

The Effects of Household Wealth on Children Educational Activities: A Case Study of Cholistan (Pakistan)

Muhammad Asif Nadeem*
Muhammad Qamar Habib**

Abstract

The major objective of the study was to examine, the role of parental income on the educational activities of the children in the Cholistan. Multistage sampling maximized the representation. A household survey was conducted in Cholistan to collect the data. Child Activity has been used as dependent variable in ordered form. Ordered Logit Model was used for econometric analysis. Descriptive results indicated that more than 50% children were involved in child labour. It appeared that household wealth had positive effect on child labour. Parents' education has significantly positive effect on school going children. The families who do not migrate in rainy season their children as compared to those who migrate in rainy season their children are more likely to engage in work.

Keywords: Children educational activities, Household Wealth, Ordered Logit Model, child labor, Wealth Paradox.

Introduction

Theoretically, it is suggested that the families with high income and wealth send their children to school and the children are put in less labor. Conley (2001), Grimm (2011), Hill and Duncan (1987), Karagiannaki (2012), Loken (2007), Lovenheim (2011), Loke and Sacco (2009), Nam and Huang (2008), Zhan (2006), Williams (2004), Zhan and Sherradn (2003) these studies indicated the strong connection between household wealth and the educational activities of children. Researches conducted in Pakistan and Ghana concluded "child labor is more common in land-owners than in land-poor households." Researchers such as; Bhalotra and Heady (2003), Koissy (2012), Boutin (2012), Boutin (2012) backed this statement and Bhalotra and Heady (2003) coined the term "wealth paradox".

In Pakistan, there are most of the areas where the economic activities and economic conditions of habitants are better but people do not take interest in child schooling. People involve their children in economic activities of their own enterprises or own informal labor in agriculture or livestock farming. In Pakistan it seemed obvious through the said researches that land-rich households seemed to involve their children

*Assistant Professor and Ph.D Scholar, Department of Education, IUB. chughtiama@gmail.com.

** M.Phil Economics, IUB. qamarhabibeco@gmail.com

in labor. It can be concluded that the household's ownership of land is linked with higher level of child labor. It is closer to "wealth paradox".

Research studies done on the topic of the effect of household wealth on Child's activities show that it is two dimensional one was based upon educational achievement and other had been measured through socio emotional behavior of a child. Results of the studies made by researcher Williams showed that household wealth has significant positive relationship with child's development and educational achievement (Williams, 2004). The researchers like Cockburn and Dostie identified results that there is weak links among poverty through which children are forced to work. The profile of family assets gave full and more shaded detail of child schooling and child labour choices. The study argued that child labor in Ethiopia is overpoweringly executed for the child's own household (Cockburn & Dostie, 2007). Hou's study found that wealth played most pivotal role in the process of decision making for the formation of child activities (Hou, 2009). Further researchers like Emerson and Portela, find out strong link between parents' education and child schooling. According to them those parents who visited schools they tend to send their children to the schools (Emerson & Portela, 2003).

In Pakistan (Lodhi et al., 2011) is of the view that Parents' education level holds statistically positive impact on education of the children and negatively correlated with child's work. This study explored that in rural Pakistan the child labour is high in girls as compared to boys. The parents who have positive opinion about the importance of education their male children were more likely to go to school than female children. Khan et al. (2011) explained the main causes of girl's school dropout in rural Pakistan. The study explored perceptions of the parents' of female children and the teachers in rural schools highlighted the issue of dropouts of children from schools. The study also found low investment in the context of female education. Study recommended, parents should more investment for the education of female children.

The present case study was conducted in the far flung area of Cholistan (locally famous, "ROHI"). Theoretically, poor economic condition is considered a basic cause of lack of child schooling. The purpose of this study is to explore the "Wealth Paradox" i.e. child labor is more common in land-rich households as compared to land-poor households in the context of Cholistan.

Objectives of the study

The objectives of the study were to:

- 1- Examine the role of parental income on the educational activities of the children in the Cholistan.
- 2- Assess the effect of birth order on the schooling of a child.
- 3- Identify the effect of community characteristics over children educational activities.

Methodology and Model

Population

According to the report of Cholistan Development Authority* (CDA, 2012) the human population in Cholistan is only 155,000. The Cholistan dessert area covers in three Districts of Bahawalpur Division about 60% of Cholistan is located in Bahawalpur district. The area in Bahawalpur district of Cholistan is divided in four Union Councils i.e. Chak 75/DB, Channan Peer, Derawar and Merana. Two out of four union councils Chak 75/DB, Channan Peer were selected to collect the household data. Due to better infrastructure and high population density as compare to other union councils, the chosen union councils are preferred over the others.

Sample

Multistage sampling was used to collect data from the population. The households in the Cholistan are scattered in a large areas so in order to identify the households, the researchers used stratified random sampling techniques. Identification of the low income and high income household's purposive sampling technique was used. A total of 290 households were taken as a sample from the Villages and Tobas of the two union councils of Cholistan.

Data Collection

To collect data, a survey was conducted. The major concerns were the effect of households' wealth on the activities of the children of the area. The heads of the family and other elders were involved in the survey.

The Model

In Ordered Logit Model the outcomes of dependent variable are in ordinal or ranked form. In present research, the dependent outcomes of child activity are no-activity[†] ($y = 0$), Child labour ($y = 1$), combine* ($y = 2$) and child schooling ($y = 3$).

* CDA (Cholistan Development Authority) was established in 1976 for the development of Cholistan and welfare for its habitants. Various settlements and land allotments schemes were also introduced by CDA.

[†]Here, no-activity category shows, the child who is not actively involved in any kind of work or education rather preferences to stay back to home or roam around for nothing.

Table 1
Detail of Variables

No.	Variables	Details
<i>Dependent Variables</i>		
1.	Child Activity	i. Only School going Children ii. (Schooling + Labour) iii. Only Labour iv. No-Activity
<i>Independent Variables</i>		
Child Characteristics		
2.	Bord (Birth Order)	Birth order among brothers and sisters
3.	Cgen (Child's Gender)	1 if child is male and, 0 otherwise
4.	Cage (Child's Age)	Child's age in completed years
5.	Cedu (Child's Education)	Child's education in years
Parents Characteristics		
6.	Fedu (Father's Education)	Father's education in years
7.	Medu (Mother's Education)	Mother's education in years
Household Characteristics		
8.	Household Wealth	Household wealth in rupees
9.	Migration	1 if family migrates in rainy season and 0, otherwise
10.	HHS (Household's size)	Number of persons in home
11.	C517 (Child 517)	Number of children ages 5-17 years in the home
Community Characteristics		
12.	SA (School Availability)	1 if school available in Village/Toba with respect to child's age and 0, otherwise

* Child goes to school and to work (Schooling + Work).

13.	Teacher	Number of teachers available in a school
14.	Distance	Distance from home to school in kilometers
15.	WS (Way of School)	1 if road is metal or bricks road and 0, otherwise
16.	ElecH (Electricity in Home)	1 if the facility of electricity in home and 0, otherwise
17.	Water (Drinking Water)	1 if type of drinking water supply is hand pump and 0, otherwise

Results and Discussion

Descriptive Analysis

Descriptive analyses were used to estimate the consequential child activities with response to explanatory variables.

Table 2

Summaries of Child Activities by Gender

Child Activity	Child's Age (5-17)	Male	Female
Only school going children	(21.13) 228	(21.91) 140	(20.00) 88
(Schooling + Labour)	(12.79) 138	(16.59) 106	(7.27) 32
(Only Labour)	(52.46) 566	(51.17) 327	(54.32) 239
(No-Activity)	(13.62) 147	(10.33) 66	(18.41) 81
Total	(100) 1079	(100) 639	(100) 440

Note: Numbers in brackets are percentage values

Table 2 describes the summary statistics of child activities of the children by age group (5-17) and by gender. The purpose of asking this question was to identify the activities of the children in Cholistan. Data analysis shows that more than half (52.46%) children engage in labour both male and female. In child schooling, the ratio of male and female is near about 21%. In combine work (schooling + labour), the probability of male children is high (16.59 %) as compared to female children (7.27%). In above table 13.62% are the children; who neither go to school nor to work, the probability of inactivity in female children is high (18.41%) as compared to male children (10.33%)

Table 3
Child's Activities and Household Wealth

Child Activity	Household wealth						Total
	W1	W2	W3	W4	W5	W6	
Only school going children	(20.70) 53	(21.99) 62	(23.81) 60	(16.41) 21	(15.53) 16	(27.59) 16	(21.13) 228
(Schooling + Labour)	(14.06) 36	(14.89) 42	(13.49) 34	(11.72) 15	(3.88) 4	(12.06) 7	(12.79) 138
(Only Labour)	(50.78) 130	(49.29) 139	(51.59) 130	(61.72) 79	(62.14) 64	(41.38) 24	(52.46) 566
(No-Activity)	(14.45) 37	(13.83) 39	(11.11) 28	(10.16) 13	(18.45) 19	(18.97) 11	(13.62) 147
Total	(100) 256	(100) 282	(100) 252	(100) 128	(100) 103	(100) 58	(100) 1079

Note: Numbers in brackets are percentage values

W1, W2, W3, W4, W5 and W6 denote wealth levels (in rupees) of household.

(W1 ≤ 2500000), (W2 ≤ 5000000), (W3 ≤ 10000000), (W4 ≤ 15000000), (W5 ≤ 20000000) and (W6 > 20000000) respectively.

Table 3, explains the relationship between child's activities and household wealth. Household wealth is divided into six groups (W1 to W6). In Cholistan wealth exists in the form of cattle, agriculture land, shop, tractor, agriculture implements, gold and silver, car/jeep etc. Data analysis of the above table shows that child schooling increased with wealth level W1 to W3 and decreased with wealth level W3 to W5 and further increased in highest wealth level (W6). Work and schooling decreased from 14.06 to 3.88 percent with increased wealth level from W1 to W5, except in the highest wealth level. Child labor increased 50.78 to 62.14 percent with increased wealth level from W1 to W5, except in the highest wealth level. The probability of no-activity is higher with high wealth level. Summary statistics of the above table show that child labor is high with increasing wealth.

Econometric Analysis

Econometric analyses of the outcomes of child activities and their relation to child characteristics, parents' characteristics, household characteristics and community characteristics are discussed.

The ordered logit model contains the effects of independent variable on ordered different outcome responses by using one and the same coefficient for an explanatory variable. Having the same coefficient of dependent outcomes it becomes hard to

distinguish between the higher and lower probabilities in the model*. In ordered logit model it is difficult to clarify the difference among higher and high and similarly lower and low dependent outcomes having the same coefficient.

To resolve this ambiguity, find the marginal effects on the probability of child activity with respect to explanatory variables. Marginal effect gives a separate coefficient of each dependent outcome.

Table 4
Marginal Effects

Variables	Marginal Effects			
	Child Schooling	Combine [†]	Child Labour	No-Activity
Child Characteristics				
Bord	0.0307272** (0.015)	0.0164424** (0.017)	-0.0283353** (0.017)	-0.0188343** (0.014)
Cgen	0.0316924* (0.068)	0.0172143* (0.075)	-0.0288644* (0.067)	-0.0200423* (0.079)
Cage	-0.0082656* (0.093)	-0.004423* (0.098)	0.0076222* (0.099)	0.0050664* (0.091)
Cedu	0.0409241** (0.000)	-0.004423** (0.000)	-0.0377385** (0.000)	-0.0250845** (0.000)
Parents Characteristics				
Fedu	0.0073726** (0.015)	0.0039451** (0.018)	-0.0067987** (0.017)	-0.004519** (0.016)
Medu	0.0079928 (0.116)	0.004277 (0.120)	-0.0073706 (0.118)	-0.0048992 (0.119)
Household Characteristics				
Household wealth	-0.0136646** (0.035)	-0.0073121** (0.038)	0.0126009** (0.037)	0.0083758** (0.036)
Migration	-0.032861* (0.077)	-0.0180596* (0.088)	0.0296959* (0.073)	0.0212247* (0.094)
HHS	0.0128384 (0.137)	0.0068699 (0.140)	-0.011839 (0.140)	-0.0078693 (0.137)
C517	-0.0264835** (0.030)	-0.0141715** (0.033)	0.0244219** (0.033)	0.0162331** (0.030)

* See Fan Ye and Dominique Lord / *Analytic Methods in Accident Research 1* (2014) 72-85

[†](Child Schooling + Child Labour)

Community Characteristics				
SA	0.0721515*	0.0471875	-0.050796**	-0.0685429
	(0.061)	(0.118)	(0.000)	(0.224)
Teacher	0.0054854	0.0029353	-0.0050584	-0.0033623
	(0.411)	(0.412)	(0.412)	(0.411)
Distance	-0.000527	-0.000282	0.000486	0.0003231
	(0.716)	(0.717)	(0.716)	(0.717)
WSc	0.0087438	0.0047274	-0.0080136	-0.0054576
	(0.650)	(0.654)	(0.648)	(0.656)
ElecH	0.0286922	0.0151087	-0.0266118	-0.017189
	(0.126)	(0.123)	(0.131)	(0.119)
Water	0.056438**	0.033347**	-0.0474593**	-0.0423257**
	(0.010)	(0.021)	(0.005)	(0.034)

** (significant at 5 percent) and *(significant at 10 percent)

Note: Numbers in brackets are P-values

Child Characteristics

Birth Order

In economic literature, birth order exists positively and negatively [Parish and Willis (1993)]. The positive birth order of the children shows that the younger children have higher probability to go to school and combine. This may be due to the elder children engaged in labour for contributing to household resources. In the third category result explained that birth order has negative effect on child labour [see also Durrant (1998) and Ray (2001)]. The forth outcome of the probability of child activity is no-activity that is negatively linked with the number of the child birth. The child who is greater in birth number this child has greater probability to go to school. So, it is concluded that the adolescent child has a higher probability to visit school as compared with other brothers and sisters. On the other hand the elder child has high probability of getting to be engaged in labour/work.

Child's Gender

As for as, child schooling is concerned the researchers have sorted out one of the most salient feature that effects school going children is child's gender [Sather (1993)]. Current research identifies the male children will probably go to school when contrasted with female [result also satisfy, Sawada and Lokshin (2000) and Ray (2001)]. In the descriptive analysis of present study, out of the total school going children in Cholistan 23 percent are boys more than girls. There are some possible reasons for this gender gap. The lack of girls schools in the rural areas of Pakistan. The low rate for lady tutoring might be the low female educator accessibility and quality in schools. The present study explained that in Cholistan 60 percent fathers and 90 percent

mothers are uneducated, that can be one of the reasons for low probability of girls schooling. The gender of the child matters in combine (child goes to school and to work). In present research, the probability of male children engaged in combine (schooling and labour). The male children are less likely to engage in labour as compared to female children. In the last category that is no-activity, result explains that the male children are less likely to engage in no-activity and no-schooling.

Child's Age

Child's age is a significant factor due to which parents take decision whether to send their child to school or for labour. The probability of child's age had been found negative. It indicated that with the growing age child schooling decreases. In present research, the minimum school going age of the child is 5-years. As a result, younger children are more likely to go to school and elder children are more likely to engage in work. Child's age also found to be negative in combine (schooling and labour). In other words, the probability of children to schooling as well as work turns down with age [see also Maitra and Ray (2000)].

Child's Education

Educational level of the children among his/her brothers and sisters has positive effect on child schooling and combine (child goes to school and to work). Each additional year of education of the child increase the probability of child schooling. Education level of the children among his/her brothers and sisters has negative effect on child labour. Each additional increase the level of education of child declines the probability of child labour by 3.7 percent and no-work by 2.5 percent.

Parents Characteristics

Parents Education

In current study, parents education have significantly positive effect on school going children and combine (child goes to school and to work/labour). So, it is clear that father's and mothers' education has strong effect on child's schooling [see also Burki and Shahnaz (2001)]. Research clarified that the parent's education (both father's and mothers) show significant negative effect on child's labour and no-activity. Each additional year of education, both fathers and mothers decline the probability of child labour or work only.

Household Characteristics

Household Wealth

There is a strong positive connection between household wealth and child schooling (Karagiannaki, 2012), Zhan and Sherraden, 2002; Williams Shanks, 2007; Lovenheim, 2011). Wealth is used as a continuous variable. The results showed that household wealth has significantly negative effect on child schooling. In study area,

results showed that the children of the families with much wealth have to attend school a little. The current study supports “wealth paradox” [see Bhalotra and Heady (2003)]. Each additional unit of wealth also declines the chances of combine (child goes to school and to work). Household wealth has positive impact on child labour. The children of the households with much wealth put in much labour and less in schooling. Household wealth has positive effect on the children who are involved in no-activity.

Migration in Rainy Season

Migration in rainy season has negative effect on child schooling. In other words, the families who do not migrate in rainy season their children have more probability to visit school. The children who go to school and to work are negatively related to the migration. In other words, the families in Cholistan who have engage in agricultural work, they less likely to migrate in rainy season, their children more probably to go to school. But sometimes, the children who go to school and also work do not go to school because of migration and only work or graze the cattle. The children whose families migrate in rainy season are more likely to engage in work.

Number of Children ages 5-17 years

Each additional increase in the number of children at age group 5-17 years has negative effect on child schooling and combine whereas, it has positive effect on child labour and inactivity. Each increase in child at ages 5-17 has decreased the probability of child schooling and combine by 2.6 and 1.4 percent respectively.

Community Characteristics

School Availability

School availability has significantly positive impact of child schooling. Each additional increase the number of school has 7.2 percent more child schooling when all other variable held constant. Also school availability has significantly positive impact on combine (child goes to school and to work). School availability has significantly negative effect on child labour. Each year increase in school availability decreases the probability of child labour.

Number of Teachers

Number of teachers available in school is used as a continuous variable. Number of teachers available in schools has positive effect on child schooling and combine (child goes to school and to work). The schools where the number of teacher is large in such areas the children would go in large number. Each additional unit increases the probability of teacher in schools has negative effect on child labour.

Distance from Home to School

In current study, distance is used as continues variable. If the distance from home to school is short, it has positive impact on child schooling and combine. On the

other hand if the distance from home to school is long, it obviously, has negative impact on child schooling.

Electricity in Home

Electricity is the most important invention for mankind. It promotes education activities and as well as economic development. In present study, electricity in home has positive impact on school going children. The families with no-electricity have more probability to child labour because these families live in far flung areas with cattle.

Conclusion

The study concluded that:

- The children who are younger among their siblings had higher probability to visit school and to combine (Schooling + Labour). The elder children among their brother and sisters have higher probability to work/labour.
- The male children are more likely to go to school and combine (Schooling + Labour) as compared to female children. The male children are less likely to engage in work as compared to female children.
- The parents' education has positive effect on child's schooling and combines (Schooling + Labour) while it has negative impact on child labour and no-activity.
- The household wealth has negative effect on child schooling and combine (Schooling + Labour) whereas it has positive effect on child labour and no-activity.
- The families who do not migrate in rainy season their children have more probability to go to school on the other hand the families who migrate in rainy season their children have more probability to engage in work.
- Each additional increase in the number of children at age group 5-17 years has negative effect on child schooling and combine whereas it has positive effect on child labour and no-activity.
- The areas where school is available or near the homes, the probability of child schooling is high and the areas where school is not available or on much distance, the probability of child's labour is high.
- The schools where the number of teacher is large, the probability of school going children is high. The schools where number of teacher is small, higher the probabilities of child labour.
- If the distance from home to school is short, it has positive impact on child schooling and if the distance from home to school is long, the probability of child labour is high.

- Electricity in home has positive impact on child schooling and negative impact on child labour.

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