BARGAINING OVER SONS AND DAUGHTERS: CHILD LABOR,SCHOOL ATTENDANCE AND INTRA-HOUSEHOLD GENDER BIAS IN BRAZIL

by

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Abstract

This paper we examine intra-household gender differences and the incidence of child labor and children's school attendance in Brazil to test whether the unitary model of household allocations is suitable in the child labor context. We begin by building an intra-household allocation model where fathers and mothers may affect the education investment and the child labor participation of their sons and daughters differently due to differences in the children's human capital technologies and/or differences in parental preferences. Using the 1996 Brazilian Household Survey, we estimate the impact of a parent's education, non-labor income and child labor experience on the labor market status and school attendance of their sons and daughters separately. We find that, for children's labor status, the father's education, non-labor income and the age at which he first began working in the labor market has a greater impact on the labor status of sons than of daughters, while the opposite is true for mother's education, non-labor income and the age at which she first began working in the labor market, which have a greater impact on the labor status of daughters than of sons. In addition, when it comes to schooling decisions, both fathers and mothers education and non-labor income appear to have a greater positive impact on sons than on daughters.

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(**Keywords:** Child Labor, Brazil, Intra-Household Allocations, Bargaining Models, Gender Bias)

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Bargaining over Sons and Daughters:

Child Labor, School Attendance and Intra-household Gender Bias in Brazil

This paper uses an extensive survey dataset of Brazilian households to examine if evidence exists that there is bargaining between mothers and fathers in the decision to send their sons and daughters to work in the labor market and to school, and explores the possibility that there exists intra-household gender bias in these decisions. The objective of the paper is to test the assumption of the unitary model of intra-household allocations in the child labor context and the assumption that sons and daughters are treated similarly when fathers and mothers make these work and schooling decisions.

The recent child labor literature generally assumes (*ala* Becker, 1982) that parents have common preferences and are altruistic toward their children (e.g., Baland and Robinson, 2000; Bell and Gersbach, 2000; Dessy, 2000; Emerson and Portela, 2000; Basu and Van, 1998). Additionally, the empirical literature on child labor has predominantly explored the relation between the economic conditions and incentives of the family unit and the child labor outcomes (e.g. Emerson and Portela, 2000; Ray, 2000; Grottaert and Patrinos, 1999; Jensen and Nielsen, 1997). Although a unitary model of intra-household allocations is a valid starting point in order to focus on the poverty dimension of child labor, this emphasis does not account for other factors of potential importance. Recently, a few studies have examined intra-household allocations explicitly. For example, Basu (2001) and Ridao-Cano (2000) extend intra-household behavior to child labor decisions. Both authors suggest that fathers and mothers have different impacts in the labor supply of their children, and that this is potentially related

to their relative bargaining power. Neither, however, explore gender bias within the intra-household allocation decisions.[1]

There is also an extensive literature on gender differences in human capital investments and outcomes that has presented some evidence of intra-household gender bias. Sen (1990), for example, reports that female mortality rate is significantly higher than those for men in Asia and North Africa. Others studies have shown that sons are favored in the intra-household allocation of nutrients and have better anthropometric outcomes (e.g. Behrman, 1988; Sen, 1984).

Perhaps even more compelling are recent studies that have found that the gender bias in the children's inputs or outcomes is related to the gender of the parent who controls the distribution of these resources. In a study of families in the U.S., Ghana and Brazil, Duncan Thomas (1994) finds that children's health achievement (as measured by height for age) is linked to the educational attainment and non-labor income of the parent of the same sex as the child. In other words, sons do better (are taller) the more education and non-labor income the father has and daughters do better the more education and non-labor income of the mother. This finding suggests that there may be differences in the preferences of the parents and/or that there may be technological differences in child rearing. Moreover, it supports the rejection of the unitary family model that assumes parents have common preferences and pool their resources. In fact, there is some additional evidence that the unitary family model hypothesis is not consistent with Brazilian data. Thomas (1990) shows that unearned income controlled by mothers has stronger impacts on family's health than income under father's control. In addition, Tiefenthaler (1999) finds that family labor supply decisions in Brazil do not conform to

[1] Basu's theoretical contribution goes further to include the possibility that the choices taken by the

the implications of the unitary family model. None of these studies, however, examine intra-household gender bias in the child labor context.

In a previous paper (Emerson and Portela, 2000) we found strong evidence of inter-generational persistence in child labor among families in Brazil. Specifically, we found that people who start work at a younger age end up with lower earnings as adults, and that children are more likely to be child laborers the younger their parents were when they entered the labor force, and the lower the educational attainment of their parents as well as their grandparents. These findings are consistent with unitary models of child labor and poverty persistence (see e.g., Bell and Gersbach, 2000; Dessy, 2000; Emerson and Portela, 2000; Basu, 1999; Glomm, 1997) where parent's child labor hampers their ability to gain human capital through schooling which makes them unable to command a high enough wage as an adult to afford to keep their children out of the labor force.

However, and what is important to the current paper, these results also held when we performed the analysis for sons and daughters separately. That is, there is a persistence of child labor from parents to sons as well as from parents to daughters. This begs the question, is this effect different for sons and daughters based on the schooling, non-labor income and child labor experience of their mothers and fathers?

In the present study, we investigate the impact of fathers and mothers attributes on the child labor and school attendance of their sons and daughters, separately. In line with the existing child labor literature, we assume altruistic parents make the decision to send children to work, but we allow for parental preferences to differ across children as well as allowing the technology that converts education into human capital to vary across children. Using Brazilian household survey data, we estimate the impact of a parent's

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individuals can affect their bargaining power.

education, non-labor income and child labor experience on the labor market status and school attendance of their sons and daughters separately. We find compelling evidence that, for children's labor status, the father's education, non-labor income and the age at which he first began working in the labor market have a greater impact on the labor status of sons than of daughters, while the opposite is true for mother's education, non-labor income and the age at which she first began working in the labor market, which have a greater impact on the labor status of daughters than of sons. Equally compelling, when it comes to schooling decisions, both fathers and mothers education and non-labor income appear to have a greater positive impact on sons than on daughters.

This paper proceeds as follows: The next section presents a simple model of household allocations. It illustrates the argument that altruistic fathers and mothers may have different impacts on their sons and daughters outcomes due to differences in their preferences and/or differences in the children's human capital technologies. Section three describes the data used in this paper and the variables used in the regression estimations. Section four presents and discusses the empirical results and section five summarizes the main findings and discusses policy implications.

II. The Model

In order to model household allocations where parents have different preferences, it is necessary to depart from the unitary family model. Two classes of models typically used in the intra-household allocation literature that allow differences in parents' preferences are the family bargaining model (see, e.g., Lundberg and Pollak, 1993; McElroy, 1990; McElroy and Horney, 1981) and the collective model (e.g., Chiappori, 1992, 1988). Bargaining models assume that the household allocation outcomes are the

result of a bargaining process in which household members seek to allocate resources they control to goods they individually prefer. The resulting equilibria are sensitive to the threat point definition and equilibrium concept assumed. The collective model leaves unspecified the underlying nature of the allocation process within the household but assumes that the resource allocations are Pareto efficient.[2] Due to its generality, we opt to use this collective approach to household decisions to motivate our discussion and the empirical investigation that follows.

Consider a household consisting of two heads (mother and father) and *n* children who can be sons or daughters. Both fathers and mothers are altruistic in that they value the consumption of each member of the household and the human capital achievement of their children. The children in the household can go to school, go to work or spend time in both activities. The amount of schooling children receive determines the wage they are able to command as adults, and children who work are not able to get as much education as those who do not. Therefore the amount of labor income the father and mother bring into the household depends on how much schooling they received as children. Thus parents who were child laborers command lower wages and are more likely to demand that their children work to supplement the family income. This is what we term the inter-generational persistence of child labor.

Browning and Chiappori (1998) postulate that for all Pareto-efficient allocations, there exist a set of weights such that the household welfare function can be represented by a linear combination of father's and mother's utilities, where the weights on each person's utility reflects their bargaining power in the household. This power may be a

[2] For a summary of intra-household allocation models, see Behrman (1997) and Strauss and Thomas (1995).

function of (among other things) the exogenous non-labor income they bring into the home, and is a topic we explore in the empirical section of this chapter.

Consider a general household's utility maximization problem:

$$\max U = \lambda u_f(c_f, c_m, c_p, c_1, \cdots, c_n, l_f, l_m, h_1, \cdots, h_n, n; z_f) + (1-\lambda) u_m(c_f, c_m, c_p, c_1, \cdots, c_n, l_f, l_m, h_1, \cdots, h_n, n; z_m) \quad (1)$$

Subject to the budget constraint:

$$c_f + c_m + c_p + \sum_{j=1}^{n} c_j \leq (1-l_f)w_f + (1-l_m)w_m + \sum_{j=1}^{n}(1-e_j)w_c + I_f + I_m \quad (2)$$

Where U is the household's welfare function, u_f is the father's utility function, u_m is the mother's utility function. The parameter λ represents the relative bargaining power in the household and $\lambda \in [0,1]$. The total consumption of the household is the sum of the father's consumption of his private goods, c_f, the mother's consumption of her private goods, c_m, the household's consumption of public goods, c_p, and the sum of each child j's consumption of his/her private good: c_j, $j = 1, \cdots, n$. The consumption of leisure for the father and mother are l_f and l_m, respectively. Parents also care about the human capital achievement of their children, $h_1, \ldots, h_n$, as well as the number of children in the household, n.[3] The terms z_f and z_m represent any individual, household and community characteristics that effect the father's and mother's utility respectively. The current wage rates for the father, mother and children are given by w_f, w_m, and w_c, respectively.

Additionally, fathers and mothers may have exogenous non-labor income of their own and these are given by I_f and I_m. Finally, child j's time spent in school (education) is

given by e_j. Each person is endowed with one unit of time. For adults this time is split between labor and leisure, so time spent working is 1-l. For children time is split between working and going to school, so for them, time spent working is 1-e.

For ease of exposition we assume that the wages of the father and mother are given by their production functions $w_f = h_f$ and $w_m = h_m$, we normalize the child wage to one, $w_c = 1$, so a child who only works will earn a total of 1 unit of income. In order to focus on parents' preferences and children's outcomes, we also assume that both fathers and mothers value equally any additional unit of consumption regardless of the recipient and that there does not exist a public good ($c_p = 0$), so: $c_f + c_m + c_p + \sum_{j=1}^{n} c_j = C$.

Additionally, we assume that fathers and mothers supply labor inelastically or, in other words, they spend all of their time working: $l_f = l_m = 0$, that fertility is exogenous, and that the utilities are monotonically increasing in consumption, so non-satiation applies.[4]

Children's education is converted into adult human capital by the idiosyncratic technology:

$$h_j = f_j(e_j; h_f, h_m), \quad \forall j \tag{3}$$

where $f_j(0) = 1$, $\frac{\partial f_j(e_j; h_f, h_m)}{\partial e_j} > 0$, $\frac{\partial f_j(e_j; h_f, h_m)}{\partial h_f} > 0$, and $\frac{\partial f_j(e_j; h_f, h_m)}{\partial h_m} > 0$. This technology is different for each child because of different abilities, societal bias (e.g. due to gender), etc. The father and mother's human capital

[3] $h_1, \ldots, h_n$ are the human capital levels children attain when they become adults and thus determine their adult wage. To keep notation as simple as possible, time subscripts have not been used, but it is important to note that this is what creates the intergenerational link in this model.

[4] The assumption that the two parents supply labor inelastically is not very realistic. However, it does not effect the main prediction of the model that the son's and daughter's child labor incidence and human capital attainment depend on each parent's level of human capital and non-labor income. Thus, to keep the analysis as simple as possible, this assumption will be maintained throughout the analysis.

also enters into the technology because of, among other things, the fact that the effectiveness of children's schooling depends critically on the pool of human capital at home.[5] The father's and the mother's human capital enter separately because there may be differences in the way that parents interact with children depending on ability, gender, birth order, etc.

With these assumptions in place, the household's problem becomes:

$$\max U = \lambda u_f(C, h_1, \cdots, h_n; z_f) + (1-\lambda) u_m(C, h_1, \cdots, h_n; z_m). \qquad (1')$$

Subject to the budget constraint:

$$C = h_f + h_m + \sum_{j=1}^{n}(1-e_j) + I_f + I_m \qquad (2')$$

and the technology, (3). Substituting the constraint and technology directly into the utility function of the household gives us the new household's problem:

$$\max_{\{e_1,\cdots,e_n\}} U = \lambda u_f\left(h_f + h_m + \sum_{j=1}^{n}(1-e_j) + I_f + I_m,\, f_1(e_1; h_f, h_m), \cdots,\, f_n(e_n; h_f, h_m); z_f\right) +$$

$$(1-\lambda) u_m\left(h_f + h_m + \sum_{j=1}^{n}(1-e_j) + I_f + I_m,\, f_1(e_1; h_f, h_m), \cdots,\, f_n(e_n; h_f, h_m); z_m\right) \qquad (4)$$

If we assume an interior solution ($e_j > 0,\ \forall j$), we can derive the first-order conditions. For each child j, the first order condition is:

$$\frac{\partial U}{\partial e_j}: \ \lambda\left[\frac{\partial u_f}{\partial e_j}(-1) + \frac{\partial u_f}{\partial f_j}\cdot\frac{\partial f_j}{\partial e_j}\right] + (1-\lambda)\left[\frac{\partial u_m}{\partial e_j}(-1) + \frac{\partial u_m}{\partial f_j}\cdot\frac{\partial f_j}{\partial e_j}\right] = 0 \qquad (5)$$

It is worthwhile interpreting these first-order conditions before we move on. Note that in the first set of brackets in equation (5), the father's marginal utility of increasing child *j's* education is represented. It has two components: the first term is the loss of utility of the father due to the foregone income of child *j*. The second term is the gain in utility due to

[5] This is a similar assumption as that in Bell and Gersbach (2000) and Glomm (1997).

the increase of human capital of the child, which the father cares about. The second set of brackets contains the same for the mother. Again, though the parent cares about the child's human capital attainment, the child does not see the benefit of such until he or she reaches adulthood.

Deriving the first-order condition for each child, gives us a system of *n* equations and *n* unknowns. Assuming the utility functions of the father and mother are well-behaved, the optimal solution to this problem is a vector of education levels for each child in the household that solve the *n* first-order conditions, $e^* = (e_1^*, \cdots, e_n^*)$, where:

$$e_j^* = \tilde{e}_j(h_f, h_m, I_f, I_m; \lambda, z_f, z_m) \ . \qquad (6)$$

Of course, the child labor function is just 1- e^*. The resulting adult human capital of the household's children is given by the function:

$$h_j^* = f_j[e_j(h_f, h_m, I_f, I_m; \lambda, z_f, z_m); h_f, h_m] \ . \qquad (7)$$

The empirical implications of this model come from the comparative statics of these two functions.

First, note that the higher the parents' human capital attainment, the less needed is the child's contribution to current household consumption. This allows the children to get more education and, as a result, they will be less likely to send their children to school when they become adults. This is the essence of the persistence in child labor explored in Emerson and Portela (2000). The focus of this paper is on the differential effects of fathers and mothers on the child labor incidence and education of their sons and daughters. This can be seen through an analysis of the optimal education and human capital functions.

For simplicity, consider a four-person household that consists of a father, mother, son and daughter. Now consider an increase, ceteris paribus, in the father's human

capital. The effect on the son's optimal education function is twofold: First, there is the direct effect that more human capital for the father means more income for the family and thus the family needs the son to provide less income, and this reduces the amount of child labor. The reduction in child labor means more schooling and thus more human capital of the son, which the family values. Second, more human capital of the father increases the return to the son's education through the technology that creates human capital from education. The family will have, therefore, an increased incentive to invest more in the son's education.

The effect of the increase of the father's human capital need not be, and in general is not, the same for all kids. First, note that this would reduce child labor equally across children, *ceteris paribus,* if additional schooling increases children's human capital equally. But if additional schooling affects children's acquisition of human capital differently, the child labor reduction would vary across children. Thus, the increase in schooling will differ across the two kids due to their idiosyncratic human capital technologies. Second, the increase in the father's human capital may also affect the marginal returns to education of the son and daughter differently. Third, the father may favor one child over the other and his additional human capital may provide him stronger bargaining power to impose his preferences. These differences can lead to different investments in education (and, therefore, human capital) for the son and daughter of the family.

Thus, the idiosyncratic nature of the human capital technology and parental preferences that vary across children can lead to different impacts of each parent on the same child as well as different parental impacts across children. For example, it is possible that, for the same child, an increase in the father's human capital will have a

different impact than an equal increase in the mother's human capital. In addition, it could be that the effect of an increase in mother's human capital could be different for the son and daughter. Finally, note that these differential impacts can also be driven by different parental preferences over the human capital of their children and the relative bargaining power of the father and mother.

It is precisely these differences that we explore in the empirical investigation of the paper in section four. First, however, we describe the data used in the paper in the next section.

III. The Data

The data used in this study come from the 1996 Brazilian Household Surveys called *Pesquisa Nacional por Amostragem a Domicilio* (PNAD) conducted by *Instituto Brasileiro de Geografia e Estatística* (IBGE), the Brazilian census bureau. It is an annual labor force survey much like the Current Population Survey in the U.S. Covering all urban areas and the majority of rural areas in Brazil (with the exception of the rural areas of the Amazon region), the sample is based on a three stage sampling design. With the exception of the first stage, the sampling scheme is self-weighted and the sampling varies across regions and over time. The 1996 PNAD encompasses approximately 85,000 households.

The sample selection of this study consists of individuals between 10 and 14 years old that are considered a son, daughter or other relative in the family unit.[6] Each observation consists of information on the child characteristics, his or her parent

[6] PNAD assigns each individual to a position or 'condition' in the family. They are: (i) person of reference; (ii) spouse; (iii) son or daughter; (iv) other relative; (v) aggregate; (vi) pensionist; (vii) domestic worker; and (viii) relative of the domestic worker.

characteristics and his or her family characteristics. Since we are primarily concerned with the impact of both parent's education, non-labor income and child labor status on the child labor status and schooling of the children, we use a sample of observations with complete information of the father's and the mother's characteristics. Due to this criterion, families with single heads are excluded from the analysis.[7] Finally, all observations for which the age difference between the head of the family or spouse, and the oldest child is fourteen or below, are excluded as well.

The child labor variables for the children are constructed as follows. A child is considered working if he or she worked on the labor market any strictly positive hours per week.[8] Moreover, a child is considered to work full time if he or she worked 20 hours or more on the labor market per week. Both definitions of child labor will be used to check the robustness of the results. For each child, we also obtained his or her school attendance status, gender and region of residence.

For the parents, we constructed a variable for the total years of schooling for each, their non-labor income, their ages and current employment status. Additionally we created a variable for the age at which they first started working in the labor market. We also constructed a child labor indicator variable for mothers and fathers which is defined as follows: The PNAD survey asks each individual the age at which he or she started to work. A parent who responded that they began working in the labor market at 14 years old or below is considered to have been a child laborer. Again, we will also use an alternate definition where we consider an adult to have been a child laborer if they entered the labor force at age 10 or below to check the robustness of the results and to

[7] This selection criterion may impose some selection bias if, for example, children in single head families are more likely to work. Since we want to capture separate impacts of the father and the mother's schooling, non-labor income and child labor status on sons and daughters, we use the sample with two parent households.

account for any generational differences in child labor norms. Table A1 in the Appendix presents the basic statistics of all the variables used in this analysis.[9]

IV. The Results

Child labor is widespread in our sample of households in Brazil. Table 1 shows the incidence of child labor and schooling among the sons and daughters. Roughly 19 percent of all sons work some hours in the labor market, as do approximately 9 percent of daughters. School attendance is also quite high with almost 92 percent of sons and over 93 percent of daughters attending school at least part-time. What is particularly interesting (and important for the estimation strategy) is that among child laborers almost 81 percent of sons and 82 percent of daughters attend school as well.

In order to test the impact of intra-household gender differences on the child labor and educational outcomes of children, we estimate a series of bivariate probit models. The advantage of using the bivariate probit model in this case is that, because the child labor and child schooling decisions are likely related as evidenced by the high proportion of children that both work and go to school in the sample, it allows us to utilize the information from the correlation among the errors of the child labor regression and the child schooling regression.

The first bivariate probit model we estimate is a regression of the child labor indicator variable (for daughters and sons separately) and the child school indicator variable on the father's and mother's years of schooling, controlling for child's age. Table 2 presents the results. The coefficient estimates suggest that the higher the parent's

[8] PNAD asks the usual hours worked per week for each individual working during the survey week.
[9] All results presented in this paper come from the un-weighted sample. We replicated all of the empirical tests in this paper using a weighted sample and obtained qualitatively the same results.

schooling, the less likely to work and the more likely to attend school is the child. However, fathers' and mothers' schooling have different impacts on sons' and daughters' labor participation and schooling. A mother's education has a stronger negative effect on a daughter's probability to work relative to a father's, whereas a father's education has a stronger negative impact on a son's likelihood to work compared to a mother's. The third row of the first panel of Table 2 presents the Chi-square tests for the parents' schooling coefficients, which confirm these results. These tests reject the hypothesis that a father's and a mother's schooling have same impact on a son's (or daughter's) probability to work. The last two columns present a test of the difference between the parents' schooling coefficients on a son's probability of working and on a daughter's probability of working. Here, the results demonstrate that a father's education has a stronger and significantly negative impact on a son's probability of being a child laborer compared to the impact on a daughter's. Conversely, a mother's education has a stronger negative impact (although not significant) on a daughter's probability of working compared to a son's.

The panel in the bottom of Table 2 presents the results for school attendance. It shows a father's and mother's education levels do not have different impacts on a daughter's probability to attend school. Additionally, a father's and a mother's education do not have different impacts on a son's probability of attending school. However, it appears that the schooling of fathers and mothers has stronger positive impacts on a son's likelihood to attend school relative to a daughter's. Thus, the initial results suggest that a mother's years of schooling has a greater impact on a daughter's child labor status than on a son's, and a father's years of schooling has a greater impact on a son's child labor

status than on a daughter's. However, both a father's and a mother's years of schooling seems to have a greater positive impact on a son's schooling than on a daughter's.

These results suggest that, like previous studies of, for example, child health (Thomas, 1994), there exists intra-household gender bias in the allocation of resources with the mother favoring the daughters and the fathers favoring the sons. In our model this can arise due to the different idiosyncratic technologies that convert education into human capital and/or differences in parental preferences over the different children. To look further into this question, and to compare with other intra-household allocation studies in Brazil, we estimate the effect of non-labor income for both the father and the mother on the child labor and school attendance indicator variables.[10] Thomas (1990, 1994) argues that if non-labor income has different impacts on child outcomes depending on which parent is the recipient, the pooling resources assumption of the unitary family model may no longer hold. As long as each spouse has control over their own resources, the effects of non-labor income on child's outcome may reflect their relative bargaining power within the family, and, therefore, may be a proxy for their relative bargaining power within the household (the parameter λ in the model). It can also give an indication if a unitary model of the household is appropriate in this context. However, it is important to note that, unlike Thomas (1994), in our analysis, non-labor income appears in the education/child labor function and thus we cannot assert with authority that it is preferences that drive this gender difference and not technology. In other words, if a mother's non-labor income increases the returns to a daughter's education more than it increases the return for a son's, it is the human capital technology that is driving the

[10] PNAD collects individual information on monthly non-labor income, which encompasses government transfers, pensions, rents, donations, income from financial assets, etc.

difference and not preferences and thus the unitary model cannot be ruled out. Though this seems unlikely, we are unable to exclude this possibility from our analysis.[11]

Table 3 presents the results from regressing the child labor indicator variables on the father's and mother's schooling and non-labor income. First, note that the coefficients of parent's schooling do not change markedly between Tables 2 and 3. Again, a father's schooling has a stronger negative impact on a son's child labor status than a daughter's, a mother's schooling has a stronger negative effect on a daughter's child labor status than a son's, and both a mother's and a father's schooling has a stronger impact (although not significant for mothers) on a son's school attendance than a daughter's. Second, note that similar results hold for the parents' non-labor income. A mother's non-labor income has a stronger negative impact on a daughter's child labor status compared to a father's non-labor income. On the other hand, a father's non-labor income seems to have a greater impact on a son's child labor status compared to a mother's, although statistically they are not significantly different.

As in Table 2, the results given in Table 3 show that fathers have a greater impact on sons and mothers have a greater impact on daughters concerning the decision to send a child to the labor market. Regarding school attendance, an interesting pattern emerges. A father's non-labor income and a mother's non-labor income do not affect a daughter's school attendance status, but they do affect a son's likelihood of attending school, and these differences are statistically significant, as shown in the last two columns of the panel in the bottom of Table 3.

[11] One must be cautious in attributing the difference in outcomes to technology. For example, a mother with non-labor income who spends it on a maid may create a household environment that demand less work of daughters and therefore creates a more conducive learning environment leading to a higher human capital return on her education. But this is precisely a result of the mother asserting her preferences, not a difference in the human capital technology that arises out of the mother's non-labor income.

The results of Tables 2 and 3 clearly show that fathers and mothers have different impacts on a child's probability of working in the labor market. Parental education and resources have different effects across a child's likelihood of being a child laborer. However, both fathers and mothers seem to impact sons greater than daughters regarding school attendance. Although each parent's schooling coefficients do not differ greatly within and across siblings, their non-labor incomes are diverted preferentially to sons. These results could be driven by intra-household bargaining or by the idiosyncratic human capital technology. In order to attempt to isolate the effects of bargaining, we next look at the difference in education levels of the parents, specifically, if the mother is better educated than the father.

If schooling is associated with bargaining power in intra-household allocation decisions, then mothers who are better educated than fathers should be more able to impose their preferences. In order to discover if this is happening in our data, we construct an indicator variable that equals one if the child is from a household where the mother is more educated than the father. However, this indicator variable can also capture the effect of non-linearities in the returns to schooling. In order to control for this possibility, we add indicator variables for different levels of schooling for fathers and mothers, separately. We divided their schooling attainment into five categories (illiterate, 0 to 4 years of schooling, 5 to 8 years of schooling, 9 to 11 years of schooling, and 12 or more years of schooling). Therefore, a mother is considered to be more educated than a father if she belongs to a higher education category than the father. Tables 4 and 5 present the results of estimates of the same two bivariate probit modes from tables 2 and 3 but with the new indicator variables for education levels as well as the mother more educated than the father variable.

Table 4 presents the results of the estimation without non-labor income, where illiterate is the omitted variable and the only control variable is the child's age. The results show that, controlling for education, a daughter is less likely to work in the labor market if her mother is more educated than her father. However, this result does not hold for sons. The last row of each panel show the chi-square test of the joint schooling effects where the null hypothesis is that this effect is equal between mothers and fathers. We cannot reject the null hypothesis for daughters but do reject it for sons. As seen in the last two columns, a father's schooling has a stronger negative effect on a son's probability of working in the labor market compared to a daughter's, for all education levels. However, a mother's schooling effect becomes stronger (although not statistically significant) on a daughter's likelihood of working in the labor market compared to son's only when her education level reaches 12 or more years of schooling. Regarding school attendance, both a father's and a mother's schooling seem to be more strongly associated with a son's probability of going to school than a daughter's. Interestingly, a household where the mother is more educated than the father does not effect a daughter's nor a son's probability of going to school.

Table 5 estimated the same model but with the parents' non-labor income variable included. The results are qualitatively the same as in previous tables. Most importantly, a daughter from a household where the mother is more educated than the father is less likely to work in the labor market, but there is no effect on a son's probability of working in the labor market. However, this has no effect on a daughter's or a son's probability of going to school. These results support our previous findings that mothers favor daughters and fathers favor sons regarding child labor decisions but both parents favor sons regarding school attendance decisions.

Some caveats are worth mentioning at this point. As long as each spouse has control over his or her own resources, these results can be explained by differences in the human capital technology and/or differences in parent's preferences as suggested by the model above. However, the father's schooling and mother's schooling variables (or even the non-labor income variables) may just be picking up other forces that affect child labor and school attendance and, if so, we may be guilty of overstating our findings. In fact, results from Emerson and Portela (2000) show that the child labor status of the parents is an important element in explaining the child labor status of a son or a daughter. Also, it shows that being a child laborer undermines the ability to generate labor earnings as an adult. Thus, it would be natural to extend the empirical model to include parental child labor status or the age they started to work. This can be interpreted as an additional proxy for parental human capital, although it can also capture some sort of social norm associated with child labor. Furthermore, empirical research on child labor (e.g, Grottaert and Patrinos, 1999) has emphasized the role of family composition and community characteristics on the determinants of child labor and schooling investment.

In order to account for these factors, we estimate a series of bivariate probit models that include a vector of household characteristics: the age of the child, age of the father and mother, the number of male siblings aged 0 to 5, 6 to 9, 10 to 14 and 15 to 17, the number of female siblings aged 0 to 5, 6 to 9, 10 to 14 and 15 to 17 and an indicator variable that equals one if the child lives in an urban area. In order to capture the effect of parental child labor, we include the father's age at which he started to work, and the mother's age at which she started to work. Since this information is obtained for those in the labor market only and is missing for the others, we include indicator variables if the father is either unemployed or not in the labor market and if the mother is either

unemployed or not in the labor market. Although the unemployment or not in the labor market status of the parents variables are potentially endogenous, they are important to control for potential bias derived from the missing information on the age started to work. In fact, most of these control variables are potentially endogenous to some degree, so these regressions may not be giving us a more accurate estimate of the effects of schooling and non-labor income. However, these results are useful in that they provide information about the degree to which the schooling and non-labor income coefficients are capturing the effects of other variables correlated with child labor and child's schooling.[12]

Because the results of the estimations given in tables 2 and 3 are qualitatively yhe same as in tables 4 and 5 we estimate only the models from tables 2 and 3 with these controls. The results of these estimations are given in tables 6 and 7. In Table 6, note that the estimates of father's schooling and mother's schooling on child labor and school attendance decisions are smaller now but the results are qualitatively similar to those given in Table 2. Second, the older the father was when he started to work, the less likely to be a laborer is his child, and this impact is stronger on sons than on daughters. Conversely, the older the mother was when she started to work, the less likely to work her child is, and this effect is stronger on daughters than on sons. Third, the father's age started to work and mother's age started to work variables do not affect a child's probability of going to school.

Table 7 presents the results of an estimation of the same model as in Table 6, but with fathers' non-labor income and mothers' non-labor income included. The results in

[12] Another important caveat is the potential endogeneity of the non-labor income variables. However, due to the lack of adequate instruments, we opted to present regression results with and without non-labor income variables.

Table 7 are qualitatively the same for all the previous variables used in Table 6. Moreover, a mother's non-labor income has a negative impact on a daughter's child labor status, and both a mother's and a father's non-labor income has a positive impact on a son's school attendance. Similar to the results of Table 3, where no controls were added, this difference of parental non-labor income on children's school attendance is significantly greater for sons than for daughters. The robustness of this result bolsters our confidence in saying that both fathers and mothers have a greater impact on the education of sons in the household than on the education of daughters.

Why do parents favor sons in schooling investment? It is possible that the returns to education for sons are generally higher than for daughters and so parents, who care about the human capital of all children, will direct resources to the children with the highest marginal returns. Alternatively, it may be that the opportunity cost of schooling is higher for daughters than for sons due to, for instance, household activities normatively performed by females. Indeed, from Table 1 we can see that 6.6 percent of daughters and 8.3 percent of sons don't attend school. However, among those that don't attend school, more than 76 percent of daughters don't work in the labor market either, in contrast with 56 percent of sons. Thus, a daughter is more likely both not to attend school and not to work in the labor market. Finally, it could be that in many families it is the role of the male children to take care of the parents when they are old. If this is so, both parents may prefer to ensure that their sons have high human capital in relation to their daughters, whose human capital returns may soon be lost to another family through marriage.

To provide a test of the robustness of the results in Tables 6 and 7, we estimate the same bivariate probit models but replace the parents' age started to work with an indicator variable that equals one if the father (mother) started to work at age fourteen or

below. We also estimate models where we replace the children's child labor indicator variable that equals one if they usually work any strictly positive hours with an indicator variable that equals one only if they usually work at least 20 hours per week. Furthermore, we estimate models using the over 20 hours per week definition of children's child labor with the parental child labor indicator variable, as well as estimating the same models but as probit models on children's child labor and school attendance separately. These estimations give essentially the same results and are presented in the Appendix.

V. Conclusion

This paper investigates intra-household gender differences and the incidence of child labor and children's school attendance in Brazil. The main results can be summarized as follows:

First, higher parental education increases the probability that a child will attend school and decreases the likelihood of a child becoming a child laborer. However, these impacts differ across sons and daughters. A father's schooling impacts a son's child labor and school attendance more than a daughter's. A mother's schooling has stronger impact on a daughter's child labor status than on a son's, and impacts a son's and a daughter's school attendance either equally or slightly stronger for a son's. In addition, in households where the mother has more education than the father, daughters are more likely to be withheld from the labor market.

Second, a father's and a mother's non-labor income has no impact at all on a daughter's school attendance but a positive and significant impact on a son's school attendance. A father's non-labor income does not affect the children's child labor status

but a mother's non-labor income decreases the likelihood of a daughter being a child laborer.

Third, as found in Emerson and Portela (2000), there is a strong inter-generational persistence of child labor. Moreover, the results suggest that a father having been a child laborer impacts a son's child labor and school attendance more than a daughter's. On the other hand, a mother having been a child laborer seems to impact sons and daughters equally in school attendance, and may impact daughters slightly more in child labor status.

These results together suggest that both parents seem to direct more resources toward a son's education than to a daughter's education. On the other hand, they seem to have separate and distinct impacts on the child labor incidence of their children, depending on gender. Fathers have greater mitigating impact on sons and mothers have a greater mitigating impact on daughters when it comes to the children working in the labor market. These results could be evidence in support of Basu's (2001) hypothesis that spouses bargain over some dimensions in the intra-household allocations but not over others. If parental education and non-labor income reflect, at least in part, bargaining power in household allocation decisions, our results suggest that gender differences in resource allocation could be related to differences in parental preferences as well as differences in human capital technology. This suggests that it may be worthwhile to consider richer models of household decision making in the child labor context.

A possible family arrangement consistent with these findings is that parents anticipate relative higher returns to male education and at the same time assign household work activities to daughters due to, e.g., social norms. Thus, a daughter's lower relative returns from education and the relatively higher opportunity cost of sending her to school

lead the parents to favor a son's educational attainment over a daughter's. When it comes to the decision to remove a child from the labor market, fathers prefer to remove the son because he may value more the returns to education and mothers prefer to remove the daughter because she may value more the daughter's time at home.

Whatever the arrangement may be, the results have potentially important policy implications. It may be that policies designed to ban child labor and increase schooling attendance should take into account the child's gender in a family context. For example, some programs aimed to reduce child labor assign transfers to families that keep their children out of work and at school. The findings of this paper suggest that these programs may need to consider not only the recipient of the transfer - the mother or the father - but also the gender of the ultimate beneficiary - the son or the daughter. It is clear that the opportunity cost of being at school is not only the forgone wage but also the forgone value of doing other activities beyond working in the labor market and the transfer scheme may account for this, particularly if the goal is to increase females educational attainment.

Appendix

In this appendix we present descriptive statistics of the data employed in this study as well as results from a series of related regressions.

The un-weighted means of all the variables used in the empirical analysis of this paper are given in Table A.1. The results from the estimated models using parents' child labor indicator variables are given in Tables A.2 and A.3. The results from the estimations using the over 20 hours in the sample week definition of children's child labor with the parental age started to work are given in Tables A.4 and A.5, and with parents' child labor indicator variables are given in Tables A.6 and A.7. The results from estimating the same specifications but as probit models on children's child labor and school attendance separately are given in Tables A.8 and A.9, respectively.

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Table 1: Child Labor and School Attendance

Child Labor		School Attendance					
		Sons			Daughters		
		No	Yes	Total	No	Yes	Total
No	Number	678	11174	11852	719	12249	12968
	Row %	5.72	94.28	100	5.54	94.46	100
	Column%	56.08	83.19	80.95	76.49	92.41	91.36
Yes	Number	531	2258	2789	221	1006	1227
	Row %	19.04	80.96	100	18.01	81.99	100
	Column%	43.92	16.81	19.05	23.51	7.59	8.64
Total	Number	1209	13432	14641	940	13255	14195
	Row %	8.26	91.74	100	6.62	93.38	100
	Column%	100	100	100	100	100	100

Table 2: Bivariate Probit on Child Labor and School Attendance. Parent's Schooling Effects (No Controls)

Work strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Schooling	-0.0350***	0.0056	-0.0824***	0.0047	-0.0474***	0.0073
Mother's Schooling	-0.0535***	0.0057	-0.0436***	0.0046	0.0099	0.0073
Chi-Square Test	**Chi-2**	**P >Chi-2**	**Chi-2**	**P >Chi-2**		
Father's=Mother's Schooling	3.3900	0.0066	22.1900	0.0000		
School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Schooling	0.0606***	0.0072	0.0784***	0.0071	0.01779*	0.01012
Mother's Schooling	0.0668***	0.0074	0.0779***	0.0070	0.01103	0.01021
Chi-Square Test Father's=Mother's Schooling	**Chi-2** 0.2500	**P >Chi-2** 0.6200	**Chi-2** 0.0000	**P >Chi-2** 0.9634		
Rho	-0.2375***	0.0255	-0.2318***	0.0206		
Log-Likelihood	-6925.25		-9840.03			
Number of Observations	14131		14565			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.
Note: An additional explanatory variable of child's age is also included.
White's heteroskedastic consistent errors used in the regressions.

Table 3: Bivariate Probit on Child Labor and School Attendance. Parent's Schooling and Non-Labor Income Effects (No Controls)

Work strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Schooling	-0.0322***	0.0057	-0.0796***	0.0048	-0.0474***	0.0074
Mother's Schooling	-0.0530***	0.0059	-0.0409***	0.0047	0.0120*	0.0075
Father's Non-labor Income	-0.0472***	0.0160	-0.0550***	0.0160	-0.0078	0.0226
Mother's Non-labor Income	-0.1540***	0.0457	-0.0483	0.0329	0.1057*	0.0563
Chi-Square Test	**Chi-2**	**P >Chi-2**	**Chi-2**	**P >Chi-2**		
Father's=Mother's Schooling	4.0200	0.0450	21.2100	0.0000		
Father's=Mother's Non-labor Income	4.8200	0.0281	0.0400	0.8492		
School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Schooling	0.06088***	0.00734	0.07679***	0.00725	0.01591*	0.01032
Mother's Schooling	0.06864***	0.00746	0.07646***	0.00711	0.00783	0.01030
Father's Non-labor Income	-0.00337	0.01403	0.07065***	0.02347	0.07402***	0.02734
Mother's Non-labor Income	-0.02449	0.01986	0.15567***	0.05288	0.18016***	0.05649
Chi-Square Test	**Chi-2**	**P >Chi-2**	**Chi-2**	**P >Chi-2**		
Father's=Mother's Schooling	0.3700	0.5429	0.0000	0.9778		
Father's=Mother's Non-labor Income	0.4800	0.4887	2.0200	0.1550		
Rho	-0.2470***	0.0258	-0.2281***	0.0210		
Log-Likelihood	-6720.2915		-9564.3091			
Number of Observations	13742		14185			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.
Note: An additional explanatory variable of child's age is also included.
White's heteroskedastic consistent errors used in the regressions.

Table 4: Bivariate Probit on Child Labor and School Attendance (No Controls)

Work strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Education						
1 to 4 Years of Schooling	-0.2157***	0.0486	-0.2419***	0.0397	-0.0262	0.0628
5 to 8 Years of Schooling	-0.2190***	0.0528	-0.5960***	0.0427	-0.3770***	0.0679
9 to 11 Years of Schooling	-0.4495***	0.0760	-0.8305***	0.0619	-0.3810***	0.0980
12 or more Years of Schooling	-0.5939***	0.1351	-1.0905***	0.1136	-0.4966**	0.1765
Mother's Education						
1 to 4 Years of Schooling	-0.0737	0.0500	-0.1089***	0.0415	-0.0352	0.0650
5 to 8 Years of Schooling	-0.1975***	0.0759	-0.3057***	0.0634	-0.1081	0.0989
9 to 11 Years of Schooling	-0.3872***	0.0917	-0.5814***	0.0775	-0.1941	0.1201
12 or more Years of Schooling	-0.7291***	0.1488	-0.5919***	0.1031	0.1372***	-0.0457
Mother has More Education than Father	-0.1857***	0.0613	-0.0138	0.0501	0.1719***	0.0792
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Joint Father's=Joint Mother's Education	5.6200	0.2292	14.6300	0.0055		
School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Education						
1 to 4 Years of Schooling	0.2327***	0.0514	0.3368***	0.0480	0.1041	0.0704
5 to 8 Years of Schooling	0.4898***	0.0625	0.5985***	0.0567	0.1088	0.0844
9 to 11 Years of Schooling	0.5766***	0.0933	0.9417***	0.1010	0.3651**	0.1374
12 or more Years of Schooling	0.8122***	0.1507	0.7772***	0.1499	-0.0350	0.2125
Mother's Education						
1 to 4 Years of Schooling	0.2725***	0.0537	0.3138***	0.0509	0.0414	0.0740
5 to 8 Years of Schooling	0.5241***	0.0871	0.5642***	0.0815	0.0401	0.1193
9 to 11 Years of Schooling	0.6667***	0.1101	0.7529***	0.1039	0.0862	0.1514
12 or more Years of Schooling	0.6709***	0.1445	0.9499***	0.1673	0.2790	0.2211
Mother has More Education than Father	0.0814	0.0667	0.0298	0.0626	-0.0517	0.0915
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Joint Father's=Joint Mother's Education	1.6400	0.8010	2.4000	0.6627		
Rho	-0.2380***	0.0254	-0.2385***	0.0205		
Log-likelihood	-6934.17		-9883.34			
Number of Observations	14195		14641			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.
Note: An additional explanatory variable of child's age is also included.
White's heteroskedastic consistent errors used in the regression.

Table 5: Bivariate Probit on Child Labor and School Attendance (No Controls)

Work strictly Postive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**

Father's Education						
1 to 4 Years of Schooling	-0.2236***	0.0495	-0.2349***	0.0402	-0.0113	0.0637
5 to 8 Years of Schooling	-0.2084***	0.0537	-0.5788***	0.0433	-0.3704***	0.0690
9 to 11 Years of Schooling	-0.4139***	0.0769	-0.8214***	0.0628	-0.4075***	0.0993
12 or more Years of Schooling	-0.5471***	0.1389	-1.0443***	0.1170	-0.4973**	0.1816
Mother's Education						
1 to 4 Years of Schooling	-0.0769	0.0509	-0.1057***	0.0420	-0.0288	0.0660
5 to 8 Years of Schooling	-0.2236***	0.0771	-0.2974***	0.0641	-0.0738	0.1003
9 to 11 Years of Schooling	-0.3817***	0.0930	-0.5354***	0.0780	-0.1537	0.1214
12 or more Years of Schooling	-0.6635***	0.1536	-0.5207***	0.1051	0.1428	0.1861
Mother has More Education than Father	-0.1877***	0.0623	-0.0170	0.0506	0.1707**	0.0803
Father's Non-Labor Income	-0.0499***	0.0159	-0.0579***	0.0159	-0.0080	0.0225
Mother's Non-Labor Income	-0.1559***	0.0451	-0.0539*	0.0305	0.1020*	0.0544
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Joint Father's=Joint Mother's Education	6.6900	0.1534	14.3500	0.0063		
Father's=Mother's Non-Labor Income	4.8600	0.0275	0.0100	0.9052		

School Attendance

Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Education						
1 to 4 Years of Schooling	0.2329***	0.0518	0.3326***	0.0486	0.0997	0.0710
5 to 8 Years of Schooling	0.4911***	0.0628	0.5937***	0.0573	0.1026	0.0850
9 to 11 Years of Schooling	0.5732***	0.0930	0.9347***	0.1016	0.3615**	0.1377
12 or more Years of Schooling	0.8111***	0.1585	0.7237***	0.1563	-0.0874	0.2226
Mother's Education						
1 to 4 Years of Schooling	0.2817***	0.0541	0.3187***	0.0515	0.0369	0.0747
5 to 8 Years of Schooling	0.5401***	0.0875	0.5783***	0.0824	0.0382	0.1202
9 to 11 Years of Schooling	0.6793***	0.1102	0.7371***	0.1044	0.0578	0.1518
12 or more Years of Schooling	0.7200***	0.1480	0.9098***	0.1716	0.1898	0.2266
Mother has More Education than Father	0.0625	0.0673	0.0140	0.0633	-0.0485	0.0924
Father's Non-Labor Income	0.0026	0.0128	0.0773***	0.0238	0.0747***	0.0270
Mother's Non-Labor Income	-0.0141	0.0184	0.1689***	0.0530	0.1830***	0.0561
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Joint Father's=Joint Mother's Education	1.3700	0.8490	2.5500	0.6356		
Father's=Mother's Non-Labor Income	0.3900	0.5306	2.3200	0.1279		
Rho	-0.2461***	0.0257	-0.2326***	0.0209		
Log-likelihood	-6728.4113		-9591.0548			
Number of Observations	13805		14257			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: An additional explanatory variable of child's age is also included.

White's heteroskedastic consistent errors used in the regression.

Non-Labor Income coefficients and standard errors are multiplied by 100.

Table 6: Bivariate Probit on Child Labor and School Attendance. Parent's Age Started to Work and Schooling Effects (With Controls)

Work strictly Positive Hours

Independent Variables	**Daughters**	**Sons**	**Difference**

	Coeff.	Std. Errors	Coeff.	Std. Errors	Coeff.	Std. Errors
Father's Age Started to Work	-0.0306***	0.0053	-0.0493***	0.0044	-0.0187***	0.0069
Mother's Age Started to Work	-0.0221***	0.0045	-0.0133***	0.0032	0.0088	0.0055
Father's Schooling	-0.0018	0.0062	-0.0412***	0.0051	-0.0394***	0.0080
Mother's Schooling	-0.0421***	0.0063	-0.0271***	0.0051	0.0150*	0.0081
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Child Labor Mother	1.2100	0.2707	38.97	0.0000		
Father's=Mother's Schooling	13.2500	0.0003	2.46	0.1169		

School Attendance

Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Age Started to Work	0.0042	0.0051	0.0072	0.0050	0.0031	0.0071
Mother's Age Started to Work	-0.0037	0.0034	-0.0011	0.0033	0.0026	0.0048
Father's Schooling	0.0408***	0.0075	0.0606***	0.0074	0.0198*	0.0105
Mother's Schooling	0.0556***	0.0077	0.0641***	0.0073	0.0086	0.0106
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Child Labor Mother	1.5100	0.2194	1.6700	0.1966		
Father's=Mother's Schooling	1.3300	0.2495	0.09	0.7640		
Rho	-0.1999***	0.0277	-0.1769***	0.0228		
Log-Likelihood	-6370.50		-8825.90			
Number of Observations	14113		14546			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.
Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables for urban, father not in the labor market and mother not in the labor market; family composition variables and a constant term.
White's heteroskedastic consistent errors used in the regressions.

Table 7: Bivariate Probit on Child Labor and School Attendance. Parent's Age Started to Work, Schooling and Non-Labor Income Effects (With Controls)

Work strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Age Started to Work	-0.0298***	0.0054	-0.0502***	0.0045	-0.0204***	0.0070
Mother's Age Started to Work	-0.0218***	0.0045	-0.0131***	0.0032	0.0087	0.0055
Father's Schooling	-0.0010	0.0063	-0.0400***	0.0052	-0.0390***	0.0082
Mother's Schooling	-0.0418***	0.0065	-0.0248*	0.0052	0.0170**	0.0083
Father's Non-Labor Income	-0.0054	0.0112	-0.0188	0.0117	-0.0134	0.0162
Mother's Non-Labor Income	-0.0642**	0.0317	-0.0208	0.0200	0.0434	0.0375
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Child Labor Mother	1.06	0.3034	39.8800	0.0000		
Father's=Mother's Schooling	13.21	0.0003	2.78	0.0955		
Father's=Mother's Non-Labor Income	3.05	0.0809	0.01	0.9308		
School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Age Started to Work	0.0055	0.0052	0.0094*	0.0051	0.0039	0.0073
Mother's Age Started to Work	-0.0031	0.0035	-0.0021	0.0034	0.0010	0.0048
Father's Schooling	0.0406***	0.0077	0.0575***	0.0075	0.0169	0.0107
Mother's Schooling	0.0567***	0.0077	0.0605***	0.0074	0.0038	0.0107
Father's Non-Labor Income	-0.0022	0.0136	0.0754***	0.0275	0.0776**	0.0307
Mother's Non-Labor Income	-0.0255	0.0181	0.1747***	0.0565	0.2002***	0.0593
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Child Labor Mother	1.72	0.1897	3.05	0.0809		
Father's=Mother's Schooling	1.52	0.2170	0.06	0.8066		
Father's=Mother's Non-Labor Income	0.66	0.4181	2.40	0.1210		
Rho	-0.2079***	0.0279	-0.1794***	0.0231		
Log-Likelihood	-6200.48		-8601.60			
Number of Observations	13729		14171			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables for urban, father not in the labor market and mother not in the labor market; family composition variables and a constant term.

White's heteroskedastic consistent errors used in the regressions.

Table A1: Unweighted Means					
Children's Variables	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Age	28847	12.011	1.421	10	14
Female indicator variable	28847	0.492	0.500	0	1
Hours	28842	3.763	10.796	0	98
working strictly positive hours indicator variable	28842	0.139	0.346	0	1
working at least 20 hours per week indicator variable	28842	0.105	0.306	0	1
Urban indicator variable	28847	0.774	0.418	0	1
schooling indicator variable	28841	0.925	0.263	0	1
only school indicator variable	28,841	0.822	0.383	0	1
school and work indicator variable	28,836	0.102	0.303	0	1
only work indicator variable	28,842	0.024	0.153	0	1
no school, no work indicator variable	28,836	0.050	0.218	0	1
Years of schooling	28830	3.341	1.946	0	9
age started work	4542	10.055	1.997	4	14
Fathers' variables					
Age	28847	43.824	9.225	25	98
Years of schooling	28801	4.920	4.559	0	17
age started work	27125	12.134	3.688	4	40
Earnings	28300	521.001	905.135	0	40000
child labor (age 14 or below)	28847	0.706	0.456	0	1
child labor (age 10 or below)	28847	0.394	0.489	0	1
not in labor market	28814	0.100	0.300	0	1
Non-Labor Income	28178	51.883	254.816	0	8333
Mothers' variables					
Age	28847	39.602	7.748	25	91
Years of schooling	28744	5.035	4.375	0	17
age started work	17075	13.900	5.784	4	56
Earnings	28710	143.869	445.588	0	20000
child labor (age 14 or below)	28847	0.372	0.483	0	1
child labor (age 10 or below)	28847	0.203	0.402	0	1
not in labor market	28831	0.462	0.499	0	1
Non-Labor Income	28661	17240	131.121	0	6000
Families' variables:					
family income minus child income	27953	838.897	1299.069	0	63500
number of Boys Aged 0 to 5	28847	0.195	0.471	0	5
number of Boys Aged 6 to 9	28847	0.267	0.514	0	4
number of Boys Aged 10 to 14	28847	0.863	0.771	0	4
number of Boys Aged 15 to 17	28847	0.252	0.495	0	3
number of Girls Aged 0 to 5	28847	0.191	0.469	0	5
number of Girls Aged 6 to 9	28847	0.266	0.515	0	3
number of Girls Aged 10 to 14	28847	0.835	0.763	0	5
number of Girls Aged 15 to 17	28847	0.209	0.455	0	4

Table A.2: Bivariate Probit on Child Labor and School Attendance (with Controls)

Work strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	0.2470***	0.0490	0.2706***	0.0381	0.0236	0.0620
Child Labor Mother	0.3342***	0.0441	0.3162***	0.0359	-0.0180	0.0569
Father's Schooling	-0.0010	0.0061	-0.0444***	0.0051	-0.0435***	0.0079
Mother's Schooling	-0.0404***	0.0063	-0.0235***	0.0051	0.0169**	0.0081
Chi-Square Test	**Chi-2**	**P >Chi-2**	**Chi-2**	**P >Chi-2**		
Father=Mother	1.5700	0.2102	0.6500	0.4213		
Child Labor Father's=Mother's Schooling	12.8600	0.0003	5.4500	0.0196		
School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	-0.0850*	0.0481	-0.1473***	0.0465	-0.0623	0.0669
Child Labor Mother	0.0448	0.0485	-0.0376	0.0467	-0.0824	0.0673
Father's Schooling	0.0398***	0.0074	0.0596***	0.0073	0.0198*	0.0105
Mother's Schooling	0.0555***	0.0077	0.0624***	0.0073	0.0069	0.0106
Chi-Square Test	**Chi-2**	**P >Chi-2**	**Chi-2**	**P >Chi-2**		
Father=Mother	3.1800	0.0745	2.4200	0.1199		
Child Labor Father's=Mother's Schooling	1.4900	0.2222	0.0500	0.8171		
Rho	-0.1981***	0.0277	-0.1739***	0.0228		
Log-Likelihood	-6362.86		-8836.01			
Number of Observations	14113		14546			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.
Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.
White's heteroskedastic consistent errors used in the regressions.

Table A.3: Bivariate Probit on Child Labor and School Attendance (with Controls)

Work strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	0.2537***	0.0497	0.2630***	0.0386	0.0092	0.0629
Child Labor Mother	0.3289***	0.0448	0.3186***	0.0365	-0.0104	0.0578
Father's Schooling	-0.0001	0.0062	-0.0440***	0.0051	-0.0440**	0.0081
Mother's Schooling	-0.0402***	0.0064	-0.0216	0.0051	0.0186**	0.0082
Father's Non-Labor Income	-0.0018	0.0101	-0.0085	0.0101	-0.0067	0.0142
Mother's Non-Labor Income	-0.0588*	0.0312	-0.0186	0.0182	0.0402	0.0361
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	1.1300	0.2870	0.9300	0.3339		
Father's=Mother's Schooling	12.9300	0.0003	6.1800	0.0129		
Father's=Mother's Non-Labor Income	2.9900	0.0840	0.2400	0.6219		
School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	-0.1013**	0.0488	-0.1426***	0.0468	-0.0413	0.0676
Child Labor Mother	0.0377	0.0493	-0.0225	0.0476	-0.0602	0.0686
Father's Schooling	0.0396***	0.0076	0.0572***	0.0075	0.0176*	0.0107
Mother's Schooling	0.0568***	0.0078	0.0591***	0.0074	0.0023	0.0107
Father's Non-Labor Income	-0.0027	0.0133	0.0695***	0.0263	0.0722**	0.0295
Mother's Non-Labor Income	-0.0262	0.0179	0.1697	0.0564	0.1959**	0.0592
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	3.5200	0.0605	2.8100	0.0936		
Father's=Mother's Schooling	1.7400	0.1875	0.0200	0.8813		
Father's=Mother's Non-Labor Income	0.6900	0.4057	2.4900	0.1148		
Rho	-0.2061***	0.0279	-0.1773***	0.0231		
Log-Likelihood	-6191.16		-8615.65			
Number of Observations	13729		14171			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.

White's heteroskedastic consistent errors used in the regressions.

Table A.4: Bivariate Probit on Child Labor and School Attendance (with Controls)

Work at Least Twenty Hours a Week						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Age Started to Work	-0.0262***	0.0061	-0.0459***	0.0048	-0.0197***	0.0077
Mother's Age Started to Work	-0.0204***	0.0050	-0.0128***	0.0034	0.0076	0.0060
Father's Schooling	-0.0135*	0.0070	-0.0422***	0.0055	-0.0287***	0.0089
Mother's Schooling	-0.0369***	0.0073	-0.0262***	0.0056	0.0107	0.0092
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	0.4400	0.5094	28.5500	0.0000		
Father's=Mother's Schooling	3.4800	0.0619	2.6900	0.1009		
School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Age Started to Work	0.0042	0.0051	0.0073	0.0050	0.0032	0.0071
Mother's Age Started to Work	-0.0038	0.0034	-0.0010	0.0033	0.0028	0.0048
Father's Schooling	0.0410***	0.0075	0.0607***	0.0074	0.0197*	0.0105
Mother's Schooling	0.0554***	0.0077	0.0642***	0.0073	0.0088	0.0106
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	1.55	0.2138	1.6900	0.1938		
Father's=Mother's Schooling	1.26	0.2624	0.08	0.7712		
Rho	-0.2400***	0.0291	-0.2478***	0.0226		
Log-Likelihood	-5623.16		-8115.20			
Number of Observations	14113		14546			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.

White's heteroskedastic consistent errors used in the regressions.

Table A.5: Bivariate Probit on Child Labor and School Attendance (with Control)

Work at Least Twenty Hours a Week						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Age Started to Work	-0.0255***	0.0061	-0.0469***	0.0049	-0.0213***	0.0078
Mother's Age Started to Work	-0.0198***	0.0050	-0.0127***	0.0034	0.0071	0.0061
Father's Schooling	-0.0135*	0.0071	-0.0408***	0.0056	-0.0273***	0.0090
Mother's Schooling	-0.0347***	0.0074	-0.0243***	0.0057	0.0104	0.0093
Father's Non-Labor Income	-0.0116	0.0164	-0.0227	0.0144	-0.0111	0.0218
Mother's Non-Labor Income	-0.1020**	0.0511	-0.0220	0.0259	0.0800	0.0573
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	0.4200	0.5165	29.1900	0.0000		
Father's=Mother's Schooling	2.8000	0.0945	2.7700	0.0962		
Father's=Mother's Non-Labor Income	2.7700	0.0959	0.0000	0.9800		

School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Father's Age Started to Work	0.0055	0.0052	0.0095*	0.0051	0.0040	0.0073
Mother's Age Started to Work	-0.0032	0.0035	-0.0020	0.0034	0.0012	0.0048
Father's Schooling	0.0409***	0.0077	0.0576***	0.0075	0.0168*	0.0108
Mother's Schooling	0.0565***	0.0077	0.0605***	0.0074	0.0040	0.0107
Father's Non-Labor Income	-0.0024	0.0135	0.0751**	0.0269	0.0774**	0.0301
Mother's Non-Labor Income	-0.0254	0.0180	0.1659**	0.0557	0.1912**	0.0585
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	1.7600	0.1845	3.0600	0.0801		
Father's=Mother's Schooling	1.4400	02309	0.0600	0.8114		
Father's=Mother's Non-Labor Income	0.6500	0.4212	2.0800	0.1497		
Rho	-0.2453***	0.0294	-0.2495***	0.0230		
Log-Likelihood	-5480.27		-7896.36			
Number of Observations	13729		14171			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.

White's heteroskedastic consistent errors used in the regressions.

Table A.6: Bivariate Probit on Child Labor and School Attendance (with Controls)

Work at Least twenty Hours a Week						
	Daughters		**Sons**		**Difference**	
Independent Variables	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	0.2316***	0.0556	0.2783***	0.0413	0.0467	0.0693
Child Labor Mother	0.2618***	0.0496	0.2326***	0.0386	-0.0292	0.0629
Father's Schooling	-0.0125*	0.0069	-0.0452***	0.0055	-0.0327***	0.0088
Mother's Schooling	-0.0365***	0.0073	-0.0241***	0.0055	0.0124	0.0091
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	0.1500	0.6987	0.5600	0.4539		
Father's=Mother's Schooling	3.7600	0.0526	4.7300	0.0296		
School Attendance						
	Daughters		**Sons**		**Difference**	
Independent Variables	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	-0.0842*	0.0481	-0.1491***	0.0466	-0.0649	0.0669
Child Labor Mother	0.0429	0.0486	-0.0391	0.0467	-0.0821	0.0674
Father's Schooling	0.0401***	0.0075	0.0597***	0.0074	0.0197*	0.0105
Mother's Schooling	0.0553***	0.0077	0.0624***	0.0073	0.0072	0.0106
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	3.0500	0.0810	2.4200	0.1195		
Father's=Mother's Schooling	1.4100	0.2357	0.0500	0.8219		
Rho	-0.2372***	0.0291	-0.2447***	0.0226		
Log-Likelihood	-5621.84		-8130.84			
Number of Observations	14113		14546			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.
Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.
White's heteroskedastic consistent errors used in the regressions.

Table A.7: Bivariate Probit on Child Labor and School Attendance (with Controls)

Work at Least twenty Hours a Week

Independent Variables	Daughters		Sons		Difference	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	0.2315***	0.0562	0.2701***	0.0419	0.0386	0.0701
Child Labor Mother	0.2505***	0.0502	0.2389***	0.0393	-0.0116	0.0638
Father's Schooling	-0.0126*	0.0070	-0.0445***	0.0056	-0.0319***	0.0089
Mother's Schooling	-0.0345	0.0074	-0.0225***	0.0056	0.0120	0.0093
Father's Non-Labor Income	-0.0078***	0.0148	-0.0131	0.0127	-0.0053	0.0195
Mother's Non-Labor Income	-0.0922*	0.0492	-0.0195	0.0238	0.0727	0.0547
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	0.0600	0.8103	0.2500	0.6153		
Father's=Mother's Schooling	3.0200	0.0820	5.0700	0.0244		
Father's=Mother's Non-Labor Income	2.6300	0.1050	0.0600	0.8068		

School Attendance

Independent Variables	Daughters		Sons		Difference	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	-0.1003**	0.0488	-0.1448***	0.0469	-0.0445	0.0677
Child Labor Mother	0.0355	0.0494	-0.0239	0.0476	-0.0594	0.0686
Father's Schooling	0.0399***	0.0077	0.0573***	0.0075	0.0175	0.0107
Mother's Schooling	0.0565***	0.0078	0.0591***	0.0074	0.0026	0.0107
Father's Non-Labor Income	-0.0028	0.0132	0.0691***	0.0257	0.0720**	0.0289
Mother's Non-Labor Income	-0.0260	0.0179	0.1612***	0.0557	0.1872***	0.0585
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	3.3600	0.0668	2.8500	0.0916		
Father's=Mother's Schooling	1.6300	0.2017	0.0200	0.8831		
Father's=Mother's Non-Labor Income	0.6800	0.4088	2.1600	0.1412		
Rho	-0.2425***	0.0293	-0.2471***	0.0230		
Log-Likelihood	-5478.63		-7915.04			
Number of Observations	13729		14171			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.

White's heteroskedastic consistent errors used in the regressions.

Table A.8: Probit on Child Labor (with Controls)

Work Strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	0.2451***	0.0490	0.2678***	0.0380	0.0227	0.0620
Child Labor Mother	0.3320***	0.0441	0.3156***	0.0360	-0.0165	0.0569
Father's Schooling	-0.0015	0.0062	-0.0450***	0.0051	-0.0435***	0.0080
Mother's Schooling	-0.0406***	0.0063	-0.0236***	0.0051	0.0170***	0.0081
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	1.5700	0.2102	0.7100	0.3989		
Father's=Mother's Schooling	12.4800	0.0004	5.7100	0.0169		
Log-Likelihood	-3376.86		-5329.66			
Number of Observations	14118		14547			

Work Strictly Positive Hours						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	0.2519***	0.0497	0.2602***	0.0386	0.0083	0.0629
Child Labor Mother	0.3264***	0.0448	0.3180***	0.0366	-0.0083	0.0579
Father's Schooling	-0.0006	0.0063	-0.0446***	0.0051	-0.0440	0.0081
Mother's Schooling	-0.0403***	0.0065	-0.0216***	0.0051	0.0186***	0.0083
Father's Non-Labor Income	-0.0022	0.0103	-0.0078	0.0100	-0.0056**	0.0144
Mother's Non-Labor Income	-0.0634*	0.0326	-0.0187	0.0184	0.0447	0.0374
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	1.1200	0.2908	1.0100	0.3157		
Father's=Mother's Schooling	12.4700	0.0004	6.4700	0.0109		
Father's=Mother's Non-Labor Income	3.1700	0.0751	0.2900	0.5932		
Log-Likelihood	-3277.87		-5199.77			
Number of Observations	13734		14172			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.

White's heteroskedastic consistent errors used in the regressions.

Table A.9: Probit on School Attendance (with Controls)

School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	-0.0831*	0.0480	-0.1459***	0.0465	-0.0627	0.0668
Child Labor Mother	0.0422	0.0484	-0.0370	0.0466	-0.0791	0.0672
Father's Schooling	0.0403***	0.0075	0.0601***	0.0073	0.0198*	0.0105
Mother's Schooling	0.0552***	0.0077	0.0620***	0.0072	0.0068	0.0106
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	2.9900	0.0840	2.3900	0.1221		
Father's=Mother's Schooling	1.3400	0.2463	0.0200	0.8752		
Log-Likelihood	-3015.21		-3535.11			
Number of Observations	14114		14547			

School Attendance						
Independent Variables	**Daughters**		**Sons**		**Difference**	
	Coeff.	**Std. Errors**	**Coeff.**	**Std. Errors**	**Coeff.**	**Std. Errors**
Child Labor Father	-0.0989**	0.0487	-0.1411***	0.0468	-0.0422	0.0675
Child Labor Mother	0.0348	0.0492	-0.0218	0.0475	-0.0566	0.0684
Father's Schooling	0.0402***	0.0077	0.0578***	0.0075	0.0175	0.0107
Mother's Schooling	0.0564***	0.0078	0.0587**	0.0073	0.0023	0.0107
Father's Non-Labor Income	-0.0032	0.0131	0.0683***	0.0275	0.0714**	0.0304
Mother's Non-Labor Income	-0.0256	0.0179	0.1700***	0.0567	0.1956***	0.0595
Chi-Square Test	**Chi-2**	**P > Chi-2**	**Chi-2**	**P > Chi-2**		
Father=Mother Child Labor	3.2800	0.0700	2.7900	0.0951		
Father's=Mother's Schooling	1.5500	0.2130	0.0100	0.9377		
Father's=Mother's Non-Labor Income	0.6400	0.4231	2.4900	0.1144		
Log-Likelihood	-2943.89		-3445.11			
Number of Observations	13730		14172			

***Significant at the 1% level. **Significant at the 5% level. *Significant at the 10% level.

Note: Additional explanatory variables include child's, father's and mother's ages; indicator variables that equal one if the family lives in an urban area, if the father is not in the labor market and if the mother is not in the labor market; family composition variables and a constant term.

White's heteroskedastic consistent errors used in the regressions.