definition and around 15 percent according to the usual definition of the labor force. According to these estimates, child workers represented between 9 and 13 percent of the total labor force of the country, which is almost the same share as that computed from the previous surveys.<sup>3</sup>

As shown in Figure 1, the labor force participation rate varies by age and gender. Fewer than 6 percent of very young children – those under 10 – are observed to work, against 24–38 percent (depending on definition) of the

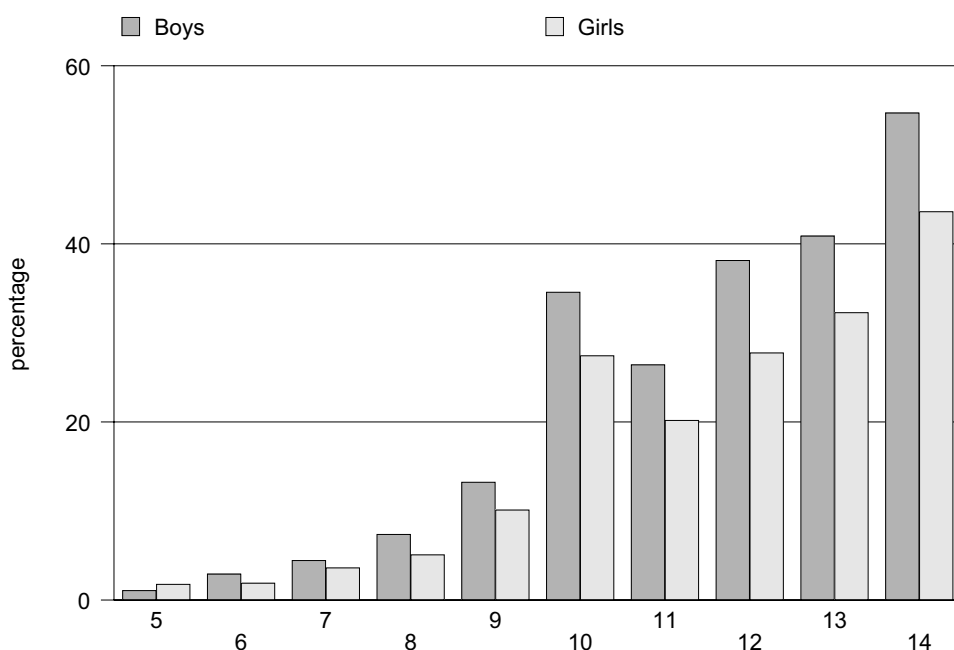
**Table 1.**  
**Number of child workers, by age and by gender (LFS 2000)**

	Extended definition	Usual definition	Extended definition	Usual definition
	Millions		Labor force participation (%)	
<b>Child workers aged 5–9</b>	<b>1.12</b>	<b>1.12</b>	<b>5.8%</b>	<b>5.8%</b>
Boys	0.65	0.65	6.4%	6.4%
Girls	0.47	0.47	5.1%	5.1%
Rural	0.95	0.95	6.1%	6.1%
Urban	0.16	0.16	4.5%	4.5%
<b>Child workers aged 10–14</b>	<b>6.77</b>	<b>4.31</b>	<b>38.5%</b>	<b>24.5%</b>
Boys	4.02	2.85	43.1%	30.6%
Girls	2.74	1.46	33.2%	17.6%
Rural	5.54	3.27	41.0%	24.2%
Urban	1.22	1.04	30.8%	26.2%
<b>All child workers aged 5–14</b>	<b>7.89</b>	<b>5.43</b>	<b>21.4%</b>	<b>14.7%</b>
Share of 5–9 year olds	15.1%	20.6%	–	–
Share 10–14 year olds	84.9%	79.4%	–	–
Total	100%	100%	–	–

Source: Author's calculations based on LFS 2000 data.

Notes: The 2000 LFS questionnaire does not permit distinguishing between the usual and extended definitions of the labor force for children aged 5–9 years.

**Figure 1.**  
**Labor force participation of children aged 5–14, by age and by sex**



Source: Author's calculations based on LFS 2000 data. Extended definition of the labor force.

children older than 10 years of age. At every age, the labor force participation of girls is lower than that of boys.

It is noteworthy that these results are considerably different from those reported in the analysis based upon the Household Expenditure Surveys. According to the analysis of the 2000 HES, only 5 percent of all children aged 5–14 years were employed and 15 percent were either employed or looking for employment. As mentioned earlier, this large discrepancy in participation rates may be due to differences in definitions of labor force participation in the two data sets.<sup>4</sup> The LFS adopted a more extended definition of the labor force than the HES, which allows the former to count as workers a larger number of children. According to Ravallion and Wodon (2000: c165), the HES may 'understate the extent of child labor either because of deliberate under-reporting, or because relatively small amounts of part time work are not deemed to constitute the child's normal activity'. In contrast, our calculations on participation rate of children in the labor market based upon the 2000 LFS are lower than those reported by Delap (2001). In her study on child labor in Dhaka, the definition of what constitutes work is also extended, but the age group she considers is wider than ours (5–16 years). In her survey, 30 percent of children were found to be engaged in income-generating work.

### 3. Characteristics of Child Labor in Bangladesh

#### A. Sectoral Distribution by Gender, Age and Location

Among the very young children, differences of participation between girls and boys and between rural and urban areas are negligible. Table A1, in the Appendix, reveals that the majority of the child workers under 10 are employed in the agricultural sector. The remainder are found in the different services sectors. The great majority of these children work as helpers or non-salary earners. A quarter of the service-sector child workers are salary earners and 10 percent are employed by the government's Food-For-Work program.

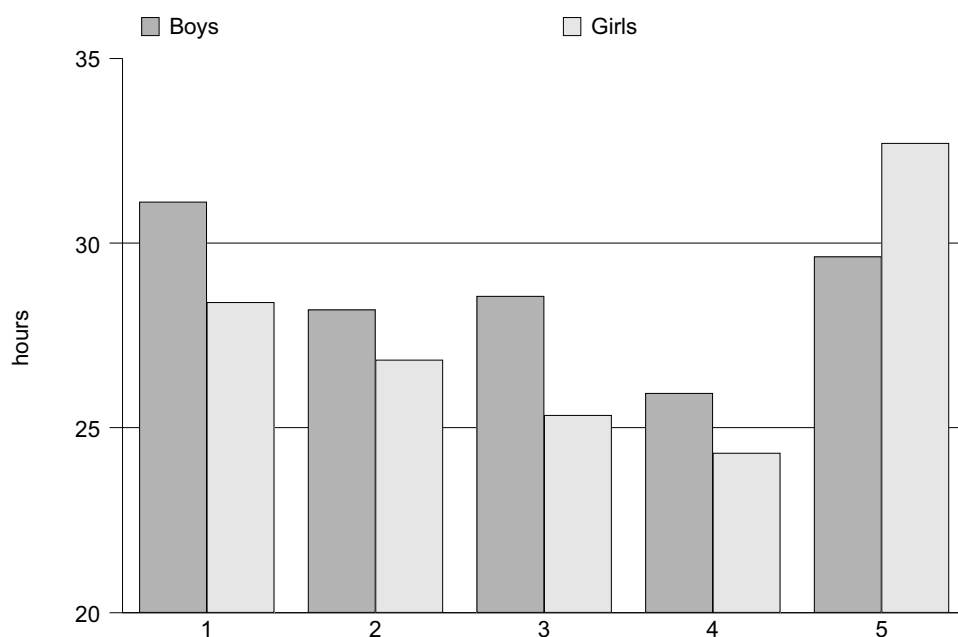
Boys constitute 58 percent of all employed child workers aged 10 and over, while girls account for the remaining 42 percent. After agriculture, it is the services sector that employs the largest share of child workers. As for adults, the findings reveal clear gender divisions in the child workforce, particularly in the urban areas. Given gender norms, girls, like their mothers, are almost totally excluded from sectors and occupations which do not enable maintenance of a certain degree of *purdah* (Delap, 2001).<sup>5</sup> Hence, in the urban areas, boys are mainly found in trade, hotel and restaurant sectors (37 percent) and girls in household services (32 percent). Even though the manufacturing sector employs both (urban) boys and girls, there is segmentation *within* that sector. Boys have more options, while girls are almost exclusively employed in the garment sector. In 2000, this sector employed around 8 percent of all child laborers and 15 percent of all child workers living in the urban areas. Interestingly, 70 percent of all child workers employed in the garment sector were girls.<sup>6</sup>

#### B. Duration of Work and School Attendance

The average duration of work of the older child workers is longer than that of the younger ones. Tables A3 and A4 in the Appendix shows that child workers aged 10 and over work around 26 hours per week, while those aged 5–9 years work 18 hours per week on average. Working hours are particularly long (more than 40 hours per week) in the construction, manufacturing and household service sectors. Figure 2 shows that, on average, the working hours of girls are lower than that of boys – 23 hours per week versus 29 hours per week. However, further analysis of data also reveals that the proportion of children who work more than 50 hours per week is higher among urban girls than among urban boys (respectively 27% versus 20%).<sup>7</sup>

Figure 2 also shows that the duration of work is correlated with the initial level (i.e. exclusive of the financial contribution of children) of income of the household. Child workers residing in the poorest households tend to work longer hours than child workers in all other households excepting the richest ones. At first glance, it may seem paradoxical that the working hours

**Figure 2.**  
Average time work of children, by sex and by quintile



Source: Author's calculations based on LFS 2000 data.

Notes: Extended definition of the labor force is used. Quintiles are calculated on the basis of per capita income without the financial contribution of children.

of child laborers who live in the richest quintile of households are so large (about 30–3 hours weekly). In fact, this is explained by the fact that the great majority of child laborers who belong to the richest quintile are domestic servants who live with their employer. They are counted as 'members' of their employer's household. Given the construction of the LFS data set, the characteristics of their own household cannot be observed. As documented in other studies (Ward et al., 2004), most of these domestic servants probably come from the poorest families.

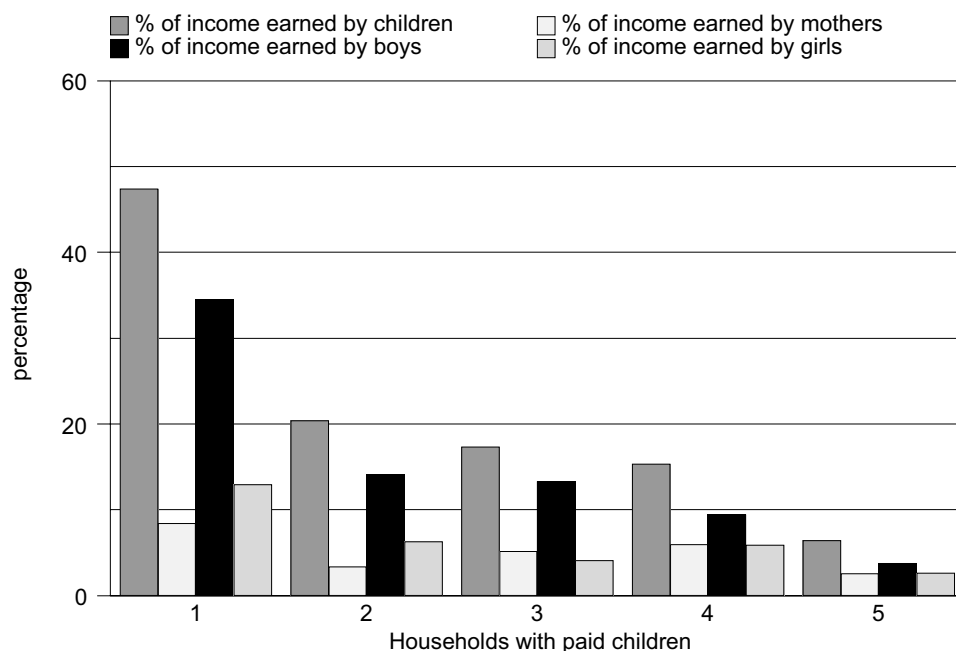
For the children who work only a few hours a week, one could suppose that they also attend school. Unfortunately, the LFS data set reports very limited information on the school attendance of the children aged 10 and over. But for the younger children – under age 10 – the data reveal a very strong correlation between child work and school non-attendance. While 80 percent of all children under 10 attended school in Bangladesh in 2000, only 21 percent of child workers of the same age could attend school in the same period.<sup>8</sup> A detailed analysis of interactions between school attendance and child labor in rural Bangladesh is available in Ravallion and Wodon (2000).

### C. Contribution of Children to the Earnings of the Household

According to the 2000 LFS, children engaged in income-generating work earned, on average, 43 takas per day when they are daily laborers. In comparison, daily laborers aged over 15 years old were found to earn 62 takas per day in the survey. Table A5 in Appendix reports the different child wages and salaries by status, gender, age and location.

What is the relative contribution of children to household income? In fact, only 3 percent of incomes in Bangladesh are earned by children – somewhat lower than the 5 percent contribution of their mothers. Of course, these figures hide large disparities depending on the level of income of the household and the engagement of children in income-generating work. If only households receiving some child income are counted, the earnings of children represent one-third of the total income of these households (see Figure 3). These findings are very similar to those reported by Rahman et al. (1999).

**Figure 3.**  
Contribution of children and mothers to income, by quintile



Source: Author's calculations based on LFS 2000 data.

Notes: Extended definition of the labor force is used. Quintiles are calculated on per capita income without the financial contribution of children. Contributions are calculated on the total income of all households with and without child workers.



#### 4. Poverty, Employment of Adults and Child Labor: Preliminary Analysis

Who are the working children and how do they differ from the non-working children? What are the main characteristics of the households which provide child labor? The following two tables describe both the characteristics of households with or without child laborers and the characteristics of child workers and non-workers. They also compare the characteristics of working girls and working boys and the characteristics of households which supply only boys' work versus boys' and/or girls' work. Tables 2a and 2b focus on the characteristics of adult employment in the household and the level of income.<sup>9</sup>

**Table 2a.**  
**Comparison of means – child workers vs child non-workers and working boys vs working girls**

	Sample 1 S1	Sample 2 S2	Sample 3 S3	Sample 4 S4	Test H0	Test H0
	Child non- worker	Child worker	Working boy	Working girl	H0	H0
Characteristics of the child's household	Mean	Mean	Mean	Mean	S1=S2	S3=S4
Income per capita, without children's contribution						
Sons, daughters, and non-biological children	943 <i>2654</i>	871 <i>2849</i>	790 <i>1936</i>	962 <i>3783</i>	***	***
Sons, daughters	939 <i>2654</i>	700 <i>1760</i>	690 <i>1892</i>	716 <i>1540</i>	***	**
% of adult workers among all adults	0.710 <i>0.268</i>	0.774 <i>0.257</i>	0.772 <i>0.252</i>	0.776 <i>0.263</i>	***	ns
% of adult paid workers among all adults	0.505 <i>0.229</i>	0.533 <i>0.242</i>	0.532 <i>0.235</i>	0.536 <i>0.252</i>	***	ns
% of males over the age of 15	0.244 <i>0.111</i>	0.249 <i>0.124</i>	0.247 <i>0.120</i>	0.251 <i>0.129</i>	ns	ns
% of females aged 15-60	0.229 <i>0.089</i>	0.231 <i>0.095</i>	0.232 <i>0.092</i>	0.228 <i>0.099</i>	ns	ns
Dummy: 1 if mother works	0.496 <i>0.500</i>	0.569 <i>0.495</i>	0.559 <i>0.497</i>	0.583 <i>0.493</i>	***	ns
Dummy: 1 if mother is a paid worker	0.137 <i>0.344</i>	0.147 <i>0.355</i>	0.138 <i>0.345</i>	0.161 <i>0.368</i>	ns	***
Dummy: 1 if all adults work	0.395 <i>0.488</i>	0.500 <i>0.500</i>	0.492 <i>0.500</i>	0.512 <i>0.500</i>	***	ns
Dummy: 1 if single-parent household	0.077 <i>0.264</i>	0.099 <i>0.299</i>	0.090 <i>0.285</i>	0.112 <i>0.316</i>	***	*
Number of observations	10,751	2755	1617	1138		

Source: Author's calculations based on LFS 2000 data.

Notes: Standard deviations in italics. Test of Mann-Whitney: the two samples are significantly different if \*\*\* H0 is rejected at 1% level, \*\* H0 is rejected at 5% level, \* H0 is rejected at 10% level.

**Table 2b.**  
**Comparison of means – households with child worker(s) vs households without child workers and households with boy worker(s) vs household with boy and/or girl worker(s)**

	Sample 1' S1'	Sample 2' S2'	Sample 3' S3'	Sample 4' S4'	Test	Test
	Households without child workers	Households with child worker(s)	Households with only boy worker(s)	Households with girl and/or boy worker(s)	H0	H0
Characteristics of the household	Mean	Mean	Mean	Mean	S1'=S2'	S3'=S4'
Income per capita, without children's contribution	1141 <i>2244</i>	871 <i>3182</i>	790 <i>2247</i>	962 <i>3979</i>	***	***
% of adult workers among all adults	0.682 <i>0.280</i>	0.768 <i>0.259</i>	0.770 <i>0.253</i>	0.774 <i>0.265</i>	***	ns
% of adult paid workers among all adults	0.505 <i>0.245</i>	0.530 <i>0.241</i>	0.528 <i>0.233</i>	0.536 <i>0.252</i>	***	ns
% of males over the age of 15	0.332 <i>0.172</i>	0.257 <i>0.127</i>	0.251 <i>0.121</i>	0.256 <i>0.129</i>	***	ns
% of females aged 15–60 in the household	0.307 <i>0.153</i>	0.238 <i>0.098</i>	0.237 <i>0.093</i>	0.232 <i>0.100</i>	***	***
Dummy: 1 if mother works	0.448 <i>0.497</i>	0.563 <i>0.496</i>	0.556 <i>0.497</i>	0.583 <i>0.493</i>	*	*
Dummy: 1 if mother is a paid worker	0.147 <i>0.354</i>	0.144 <i>0.352</i>	0.133 <i>0.339</i>	0.161 <i>0.368</i>	ns	**
Dummy: 1 if all adults work	0.365 <i>0.481</i>	0.491 <i>0.500</i>	0.474 <i>0.499</i>	0.510 <i>0.500</i>	***	*
Dummy: 1 if single-parent household	0.115 <i>0.319</i>	0.102 <i>0.303</i>	0.090 <i>0.287</i>	0.115 <i>0.319</i>	*	**
Number of observations	7606	2181	1155	1026		

Source: Author's calculations based on LFS 2000 data.

Notes: Standard deviations in italics. Test of Mann-Whitney: the two samples are significantly different if \*\*\* H0 is rejected at 1% level, \*\* H0 is rejected at 5% level, \* H0 is rejected at 10% level.

As expected, we find that working children come from poorer households. The average household income per capita of children who do not work is 943 taka versus 871 taka for child workers. The gap between child workers and non-workers is even larger if we exclude the children who are unrelated members of the household (those working as domestic servants) (see Table 2a). The comparison of means across the different sub-samples reveals that the proportion of adults who work – as paid or unpaid workers – is significantly greater in the households where a child is observed to work.<sup>10</sup> At the same time, Table 2b shows that the share of adults – male or female – within the household is lower in the households where children work. Mothers are much more likely to work in households with child workers than in households without child workers (56 percent versus 44 percent). One-half of all child workers live in a household where all the adults work. Further, child workers are more often

found in single-parent than in two-parent households. In short, the evidence suggests that child labor is more common among households where the potential for further income generation from adult members is low – either because of the absence of a parent or because all the adult members in the household are already fully employed.

There are some interesting differences in the characteristics of households that supply girls' labor and those that supply only boys' labor. In the former, the share of female members in household size is lower, the mother is more likely to be working, and the mother is more likely to be engaged in wage employment. Further, households which supply girls' labor are more likely to be single-parent households or households where the entire potential of adult work is already exhausted. This in turn suggests that girls are sent to work in households that are severely constrained. These results seem to be consistent with those found by Delap (2001) on urban child workers in Dhaka.

## **5. Determinants of Child Labor in the Empirical Literature**

The empirical literature on child labor has identified at least four types of factors that are likely to influence a household's decision to allocate their children's time to work. The first set of factors are child-specific: age, gender, and the child's level of schooling. As noted by Grootaert (1998) the magnitude and the direction of these effects are largely country-specific, depending on the cultural context, labor market opportunities, cost of schooling, and wage patterns. The second set of factors are related to parental characteristics. There is ample empirical evidence that the schooling of parents and the nature of their employment – whether regular or irregular, formal or informal, agricultural or non-agricultural – affect the allocation of child labor. After controlling for household income, the regularity and security of income often appear as significant determinants of child labor. Most previous studies have shown that children are less likely to work when parents are better schooled (Grootaert, 1998; Diallo, 2001). The third set of factors to influence child labor includes household characteristics. Besides the level of income and other wealth variables – for instance, owned land and livestock – the demographic composition of a household can have an impact on child labor. Numerous studies have shown that the number and the gender of siblings, the presence or absence of a parent, and the sex of the household head have significant influences on the intra-household allocation of time (Patrinos and Pascharopoulos, 1997; Grootaert, 1998; Delap, 2001). Fourth and finally, community-level factors, such as the cost of schooling, labor market opportunities, cultural norms, and child wage rates, can have an important bearing on the incidence of child labor (Siddiqui and Patrinos, 1995).

The recent empirical literature on child labor has focused largely on the effects of household income – known as the 'luxury axiom'<sup>11</sup> of Basu and Van (1998) – and of parental employment. Canagarajah and Coulombe (1997)

observed an inverted U-shaped relationship between child labor and household consumption expenditure per capita expenditure in Ghana. Using Peruvian and Pakistani data sets, Ray (2000) found that child labor was influenced by household poverty in Pakistan but not in Peru. Bhalotra (2003) and Bhalotra and Heady (2003) found that income had a negative impact on boys' work in Pakistan but no significant impact on girls' work. Many studies, however, support the more traditional view that poverty pushes children into the labor market (Psacharopoulos, 1997; Blunch and Verner, 2000; Diallo, 2001; Delap, 2001; Amin et al., 2004).

The influence of adult employment on child labor has been tested in different ways. Ray (2000) found that children living in households with a working adult woman worked longer hours on average than children in households without a working woman. Jensen and Nielsen (1997) found that the proportion of other family members who worked had a strong positive influence on the incidence of child labor. Delap (2001) found that in urban Bangladesh girls are more likely to enter the labor market when all other household members, including adult women, are working.

The strong positive correlation between adult employment – especially of women – and child labor is generally treated as reflecting complementarity between adult and child labor markets (Canagarajah and Coulombe, 1997; Grootaert, 1998; Ray, 2000). While this may be true of agricultural employment (especially self employment), it is not clear why there would be complementarity between adult and child labor in other forms of (non-agricultural) employment. Another interpretation of the positive correlation between adult employment and child labor is that children are the last economic resource of the household (Walters and Briggs, 1993; Jensen and Nielsen, 1997; Delap 2001). They enter the labor market when all the potential of income generation has already been used in a household (i.e. when all the other members are already working full time).

## **6. Determinants of Child Labor in Bangladesh: Empirical Results**

To investigate the determinants of child labor in Bangladesh, we have used unit record data from the 2000 Labor Force Survey to estimate the probability of a child working using the maximum-likelihood probit method. The parameter estimates are reported in Tables A6 and A7 in the Appendix.

Given the gender segmentation of the Bangladeshi labor market, the model has been estimated separately for boys and girls and for urban and rural areas. Only the sons and the daughters of the household head were retained in the sample, since most of the 'non-biological' children in a household are typically domestic servants who are unrelated to the household.

As noted earlier, we particularly focus on the influence of poverty and adult employment on the probability of child labor in a household. We try to

examine if poverty compels children to enter the labor market. Further, we also test the hypothesis that children are pushed into work because the household has completely used up its potential of income-generating work. This potential is captured by several different variables, such as the share of adults in the household who are employed, the labor force participation of the mother, and the entry of all adults in the labor market. If children are really the last economic resource of the household, the probability of child labor should rise when the share of adult employment reaches its peak and should decrease when there is a potential of income generation remaining in the household.

### ***A. Impact of Poverty on Child Labor***

To test the effect of poverty on child labor, we have included dichotomous variables for per capita income quintiles (calculated obviously *without* the contribution of children). As expected, children from the poorest two quintiles of households are observed to be significantly more likely to work than those from better-off households. This result corroborates the ‘luxury axiom’ of Basu and Van (1998). It is also consistent with the results obtained by Ravallion and Wodon (2000), Delap (2001) and Amin et al. (2004). Contrary to the findings of Bhalotra and Heady (2003) on Pakistan, the income of the household plays a significant role in explaining the tendency of both boys *and* girls to work.

Two other variables are also likely to capture the effect of wealth on child labor: the amount of owned land and home ownership. The latter variable has an expected negative association with the probability of child labor. Surprisingly, land ownership is not a significant determinant of child labor. The same result has been observed by Bhalotra and Heady (2003) for Pakistan and Ghana, who argue that, in addition to being a proxy for household wealth, land constitutes an opportunity for productive employment of children, especially in a context where family and hired labor are imperfect substitutes for each other (see also Deolalikar and Vijverberg, 1987).

### ***B. Potential of Work, Adult Employment and Child Labor***

The empirical results suggest two interesting conclusions. First, without controlling for the level of work in the household, Regression 1 shows that children are less likely to work when adults – male or female – constitute a large share of household size. At first glance, this might suggest that adult and child labor are substitutes, with the presence of adults liberating children from the need to work. But, when variables relating to adult employment are included in the regression, the results change. Regression 2 shows that children are more likely to work when they live in a household where all the adults (i.e. those members who are older than 15 years of age) are working. Similarly, the share of adults working for a wage is highly significant in explaining the probability of child

labor (Regression 3). Thus, children are more likely to work when all adult members in a household work and when a larger proportion of these adults are paid workers. This can be seen as an indication of the household's need for additional resources; in other words, children are sent to work to increase the income potential of the household. These results generally tend to support the hypothesis of child labor being the 'last economic resource' of households.

Second, the type of activity in which the mother is engaged has an influence on the probability of child labor. The empirical results indicate that, after controlling for wealth and other (i.e. other than the mother) adult employment, children are more likely to work when their mother is also working. But contrary to the effect of other adults, children are less likely to work when the mother is working in the paid labor market than when she does not work or is an unpaid family worker. This result seems to suggest that children and mothers may be substitutes for each in the paid labor market. But the relationship is more complex as it also depends on the gender of the child. Regressions 5 and 6 show that boys are more likely to work when the mother is unpaid but less likely to work when the mother is a paid employee. In contrast, girls are more likely to enter the labor market when the mother works whether as an unpaid worker or a wage employee. It thus appears that when the mother works outside the home, her daughters are likely to take her place in the home as unpaid family workers. In contrast, sons and mothers appear to be substitutes for each other in income-generating (paid) activities.

### ***C. Effects of Other Variables***

The results also highlight the importance of child characteristics in determining the probability of their entry into the labor market. First, as expected of an Islamic country, girls are less likely to enter the labor market than boys. Second, older children are more likely to work than younger ones. Third, illiterate children are more likely to work than literate ones. Fourth and finally, the presence of very young children – those under 5 years of age – reduces the probability of other children in the household being sent to work. The latter probably occurs because the older children are needed to take care of their younger siblings.

Community variables are also found to be significant in explaining the incidence of child work. Other things equal, children living in a rural area or in Dhaka city are more likely to work than those living in other urban areas. The effect of the overall unemployment rate in a community on child labor differs across locations. In rural areas, children are less likely to work when they live in a district with a high unemployment rate, but the reverse is true in urban areas. These effects are difficult to interpret as they require strong assumptions on the nature of the relationship between adult and child labor markets (see Gupta, 1997; Basu, 1999, 2000 for theoretical models linking adult

unemployment with child labor). If these labor markets are complementary, a high level of the overall unemployment rate will diminish employment opportunities for children. Under this simplistic explanation, child and adult labor might be complements in rural areas and substitutes in urban areas. However, this interpretation does not take into account the possible impact of child labor on the unemployment rate of adults as well as the level of adult wage rates.<sup>12</sup> A further exploration of this relationship is needed.

The empirical estimates reveal that there are substantial differences in the determinants of work across boys and girls. First, we have already noted the finding that girls (unlike boys) are more likely to work even when their mother is a paid employee. Second, we find that the nature of employment of the household head matters for the work status of boys but not of girls. Boys (but not girls) are less likely to work when the head of the household is an employee. Third, the level of parental schooling plays a significant role in explaining child labor among boys but not among girls. Finally, the availability of schools in a community has a stronger negative effect on the work status of boys than on the work status of girls.<sup>13</sup>

All of these gender-differentiated results need further exploration. Nevertheless, they support the findings of the large literature on Bangladesh and on other South Asian countries on intra-household discrimination against girls and women in the allocation of food, medical care, and access to schooling (Behrman, 1988; Fauveau et al., 1990; Behrman and Deolalikar, 1993; Quisumbing and de la Brière, 2000).

## **7. Conclusion**

This article uses data from the 2000 Labor Force Survey to analyze the scale, nature and determinants of child labor in Bangladesh. The main empirical findings of the article are as follows. First, around one-fifth of all Bangladeshi children between the ages of 5 and 14 years were 'child workers' in 2000. There were a total of 5.4–7.9 million child workers in the country (depending upon the definition of the labor force), constituting 9–11 percent of the national labor force. Although a large proportion of these young workers are found in the agricultural sector, the data revealed clear gender divisions in the child workforce in the urban areas. The findings also revealed that the contribution of boys to household income is greater than that of girls. While, overall, the income earned by children is a small share of total household income, the share is large among households that supply positive amounts of child labor. In the poorest quintile of such households, the share of child income in total household income reaches almost 50 percent. Thus, the poorest households in the country very much depend upon their children's earnings to pull themselves out of poverty.

Second, the empirical results confirm earlier findings that children from the poorest households are much more likely to enter the labor force than

children from better-off households. In this sense, there is support for the widely-held assumption that poverty compels children to work.

Third, the analysis of links between adult employment and child labor lends support to the hypothesis that children are the last economic resource of the household. Children are much more likely to work when they live in a household where the potential of income generation is low and where this potential has already been used up. In other words, children are more likely to work when all the adults in the household, including the mother, are already employed. However, there are some variations across gender. Boys, unlike girls, are less likely to enter the labor market when their mother is engaged in paid labor activities. A possible explanation is that girls and mothers substitute for each other in performing household chores, while boys and mothers are substitute for each other in paid (wage) employment. In Bangladesh, girls mostly work in unpaid family work.

The finding that there are significant gender differences in the scale, nature and determinants of child labor suggests the importance of adopting a gender-specific approach to addressing the child labor problem in Bangladesh.

### NOTES

1. This is a nationally-representative survey which collected data on income and employment from 41,404 individuals residing in 9787 households. The full sample consists of 13,506 children aged 5–14 years (7115 boys and 6391 girls). The survey was carried out by the Bangladesh Bureau of Statistics (BBS) in 1999 and 2000.
2. Children who were found not working but had a job or business from which he or she was temporarily absent during the reference period are also considered as child laborers. In reality, very few children reported to have worked less than 7 hours in the preceding week.
3. According to the Child Labor Survey, 1995–6, the number of children in the labor force was 6.58 million out of the 34.45 million children aged 5–14 years old. At this time, children constituted 12 percent of the total labor force of Bangladesh.
4. The LFS adopted a more extended definition of the labor force than the HES, which allows definition of a larger number of children as workers.
5. Salway et al. (2003) underlined that, in Dhaka, women's work opportunities are comparatively much more severely constrained than their male counterparts. Women are totally excluded from a large part of the occupational options: transport sector, service industry and trade.



6. Bissell (2001) reported that while there is sex segregation in this industry among the adults, this was not true for children: boys and girls have similar conditions of work and earnings.
7. The working time is really high for the children living with their employer as they were found to work, on average, 58 hours per week. A great majority of these workers are girls employed as domestic servants.
8. The main reason given for the non-attendance at school of the young children is 'financial crisis' rather than the involvement of the child in a work. Nevertheless, this financial crisis is likely to explain both the inability of parents to pay the school expenditures and the necessity for the child to work. Moreover, parents may be reluctant to admit that child labor is a reason for the absence from school (Ravallion and Wodon, 2000).
9. The other characteristics of these sub-samples – household size, number and proportion of siblings, etc. – are available from the author on request.
10. An adult is defined in this article as an individual aged 15 years and over.
11. According to this axiom, 'a family will send the children to the labor market only if the family's income from non-child-labor sources drops very low' (Basu and Van, 1998).
12. The average level of wages – adult or child – in the district was not significant to explain the probability of child labor.
13. The school availability has been proxied by the school attendance rate of children aged 5–9 in the district.

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**Table A1.**  
**Employed children aged 5–9 by sector, LFS 2000 (in %)**

	Total	Rural	Urban	Boys	Girls	Rural boys	Rural girls	Urban boys	Urban girls
Agriculture	43.1	45.7	28.8	46.1	38.8	50	39.6	25	34.6
Manufacturing	2.7	2.3	5.3	2.6	3	2.3	2.2	3.8	7.7
Trade, hotel, restaurant	10.3	6.4	32.6	15.3	3.3	9.4	2.2	47.5	9.6
Transport	3.9	3.7	0	5.3	0	4.7	2.2	8.8	0
Community services	14.2	15.5	6.8	10.9	19	11.7	20.9	6.3	7.7
Household services	14.4	13.7	18.2	8.4	22.9	8.6	20.9	7.5	34.6
Miscellaneous	11.3	12.7	3.1	11.4	10.3	13.3	12.1	1.3	5.7
Total	100	100	100	100	100	100	100	100	100
Self-employed	4.2	2.7	12.7	7	0.3	4.7	0	20	1.9
Salary earner	23	24	17.2	27	17.5	29.5	16.7	13.8	22.2
Unpaid family worker	59.2	60	54.5	51.3	69.9	50.4	72.9	56.3	51.9
Day laborer	3.6	3.6	3.7	4	2.9	3.9	3.1	5	1.9
FFW	9.7	9.3	11.9	9.9	9.4	10.9	7.3	5	22.2
Apprentice	0.4	0.4	0	0.7	0	0.8	0	0	0
Total	100	100	100	100	100	100	100	100	100

Source: Author's calculations based on LFS 2000 data.

Note: FFW: Food for Work program.

**Table A2.**  
**Employed children aged 10–14 by sector, LFS 2000 (in %)**

	Total	Rural	Urban	Male	Female	Rural boys	Rural girls	Urban boys	Urban girls
Agriculture	64.0	72.7	24.6	62.3	66.7	71.2	75.1	19.4	31.5
Manufacturing	8.1	5.0	22.1	7.0	9.7	4.5	5.8	19.3	25.9
Trade, hotel, restaurant	12.3	10.2	22.0	19.7	1.4	16.1	1.2	36.9	2.4
Transport	2.6	2.1	5.0	4.2	0.2	3.3	0.2	8.5	0.2
Community services	3.4	2.7	6.4	2.7	4.3	2.0	3.8	6.5	6.3
Household services	7.4	5.1	17.6	2.3	15.0	1.4	10.8	6.3	32.4
Misc.	2.2	2.2	2.3	1.8	2.8	1.6	3.2	3.2	1.2
	100	100	100	100	100	100	100	100	100
Self employed	9.2	8.2	13.8	11.4	6.0	9.7	6	19.4	6.3
Employer	0.1	0.1	0.1	0.1	0	0.1	0	0.2	0
Employee	18.8	13.2	44.2	17.4	20.9	13.1	13.3	37.9	52.4
Unpaid family worker	60.3	65.7	35.4	55	68.1	59.5	75.3	33.3	38.3
Day laborer	11.6	12.7	6.4	16.1	4.9	17.5	5.4	9.1	2.9
Total	100	100	100	100	100	100	100	100	100

Source: Author's calculations based on LFS 2000 data. Extended definition of the labor force.

**Table A3.**  
**Employed children 5–9 years, by working hours (in %)**

Weekly hours worked	Total	Rural	Urban	Boys	Girls
<15	52.2	53.5	44.8	43.4	64.3
15–19	12.9	12.4	15.7	14.8	10.3
20–9	16.4	15.5	21.6	20.8	10.4
30–9	8.3	8.4	7.5	10.7	4.9
>40	10.2	10.2	10.4	10.3	10.1
Total	100.0	100.0	100.0	100.0	100.0
Mean weekly hours worked	18	18	19	19	14

Source: Author's calculations based on LFS 2000 data.

**Table A4.**  
**Employed children 10–14 years, by working hours, LFS 2000 (extended definition) (in %)**

Weekly hours worked	Total	Rural	Urban	Boys	Girls	Rural boys	Rural girls	Urban boys	Urban girls
<15	27.1	28.7	19.5	21	36.0	22.1	38.6	15.4	24.8
15–19	12.5	13.9	5.8	10.7	15.0	12	16.9	4.9	7.0
20–9	21.3	22.2	17.2	20.5	22.4	21.0	23.9	18.0	16.0
30–9	15.4	15.1	16.6	18.4	10.9	17.9	10.8	20.8	11.0
40–9	11.7	10.4	17.6	15.4	6.3	14.3	4.6	20.6	13.8
50–9	6.1	5.5	9.0	8.0	3.3	7.8	2.0	9.1	9.0
60–9	3.5	2.3	8.7	3.7	3.2	2.9	1.4	7.4	10.4
>70	2.2	1.6	5.2	2.0	2.6	1.7	1.4	3.4	7.6
Total	100	100	100	100	100	100	100	100	100
Mean weekly hours worked	26	25	34	29	23	28	20	34	33

Source: Author's calculations based on LFS 2000 data.

**Table A5.**  
**Average income of child workers, 2000 LFS (in Taka)**

	Child workers aged under 10 Weekly pay	Child workers aged 10–14			
		Day laborers Daily pay in cash	Regular employee		Self-employer Monthly net income
			Daily pay in kind	Monthly pay	
All child workers	48	43	27 <sup>a</sup>	599	1076
Urban child workers	50	53	33 <sup>a</sup>	811	1425
Rural child workers	48	42	26 <sup>a</sup>	452	958
Boys, child workers	55	42	29 <sup>a</sup>	653	1676
Girls, child workers	34	46 <sup>a</sup>	19 <sup>a</sup>	532	799

Source: Author's calculations based on LFS 2000 data.

<sup>a</sup> Fewer than 50 cases.

Note: Extended definition of the labor force used.

**Table A6.**  
**Estimation results of probit models: marginal effects of the probability of a child working**  
**(full sample)**

Independent variable	Reg. 1		Reg. 2		Reg. 3		Reg. 4	
Girl = 1	-0.049***	<i>0.007</i>	-0.050***	<i>0.007</i>	-0.050***	<i>0.007</i>	-0.050***	<i>0.007</i>
Age	0.125***	<i>0.010</i>	0.124***	<i>0.010</i>	0.122***	<i>0.010</i>	0.122***	<i>0.010</i>
Age <sup>2</sup>	-0.003***	<i>0.000</i>	-0.003***	<i>0.000</i>	-0.003***	<i>0.000</i>	-0.003***	<i>0.000</i>
Literate	-0.075***	<i>0.007</i>	-0.075***	<i>0.007</i>	-0.073***	<i>0.007</i>	-0.074***	<i>0.007</i>
Presence of children under 5	-0.270***	<i>0.014</i>	-0.260***	<i>0.014</i>	-0.263***	<i>0.014</i>	-0.263***	<i>0.014</i>
% of boys aged 5–9	-0.028	<i>0.037</i>	-0.034	<i>0.037</i>	-0.026	<i>0.037</i>	-0.026	<i>0.037</i>
% of boys aged 10–14	0.065*	<i>0.035</i>	0.057	<i>0.035</i>	0.067*	<i>0.035</i>	0.065*	<i>0.035</i>
% of girls aged 5–9	0.020	<i>0.040</i>	0.014	<i>0.039</i>	0.021	<i>0.039</i>	0.020	<i>0.039</i>
% of girls aged 10–14	0.049	<i>0.035</i>	0.042	<i>0.035</i>	0.050*	<i>0.035</i>	0.049	<i>0.035</i>
% of male adults	-0.078**	<i>0.034</i>	-0.041	<i>0.034</i>	-0.061*	<i>0.034</i>	-0.062*	<i>0.033</i>
% of women aged 15–60	-0.099**	<i>0.040</i>	-0.053	<i>0.040</i>	-0.064	<i>0.040</i>	-0.060	<i>0.040</i>
% of women over 60	-0.199**	<i>0.096</i>	-0.065	<i>0.096</i>	-0.110	<i>0.096</i>	-0.102	<i>0.095</i>
% of adult paid workers			0.011	<i>0.015</i>	0.078***	<i>0.020</i>	0.088***	<i>0.017</i>
All adults work			0.052***	<i>0.008</i>				
Mother works					0.052***	<i>0.007</i>		
Mother paid					-0.037***	<i>0.010</i>		
Mother employee							0.001	<i>0.017</i>
Mother unpaid							0.050***	<i>0.008</i>
Mother day laborer							0.0004	<i>0.016</i>
Head employee					-0.044***	<i>0.014</i>	-0.047***	<i>0.013</i>
Head employer					-0.050	<i>0.030</i>	-0.054	<i>0.028</i>
Head day laborer					-0.006	<i>0.017</i>	-0.010	<i>0.016</i>
Head self employed					-0.015	<i>0.016</i>	-0.020	<i>0.015</i>
Single parent household	0.036	<i>0.025</i>	0.032*	<i>0.018</i>	0.047***	<i>0.022</i>	0.040**	<i>0.020</i>
Household headed by a woman	-0.004	<i>0.021</i>						
Quintile 1	0.116***	<i>0.015</i>	0.120***	<i>0.015</i>	0.116***	<i>0.015</i>	0.116***	<i>0.015</i>
Quintile 2	0.045***	<i>0.009</i>	0.045***	<i>0.009</i>	0.044***	<i>0.009</i>	0.044***	<i>0.009</i>
Household owns its house	-0.016*	<i>0.009</i>	-0.018**	<i>0.009</i>	-0.023**	<i>0.010</i>	-0.022**	<i>0.010</i>
Main activity is agriculture	0.017***	<i>0.007</i>	0.014*	<i>0.007</i>	0.007	<i>0.007</i>	0.008	<i>0.007</i>
Land size	0.000006	<i>0.00001</i>	0.000006	<i>0.00001</i>	0.000005	<i>0.00001</i>	0.000003	<i>0.00001</i>
Mother has no education	0.046***	<i>0.011</i>	0.046***	<i>0.011</i>	0.038***	<i>0.011</i>	0.038***	<i>0.011</i>
Mother has a basic education level	0.041***	<i>0.013</i>	0.041***	<i>0.013</i>	0.035***	<i>0.013</i>	0.034***	<i>0.013</i>
The head has no education	0.007	<i>0.010</i>	0.002	<i>0.010</i>	-0.003	<i>0.010</i>	-0.003	<i>0.010</i>
The head has basic education level	0.013	<i>0.010</i>	0.009	<i>0.009</i>	0.006	<i>0.009</i>	0.006	<i>0.009</i>
Unemployment rate	-0.012	<i>0.132</i>	0.064	<i>0.132</i>	0.101	<i>0.132</i>	0.101	<i>0.133</i>
Rural area	0.037***	<i>0.009</i>	0.027***	<i>0.009</i>	0.023**	<i>0.009</i>	0.023***	<i>0.009</i>
% school attendance of children aged 5–9 in the district	-0.192***	<i>0.032</i>	-0.191***	<i>0.032</i>	-0.189***	<i>0.032</i>	-0.188***	<i>0.032</i>
Dhaka city	0.025**	<i>0.013</i>	0.022*	<i>0.013</i>	0.022*	<i>0.013</i>	0.022*	<i>0.013</i>
Chittagong city	0.018	<i>0.013</i>	0.015	<i>0.013</i>	0.011	<i>0.013</i>	0.011	<i>0.013</i>
Rajshahi city	-0.001	<i>0.017</i>	-0.007	<i>0.017</i>	-0.005	<i>0.017</i>	-0.004	<i>0.017</i>
Khulna city	0.010	<i>0.018</i>	0.011	<i>0.018</i>	0.014	<i>0.018</i>	0.014	<i>0.018</i>
Number of observations	12,374		12,374		12,374		12,374	

Notes: \* significant at 10% level. \*\* significant at 5% level. \*\*\* significant at 1% level.  
Robust Standard Error in italics. The basic education level is class 1 to 5.

**Table A7.**  
**Estimation results of probit models: marginal effects of the probability of a child working**  
**(different sub-samples)**

Independent variable	Sons		Daughters		Rural area		Urban area	
	Reg. 5	Reg. 6	Reg. 7	Reg. 8	Reg. 7	Reg. 8	Reg. 7	Reg. 8
Girl					-0.055***	<i>0.011</i>	-0.042***	<i>0.009</i>
Age	0.142***	<i>0.014</i>	0.089***	<i>0.013</i>	0.158***	<i>0.015</i>	0.081***	<i>0.012</i>
Age <sup>2</sup>	-0.004***	<i>0.001</i>	-0.002***	<i>0.001</i>	-0.004***	<i>0.001</i>	-0.002***	<i>0.001</i>
Literate	-0.092***	<i>0.010</i>	-0.056***	<i>0.009</i>	-0.089***	<i>0.010</i>	-0.055***	<i>0.009</i>
Presence of children under 5	-0.304***	<i>0.019</i>	-0.219***	<i>0.019</i>	-0.283***	<i>0.018</i>	-0.246***	<i>0.021</i>
% of boys aged 5–9	0.002	<i>0.056</i>	-0.018	<i>0.048</i>	-0.001	<i>0.056</i>	-0.038	<i>0.045</i>
% of boys aged 10–14	0.129**	<i>0.053</i>	-0.022	<i>0.046</i>	0.111**	<i>0.054</i>	0.027	<i>0.043</i>
% of girls aged 5–9	0.098	<i>0.063</i>	-0.073	<i>0.049</i>	0.050	<i>0.059</i>	-0.004	<i>0.049</i>
% of girls aged 10–14	0.052	<i>0.056</i>	0.043	<i>0.045</i>	0.111**	<i>0.055</i>	0.006	<i>0.043</i>
% of male adults	-0.058	<i>0.052</i>	-0.063	<i>0.042</i>	-0.015	<i>0.052</i>	-0.092**	<i>0.041</i>
% of women aged 15–60	-0.103***	<i>0.060</i>	-0.023	<i>0.052</i>	-0.109*	<i>0.063</i>	-0.027	<i>0.047</i>
% of women over 60	-0.125	<i>0.142</i>	-0.053	<i>0.125</i>	-0.070	<i>0.141</i>	-0.130	<i>0.126</i>
% of adult paid workers	0.108***	<i>0.025</i>	0.066***	<i>0.022</i>	0.114***	<i>0.027</i>	0.063***	<i>0.020</i>
Single-parent household	0.030	<i>0.028</i>	0.051**	<i>0.028</i>	0.019	<i>0.030</i>	0.032	<i>0.023</i>
Mother employee	-0.046*	<i>0.020</i>	0.051**	<i>0.028</i>	0.004**	<i>0.045</i>	0.003	<i>0.017</i>
Mother unpaid	0.028**	<i>0.011</i>	0.074***	<i>0.011</i>	0.047***	<i>0.011</i>	0.054***	<i>0.013</i>
Mother day laborer	-0.025	<i>0.022</i>	0.031	<i>0.024</i>	-0.006	<i>0.023</i>	0.003	<i>0.023</i>
Head employee	-0.068***	<i>0.019</i>	-0.029	<i>0.018</i>	-0.065**	<i>0.021</i>	-0.029*	<i>0.016</i>
Head employer	-0.076	<i>0.036</i>	-0.042	<i>0.036</i>			-0.019	<i>0.033</i>
Head day laborer	-0.014	<i>0.023</i>	-0.007	<i>0.020</i>	-0.013	<i>0.026</i>	-0.009	<i>0.017</i>
Head self-employed	-0.028	<i>0.023</i>	-0.016	<i>0.020</i>	-0.041***	<i>0.026</i>	-0.006	<i>0.017</i>
Quintile 1	0.129***	<i>0.022</i>	0.103***	<i>0.020</i>	0.079***	<i>0.021</i>	0.149***	<i>0.023</i>
Quintile 2	0.043***	<i>0.014</i>	0.045***	<i>0.012</i>	0.031*	<i>0.016</i>	0.038***	<i>0.010</i>
The household owns its house	-0.023*	<i>0.015</i>	-0.022*	<i>0.013</i>	-0.058**	<i>0.028</i>	-0.010	<i>0.009</i>
Main activity is agriculture	0.012	<i>0.011</i>	0.004	<i>0.009</i>	0.009	<i>0.010</i>	0.011	<i>0.013</i>
Land size	0.00002	<i>0.00001</i>	0.00002	<i>0.00003</i>	0.00002	<i>0.00003</i>	0.00002	<i>0.000</i>
Mother has no education	0.058***	<i>0.017</i>	0.018	<i>0.014</i>	0.031	<i>0.019</i>	0.026**	<i>0.013</i>
Mother has a basic education level	0.050***	<i>0.019</i>	0.020	<i>0.016</i>	0.006	<i>0.020</i>	0.038***	<i>0.014</i>
The head has no education	0.002***	<i>0.015</i>	-0.008	<i>0.012</i>	-0.016	<i>0.015</i>	0.012	<i>0.012</i>
The head has basic education level	-0.001	<i>0.014</i>	0.015	<i>0.012</i>	0.007	<i>0.015</i>	0.009	<i>0.011</i>
Unemployment rate	0.084	<i>0.208</i>	0.134	<i>0.167</i>	-0.442**	<i>0.190</i>	1.155***	<i>0.202</i>
Rural area	0.010	<i>0.013</i>	0.033***	<i>0.012</i>				
% school attendance of children aged 5–9 in the district	-0.213***	<i>0.049</i>	-0.162***	<i>0.041</i>	-0.193***	<i>0.041</i>	-0.356***	<i>0.062</i>
Dhaka city	0.004	<i>0.019</i>	0.040**	<i>0.019</i>			0.011	<i>0.010</i>
Chittagong city	-0.009	<i>0.017</i>	0.032*	<i>0.019</i>			0.021*	<i>0.012</i>
Rajshahi city	-0.004	<i>0.025</i>	-0.010	<i>0.022</i>			-0.020	<i>0.012</i>
Khulna city	-0.017	<i>0.023</i>	0.040*	<i>0.027</i>			0.050***	<i>0.020</i>
Number of observations	6601		5773		6565		5807	

Notes: \* significant at 10% level. \*\* significant at 5% level. \*\*\* significant at 1% level.  
 Robust Standard Error in italics. The basic education level is class 1 to 5.

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