AN EMPIRICAL ANALYSIS OF CHILD LABOR: EVIDENCE FROM PAKISTAN

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Abstract

The study investigates the impact of education on child labor in Pakistan. The study is based on Pakistan Labor Force Survey (2014-15) and logit and probit models are used for estimation purposes. The present study finds a significant negative relationship between child education and child labor. Moreover, the study suggests that enrollment of children, educational years of children and head's educational status have strong negative impact on child labor. In addition, the study finds that age of children has positive relationship with child labor while joint family system has negative impact on child labor. The study also finds that male children have higher probability to participate in labor market than female children. The study concludes that child schooling should be focused to reduce child labor in the country.

Keywords: Child Labor, Education, Enrollment, Labor Force Survey.

JEL Classification: I100, J01

1. INTRODUCTION

Child labor is a complex and far-reaching problem in developing countries. According to the International Labor Organization (2008), more than 215 million children are engaged in child labor worldwide and more than 80 million of these children are involved in unsafe as well as abusive kind of child labor. The phenomenon of child labor is considered critical because of two reasons. Firstly, it is quite difficult to accept that a child is involved in strenuous jobs on subsistence wage rate against his/her wish. Secondly, a child forgoes significant investment in terms of human capital (i.e. education and skills) while he is working in his youth. Thus, child labor decreases his/her chances to get out of vicious circle of poverty in the long-run. Therefore, child labor is an important issue for economy.

There are three main international conventions about working children. It includes United Nation Convention on the right of children (CRC, 1989), ILO Convention No 138 on the minimum age for working children and ILO convention no 182 on the worst form of working children (ILO, 1999). These conventions together define the legal boundaries for working children. Whereas, working children are further categorized among three groups where the first group refers to children employment, second is child labor and third is the hazardous work. Children employment includes all productive activities in which children are engaged at home or outside, whether for paid or unpaid. Child labor refers to an activity other than study or play, paid or

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not paid, which is carried out with a person beneath the age of 15 years. Lastly, hazardous work means an occupation or activity that has an adverse effect on the safety, health and moral development of the children.

The child labor problem is tremendously complicated. It keeps children absent from school and has harmful effects on human capital growth and life time income. In Pakistan, incidence of child labor is particularly important as working children considerably contribute towards domestic earnings in Pakistan. Therefore, parents usually send their children to work to contribute to the household's income instead of schools where they have to pay school fee and other school related costs (Subhadarsani, 2014). Therefore, there are 7.3 million primary school aged children who are not enrolled in school in Pakistan (Brown, 2012). Similarly, enrollment rates at different levels of education paint an apologetic picture and about 50% of the citizens have never gone to schools in Pakistan (Economic Survey of Pakistan, 2011). It suggests that parents have low educational preferences and do not send their children to schools.

According to Subhadarsani (2014) the main sectors that generally fascinate child labor are manufacturing, transportation, trade, agriculture, construction as well as services. The study mentions that child labor is closely associated with poverty. The poor families are unable to afford school fees therefore they send their children to work to contribute to the household's income. However, children need a good quality education and training to acquire the skills necessary to help them to come out of poverty (Chaudhry & Khan, 2002). So investing in education is an important economic decision.

Baland and Robinson (2000) address the issue of child labor through human capital approach. According to this approach, although putting children to work increases the basket of goods a family can consume in the short-run, however, there is a potential trade-off between current and future income, with sub-optimal social and economic returns over the long run. When the children have to work, they lose education. Many child laborers either never attend school or they drop out early. The quantity of primary as well as secondary school remains low in third world countries. Consequently, millions of children are being enforced towards work instead of attending schools. Angrist and Krueger (1991) found that education has negative relationship with the probability to participate in the labor market by children. Education can support children to remain absent from working activities and to be enrolled in school.

Lack of education is the main reason for child labor. Education keeps the children away from labor market. Since poor families need money to survive, their children have to work for additional source of income. Although the child work apparently benefits the family economically, but children can be benefited by teaching them skills they would need as adults. Child labor becomes harsh when instead of working with their own families, children are sent into factories and mills to work for employer

who does not care for their safety or wellbeing. So the children, kept away from school, are deprived of vital skills and education (UNICEF, 1996).

The main contribution of this study is to examine the impact of education on child labor in Pakistan based on the latest data set available. Therefore, the relationship between education and child labor is examined and it is based on Pakistan Labor Force Survey (2014-15). The Logit and Probit models are used for estimation purposes.

The study differs from the previous research in the sense that the previous research mainly focused on the relationship between poverty and child labor. These studies largely analyzed the impact of household income and other general determinants on the probability of children to participate in the labor market (for example, Akarro & Mtweve, , 2011; Chaudhry & Khan, 2002). However, this study analysis the relation between education and child labor based on the latest data set of labor force available in the market.

The organization of the study is as follows. The Section 2 provides the review of literature. Data and methodology are explained in Section 3 while results are discussed in Section 4. Lastly, conclusion is drawn in Section 5.

2.   REVIEW OF LITERATURE

There is an extensive literature on the relationship between child labor and education. However, much of that literature has been derived from the theoretical models for household decision-making and labor market participation and its origin can be traced back to Becker's work on intra-household bargaining (Becker, 1965; Rosenzweig & Evenson, 1977). In Becker's unitary household model, child labor is the product of unequal bargaining relationships. With children enjoying limited bargaining power, parents and employers effectively bargain over children's wages and the share of wages to be paid as food. What shapes decisions over whether to send children to school is the relative power of the household in relation to the employer.

Another strand of literature has addressed child labor from human capital approach (Baland and Robinson, 2000). Putting children to work in this perspective increases the basket of goods a family can consume in the short-run. But there is a potential trade-off between current and future income, with sub-optimal social and economic returns over the long-run. When children have to work, they risk losing out on education. Many child laborers either never attend school or they drop out early, while those struggling to combine school and work often register lower levels of learning. The decision on whether or not to send children to school will be based on perceived costs and benefits. However, parents may under-invest relative to socially optimal levels for a number of reasons, including imperfect information on the benefits of education, poverty-related credit constraints, and differences between individual and socially optimal returns to education.

However, a negative relation between education and child labor is found to exist. Ahmed (2012) analyzed the impact of child school enrollment on child labor in Punjab. The study used the Multiple Indicator Cluster Survey. The sample consists of children between 5 and 14 years of age. The results suggest that public school enrolment can be used as a substitute for child labor. On average, 1 percentage point increase in a household's enrolment ratio has the potential to reduce the number of hours of paid labor by almost 5 percentage points. This substitutability is the highest among urban male children. Moreover, the incidence of child labor is higher among larger poor families.

According to ILO (2015) there is a strong negative relationship between child labor and school enrollment. The study finds that low literacy rate is associated with higher incidence of child labor. Moreover, the length of working hours further reduces the children capacity to attend school. Similarly, children working in rural areas are more disadvantaged and lack of affordable and good quality schooling can be a push factor for children to work in labor market. In many rural areas, educational facilities are mainly low. A range of educational expenses remain a barrier to low income families to send their children to school rather than to labor market. A quality learning environment having trained teachers can lead to low dropout rates and low child labor. Girls are double burdened of doing household as well as outside work. Therefore, they usually have little time left for study.

Dayang *et.al.* (2016) examined the determinants of working among 10-17 years' children in Indonesia. The higher levels of household head's education lead to lower incidence of children labor. The findings show that the incidence of child labor decreases as the head of the household's educational levels increases. This finding also strengthens the widely known finding of Kamga (2010) that parental education is the most reliable determinant of child employment decisions. Similarly Chuta (2017) found that there exists a negative relationship between parents' years of schooling and a child's likelihood to work. The study shows that women usually stay at home and take care of the household and the children.

Gayathri (2017) determined that employment of children deprives them from their childhood. Children remain unable to attend the school regularly. Poverty, illiteracy, and low household income are reasons to send children to labor market. Likewise, Carrasco (2017) analyzed that child labor can reduce educational attainment by 2 years of schooling. However, if children attend school, the probability of being engaged in child labor will significantly decline. Similarly, mother education has strong negative effect on child labor.

Khan *et al.*(2018) examined the determinants as well as working conditions of child labor in automobile workshops of Peshawar, Pakistan. The results illustrated that majority of the children leave their schools to learn working proficiency for future employment security. The study found that the sampled children contribute more than 60 percent to household income while more than half of the children reported drug

addiction of their fathers. The analysis demonstrated that low literacy level, low family income, and larger household size are the main reasons of child labor.

Hameno *et al.* (2018) investigated child labor experiences of children in Ghana. The study used the primary data set. The study found that children engaged in labor at the expense of their education are equivalent to depriving them of their development. Based on the findings, the study recommends that there should be effective implementation of educational and child labor laws in order to lessen this threat. It would be useful if law enforcement agencies like the Ghana Police Service ensure the protection of children from exploitation. Also, poor households with children of school going age could be financially supported by the government of Ghana.

In this backdrop, the present study is an attempt to investigate the impact of education on child labor in the context of Pakistan.

3.   DATA AND METHODOLOGY

3.1.   Data

This section describes data and descriptive statistics of child labor in Pakistan. The data is taken from Pakistan Labor Force Survey (2014-15). In Pakistan, an important source of labor force data is the Labor Force Survey of Pakistan that is published yearly since 1963 through the Federal Bureau of Statistics. The Labor Force Survey reports labor force involvement for whole family members of more than 10 years. The survey also contains queries lying on labor market, education as well as socio-economic determinants of household work.

Table1 provides the sample distribution of child labor. The sample size of the working children between the age group of 10-14 years consists of 5,803 children who decide to work or not.

Table 1.   Sample Distribution

	Unemployed	Employed	Total
Frequency	2758	3045	5803
Percentage	47.53	52.47	100

Note: Authors' calculations.

Table 2 contains information of child labor by gender of children, children enrolment in school, children years of education, literacy rate and head's education level. The table also indicates the distribution of child labor with respect to other important indicators like gender, age of children, region, family system and residential province.

The table indicates the probability of child labor is higher among male children as compared to that among female children (Chaudhry & Khan, 2002). This shows that the boys have more likelihood to be employed than girls. The table indicates that child

labor is likely to decrease with the increase in the educational level of child and family head. Illiterate children have higher probability to work than literate children. The table indicates that about 84% of working children belong to the household where the head of family has no formal education. The probability of child labor decreases as the father educational level increases. About 14% working children belong to the families where heads' educational level is intermediate and higher.

Probability of child labor is lower among joint families as compared to that among nuclear families. Intensity of child labor is higher in Punjab, Sindh and Khyber Pakhtunkhwa as compared to Baluchistan. The table indicates that the probability of child labor increases among rural children as compared to urban children.

Table 2.   Distribution of Child Labor

	Unemployed	**Employed**	**Total**
Gender			
Female	51.16	48.83	39.80
Male	45.11	54.88	60.19
Literacy of Children			
Literate	68.00	32.00	57.55
Illiterate	19.17	80.22	42.44
Enrollment of children			
Enrolled	14.74	85.26	52.59
Not enrolled	83.90	16.10	47.41
Education of Children			
< primary Level	39.91	60.08	65.24
primary level	63.73	37.88	31.79
middle Level	41.27	58.72	2.96
Head's Education			
No formal education	16.48	83.51	37.84
Primary/middle Level	59.95	40.04	29.26
Secondary Level	68.25	31.74	26.38
Intermediate level	86.40	13.59	3.92
Bachelor and Higher Level	87.33	12.66	2.58
Heads' work hours			
Up to 10 hours	27.14	72.85	0.89
11-20 hours	17.18	82.81	11.02
21-30 hours	25.19	74.80	26.12
31-40 hours	30.28	69.71	3.58
41-50 hours	35.82	64.17	26.02
51-60 hours	47.36	53.54	8.01
Above 60 hours	30.70	69.29	24.02
Age in years			
=10	72.56	27.43	18.02
11-12	51.42	48.57	33.27
13-14	35.59	64.40	48.69

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(Continued) Table 2.   Distribution of Child Labor

	Unemployed	Employed	Total
Family system			
Joint family	50.98	49.01	74.11
Nuclear family	37.61	67.04	25.88
Region			
Rural	37.50	62.49	75.44
Urban	78.31	21.68	24.55
Province			
Punjab	31.00	69	34.29
Sindh	8.38	91.61	16.23
Khyber Pakhtunkhwa	16.92	83.07	4.48
Baluchistan	72.28	22.71	44.99

Note: Authors' calculations.

Table 3 provides the description of variables. In this study, the theoretical model contains child labor as a dependent variable and independent variables comprise of age of children, gender of children, literacy of children, enrolment and education, household head's education, household system, province and region.

The study starts with baseline model:

Child Labor = f (age of children, gender of children, literacy of children, child enrolment, child education, head education, head's occupation, household type, province, region)   (1)

Age of children is an important variable to determine child labor. The UNICF (1996) classified the child labor through the child age along with number of hours worked in one week. The age of children between 5 to 11 years is classified as, at least one hour of economic work, the age group of children between 12 to 14 years at least 14 hours of economic work and finally children between age of 15 to 16 years at least 43 hours of economic work or household work.

Male children are expected to work more than female children. In addition, the male and female children can be engaged into dissimilar kinds of economic tasks. The male children are usually engaged in industrial activities, trade, restaurants, hotels as well as transportations, whereas female children are usually engaged in agriculture as well as household activities. In Pakistan, male children are probably more involved in labor market and they work longer hours than female children.

The enrollment of children in school is expected to have negative impact on child labor because when the children are enrolled in school they do not work in the market. According to Ravallion & Wodon (2000), when there is higher enrollment rate in a country, the child labor will be expected to diminish because child labor is inversely related with child enrollment.

Table 3.   Description of Variables

Variables	Abbreviation	Description
Child Labor	CHILD	1 , if a child is involved in economic activity for minimum one hour during reference week (whether paid or unpaid for profit or family gain, in formal or informal sector) and zero otherwise
Personal Characteristics		
Age	AGE	Complete years of age of child
Gender	MALE	1, if child is male and zero otherwise
Educational Characteristics		
Enrollment	ENR	1, if child is enrolled in school andzero otherwise
Child Education	EDU_{CHILD}	Years of education of a child
Head Education	EDU_H	Years of education of household head
Head's Occupation		
SALE worker	SALE	1, if head is working as sales worker and zero otherwise
Agriculture worker	AGRI	1, if head is working as agriculture worker and zero otherwise
Elementary worker	ELEM	1, if head is working as elementary worker and zero otherwise
Residential Characteristics		
Household type	HHT	1, if the individual lives in joint family and zero otherwise
Punjab	PUNJ	1, if child lives in Punjab and zero otherwise
Sindh	SIND	1, if child lives in Sindh and zero otherwise
Khyber Pakhtunkhwa	KPK	1, if child lives in Khyber Pakhtunkhwa and zero otherwise
Urban	URBAN	1, if child lives in urban area and zero otherwise

Similarly, it is expected that years of education of children is likely to reduce the child labor. The numbers of children in primary as well as secondary school remain low within low income countries as millions of children are being enforced on the way to employment instead of going toward school. The employment or work will have undesirable effect toward child learning. For instance, children might miss school due to labor market work or use of their time in homework. According to Diallo *et al.* (2010) participation in labor market work has negative relation with admission in school.

Years of education of household head are likely to have negative impact on child labor. As the educational level of head increases the child labor will decrease. It is

because of the reason that educated household head averts their children from labor work as compared to uneducated household head. Therefore, the probability of work among children of highly educated heads would be decreased. According to Emerson & Souza (2002) educated parents are less likely to send their children to labor market. The results demonstrate that children of the sale workers, agriculture workers and elementary workers are more likely to be in child labor than those of professionals and assistant professionals (base category). This is because family heads belonging to these professions are generally expected to have low earnings than professional and assistant professional workers and so their children are likely to work in labor market.

Children living in the joint families are expected to work less than those living in the nuclear family system. Since joint families are expected to be larger and there may be other workers present in the joint family, the household financial pressure is diverted from children to adult family workers. There are a few socio-economic disparities amongst four provinces of Pakistan. The child labor is expected to be higher in larger provinces where economic activity is likely to be higher than in smaller provinces (Khalid & Shanaz, 2004).

The low-income rural family units consider making their children work into farmhouse might raise domestic earnings. The children living in rural regions work further as well as longer hours as compared to the children living in urban areas. According to Shujaat (2007), the children inside rural areas are expected to be engaged in child labor because of partial access toward schools.

3.2   Econometric Techniques

The dependent variable child labor is a binary variable and it takes a value of 1 for children who are involved in economic activity and the values of 0 for non-working children. The child labor in relation to age, gender, child enrollment, child years of education, head's years of education, household size, province and urban is examined by logit and probit models. Both models are used for the sake of comparison, (Hafeez, 2000) and the details of models are given in (Gujarati, 2009).

Specification of the models is as follows:

$$\text{Child Labor} = \beta_0 + \beta_1 \text{Age} + \beta_2 \text{MALE} + \beta_3 \text{ENR} + \beta_4 \text{EDU}_{\text{CHILD}} + \beta_5 \text{EDU}_H + \beta_6 \text{SALE} + \beta_7 \text{AGRI} + \beta_8 \text{ELEMN} + \beta_9 \text{JOINT} + \beta_{10} \text{HHT} + \beta_{11}\text{PUNJ} + \beta_{12}\text{SIND} + \beta_{13}\text{KPK} + \beta_{14}\text{URBAN} + \mu_i$$

(2)

Normal Probability (Probit) Model

The binary dependent variable can be explained with the help of Probit model. This technique emerges from normal cumulative distribution function (Gujarati, 2009). Assume that y* is the probability of being employed and depends upon a set of observed factors *Xi*.

$$y_i * = \beta X_i + \varepsilon_i$$

(3)

Where β is a row vector and Xi is column vector that affect y* and εi has normal distribution with zero mean.

$Y = 1$ if $y^* > 0$
    $= 0$ otherwise

Given the normality assumption, the probability that y^* is less than or equal to Y can be computed from the standardized normal cumulative distribution function as:

$$P_i = Pr(Y = 1) = (y * \leq Y) = F(Y_i) = \int_{-\infty}^{\beta X_i} f(z)dz \tag{4}$$

F(z) is density function. Z has normal distribution with zero mean and constant variance. P is probability distribution.

Logit Model
Another equally popular nonlinear model to handle limited dependent variable case is logit model (Gujarati, 2009). The model assumes the following cumulative probability density function:

$$P = \frac{1}{1+exp(-\beta X_i)} \tag{5}$$

where P is the probability that educated individual is employed, e is the exponential value and β and X are the same defined as earlier. Since P, the probability of being unemployed is not directly observable, a dichotomous (0, 1) variable is constructed, taking the value of 1 if an educated individual is unemployed and zero otherwise.

It is straightforward to derive the following regression equation from the logistic probability equation (5).

$$\ell n[P/(1 - P)] = \alpha + \beta X_i \tag{6}$$

Logit and Probit models are similar. They are very close in the midrange, but logistic function has slightly heavier tail than the Probit. The close similarity between them is confined to dichotomous dependent variable.

Although, the logit and probit models commonly give similar outcomes, however, the two models slightly differ from each other. The major distinction between the two models is that the logistic distribution has somewhat flatter tails, remember that the variance of a logistically distributed random variable is regarding $\pi^2/3$ while that of a normally distributed variable is 1. Which is to state the restricted probability P_i come close to 0 or 1 at the slower rate in probit than in logit.

4.   RESULTS AND DISCUSSION
The estimation results for education and child labor are reported in Table 4, Table 5, and 6. The results indicate that signs and significance of the variables given in both

models are correct. This shows that all these variables play important role in determining child labor in Pakistan. These results are further confirmed by the values of R^2 which are quite reasonable in all models. The coefficient and z value indicate that there may be other variables which are not present in the model but they have strong negative impact on child labor.

The age of children has positive and significant relationship with the child labor. The result is significant at 5% level. It indicates that children are more likely to participate in labor market with age. As children regain experience over time and are more able to do market work, they participate in the labor market. They are also expected to earn higher wage rates with age.

Similarly, male children also have higher probability to participate in labor market than female children and result is significant at 1% level. This is because the male children are considered mentally and physically stronger than female children, so they are assumed to be more productive than female children. Hence, the male children mainly work in the market and female children stay at home to perform household work.

Table 4.   Estimates of Logit Model for Education and Child Labor

Variables	Coefficient	Z	P>|z|	Marginal Effects
Constant	-2.232	-4.26*	0.000	
Personal Characteristics				
AGE	0.339*	1.95**	0.000	0.084
MALE	0.699	7.19*	0.000	0.165
Educational Characteristics				
ENR	-0.862	-22.40*	0.000	-0.214
EDU_{CHILD}	-0.244	-3.35*	0.001	-0.060
EDU_H	-0.493	-2.88*	0.004	-0.122
Household Characteristics				
HHT	-0.394	-1.97***	0.000	-0.097
PUNJ	1.364	3.18*	0.000	0.318
SIND	3.052	9.56*	0.000	0.521
KPK	3.161	14.59*	0.000	0.456
URBAN	-1.465	-13.06*	0.000	-0.364
N	5,803			
Pseudo R^2	0.4087			
Log likelihood	-2363.794			

Note. Statistics which are significant at 1%, 5% and 10% are indicated by (*), (**) and (***) respectively.

It is found that enrollment of children in school has strong negative impact on child labor. It reveals that children enrolled in schools have lower probability to work in the labor market. The children enrolled in schools are more engaged in acquiring education and have less time to work as child labor. This finding is also supported by Ravallion & Wodon (2000). The study found that higher enrollment rates in a country

are expected to diminish the child labor. It reveals that child labor is inversely related with the child enrollment.

Similarly, the children educational years have negative impact on the probability of child labor. This indicates that the child labor decreases with increase in years of education. This is so because the education improves the awareness among children. That is the children having some education are less likely to work as child labor. They are rather more interested to improve their education level. The result is consistent with Diallo *et.al.* (2010).

Table 5.   Estimates of Logit Model for Child Labor

Variables	Coefficient	Z	P>|z|	Marginal Effects
Constant	-3.031*	-4.87*	0.000	
Personal Characteristics				
AGE	0.349	1.96**	0.000	0.086
MALE	0.899	8.18*	0.000	0.167
Educational Characteristics				
ENR	-0.882	-20.40*	0.000	-0.222
EDU_{CHILD}	-0.274	-3.85*	0.001	-0.065
EDU_H	-0.483	-3.18*	0.004	-0.124
Economic Characteristics				
$WAGE_H$	-0.009	-3.55*	0.002	-0.009
Head's Occupation				
SALE	0.366	3.14*	0.000	0.366
AGRI	0.622	5.33*	0.000	0.622
ELEM	0.931	7.11*	0.000	0.931
Household Characteristics				
HHT	-0.364	-1.84***	0.000	-0.097
PUNJ	1.044	8.28*	0.000	0.328
SIND	2.652	15.06*	0.000	0.531
KPK	2.460	14.69*	0.000	0.423
URBAN	-0.965	-8.26	0.000	-0.324
N	5,803			
Pseudo R^2	0.5579			
Log likelihood	-1767.3336			

Note. Statistics which are significant at 1%, 5% and 10% are indicated by (*), (**) and (***) respectively.

The head educational status also has strong negative impact on child labor. It shows that the probability of child labor reduces as head's educational level increases. This is so because education increases the awareness among household heads. Besides they are more likely to earn reasonable wage rate and therefore the probability of child labor declines. Therefore, they are more likely to send their children to school rather than to market work. The estimates by Emerson and Souza (2002) support these results. According to this study educated parents are less likely to send their children to market work and more likely to send to the school to acquire education.

Joint family system shows the negative and significant impact on child labor. Joint families are expected to be larger than nuclear families. There may be other workers present in the joint families which reduce the probability of children to work in the labor market. In addition, when there are more earners present in the family, the children are more oriented to join educational institute rather than working in the labor market. The estimates by Ahmad (2012) also support these results.

The results indicate that child labor nearly exists in all the provinces of Pakistan. All the provinces have positive and significant impact on child labor as compared to that in Baluchistan (the base category). The results show the child labor in three provinces such as Punjab, Sindh and Khyber Pakhtunkhwa is higher than in Baluchistan. The probability of the child labor is higher in Punjab but this probability is even higher in Sindh and KPK as compared to Baluchistan (the base category). Since the Punjab is larger province in population and economic activities, more children are involved in labor market. Similarly the child labor is found to be higher in other two provinces like Sindh and KPK as compared to that in Baluchistan. This may be because of higher population and low family income in these provinces. So, more finances are required to fulfill the financial requirements of their families. Baluchistan is found to have smaller population. The estimates by Khalid and Shahnaz (2004) provide the same evidence.

Table 6.   Estimates of Probit Model for Education and Child Labor

Variables	Coefficient	Z	P>|z|	Marginal Effects
Constant	-1.163	-4.06*	0.000	
Personal Characteristics				
AGE	0.189	1.91**	0.000	0.074
MALE	0.343	6.93*	0.000	0.135
Educational Characteristics				
ENR	-0.862	-22.40*	0.000	-0.190
EDU_{CHILD}	-0.244	-3.35*	0.001	-0.050
EDU_H	-0.493	-2.88*	0.005	-0.102
Household Characteristics				
HHT	-0.216	-1.94***	0.000	-0.087
PUNJ	-0.244	13.58*	0.000	0.298
SIND	1.524	20.06*	0.000	0.483
KPK	1.751	14.79*	0.000	0.470
URBAN	-0.818	-13.36*	0.000	-0.326
N	5,803			
Pseudo R^2	0.4087			
Log likelihood	-2363.794			

Note. Statistics which are significant at 1%, 5% and 10% are indicated by (*), (**) and (***) respectively.

The probability of child labor is found to be lower in urban areas than in rural areas (the base category). This is because social and economic conditions are better in urban areas than in rural areas. That is higher educational and economic opportunities are available in urban areas. Children are more likely to go to school than to labor market.

However, in rural areas people are mainly involved in family occupations like agriculture and so the children are more involved in labor market activities. The result is significant at 1% level. Shujaat (2007) provided the same results.

In addition, Table 5 provides the results of family head's occupation. It is found that children in the families where heads belong to elementary, agriculture and sales work, are more likely to work than the children in the families where the head is professional or assistant professional. This reveals that families where household heads are elementary, agriculture and sales workers are relatively financially weaker and are more likely to send their children belonging to age group 10 to 14 to the labor market to help the family head to finance the household expenditure. However the children of professional or assistant professionals are less expected to work as child labor as their parents are relatively stable financially.

5.   CONCLUSIONS

This study is an attempt to highlight the impact of education on the probability of child labor in Pakistan. The study is based on Labor Force Survey of Pakistan (2014-15). The study finds that children are more likely to work in the labor market with age. This reveals that since the children get more experience with age, they can earn more over time. Similarly, male children also have higher probability to participate in labor market than female children. Moreover, the children belonging to joint families are less likely to work than those living in nuclear families.

The results also show that children enrolled in school are less willing to work in the labor market than those who are not involved in the labor market activities. Likewise, educational years of children are found to have inverse impact on child labor. Similarly, the head's educational status also has negative impact on child labor. This is so because educated heads are more likely to have reasonable wage rate and therefore less likely to send their children to labor market work.

It is found that children in the families where heads belong to elementary, agriculture and sales work are more likely to work than the children in the families where the head is professional or assistant professional. The results indicate that child labor exists in all the provinces of Pakistan. It is found that children are more involved in labor in three provinces such as Punjab, Sindh and Khyber Pakhtunkhwa than in Baluchistan.

The child labor is found to be lower in urban areas than in rural areas. This is because social and economic conditions are relatively better in urban areas than in rural areas. The higher economic and educational opportunities are available in urban areas. However, in rural areas people are mainly involved in family occupations and therefore, more children are engaged in labor market activities.

Following is the main policy implication on the basis of above analysis: There should be more focus on the enrolment and education of the children. This will not only

increase the literacy rate and awareness among people but will also decrease the prevalence of child labor in the country.

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