



**Child Work and Schooling in Pakistan—
To What Extent Poverty and Other
Demographic and Parental
Background Matter?**

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ABSTRACT

Keeping into consideration the far-reaching social and economic impact of child work both for the children involved and society as a whole, in this study an attempt has been made to disentangle the child employment and schooling tradeoff with perspective to understand the effect of income deprivation measures and other non-income factors such as demographic and parental background information for Pakistan using Pakistan Panel Household Survey 2010 data set. At one level this research resolves empirically the debate that exist in literature whether child work is direct outcome of poverty or not in context of Pakistan through assessing the impact of the poverty channel for both likelihood of sending a child for paid work versus probability of enrolling a child into school and on other tries to connect the above line of reasoning with other non-income channels so as to build more enriching perspective. The consequences of household socioeconomic level in terms of its poor or non-poor status on child employment and child enrollment likelihood functions is assessed using both a direct measure of poverty based on household consumption expenditure information and also indirect measures based on access (or lack of it to be more specific) of household to electricity, sewerage system and to type of housing in terms of number of rooms and durability of house. In our empirical evidence, we do find strong support for poverty channel both directly and indirectly acting as defining force in decreasing his or her probability for school enrollment. However in context of effect of poverty on probability of child employment we do not find strong evidence through direct measure of poverty based on household consumption information, however the indirect proxies of poverty level of the household as child belonging to poor status in terms of access to certain type of living [living in house with no electricity, kaccha type of house (not bricked and hence vulnerable to fall), no sewerage system and with just one room] do provide strong evidence in support of poverty channel of impact on increasing the chances of child work. Further demographic information whether it is in form of increasing sibling size or impact of number of adult earners or parental background variables such as employment status of parents and their employment categories provides support for the significance of how being resource poor can be a binding constraint for the household and can act as an impetus to send a child towards paid work against schooling.

JEL Classification: C24, C25, I21, J13, J16

Keywords: Child Employment, Child Schooling, Discrete Regression and Qualitative Choice Models

1. INTRODUCTION

A child is a nation's future if a child is well taken care of that will translate into much better prospects for a country in terms of its human capital formation and hence overall development in years to come. Unfortunately in developing countries a child is marginalised in many dimensions besides under-investments in education and health sector. Such deprivation can take a much more evil shape in form of engaging a child into work for pay. This aspect of child abuse is brutal not only in sense of how it impacts the health and growth of a child but more so how it takes away the purest form of existence that lie in child, his or her innocence and childhood. Further child labour initially may present as a favourable opportunity for increasing resources especially for those households which are financially limited but in long-term results into substitution with education, leading to low levels of human capital within the household at micro level and for economy as a whole [Galli (2001)].

Consequently phenomenon of pushing children into earned work snatch myriad of opportunities at each stage of life for an individual. This is so since practice of child labour not only result into tradeoff between education and playtime but also affects the health of working child adversely. In later stage of adulthood, such individuals that have been engaged into work as a child are deprived of any decent standing in society both financially or socially since they grow into adults with no valuable skill and education (at most some basic technical knowledge). Hence child labour not only impacts the development prospects for current generation but its consequences are transmitted intergenerationally through binding the future prospects of such individuals and society in general.

Child labour exists in almost all the developing countries with varying magnitude. In India according to official figures out of 27 million children 12 million involve in early work and about half of the total children do not attend school regularly [FoSBT (2013)]. In above context sadly Pakistan is no different than a typical developing profile. The vulnerability that prevails in relevance to child welfare in Pakistan comes out very clearly from figures of more than 3.5 million children being reported as labourers [HRCP (2009)], 13.5 percent and 12.5 percent of female and male children being reported as employed in age group 7-14 respectively [World Bank (2011)] and about 7.3 million children being reported as out of school in 2009 representing 34 percent of the country's

primary school-age population with girls accounting for 57 percent of children excluded from primary education [UNESCO (2011)]. Hence state of a child's welfare is not satisfactory in Pakistan and need immediate attention from both social and policy perspective whether it is in dimension of broad access to education and health care services and outcomes or in terms of monitoring the employment status and opportunities for a child.

Further high rates of out of school children in Pakistan as documented in UNCIEF (2012) is alarming since children who do not get education are at higher risk of getting into paid work, however to what extent being out of school will actually be translated into child work in paid employment is largely an empirical question that needs to be investigated carefully. Hence one need to assess what leads to increase or decrease in likelihood of schooling for a child and see how such a finding add to our understanding of child labour. For example if the prime factor comes out to be high prevalence of poverty levels for decreasing the chances of school enrolment for a child, then we need to assess further how will it impact the probability of sending a child into labour force for paid work in face of binding resource constraints for a poor household. This is so since in presence of stringent credit constraints with increasing poverty addition to family resources through earned income of a child can result into much bigger and significant contribution in terms of releasing the financial burden facing such a household. Among few studies that support above proposition through empirical evidence include Ahmed (1999), Baland and Robinson (2000), Ray (2000).¹ Hence there exists a complex triangular relation between the income deprivation, schooling prospects for a child and indulgence into child employment for a household that need to be isolated and analysed.

Further if poverty is the main culprit that pushes children into work, then question arises for whom it is easy to get their children into work. Certainly, markets may not be as open to children as adults in job opportunities and parents of working children play important role to get them there. It is found that children of parents, who do work on family enterprises or farming, have greater chance to indulge in child labour as it is easier for them to get their children into labour without looking for new jobs in market [Canagarajah and Coulombe (2013)]. Parikh and Sadoulet (2005) while exploring the opportunities of child work presented by their own parents found that children of parents who are self-employed or employers have more likelihood to work than children of employee parents. Hence beside the poverty level as key element in explaining why children are pushed into labour force by parents, other socioeconomic demographic factors like gender, relation to head, household size, birth order of child, parents' employment and occupation, parents' education, community

¹Studies that have analysed the cause of child labour using data of 1990s in Pakistan found a positive association of child labour with poverty and negative with schooling levels of a child (Ray 2000).

factors such as region of residences like urban and rural divide and provincial variation etc, also play a vital role in defining the constraints for the household and determining the extent to which household take part in practice of child labour [Parikh and Sadoulet (2005); Dimeji (2006); Malik, *et al.* (2012)].

With above perspective in this research an attempt has been done to analyse the prevalence of child work in Pakistan with focus on identifying key demographic and household determinants beside the poverty status in defining such trends. Further an attempt has been done to understand our findings of causal elements of child labour also in context of how such determinants may impact the likelihood of sending a child to school by using the household survey Pakistan Panel Household Survey [PPHS: Round (2010)]. Both such analysis of probability of child employment and a child education will be done independently using individual level information for a child on household background variables as key explanatory determinants related to poverty and wealth status of household, parental and sibling information and other socioeconomic and demographic variables. Research on child labour and its relation with schooling behaviour of children of relevant age group and poverty and other household socioeconomic and demographic variables is worth doing in case of Pakistan due to following reasons:

- Firstly because child labour rates remains constantly high in the country.
- Secondly there is no recent study on country level on this issue mainly due to the unavailability of data.
- Thirdly besides looking at the relation with poverty, it has not been explored in context of Pakistan in literature how other demographic and household background variables set the trajectory for child work and how schooling prospects and schooling demand function relates to children being forced into earned employment.

The next section of the paper deals with the conceptual framework of the study, followed by the data and empirical methodology in Section 3. Section 4 discusses the empirical findings from our analysis and final one will draw some conclusions and policy implications.

2. CONCEPTUAL FRAMEWORK FOR CHILD SCHOOLING AND WORK

The question '*why parents substitute children schooling with work*' has often been explored in literature in varying dimensions. There are both demand side and supply side explanations for child labour and varied schooling behaviour [Brown, Deardorff, and Stern (2002)]. On demand side, engagement of child into work by employers relates mainly to incentives of securing labour at much lower cost so as to increase profit margin. This is so an adult is more

empowered to get his due right at one level and at other may have much more market opportunities available with him or her. Hence an adult may have more chances of securing higher pay compared to a child for same amount and quality of work.² Further a child labourer is not only paid low but also is denied non-wage benefits such as medical insurance, pensions or provident fund making them a valuable asset to have for an employer. Moreover, certain jobs may be more suitable for a child from perspective of an employer for example household chores, child care, jobs that require small stature, delicate fingers and sharp eyesight as required in bangle industry, carpet weaving, deep sea fishing, surgical instrument making and other handicraft industries to name a few. However demand side explanation in terms of what kind of market opportunities come across for a child given the profitability of employers engaging in such practices is not focus of current study and the objective in this work is to identify and analyse the supply side constraints that lead to child work from perspective of a household. Hence in discussion below mainly such supply side factors will be highlighted and analysed.

Given the prime emphasis on supply side determinants, of plausible causes one key factor that directly impacts the possibility of indulgence into child labour by household is their level of poverty status [Basu and Van (1998); Ahmed (1999) and Basu and Tzannatos (2003)]. In this line of thinking non-working status of an individual in household including a child is considered a luxury given high level of income deprivation and binding resource constraints. Such budget requirements may be more strict for a poor household given the limited or non-existent opportunities for borrowing in face of temporary crisis forcing children into paid employment [Baland and Robinson (2000)]. Further as such financial shocks take shape of more permanence in state of affairs for the household, then dependence on child earning that was initiated by altruistic parents for short period of time may turn into long-term arrangement given the survival of child itself depend on such earning in case of extreme poverty [Basu and Van (1998); Basu and Tzannatos (2003)].

However poverty channel of effect as the most significant determinant of child employment is debatable on empirical grounds as has been pointed out in literature [Ahmed (1999); Bhalotra and Heady (2003); Basu and Tzannatos (2003); Barros, *et al.* (1994)]. For example in case of Pakistan there come out to be positive relationship between child work and child belonging to household with much larger land ownership as researched in Bhalotra and Heady (2003) challenging the common wisdom that child labour decrease with accumulation of wealth. Also in Barros, *et al.* (1994), authors investigate importance of poverty for child labour outcomes using time series methodology and are unable to find any support for positive association between years of high levels of

²A child will engage in low skill jobs so quality tradeoff between a child and an adult is nonexistent or atmost marginal.

poverty with those years which shows high incidence of child labour again provides incentive to explore non-income determinants as possible causal factors in child employment puzzle. Hence one need to go deeper into dynamics and try to link child labour and poverty nexus with other behavioural, household background and demographic causes. In this context let us divide the discussion to come of non-income determinants into these following categories:

(a) Behavioural Causes

There exist a tradeoff between child schooling and work for parents for which both economic causes and also behavioural preferences play a decisive role for future course of action that parents take regarding their child's future. For example at economic front the resources constraints in conditions where parents income is low as discussed in case of impact of poverty or if schooling is very expensive can induce parents to send their child for work. However beside such economic constraints, preference of parents for whether to send a child to school or work also play an important role. For example if parents have more inclination towards work and less towards education as may be very likely in case of illiterate household there can exist a soft corner towards putting a child to work at a very early age. However such preferences also will be formed in response to economic conditions and norms prevalent in the society. In this context we need to see how returns to education and returns to work play a decisive role for child labour as discussed in literature in form of expected returns theory. Accordingly parents put their children into work because expected returns to work are higher than schooling [Betcherman, Fares, Luinstra, and Proutyb (2004)]. This may be a vital component in explaining child labour phenomenon in case of Pakistani society as Malik, *et al.* (2012) have found that in Sindh province of Pakistan perceptual job uncertainty is an important factor, pulling children into work. Also since returns to child employment may show up immediately while returns to education materialise in long run, this may bias poverty ridden parents further towards child labour as opposed to schooling even when collective earnings of adults and children increase to a level where education becomes affordable. This follows from the fact that not only do household lose out on child earnings if he or she is opted out of labour market by parents but also on household insurance mechanism in face of financial risk given the possibility of much more difficulty in finding a job for a child in conditions of uncertain market demand for child labourer. Moreover if child is taken out of school for a long time it might actually become difficult to motivate his or her interest in school and hence what may have started as temporary basis for a child may turn into permanent employment as child lose their capability for learning through schooling [Neumayer and Soysa (2005)].

Further how quantity-quality tradeoff for children define the trajectory for child work and schooling decision and intergenerational expectation for old age support puts limits on parents behaviour in reference to their child future are useful directions to follow in exploring the causal elements of child labour vs schooling practice. In case of low survival rates of children in developing countries Pakistan being no exception,³ there exists a tradeoff for parents in having much more children of whom at least some will survive or having fewer kids and investing more in their human capital building in terms of their health and education. In case parents choose to have higher rates of fertility so as to increase the pool of children for their old age support mechanism leads to much less investment in their educational and health care. This under-investment in a child may result due to presence of liquidity crunch for such resource poor parents in face of expanding family size and limited possibility of borrowing for investment into children with no available collateral in case of low income households. Hence in such household there will be more tendency for children to be put to employment not only as source of enhancing household income but also as means of gaining market skill at a young age in traditional societies [Grootaert and Kanbur (1995)].

(b) Household Background Causes

In traditional societies as in much of sub-continent due to unavailability of educational facilities and training institutions in most of rural societies, family plays as an important institution where not only children learn socialisation skills but also trained themselves in family enterprises [Singh (1990)]. Hence household background whether it is in form of socioeconomic status of the parents, their employment status, nature of their occupation or their education levels will have a huge influence on the priorities set of the parents as to how much they value their child's education and how much weight they give to child employment for sake of additional earnings and as a source of learning of a marketable trade for their future.

Parental employment history plays a significant role in defining the trajectory for child employment possibilities. If parent is unemployed especially father that may have direct impact on family resources and to cope with such a shock either the mother or child will work for sustainability of the household. However if mother choose to work this may relieve the burden of financial responsibility on going to a child. Hence parents employment (both mother and father) may actually decrease the probability of child working which is a possible testable proposition. However parental self-employment may actually induce children to help in family business so as to avoid paying wages to an

³Sate of children wellbeing is not satisfactory in Pakistan as Pakistan Demographic and Health Survey 2006-07 shows that infant mortality in Pakistan is 76 children out of 100 live births.

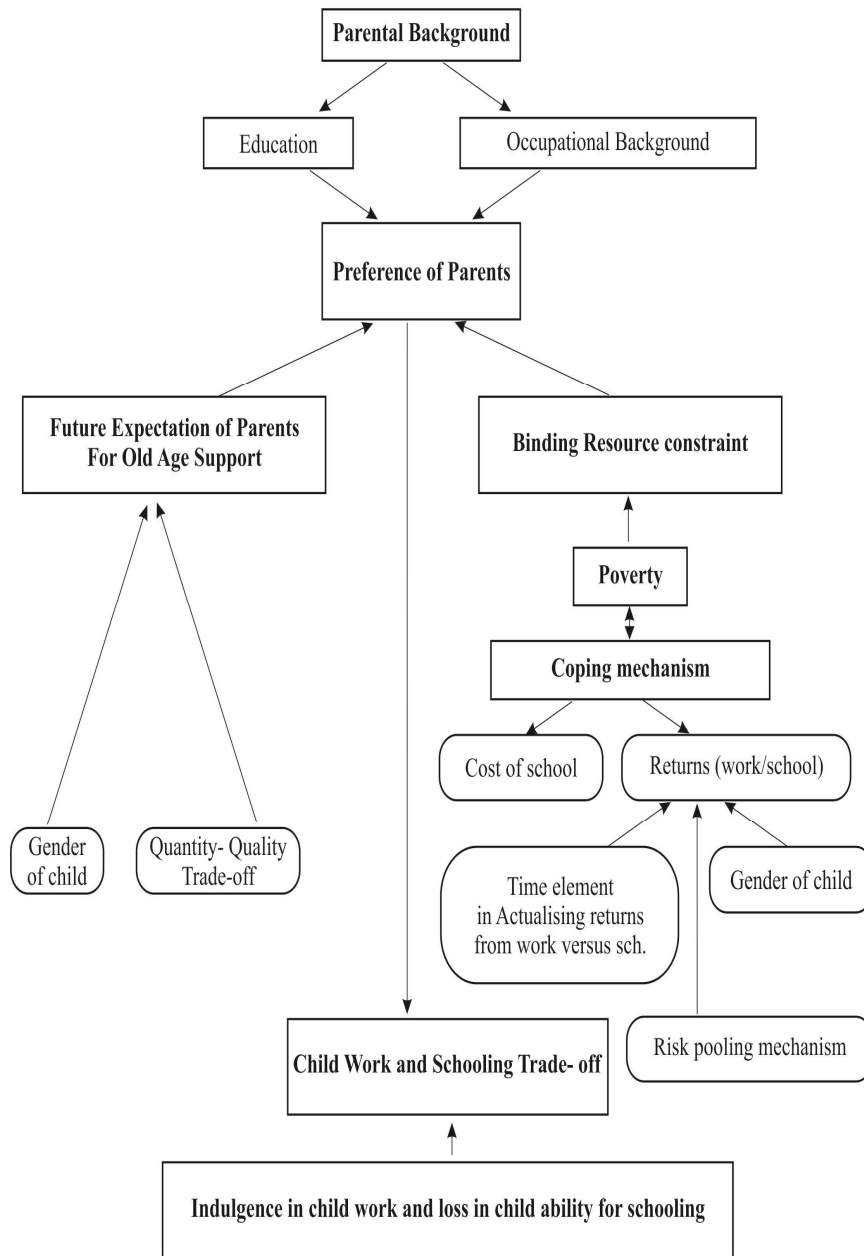
outsider employee on one hand and on the other may act as a source of easy and safe place of employment and training opportunity for the child [Edmonds and Turk (2004); Parikh and Sadoulet (2005); Canagarajah and Coulombe (2013)]. Hence employing children into family business will help make more productive use of household labour and may give them a safe environment for learning a skill. Further if parents belong to higher socioeconomic status even when they run family business they will engage their children for work but for fewer hours than parents who are self-employed and belong to lower socioeconomic status [Dimeji (2006)]. Hence parent's nature of occupation and their socioeconomic background had direct consequences for how they engage their children into child labour. Finally probability of child being encouraged into paid work may actually decrease with parent's literacy and probability of child school attendance may actually increase with parent's education [Hamid and Siddiqui (2001); Emerson and Souza (2003); Qureshi (2012)].

(c) Demographic Causes

Demographic information as to size of household, number siblings or other children of school going age in the household, birth order of the child and his or her gender can provide important insights as to how resources will be distributed within a household in terms of educational expenditure and share of children in financial constraints through child employment. For example in presence of liquidity constraints first born child may have more probability of being engaged in paid employment than the latter borns since for younger children combined earnings of parents and first born child may be sufficient to sustain not only the household financially but also result in enough savings to send other children to school [Emerson and Souza (2004), Chesnokova and Vaithianathan (2008)]. Similarly families with large family size and large set of siblings or children of school going age may face the same tradeoff as to which child to send to school and which child into employment to ease financial constraints. There can be a possibility that in face of stringent constraints household may discriminate between children of school going age depending on closer blood ties as son, daughters or a grand child may be protected from child labour and nephew and nieces may be engaged for work into paid employment. Further the gender dynamics may also play a vital role and how it will define the trend for child labour may vary from one context to other. This is so a girl child may be put to employed work so as to support the son's education given the expected returns to male children for parents in terms of old age support may be more than for a daughter since she will eventually be married off and will traditionally be not responsible for parent's look after in long run [Qureshi (2012)]. However on the other side of argument, son's chances of child labour may increase with much easy and safe access for work for them and role of daughters as household support in case of working mothers may shape parent's

preferences in favour of sending their son to paid employment is also an empirical possibility.

Flow Chart 1: Conceptual Links for Child Schooling and Work Tradeoff



3. EMPIRICAL METHODOLOGY

Applying the insight from Section 2, the child labour and child schooling nexus and their relation to household socioeconomic, parental background and demographic determinants are captured through using probit modeling employed in separate analysis of two phenomenon. Analysis is done for children age grouped 5–14 in accordance with official age of child labour. The regressand child labour in the probit model is used to understand dynamics of child employment into paid work and its relation to set of determinants such as household socioeconomic, parental background and demographic factors gathered in vector x_i , is qualitative in nature and is unobserved, or latent, variable y_i^* as below:

$$y_i^* = x_i' \beta + \varepsilon_i \quad \varepsilon_i \sim NID(0,1) \quad \dots \quad \dots \quad \dots \quad \dots \quad (3.1)$$

We examine only the sign of y_i^* , which determine the value of the observed binary variable y_i according to the relationship

$$\begin{aligned} y_i &= 1 && \text{if } y_i^* > 0; \\ y_i &= 0 && \text{if } y_i^* \leq 0. \end{aligned} \quad \dots \quad \dots \quad \dots \quad \dots \quad \dots \quad (3.2)$$

Where $y_i=1$ implies that the respondent child is being employed as child labour and $y_i=0$ otherwise.

Let \Pr denote the probability that $y_i=1$ conditional on the information set x_i , is

$$\Pr(y_i=1 | x_i) = \Pr(y_i^* > 0 | x_i) = \Pr(\varepsilon_i > -x_i' \beta | x_i) = F(x_i' \beta) \quad \dots \quad (3.3)$$

and the probability that $y_i=0$ conditional on the information set x_i , is

$$\Pr(y_i=0 | x_i) = \Pr(y_i^* \leq 0 | x_i) = \Pr(\varepsilon_i \leq -x_i' \beta | x_i) = 1 - F(x_i' \beta) \quad \dots \quad (3.4)$$

where $F(\cdot)$ is the cumulative density function of the standard normal distribution. The standard normal distribution for probability of deciding the child to participate in the child labour force over not choosing to work as a child can be expressed as

$$\Pr(y_i=1 | x_i) = \int_{-\infty}^{x_i' \beta} (2\pi)^{1/2} e^{-\frac{t^2}{2}} dt = F(x_i' \beta) \quad \dots \quad \dots \quad \dots \quad (3.5)$$

The coefficients from the probit model are difficult to interpret because they measure the change in the unobservable y^* associated with a change in one of the explanatory variables. A more useful measure is the marginal effects, it accounts for the partial change in the probability. The marginal effect associated with continuous explanatory variables define as

$$\frac{\partial \Pr}{\partial x_{ji}} = \frac{dF(x_i' \beta)}{d(x_i' \beta)} = f(x_i' \beta) \beta_i \quad \dots \quad \dots \quad \dots \quad \dots \quad (3.6)$$

Where $f(.)$ represents the probability density function of the cumulative distribution $F(.)$ a standard normal variable. In case of dummy explanatory variable the marginal effect is found by estimating the equation with and without variable of interest. Let the marginal effect of i th dummy variable would be found as

$$\delta_i = F(\beta_i \bar{x}_i, d=1) - F(\beta_i \bar{x}_i, d=0) \quad \dots \quad \dots \quad \dots \quad \dots \quad (3.7)$$

Where subscript i represent the variable but the i th and \bar{x}_i are their sample means.

The maximum likelihood principle is used to estimate the parameters in the β vector. The joint density function or likelihood function for a sample of n observations is given as:

$$f(y | x, \beta) = \prod_i F(x_i' \beta)^{y_i} [1 - F(x_i' \beta)]^{1-y_i} \quad \dots \quad \dots \quad \dots \quad (3.8)$$

Taking logarithms we obtain the log likelihood function (LLF)

$$\ln f(y | x, \beta) = \sum_i y_i \ln F(x_i' \beta) + (1 - y_i) \ln [1 - F(x_i' \beta)] \quad \dots \quad (3.9)$$

Since the x are known, the LLF is a function of β . The maximum likelihood principle maximises the LLF to attain the values of β in such a manner that the probability of observing the given y 's is as high as possible. For this purpose LLF is partially differentiated with respect to β and set the expression equals to zero that is

$$\frac{\partial \ln f(y | x, \beta)}{\partial \beta} = \sum_i \left[\frac{y_i f_i}{F(x_i' \beta)} + \frac{(1 - y_i)(-f_i)}{1 - F(x_i' \beta)} \right] x_i = 0 \quad \dots \quad \dots \quad (3.10)$$

Where f_i is the density, $\frac{dF(x_i' \beta)}{d(x_i' \beta)}$.

The same methodology of probit modeling would be implemented on latent variable child enrollment by considering the same set of child labour's explanatory variables. The two probit models to be estimated are as follows:

$$\Pr(y_i) = F(\beta H_i + \mu D_i + \delta S_i) \quad \dots \quad \dots \quad \dots \quad \dots \quad (3.11)$$

$$\Pr(z_i) = F(\beta H_i + \mu D_i + \delta S_i) \quad \dots \quad \dots \quad \dots \quad \dots \quad (3.12)$$

where

- i = indexes the individual child
 $F()$ = cumulative Probit distribution
 $Pr(y_i)$ = the probability of child i being employed as child labourer
 $Pr(z_i)$ = the probability of child i being enrolled in school
 H = vector of household background characteristics (parental education, parental employment status/ employment categories dummies)
 D = vector of demographic variables (gender of the child, siblings dummies, eldest child dummy, Distant relation to head other than son, daughter or grandchild dummy)
 S = vector of household socioeconomic status (household poverty, electricity availability, sewerage availability, Kaccha (not bricked) type of housing, one room housing, location of residence dummy).

A specific description of the demographic variables, household socioeconomic and parental background determinants used in the models above is presented Table 3.1, Table 3.2 and Table 3.3 as below and expected signs in light of literature review of the included variables in the equations capturing impact on probability of child employment and enrolment respectively are presented in Appendix Table A.1 and A.2.

Table 3.1

<i>Demographic Variables</i>	
Male	Male =1 if male, 0 if female
Siblings Dummies	S2 = 1 if two sibling, 0 otherwise S3 = 1 if three, 0 otherwise S4 = 1 if four or more siblings, 0 otherwise
Eldest Child	Eldest Child =1 if first born child, 0 otherwise
Distant Relation to Head of Household	Kids other than daughter, son or grand child=1, 0 if daughter, son or grand child

Table 3.2

<i>Household Socioeconomic Variables</i>	
Poverty (Household)	Poor =1, 0 otherwise
No Electricity	Not using electricity =1, 0 otherwise
Kaccha House (not bricked, vulnerable to fall in rain)	Living in Kaccha house=1, 0 if Pakka (Bricked) Housing
One Room House	One room=1, two and more =0
No Sewerage System	Open or No access=1, 0 if Covered/underground
Urban	Urban residence=1, 0 otherwise

Table 3.3

Household Parental Background Variables

Years of Father Schooling	No. of years of father completed education
Years of Mother Schooling	No. of years of mother completed education
Father Working	Working=1, 0 otherwise
Mother Working	Working=1, 0 otherwise
Father Employee	Employee =1, Not working=0
Father Employer	Employer =1, Not working=0
Father Self-employed	Self-employed =1, Not working=0
Father Unpaid Family Worker	Unpaid family worker =1, Not working=0
Mother Employee	Employee =1, Not working=0
Mother Employer	Employer =1, Not working=0
Mother Self-employed	Self-employed =1, Not working=0
Mother Unpaid Family Worker	Unpaid family worker =1, Not working=0

4. DATA

The current study is using Pakistan Panel Household Survey 2010, as information on child work available. PPHS is covering 16 district of Pakistan. Study is using the definition of child work⁴ ‘any child aged 5-14 working in formal or informal sector in any industry. We have taken this age limit mainly because of two reasons. Firstly the data on employment in PPHS⁵ is available for 5 years and above, that’s why we cannot capture child work dynamics before this age limit. Secondly, the upper age limit is taken in accordance to the article 11(3) of constitution of Pakistan that prohibits the employment of any child in any factory, mine or hazardous work [ILO (2013)]. Moreover we categorically take child work as an activity done for financial gains either carried out in formal or informal sector; household chores or any other domestic help that can children provide is not considered as child work. The total sample of children is 7239 of aged 5-14. Study is not dealing with timings of work, as information about hours of work is not available. About 78 percent children in our sample who work belongs to agriculture sector which is due to much higher representation of the rural sample in the overall data set (see appendix table A.4). PPHS has detailed modules on households’ consumption including food and non-food items. PPHS provides poverty variable based on these

⁴We are using the term child work but not child labour as we have no information on work timings and severity of work. However in the study we have used work, labour and employment as interchangeable terms.

⁵Current study is using PPHS as cross sectional survey not as panel one because in the first round of this survey which is done in 2001, data on child employment is not consist with 2nd round in 2010. In 2001 employment on female child is available for 7 years and older. Employment data for male children is only available for 7-9 years age bracket.

consumption modules. Poverty variable has been constructed on official poverty line Rs 1671.89 for 2010 per adult per month.

5. CHILD LABOUR AND SCHOOLING NEXUS: A DESCRIPTIVE ANALYSIS

Pakistan Panel Household Survey 2010 gives us opportunity to analyse pattern of child employment/schooling decision for households for a wide pool of children. From this data set one can extract information not only on those children who work in paid employment versus those who go to school but also on those who do part-time work and hence attend school along with employment and those who neither work nor seek employment. Hence discussion that will follow below will focus on four mutually exclusive demarcations of children into those who only take part in paid employment, who only attend school, who attend school with part-time work and finally who neither attend school nor work.

Tables 5.1 show the children working and out of school in percentage terms by gender and regional divide. In total sample of working children without considering rural and urban divide we find males (6.53 percent) are working in slightly higher proportion than females (6.07 percent) about 7.58 percentage points higher. Looking in to rural urban dynamics in Table 5.1, we find that overall rural children are more involved in work (8.2 percent for males and 8.1 percent for females in rural areas with very minute gender differential (male-female) of 0.01 and males participating 1.24 percent more than females in rural sector compared to 2.6 percent for males and 1.7 percent for females in urban sector with higher gender differential being 0.09 and males participating 52.9 percent higher relative to females). Chances of child work might also increase with his/her age as well. Table A.3 in Appendix shows the working and out of school children by age and gender. Age of children is mainly divided into two main groups i.e. 5-9 and 10-14. Overall with age children participate more in work as percentages of work are higher for 10-14 age category (4.21 percent for males; 2.99 percent for females) and (0.94 percent for males; 0.39 percent for females) in age group 10-14 and age group 5-9 respectively for urban sector; (10.86 percent for males; 9.90 percent for females) and (3.27 percent for males; 4.02 percent for females) in age group 10-14 and age group 5-9 respectively for rural sector]. In 5-9 age category the total urban children working is less than one percent, however in rural areas about 3.27 percent male and 4.02 percent females children are working. Rural female children in this age category also seem to be at most disadvantage as compare to all other children in rural and urban areas. Under 10-14 age category, rural children are working more as total male and female working children in rural sector are 6 and 7 percentage points higher than male and female working children in urban sector respectively. The higher proportion of overall rural children in sample of working children might

be due to the fact that our sample is mostly rural [69.52 percent of the children in our sample belong to rural sector and 30.481 percent belong to urban sector as can be seen in Table 5.1 below] and majority of working children sample are found to be working in agriculture related activities [see Appendix A.4, A.5, A.6]. It is commonly observed that in rural sector the whole families work on fields—children help parents to do manual task in less time, hence that can be one possible explanation for higher percentage of working children belonging to agricultural related activities in rural sector.

Table 5.1

Children Work and School Profile (%) by Gender and Region

Work and School	Urban		Rural		Total	
	Male	Female	Male	Female	Male	Female
School Only	71.51	68.59	58.05	45.65	62.06	52.82
Work Only	2.07	1.1	4.82	6.69	4.00	4.95
School and Work	0.54	0.64	3.4	1.29	2.55	1.09
Neither School Nor Work	25.88	29.67	33.73	46.36	31.39	41.15
Total Working	2.6	1.7	8.2	8.1	6.53	6.07
N	1109	1092	2615	2405	3724	3497
Sample Size (%)	30.481%		69.52%			

Source: Pakistan Panel Household Survey (2010).

Further looking deeper into differences in trends across four categories relating to school and work decision by gender and regional divide in Table 5.1 above following trends are found. By looking at the children who attend school only, urban areas show much higher percentages than rural areas (71.51 percent and 68.59 percent for males and females respectively in urban sector compared to 58.05 percent and 45.65 percent for males and females respectively in rural sector) and with less gender (male-female) differential of 2.92 for urban sector and 12.4 for rural sector. However in percentage terms, males are attending school 4.3 percentage points higher compared to females in urban sector, while in rural sector the males are attending school in higher than females in proportion of 27 percent compared to their urban counterparts. Hence in urban areas we do find overall higher preference for education for both male and female than rural sector, however in terms of gender dynamics though male children are in better position in terms of schooling in both sector but in rural sector parents have much higher preference for educating their sons than daughters as compared to urban sector. The same dynamics come out in part-time work category of children who attend school with work where much higher proportion is found in rural areas than urban sector (3.4 percent for males and 1.29 percent for females in rural sector and 0.54 percent for males and 0.64 percent for females in urban sector) and in terms of percentage comparison

across gender, male children tend to be 163.5 percent higher relative to females in rural region, however the pattern is reversed in urban areas where females are higher by 18.5 percent than males in this category. This again shows that in rural sector when parents have to choose to send their children to school with work, they will prefer their sons to their daughter. Hence in rural sector there seem to be clear indication of education of a boy than a girl in our sample

Moreover in Table 5.1 when we try to get hold of trends relating to employment decision of children by looking into figures in work only category, we find that in rural sector, females are working in much higher proportion than males by amount of 38.8 percentage points more (6.69 percent for females and 4.82 percent for males) while in urban sector there is clearly preference for sending a male child to work in paid employment compared to female as can be seen by the pattern that males children are working by proportion of 88.2 percent higher than females in urban sector in work only grouping (2.07 percent for males and 1.1 percent for females). This gender trend can be justified on grounds of patriarchal concern for safety of a child in traditional societies being stricter for female child with family honor being tied to her. Since rural sector is a relatively more close knit societal structure with stronger communal ties than urban setting hence it may provide much safer avenues for work for a female child and such safe work opportunities may be available to female children to much lesser proportion in urban areas pushing parents to decide for son's employment in face of binding resource constraints. Finally looking in to last category of children who neither go to school nor work again we find that in both rural and urban sector a female child is again in disadvantageous position (29.67 percent and 25.88 percent for females and males respectively with females being in higher percentage of 37.4 percent than males in rural sector in this category and 46.36 percent and 33.73 percent for females and males respectively, females being in much higher proportion of 14.6 percent relative to males in urban sector). Disadvantageous position of rural children and especially females is not surprising. Overall one can find such pattern in enrolment and other social and development indicators in Pakistan as found by [Qureshi (2012); Masood (2011)].

From discussion above in light of descriptive figures in Table 5.2 below the clear findings that come out are that in rural sector there is more incidence of child work into paid employment than urban sector. This trend could be specific to nature of sample collected in Pakistan Panel Household Survey (2010), for it has much higher representation of rural sample and also among urban centres it mainly deals with small town urban centres and had excluded big cities except for Faisalabad from the survey. So this finding is specific to data being used, but given our data set important trend that come out is that there is clear preference for education of a son than a daughter and further in case of employment also there exist a tilt a female child than a male child in rural setting. However in

case of urban areas we do find again preference towards schooling of male child than female child and among children who are taken out of school and not put to work the portion of female children is higher, however given that safe opportunities of work may exist for a boy than girl in urban areas we find much higher proportion of male children working than females in urban sector areas as can be seen from figures of work only category. Further a key point to note in figures in Table 5.1 is that there is level huge proportion of children (both male and female) lying in category of those who are neither attending school nor working in paid sector and these percentages are much larger than those who belong to work only category or part-time work in both rural and urban areas. Hence interesting observation that come out from this is that parents are taking children out of school for some reason but that is not all being translated into child work rather a huge bulk of children are kept both out of school and paid work in case parents can not afford schooling.

Table 5.2

*Children Work and School Profile (%) by their Poverty Status,
Gender and Rural-Urban Divide*

Poverty Status	Work Only	School Only	Work and School	Neither Work Nor School	N
URBAN					
Male					
Non poor	1.54	73.98	0.55	23.93	911
Poor	5.49	54.27	0.61	39.63	164
Total	2.07	71.51	0.54	25.88	1109
Female					
Non poor	1.03	70.97	0.57	27.43	875
Poor	1.52	55.33	1.02	42.13	197
Total	1.1	68.59	0.64	29.67	1092
RURAL					
Male					
Non poor	4.37	62.35	3.74	29.54	1923
Poor	6.1	45.83	2.38	45.68	672
Total	4.82	58.05	3.4	33.73	2615
Female					
Non poor	6.79	53.01	1.58	38.62	1709
Poor	6.63	26.8	0.59	65.98	679
Total	6.69	45.65	1.29	46.36	2405
Total					
Male					
Non poor	3.46	66.09	2.72	27.73	2834
Poor	5.98	47.49	2.03	44.50	836
Total	4.03	61.85	2.56	31.55	100
Female					
Non poor	4.84	59.09	1.24	34.83	2584
Poor	5.48	33.22	0.68	60.62	876
Total	5.00	52.54	1.10	41.36	100

Source: Pakistan Panel Household Survey (2010).

Poverty is often considered as the sole reason to drag children into work however in different studies we find mix results [Ray (2000); Sarkar and Sakar (2012)]. Table 5.2 shows the percentages of children working and out of school by the poverty status of households, by their place of residence that is whether they live in rural or urban sector and by their gender. As expected percentages of children living in poor household in table above are higher in work only category and those who neither go to school nor attend school. In children who belong to work only grouping there comes out to be percentage increase of amount 72.8 percent for those who categorised as of poor background compared to non-poor children among male children and 13.22 percent for female children while for those children who belong to neither work nor school category this figures for males come to be 60.5 percent and 74.04 percent for females. However trend is reverse among children who belong to school only category or those who do both work along with school for both males and females whereby in these two categories children from non-poor background are attending school more than children from poor households. In case of school only category percentage increase for who belong to non-poor background compared to poor status is found to be 40 percent for males and 77.88 percent for females and for those who do part-time work with schooling this percentage increase comes out to be 33.9 percent for males and 82.35 percent for females. Hence above finding show that among those who are attending school for both male and female children we find the portion belong non-poor status is higher while those who work whether as full-time or part-time job there is much higher evidence of such children belonging to poorer backgrounds which provides support of possibility of poverty playing as a key factor in schooling and child work decision for the parents.

Table 5.3 above provides information in percentage terms on demographic and socioeconomic variables and household background characteristics for children in different work and school categorisations. According to descriptive statistics in Table 5.3 males tend to be have much higher percentage of 55.58 percent for school attendance than females. However in terms of employment we find that males have much higher percentage in part-time work (71.43 percent) than when for households who only indulge in child employment and no child schooling (46.26 percent) and among those who neither attend school nor work we find females to have higher percentage (55.18). Hence one can see a tendency for overall son preference in society since among children who are given education only, we find slightly higher proportion of male children and among employment only category we find slightly lower percentage for males, however this marginal tendency towards female child work is mitigated in group of part-time workers where males are in much higher proportion. Part of reason could be because male education is more preferred as investment for future by parents at one level given the old age dependence on sons than daughters in traditional societies and other opportunities for safe part-time work places and

Table 5.3

*Children Work and School Profile (%) by Demographic,
Socioeconomic and Parental Information*

Household Variables	Work Only	School Only	Work and School	No Work and No School
Age Group: 5-14				
Male Proportion	46.27	55.58	71.43	44.82
Distant Relation with Head	7.31	6.56	1.55	6.2
Eldest Child Proportion	56.21	39.08	51.88	35.39
Proportion Living with More Than One Siblings	94.72	92.68	95.72	92.4
Proportion Living with >2 Adult Earners	66.45	29.44	67.17	36.11
Father Literacy	29.41	64.69	45.07	40.02
Mother Literacy	3.4	27.28	11.42	7.6
Father Working	8.40	5.45	3.16	4.98
Mother Working	30.99	80.44	22.86	83.27
Father Employee	38.89	57.06	34.41	50.46
Father Employer	1.39	2.52	0.00	1.90
Father Self-employed	56.48	36.51	56.99	42.21
Father Unpaid Family Worker	3.24	3.91	8.60	5.43
Mother Employee	54.31	62.99	30.43	60.48
Mother Employer	0.00	0.60	0.00	0.60
Mother Self-employed	1.72	7.16	13.04	2.99
Mother Unpaid Family Worker	43.97	29.25	56.52	35.93
Proportion Poor	30.52	16.82	17.42	34.87
Proportion with Kaccha House	68.94	28.4	52.27	58.45
Proportion without Sewerage System	78.88	52.76	55.3	72.55
Proportion with No Electricity	37.26	5.69	26.51	18.62
Rooms in hh-One Room	38.20	22.09	18.94	31.95

Source: Pakistan Panel Household Survey (2010).

schools may be more for males than females. Hence in case of limited resources household may take pains for part-time education for a son than a daughter. Also female child may be delegated household responsibilities and hence for children who do not go to school and do not seek paid employment, one find slightly higher percentage of females as compared to males (55.18).

Among other demographic variables in Table 5.3, there is only marginal difference among school only and work only categories for being distant relative to head (other than son, daughter or grandchild), hence whether parents have preference for their own sons, daughters or grandchildren against distant relation like nephew, nieces etc. do not come out clearly from these figures. However, in case of eldest child dummy, among work only and part-time work categorisation the percentage of being eldest child is slightly above 50 percent (to be specific 56.2 percent and 51.88 percent respectively) while in school only category the percentage is 39.08 percent (10.92 percentage point below 50 percent) indicating that there can be a weak and marginal impact of being first child on likelihood of being sent to paid work though direction of impact cannot be inferred from given information and much stronger negative impact on schooling prospect. However whether this prediction will hold in regression results is open to further empirical assessment. We also find that percentages are bit higher for children who have more than one siblings in those who only work (94.72 percent) or seeking schooling with part-time work (95.72 percent) as compared to other two categories of school only (92.68 percent) and neither school or work (92.4 percent). This pattern may be indicative of the larger family size channel, which drag children into work to meet family ends. Finally among the last of the demographic variable that is number of adult earners in any household that can be taken as a proxy of the economic security of the children living in the particular household since dependency ratio changes with number of adult earners, the findings in table 5.3 strangely show descriptive patterns that are bit against to common intuition in regard to this variable. This is so since in sample under consideration the proportion of children living in households with more than two earners are higher for children who are working only (66.45) and working and going school (67.17). These puzzling results may be due to the fact that our sample of children who work belongs to mainly to agriculture sector. It is commonly observed that in agricultural setup in Pakistan everyone in poor family involves in work and carry out tasks; children and adults alike. In this context, number of earners may not essentially contributing financially but only contribute to carry out the task that whole family is doing.

Among parental background variables in Table 5.3, the clear pattern that can be seen is that parental education which plays a key role in prospects for child schooling. Among children who attend school only and among those who do part-time work with schooling, we find that father and mother literacy percentage is much higher than among groups of children who only work. Also if we compare categories of children who work only with those who neither work nor seek employment we find that in these groups there is marked difference in parental literacy percentage, being higher for latter group of children. Hence above trend points to underlying preference of educated parents for investment in human capital building of their children than work. Another

interesting patterns that come out from our data is that proportion of working mothers is always higher in each category than working fathers. Since our sample is mostly rural, hence this pattern could be specific to nature of data. However from parental work status we can see that in categories of children who go to school and in those do not attend school or work we find much higher percentage of parental employment 5.45 percent and 4.98 percent for working fathers and 0.44 percent and 83.27 percent for working mothers respectively as compared to categories of work only or part-time work where overall percentage for working parents is much less (though mothers always are working in much higher proportion than fathers). Hence this may indicate that children are forced to send their children to employment partly to compensate for loss in adult earnings due to much lower participation rates for work for parents wherever parents opt for child labour for their children whether permanent or part-time. Also if mothers are able to find more work and are made more empowered than it leads to more possibility for schooling for their children and if cannot afford schooling atleast act as a safety net for children to protect them from child labour as can be seen of 80.44 percent and 83.27 percent working mothers in children who attend school only and those who do not attend school or work. Another interesting observation that come out is that among those who work and those who seek part-time work categories father self-employment increase the possibility of engaging the child in family enterprise as can be seen by figures of 56.48 percent and 56.99 percent respectively. However this channel of impact of self-employment do not seem much valid for working mothers.

Finally in terms of socioeconomic indicators for poverty status in Table 5.3, we can see that percentage of poor comes out to be around 30.52 and 34.87 for work only and those who neither work nor go to school children. While among those who go to school and those who attend school with work the percentage of poor comes out to be much lower at 16.82 percent and 17.42 percent respectively. Hence among those who go to school and those work only we do find that proportion of non-poor are less for children who have access to education and go to school (whether with part-time work or not) than those who work only. Similar pattern emerge on other socioeconomic variables of being poor beside the poverty variable based on consumption expenditure information, however the difference in percentage terms between school and work categories is much stronger for proportion with kaccha (not bricked) house and proportion without sewerage system. In table 5.3 we find that percentages of households with no electricity is higher for children who belong to categories of work only (37.26 percent), work and school (26.51 percent) and neither work nor school (18.62 percent) as compare to children who only goes to school (5.69 percent). Hence indirect measures of socio-economic status in relevance to whether household belongs to poor or non-poor living conditions in percentage terms do show a tendency for support of poverty argument in child employment and

schooling tradeoff. However, how will poverty impact translate in final calculation whether directly through poverty variable based on consumption expenditure information or through indicators of poor status through information based on type of housing, usage of sewerage and electricity usage etc is an empirical question and will be discussed in coming section in more detail in light of empirical results.

6. EMPIRICAL RESULTS AND FINDINGS

Table 6.1 gives us the marginal effects of demographic, household background variables especially related to parental education and occupation and variables that can define whether individual belong to poor or non poor background on probability of being employed/probability of being enrolled in school for children in age group 5-14. Four sets of models are presented in table 6.1 where model 1 focus on the likelihood of child employment dynamics while model 2 focus on likelihood of child schooling dynamics. Subscripts a and b with these models distinguish between analysis that controls only for parents working status (model 1a and model 2a) and analysis that include for employment categories as employee, employer, self-employed and unpaid family worker instead of work status of parents (model 1b and model 2b). As discussed earlier in both sets of analysis whether of child employment likelihood function or child enrollment likelihood function, the sets of determinants are kept the same so as to assess how such variables play out their role in child labour versus child schooling dynamics.

Focusing on model 1a and model 2a in Table 6.1 above, one finds that being a male has positive and significant impact on both probability of being employed and probability of being enrolled in school, though impact is more in magnitude for schooling equation being 37.4 percent as oppose to 24.9 percent for child employment equation. Hence given the patriarchal setup of Pakistani societies we find that not only there is more likelihood of male child for schooling given much better market prospects and reward system for males than females and much more dependence on son than on daughters for old age provision for parents but in case household are pushed to send their children for paid work again likelihood is more for a boy than a girl. This may be due to much more market opportunities for a male child than a female child and safety concern facing a female child for outside work and delegation of household chores to a female child.

To assess how resource constraints impact the behaviour of child employment and child schooling for a household we have included in our regressions three variables one is sibling dummies, eldest child dummy and number of adult earners. Given the budgetary constraint channel it is expected theoretically that increase in size of siblings will increase financial burden on parents and hence in presence of limited resources will lead to decrease in

Table 6.1

*Maximum Likelihood Probit Estimates of Probability of being
Employed in Paid Employment/being Enrolled for a Child
in Age Group 5-14 by Working Status of Parents*

	Probability of Being Employed		Probability of Being Enrolled	
	Model 1a	Model 1b	Model 2a	Model 2b
Constant	-2.907*	-2.883*	0.398***	-0.055
Male	0.249*	0.093	0.374*	0.325*
S2	-0.089	-0.085	0.185***	0.195**
S3	0.0307	0.051	0.292*	0.214*
S4	0.299***	0.364*	0.172***	0.206*
No. of Adult Earners	0.199*	0.207*	-0.077*	-0.061*
Eldest Child	-0.818*	-0.459*	0.029	0.120*
Distant Relation	0.024	0.274***	-0.201	-0.114
Father Years of Schooling	-0.026**	-0.021*	0.049*	0.041*
Mother Years of Schooling	-0.014	0.007	0.031*	0.045*
Father Working	-0.021		-0.113	
Mother Working	0.957*		0.192*	
Father Employee		0.167***		0.211*
Father Employer		-0.093		0.149
Father Self-employed		0.086		0.159*
Father Unpaid Family Worker		-0.013		0.225**
Mother Employee		0.538*		0.048
Mother Employer		-5.260		-1.049
Mother Self-employed		0.598**		0.863*
Mother Unpaid Family Worker		0.788*		0.188***
Poverty	-0.102	-0.113	-0.471*	-0.429*
No Electricity	0.479*	0.439*	-0.484*	-0.466*
Kaccha House	0.251**	0.197*	-0.543*	-0.497*
No Sewerage	0.277	0.278**	0.099	0.138***
One Room	0.056	0.138**	-0.223*	-0.133*
Urban	-0.241***	-0.322*	0.024	0.079***
McFadden R-sq.	0.3029	0.2585	0.1665	0.1499
N	2543	6281	2542	6280

Source: Pakistan Panel Household Survey (2010).

Note: The p-value significant at 1 percent, 5 percent and 10 percent are indicated by *, ** and *** respectively. All coefficients are normalised to reflect marginal effects. Dependent variable is Employed =1 if employed, 0 otherwise in model 1a and 1b and Enrolment =1 if enrolled, 0 otherwise in model 2a and 2b.

likelihood of children for schooling and increase their prospects for seeking paid employment in case of extreme financial crunch. Results in model 1a and model 2b supports the above theoretical expectation as empirical findings show that with increase in sibling size from sibling size of three to four one find a significant increase in likelihood of being employed by a proportion of 26.83 percent (as oppose to rise of 11.97 percent as size increase from two to three siblings) and a decrease in likelihood of being enrolled by a proportion of 12 percent. However eldest child variable may partly mitigate this impact in the sense that eldest child may be sacrificed to work and drop schooling for better prospects of later children. However this is largely an empirical question and there can also be possibility to keep eldest child at schooling and access to education may be taken away from latter borns in case of financial burden so as to have atleast one child with completed education and better future earning capacity. Our results in model 1a and 2a find that being eldest child has marginal positive impact for probability being enrolled of 2.9 percent though insignificant, and much more sizable negative and significant impact on probability of being employed (81.8 percent). This results goes well with direct effect for sibling size dummies as we can see that this variable has much more pronounced and significant impact as sibling size increase from three to four than from when no. of siblings rise from two to three. Hence resource constraints may be having more impact on children with lower birth orders in terms of their schooling prospects and push towards the paid employment than the first born child. This show that overall in our data set there is underlying preference for child schooling as oppose to child employment.

A puzzling impact that comes out from model 1a and 2a is that we find significant positive and sizable impact of no. of adult earners on child employment and significant negative though relatively marginal impact on likelihood of child enrolment. This is against conventional wisdom, as one would expect that with increase in no. of adults earners in a family one might predict the pressure for a child to work to be taken off and the prospects of schooling for a child will increase in place for their push into paid employment with increase in pool of financial resources. Hence our findings are in contrast to convention theoretical insights. Further in our data set when we run model 1b and 2b, with employment categories for parents we again find that no. of adults earners show the same signs and pattern as model 1a and model 2a, however we find a positive impact of self employment category for the father and mother of magnitude 8.6 percent and 59.6 percent (impact for mother being significant at 5 percent). Hence one explanation for this puzzling impact could be that even when proportion of adult earners are increasing since our sample is such that self employment (small scale family business) for parents is having sizable positive impact on child employment so it could be that increase in no of earning adults may be contributing in family

enterprise, hence the impact of no. of adults may be correlated with opportunities provided for safe child employment and much more cost effective use of household labour with expanding family business can be a likely explanation (See Appendix Table A.4, A.5 and A.6 to see the sectoral division of work activities for children where they are found to mostly involved in agricultural related activities). Moreover, even if self-employed channel is not as much relevant for above explanation given the current data trends (much smaller pool of working fathers than mothers and among working a small contribution from self-employed category), another pathway that could justify the direction of effect for increasing number of adult earners could be through poverty channel. Even though we are controlling for poverty level in our regression, but it could be that our proxies of poverty are not entirely capturing the phenomenon entirely which is being translated into this variable. Hence given the rising sustained inflation in two digits, purchasing power of household may be on decline that may be resulting into a sizable positive impact of increase in no. of adult earners on child employment likelihood and negative on child schooling prospects even in presence of increasing pool of financial funds from adult earnings can be another explanation for our finding. Finally given that our data set is such that it contains households mostly from rural sector with lower socioeconomic status and where mostly whole families are involved and individual earnings are not much, hence this result may indicate this very representation within the structure of available information. Whereby impact of the increase in number of adult earners on child schooling versus employment decision is actually revealing efficient use of family resources in context of on farm work or other relevant jobs within that agricultural economy. Such jobs for households may actually represents safe avenue for work for their children on one hand and on the other increasing number of adult earners within household may not be resulting into increase of financial resources for the household to level where one finds household to be in a strong position to commit their child to school and no work in context of low paying agricultural jobs. Hence though number of adult earners is an important indicator since dependency ratio in any household changes with its count, however our results show that not necessarily the number of adult earners matters how much they are contributing is also of significance.

Parent's education and parent's work status plays the most important role for a child's future. Not only educational and occupational base of parents define their socioeconomic status but also their capacity to invest or not invest in child's human capital building process whether it is in form of their educational goals or in terms of their healthy physical and psychological growth. Further educational exposure of parents may also shape their preference for education of child versus their employment is also valid channel of impact. Hence chances

for a child to indulge in education than child labour would be more for a child with educated and employed parents than otherwise. But from policy perspective another important channel that needs to be understood is among parents what kind of difference in effect may exist for a father and a mother. That is will there be a differential impact with increase in mother's versus father's education or employment status on child employment and child schooling prospects and if so then what is magnitude of such an impact. Hence if one finds evidence in favour of much more effective role of one parent vrs the other say a mother, then it may provide rationale for who to target as prime beneficiary in cash transfer programs such as benazir income support program with objective to have that cash be utilised efficiently for welfare of children in households.

Our results confirm our theoretical prediction that parent's education indeed plays a significant positive impact in terms of increasing the probability for a child enrolment. However though the impact is positive and significant at 1 percent level of significance for both father's and mother's educational variable, the impact for father's schooling level is slightly more in case when we include working status of parents only (model 2a: 4.9 percent and 3.1 percent increase in probability of child enrolment with unit increase in father's and mother's years of schooling respectively). But when employment categories are added (model 2b) the positive and significant impact come out to be marginally higher for mother's education compared to father's years of schooling (4.1 percent and 4.5 percent increase in probability of child enrolment with unit increase in father's and mother's years of schooling respectively). Hence though education of parents do tilt parent's preference to be biased towards much more education for their children, however one cannot find robust impact concerning as to which of parent's have more pronounce role in such an inclination from our data set. Further in terms of child labour side of story, we do find a clear indication of father's education having much stronger role in such a decision, whereby a unit increase in father's year's of schooling decreases significantly chance of child employment by 2.6 percent (model 1a) and 2.1 percent (model 1b). Also the impact of mother's years of schooling come out to be insignificant in both the regression model 1a and 1b. However this role is reversed once one focus on the work status of parents.

Our results in model 1a and 2a show that whether father work or not is not of much significance for increasing enrolment probability or decreasing likelihood of child labour rather it is mother's work status that not only significantly impacts at 1 percent level of significance on both probability of child enrolment and child labour but also has a sizable effect in terms of magnitude. Our results in model 1a and 2a shows that a working mother as oppose to non-working mothers increase the probability of enrolment of her child by 19.2 percent and that of child employment by 95.7 percent. At first

glance this results may seem surprising as to why a working mother increase the chance for a child to be involved in paid work as oppose to conventional theoretical insights that parents earnings may protect a child from paid work. Moreover direction on father's work status is negative though insignificant and marginal in magnitude of 2.1 percent as oppose to 95.7 percent for a working mother which is more in line with conventional wisdom. However given the description of data set being used for current analysis and given the patriarchal norms of Pakistani society, this result can be justified empirically for our sample set. From table 5.3 in descriptive section, one can see that in all four categories of children namely: work only, school only, work and school both, neither work nor school, there is substantiating large portion of working mothers as compared to working fathers, further once we look deeper in terms of employment categories as employee, employer, self-employed and unpaid family workers for a working mother we find much larger portion lies in either employee category or unpaid family worker and hardly any in employer or self employed categories for all four grouping of children. Hence it can safely be inferred that in this given sample among the working population majority is of working mothers as oppose to working fathers and among them too not many are financially powerful as can be shown by a negligible proportion in categories of an employer and self employed mothers.

Further if we look into findings of model 1b and 2b which controls for employment categories for parents, we can see for employee category for both father and mother, there is positive and significant impact on probability of child employment (16.7 percent for father and 53.8 percent for mothers) and positive though significant only for father on probability of child enrolment (21.1 percent for father and 4.8 percent for mothers). From the above pattern we can see for a father in employee category, the likelihood of sending a child to school is not only much more for a father than a mother employee but also it is much less for sending a child to work in comparison to impact of being an employee mother. While the pattern for a mother employee is reversed as we can see that it increases likelihood for child paid work by 53.8 percent as compared to marginal increase of 4.8 percent for enrolment probability. This again may fit well with our previous findings and interpretations that a mother employee may be much less paid compared to father employee and may represent much poorer socioeconomic status. Hence due to real poor backgrounds of such working mothers with employee status may result in much higher likelihood of children to indulge in child employment and lower proportion for child schooling in contrast to opposite pattern for father employee. Among the employer category (large scale business where one is not self employed but hires other people to manage work) for both father and mother, we find insignificant results in both model 1b and 2b, though direction of impact is in line with theory. Employer status for both father and mother decreases the probability of child employment,

impact being much sizable for mothers than fathers while the probability of child enrolment is impacted positively under father employers and negatively for mothers though impact in magnitude is much less as compared to impact of child employment likelihood for mothers in employer category. However these impact are all insignificant may be due to much smaller pool of parents with employer status in given data set, being very minute for working mothers with employer status compared to fathers who have relatively more numbers in this category as can be seen from percentage in Table 5.3 for father and mother employers. Similar pattern can be seen in case of self-employed category for mothers and fathers where being self-employed parents increase the probability of child enrolment more than that of child employment (86.3 percent and 15.9 percent increase in probability of enrolment and 59.8 percent and 8.6 percent increase in probability of child work for mother and father in self-employed category respectively). Similarly for case of unpaid family worker, we find that being in this category as father or mother increase the probability of child enrolment significantly by 22.5 percent and 18.8 percent respectively, however the probability of child work increase by much larger proportion (78.8 percent for a mother in unpaid family worker impact being significant at 1 percent). Hence this again points to pattern that overall working fathers are more well placed than working mothers and wherever one find release of financial constraints towards a secure position for parents we do find that probability of child employment decrease while that of schooling increase.

Final determinants in estimation results in Table 6.1 analyse the impact of variables representing the socioeconomic background of the individual on child employment versus child enrolment behaviour of household. Such determinants include various measures correlated with household welfare or more precisely lack of it that include both direct measure of poverty status based on household consumption expenditure information and indirect assessment of poverty facing the household to which an individual belongs in terms of accessibility and/or affordability of household to certain standard of living indicators (electricity, sewerage system, durable housing and spacious living conditions in terms of expanding number of rooms within house) or his or her place of residence as in urban versus rural setting. Urban living is not only an indicator for a person but also for community to which an individual belongs to. Urban centres at on level are more endowed with better educational facilities and atmosphere conducive to more awareness of norms such as democratic voice and value of education due to much denser population base with more structure and organisation and financially strong administration as compared to rural settings which may act as an impetus towards child education and against his or employment in parents preference set. However at other level raising children for not so well to do parents in urban areas compared to rural support system may be a challenge due to much more expensive living which if acts as binding constraint for parents in

face of inflationary pressures may push child towards employment against his or her education. Hence how will one's location into a urban living compared to rural setting will work in final estimates of schooling versus employment decision of a child for parents is largely an empirical question. Results in table 6.1 confirm that a child belonging to urban residence is more likely to attend school whereby percentage increase in probability of schooling is estimated to be 2.4 percent in model 2a and 7.9 percent in model 2b later impact being significant at 10 percent and less likely to work whereby percentage decrease in probability of employment of child is estimated to be 24.1 percent in model 1a and 32.2 percent in model 1b both impact being significant at 10 percent and 1* respectively. Hence empirical findings supports the theoretical prediction that people living in towns and cities may have tendency towards well equipping their children with education rather than inhibiting their future growth by indulging in child labour to make them competitive in fast paced urban living due to much more awareness than those belonging to rural areas.

In regard to estimated effect of poverty channel in Table 6.1, the clear pattern that emerges is that the direct measure of poverty measure based on consumption side information decreases significantly the probability of child enrolment by a sizable amount of 47.1 percent and 42.9 percent in model 2a and 2b respectively. This pattern of negative impact of poverty measure on school enrolment for children in age group 5-14 is supported in estimated effect by poverty proxies based on other socioeconomic indicators representing the household deprivation such as living in a house with no electricity, with kaccha structure and with just one room as can be seen in results of model 1a and 2a. However in regard to employment likelihood function we find insignificant and relatively marginal impact of poverty measure based on consumption information. However theoretical insights of poverty channel on increasing the likelihood of child employment is confirmed by other indicators that proxy household deprivation which shows sizable and mostly significant positive impact of such proxies as no electricity (47.3 percent and 43.9 percent in models 1a and 1b respectively), kaccha housing arrangement (25.1 percent and 19.7 percent in models 1a and 1b respectively), no sewerage (27.8 percent in model 1b) and house with just one room on probability of child employment (13.8 percent in model 1b). Hence overall our results do confirm that in face of poverty and binding resource constraints we do find that household are more likely to take children off schooling and to push them in paid employment.

7. CONCLUSION AND POLICY IMPLICATIONS

Child work is a product of economic conditions, cultural norms and social setup in any society, which reflects its people's welfare in general and children wellbeing in particular. Moreover child work and child schooling go side by side; a child may be out of school because he/she is working or vice versa.

Hence indulgence in child labour is not only a social curse but also can be cause of under-development for an economy intergenerationally through its damaging impact on the potential human capital by limiting the future scope of individuals involved in such a practice. Keeping into consideration the far-reaching social and economic impact of child work both for the children involved and society as a whole, in this study an attempt has been made to disentangle the child employment and schooling trade-off with perspective to understand the effect of income deprivation measures and other non-income factors such as demographic and parental background information for Pakistan using PPHS (2010) data set. At one level this research resolves empirically the debate that exist in literature whether child work is direct outcome of poverty or not in context of Pakistan through assessing the impact of the poverty channel for both likelihood of sending a child for paid work versus probability of enrolling a child into school and on other tries to connect the above line of reasoning with other non-income channels so as to give more complete picture of the issue in hand.

The consequences of household socioeconomic level in terms of its poor or non-poor status on child employment and child enrolment likelihood functions is assessed using both a direct measure of poverty based on household consumption information and also indirect measures based on access (or lack of it to be more specific) of household to electricity, sewerage system and to type of housing in terms of number of rooms and durability of house. In our empirical evidence, we do find strong support for poverty channel both directly and indirectly acting as defining force decreasing his or her probability for school enrolment. However in context of effect of poverty on probability of child employment we do not find strong evidence through direct measure of poverty based on household consumption expenditure information, however the indirect proxies of poverty level as belonging to poor status in terms of access to certain type of living (living in house with no electricity, kaccha type of house, no sewerage system and with just one room) do provide strong evidence in support of poverty channel of impact on increasing the chances of child work. Further demographic information whether it is in form of increasing sibling size leading to less likelihood of schooling or more likelihood of child labour due to resulting financial crunch for the household or impact of number of adult earners having a puzzling positive impact on probability of child employment and negative on child schooling having plausible explanation through structure of data having majority of sample being involved in agricultural work more of which within family enterprises with low returns for the family provides support for the significance of how being resource poor can be a binding constraint for the household and can act as an impetus to send a child towards paid work against schooling.

Similarly evidence of parental background information again provides patterns in a favour of strong role of income deprivation as a key restriction

in child schooling versus child employment prospects. This is so since our findings show that whether father work or not is not of much significance for increasing enrolment probability or decreasing likelihood of child labour rather it is mother's work status that not only significantly and positively impacts on both probability of child enrolment and child labour but also has a sizable effect in terms of magnitude, impact being much large in case of child labour likelihood function. Given that in this given sample most mothers are working as oppose to fathers and among them not many are financially powerful as can be shown by a negligible proportion in categories of an employer and self-employed mothers, this finding again show that how being resource bound can be a key factor in deciding whether to send a child to school or for paid work. In terms of impact of education our results confirm that higher literacy of parents do shape parent's preference to tilt in favour of much more education for their children, however one cannot find robust impact concerning as to which of parent's have more pronounce role in such an inclination from our data set.

In light of our empirical evidence, the best policy prescription to curtail phenomenon of child work and engaging children into education is through poverty alleviation programs. For if one is able to improve the socioeconomic status of general public that will not only translate into lesser chances for child to engage in paid work but also increase the human capital of the current child population and hence literacy level of future pool of parents. Hence such a policy will have long-term impact through intergenerational mechanism, as educated parents will further contribute to child schooling and employment nexus positively. Further policy of giving cash transfers to parents especially to mothers can also be suggested on grounds of our finding since working status of a mother positively and significantly contribute towards child schooling assuming that such funds will used efficiently and will act as a relieve of financial burden for the household that being the main culprit for engaging child into paid employment. Moreover helping parents set up their own business can result into increase in incidence of child labour given that our findings in context of self employed status for working mothers and fathers. However though child labour is without any doubt a social evil but among the possibilities of child work, employment of child in their parents business may not necessarily be a bad thing for such self-employed parents represent those in category of small scale family business and if children can find safe place for work both as training ground along with contributing positively to uplift their family from resource crunch in long term it may empower the parents to extent that they can afford child schooling along with providing them with some sort of vocational skill.

APPENDIX

Table A.1

*Expected Signs from Literature for Determinants of the Probability of Being
Employed in Paid Employment for a Child*

Variables	Expected Sign	Coefficients	
Male	+/-	+ (much more market opportunities for a male child than a female child, safety concerns, delegation of household chores to a female child)	- (expected returns to education more for male child so use daughters earnings to support brother's education and / or release household financial burden)
Sibling Dummies	+	+ (implies that more resource constraint)	
Number of Adult Wage Earners	-		- (since release of financial burden from adult share in earnings may relieve of the need for a child to work)
Distant Relation to Head (other than son, daughter, grandchild)	+ /-	+ (head protect his or her son daughter or grandchild from employment and send other children to work instead in case of resource constraint)	- (likelihood of distant relation to send to school less as head relies more on his close kins for work)
Eldest Child	+ /-	+ (use that money to fill in education of later siblings so send eldest child to work so as to finance education of later children)	- resource constraint does not apply to first child but for later
Father Years of Schooling	-		- (educated parents may have more preferences for educating their child than child work)
Mother Years of Schooling	-		- (educated parents may have more preferences for educating their child)
Father Working	-		- (parents employment may relieve of the need for a child to work)
Father Employer/ Self-employed	+	+ (Family business provides a safe access for child to work, serve as a training ground for a child and also helps the profitability of business by substituting the need to employ an outsider.)	
Mother Working	+/-	+ (mother from really poor background)	- (save a child from working)
Mother Employer/ Self-employed	+	+ (Family business provides a safe access for child to work, serve as a training ground for a child and also helps the profitability of business by substituting the need to employ an outsider)	
Poverty/ Indicator relevant to poor socioeconomic status	+/- no impact	+ (poor so need money)	No impact (evidence from literature so need to explore non-income determinants or indirect channels for impact)
Urban	+/-	+ (more opportunity to work)	- more awareness against child work and for schooling

Table A.2

*Expected Signs from Literature for Determinants of the Probability
of Being Enrolled for a Child*

Variables	Coefficients		
	Expected Sign		
Male	+	+ gender discrimination	
Sibling Dummies	-		- Resource constraint
Number of Adult Wage Earners	+	+ (since release of financial burden from adult share in earnings may relieve of the need for a child to work and increase likelihood of schooling)	
Distant Relation	-		- (priority for own children education)
Eldest Child	+/-	+ resource constraints work on later child	- (resource constraints work on elder child relative to later born)
Father Years of Schooling	+	+ (educated parents may have more preferences for educating their child than child work)	
Mother Years of Schooling	+	+ (educated parents may have more preferences for educating their child than child work)	
Father Working	+	+ (parents employment may relieve of the need for a child to work and may act as means for child education)	
Mother Working	+/-	+ (parents employment may relieve of the need for a child to work and may act as means for child education)	- (working mothers may belong to really poor backgrounds)
Poverty/ Indicator relevant to poor socioeconomic status	-		- (resource constraints increase)
Urban	+	+ (more both awareness and access for schooling)	

Table A.3

Children Working and Out of School (%) by Age and Gender

Work and School	Urban		Rural	
	Male	Female	Male	Female
5-9				
School only	64.74	61.34	52.57	43.48
Work only	0.53	0.18	1.94	3.41
School and Work	0.35	0.18	1.32	0.61
Neither School Nor Work	27.72	28.65	44.17	52.49
Total Working	0.94	0.39	3.27	4.02
N	532	514	1286	1143
10-14				
School only	73.68	69.95	59.07	45.66
Work only	3.51	1.93	6.89	8.28
School and Work	0.70	1.05	3.98	1.62
Neither School Nor Work	22.11	27.07	30.07	44.44
Total Working	4.21	2.99	10.86	9.90
N	570	569	1031	990

Source: Pakistan Panel Household Survey (2010).

Table A.4

Sectoral Division of Children Work Activities (Total Sample)

Activities	Working Children	Percentage
Not Known	13	3.23
Activities Not Adequately Defined	26	6.45
Agriculture, Livestock and Hunting	315	78.16
Forestry and Logging	1	0.25
Manufacture of Textile, Wearing Apparel and Leather Industry	15	3.72
Manufacture of Wood and Wood Products including Furniture	2	0.50
Manufacture of Chemical and Chemical Petroleum, Coal, Rubber	1	0.25
Other Manufacturing Industries and Handicraft	2	0.50
Building Construction	2	0.50
Whole Sales Trade	2	0.50
Retail Trade Restaurant and Hotels	8	1.99
Sanitary and Similar Services	2	0.50
Social and Related Community Services	14	3.47
Recreation and Cultural Services	1	0.25
Total	403	100.00

Source: Pakistan Panel Household Survey (2010).

Table A.5

Sectoral Division of Children Work Activities by Urban Residence

	Working Children	Percent
Agriculture, Livestock and Hunting	10	25
Manufacture of Textile, Wearing Apparel and Leather Industry	5	12.5
Manufacture of Chemical and Chemical Petroleum, Coal, Rubber	1	2.5
Other Manufacturing Industries and Handicraft	1	2.5
Whole Sales Trade	2	5
Retail Trade Restaurant and Hotels	5	12.5
Sanitary and Similar Services	1	2.5
Social and Related Community Services	6	15
Not Known	9	22.5
Total	40	100

Data Source: Pakistan Panel Household Survey (2010).

Table A.6

Sectoral Division of Children Work Activities by Rural Residence

	Working Children	Percent
Not Known	28	7.71
Activities not Adequately Defined	1	0.28
Agriculture, Livestock and Hunting	305	84.02
Forestry and Logging	1	0.28
Manufacture of Textile, Wearing Apparel and Leather Industry	10	2.75
Manufacture of Wood and Wood Products Including Furniture	2	0.55
Other Manufacturing Industries and Handicraft	1	0.28
Building Construction	2	0.55
Retail Trade Restaurant and Hotels	3	0.83
Sanitary and Similar Services	1	0.28
Social and Related Community Services	8	2.20
Recreation and Cultural Services	1	0.28
Total	363	100.00

Data Source: Pakistan Panel Household Survey (2010).

REFERENCES

- Ahmed, I. (1999) Getting rid of Child Labour. *Economic and Political Weekly* 34:27.
- Baland, J. M., and J. A. Robinson (2000) Is Child Labour Inefficient? *Journal of Political Economy* 108:4.
- Barros, R., R. Mendonca, and T. Velazco (1994) Is Poverty the Main Cause of Child Work in Urban Brazil? Rio de Janeiro: Instituto de Pesquisa Economica Aplicada. (Texto para Discussao No. 351).
- Basu, K. and P. H. Von (1998) The Economics of Child Labour. *American Economic Review* 88:3.
- Basu, K. and Z. Tzannatos (2003) The Global Child Labour Problem: What Do We Know and What Can We Do? *World Bank Economic Review* 17:2.
- Betcherman, G., J. Fares, A. Luinstra, and R. Prouty (2004) Child Labour, Education, and Children's Rights. Social Protection Unit. Human Development Network. The World Bank. (Social Protection Discussion Paper Series No. 0412).
- Bhalotra, S. and C. Heady (2003) Child Farm Labour: The Wealth Paradox. *World Bank Economic Review* 17:2.
- Brown, D. K., A. V. Deardorff, and R. M. Stern (2001) Child Labour: Theory, Evidence and Policy. Department of Economics, Tufts University. (Discussion Papers Series).
- Canagarajah and Coulombe (1999) Child Labour and Schooling in Ghana. World Bank Economic and Sector Work (ESW) on Ghana: Labour Markets and Poverty.
- Chesnokova Tatyana and Vaithianathan Rhema (2008) Lucky Last? Intra Sibling Allocation of Child Labour. *The B. E. Journal of Economic Analysis and Policy* 8:1.
- Dimeji, Togunde (2006) Socio-economic Causes of Child Labour in Urban Nigeria. *Journal of Children and Poverty* 12:1.
- Edmonds, E. and C. Turk (2004) Child Labour in Transition in Vietnam. In P. Glewwe, N. Agrawal, and D. Dollar (eds.) *Economic Growth, Poverty and Household Welfare in Vietnam*. Washington, DC: World Bank.
- Emerson, P. and A. Souza (2003) Is there a Child Labour Trap? Intergenerational Persistence of Child Labour in Brazil. *Economic Development and Cultural Change* 51:2.
- Emerson, P. and A. Souza (2004) Birth Order, Child Labour and School Attendance in Brazil. University of Colorado, Denver. (Mimeographed).
- FoSBT (2013) Children in India. The Statistics.
- Galli, R. (2001) The Economic Impact of Child Labour. Decent Work Research Programme. International Labour Organisation. (Discussion Paper Series No. DP/128/2001).
- Greene, W. H. (2007) *Econometric Analysis* (6th Ed). Pearson Education, Inc.

- Grootaert, C. and R. Kanbur (1995) Child Labour: A Review. (World Bank Policy Research Working Paper No.1454).
- HRCP (2009) *State of Human Rights in 2009*.
- ILO (2013) *National Legislation and Policies Against Child Work in Pakistan*.
- Malik, A. K., N. A. Bhutto, D. Shaikh, E. Akhter, and F. Butt (2012) Facts about Child Labour. Proceedings of 2nd International Conference on Business Management.
- Masoud (2011) Gender Differential in Health Care among Children in Pakistan. Pakistan Institute of Development Economics, Islamabad. (Thesis Unpublished).
- Neumayer, Eric and De Soysa Indra (2005) Trade Openness, Foreign Direct Investment and Child Labour. *World Development* 33:1.
- Parikh, A. and Sadoulet (2005) The Effect of Parents' Occupation on Child Labour and School Attendance in Brazil.
- Parikh, Anokhi and Elisabeth, Sadoulet (2005) The Effect of Parents' Occupation on Child Labour and School Attendance in Brazil. University of California at Berkeley, Department of Agricultural and Resource Economics and Policy. (CUDARE Working Paper Series 1000).
- Qureshi, M. G. (2012) The Gender Differences in School Enrolment and Returns to Education in Pakistan. Pakistan Institute of Development Economics, Islamabad. (PIDE Working Paper 2012:84).
- Ranjan, Ray (2002) The Determinants of Child Labour and Child Schooling in Ghana. *Journal of African Economies* 11:4.
- Ray, R. (2000) Analysis of Child Labour in Peru and Pakistan. *Journal of Population Economics* 13:1.
- Sarkar, J. and D. Sarkar (2012) Why Does Child Labour Persist with Declining Poverty? (NCER Working Paper Series No. 84).
- Shahnaz, H. and S. Rehana (2001) Gender Differences in Demand for Schooling. *The Pakistan Development Review* 40:4, 1077–1092.
- Singh, A. N. (1990) *Child Labour in India*. Delhi: Sipra Publication.
- UNCIEF (2012). <http://www.unic.org.pk/pdf/PR%20UNICEF%2020120406.pdf>