

**Estimating the Effect of Family Background on
the Children School Attending:
A Case Study of Pakistan***

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BULLETIN OF SOCIAL SCIENCES AND HUMANITIES
Graduate School
TOKYO INTERNATIONAL UNIVERSITY
No. 2 offprint September 20, 2017

Estimating the Effect of Family Background on the Children School Attending: A Case Study of Pakistan*

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Abstract

This paper provides empirical evidence of the influence of family background characteristics on children school attending. National representative household data from Household integrated economic survey, collected on socio-economic indicators has been used. The probit model and marginal effect was used to estimates the effect of socio-economic family background on children school attending. Findings suggest that household characteristics have a significant effect on children school attending. Result shows that if mother chooses to work for pay or profit, child has 0.11 probabilities to attend school. Moreover, children living in the Punjab and KPK provinces are more likely to attend school as compared to the Sindh and Baluchistan provinces.

Key words: Pakistan, school attending, family background, education

I. INTRODUCTION

Education is one of the socio-economic challenges that Pakistan is facing since its inception. Pakistan has low literacy and high “gender disparity in literacy” among South Asian region, which was estimated at 43% literacy for females, compared to 70% for males.¹⁾ Article 25(A) of the constitution of Pakistan (1973) provides that “The State shall provide free and compulsory education to all children of the age of five to sixteen years in such manner as may be determined by law”. Apart from this constitutional guarantee, the country is signatory of United Nations Millennium Declaration and Sustainable Development Goals. To fulfill the goals Pakistan adopted the national education

policy to enhance primary education to 100 percent by 2015. Despite this commitment from the state nearly 30.1 percent of primary and middle school-age children are out-of-schools in Pakistan. This equates to 2.7 million children (1.1 million boys and 1.6 million girls).²⁾ There could be numerous reasons why school-age children are not attending school.

A number of studies have found a strong linkage between the household background and children’s school attending decision. Haveman and Wolfe (1995) defined household as a production unit that employs real input in order to generate unity for its members. The decision regarding generating household resources is usually made by the parents who also determine the choices such as fertility, location and family stability that both influence the returns

to productive efforts and directly affect the wellbeing of members of the household. The parents of the children always play an important role in children school attending decision. Künn-Nelen, De Grip, and Fouarge (2014), suggested that a high rate of labor market participation among mothers of school-aged children is positively related to the child's cognitive development, provided that mothers work for a substantial number of hours. On the other hand, Haveman and Wolfe (1995) conclude that the working mother has a negative effect on the loss of child care time. Father education is one of the key determinants of the children school attending. Chevalier (2004) found that parental education has a significant effect on their children's educational attainment; increasing parental education by one year increases the probability of staying in school by 4 percentage points.

Income of the household is an important factor which determines the household status and explains the household decision for household members. The study shows that the children who grows up in the high-income family tends to have higher education attainment than the children from lower income family (Haveman and Wolfe (1995)). While, Chevalier and Lanot (2002) found that the effect of family income on the children's schooling attainment is rather limited and is dominated by the effect of other family characteristics, such as parental education. Household size in developing countries is also a key factor which is highlighted in discussions in national and international forums. Ilahi (2001) found that as household size increases, the school attainment of girls falls at a statistically significant rate. There is no effect of household size on the school attainment of boys. In rural areas, sibling rank significantly affects the attainment of girls but not of boys.

The early marriage of girls is the discussion point worldwide. It directly has an effect on the children's growth and learning environment. The study by the Schuyler Center for Analysis and Advocacy in 2008 claims that the consequences of teen childbearing are reflected in the lower educational achievements of both the mothers and children. Niaz Asadullah, Abdul Alim, Fathema and Chaudhury N. (2016) also discussed in research and found that the girls who are raised by mothers who married young not only learn systematically less in school, but they also face the greater risk of dropping out early. Gender disparity is one of the key indicators of Millennium Development Goals (MDGs) defined by the United Nations. The indicator measures the ratio of girls and boys in literacy and education enrollment. Similarly, the location of the household, rural or urban, is also an important point in a decision of the household with resource limitation. Panthhe and L.McCutcheon. (2015), found that the differences in education between men and women were smallest among the younger age group, and the differences for the two older age groups were large in both urban and rural areas. They also discussed that the level of education is lower in the rural areas compared to urban areas and the gender significantly influences the level of education.

The principle objective of this paper is to study household decisions on children school attending in Pakistan. Hypothesis built for this paper is that household decisions have significant impact on children school attending. To the best knowledge of author no previous studies are available on this topic to discuss the issues at national as well as provincial level in Pakistan simultaneously. In this study results will be discussed at national and provincial level, rural areas and urban areas and gender basis in

Pakistan.

were selected from the rural PSUs.

II. DATA USED FOR ESTIMATIONS

The data source for this study is from “Household Integrated Economic Survey” (HIES) which was collected by the Pakistan Bureau of Statistics. This survey includes household Income and consumption expenditure data at the household level for the year 2013-14. The household sample selection decision has been made on the two-stage sampling methodology.

Table-1 shows the sampling distribution by provinces and areas. It shows that a sample of 17,989 total households was selected. Out of a total of 17,989 households, 6,234 households were selected from urban and 11,755 households

III. DATA FINDINGS

This section describes the household characteristics in Pakistan by using statistical evidence. **Table-2** shows that the mean marriage age of mothers is 19.338 years and $SD \pm 3.221$ with marriage age range from 12 to 36 years. The mean level of schooling of the fathers of the children is 8.616 grades completed with $SD \pm 3.506$. Further, the table shows that the mean household size where school age children are living is 8.634 household members with $SD \pm 4.015$ with range from 2 to 47 members in each household. The table further shows that, almost half of the family members in the households are school-age children which are average 4.089 and

Table-1 Sampling distribution by provinces and area

Provinces/Area	Punjab	Sindh	KPK	Baluchistan	Total
Urban	3,150	1,374	1,301	409	6,234
Rural	4,447	3,837	2,221	1,250	11,755
Total	7,597	5,211	3,522	1,659	17,989

Source: Pakistan Bureau of Statistics.

Table-2 Descriptive summary of continuous independent variables

Variables	Mean	Standard Deviation	Min:	Max:
Children age	9.626	3.714	4	16
Mother marriage age	19.338	3.221	12	36
Father Education	8.616	3.506	0	20
Log Household Expenditure	12.313	0.557	9.588	16.345
Household Size	8.634	4.015	2	47
Number of Children in each HH	4.089	2.109	1	19

Source: Computed from PSLM/HIES 2013-14.

Table-3 Children school attending by mother work status

Children schooling status	Mother work for pay or profit	
	Yes	No
Attending school	25.14	74.86
Not attending school	38.15	61.85
Total	30.38	69.62

Source: Computed from PSLM/HIES 2013-14.

Table-4 Children school attending by provinces

Children schooling	Provinces				Total
	Punjab	Sindh	KPK	Baluchistan	
Attending school	72.38	46.81	65.41	43.83	59.57
Not attending school	27.62	53.19	34.59	56.17	40.43

Source: Computed from PSLM/HIES 2013-14.

SD ± 2.109 with range from 1 to 19 children.

It can be seen in **Table-3** that 30.38 percent of mothers of school-age children are working for pay, profit or household gain. It also shows that one third of the school attending children has working mothers while 74.86 percent children mothers are not working. Similarly 38.15 percent of children who are not attending the school have working mothers and 69.62 have not working mothers.

On the other hand if we look at each separate province in **Table-4** it would show that, 40.43 percent of the school-age children are currently not attending schools. However, we need to note that this ratio is different by provincially in Pakistan. The highest percentage of school-age children that are not attending school is 56.17 percent in Baluchistan. This is followed by the Sindh which is 53.19 percent.

Similarly, the lowest percent of school-age children that are not attending the school is 27.62 percent in Punjab, followed by KPK with 34.59 percent.

IV. THE ECONOMETRIC MODEL

This study has utilized econometric models of regressions in order to accomplish specified objectives. By doing this, the significance factors that have an influence on schooling, will be identified.

The discrete choice probit model which is explained in (Maki. 2011), is applied for this study with specified regression equation as:

$$\begin{aligned}
 Y = & \beta_1 + \beta_2(m_work) + \beta_3(f_ed) \\
 & + \beta_4(hhexp) + \beta_5(hhsize) \\
 & + \beta_6(m_m_age) + \beta_7(gender)
 \end{aligned}$$

$$+ \beta_8(\text{area}) + \beta_9(\text{provinces}) + \xi$$

In probit function the dependent variable has a binary outcome as:

$Y = 1$; school age children (4 -16 years) attending the school.

$Y = 0$; school age children (4 -16 years) not attending the school.

Whereas, the set of independent variables are:

- m_work = Mother work for pay or profit
- f_ed = Father completed schooling years
- hhexp = Household total monthly expenditure
- hhsz = Household size
- m_m_age = Mother marriage age
- gender = Male or Female

area = Urban or Rural

provinces = Punjab, Sindh, KPK or Baluchistan

ξ = error term normally distributed $N(0, 1)$

For better understanding, the marginal effect of probit model was used to see the change in probability when the independent variables change by one unit.

V. DISCUSSION

The results of probit model estimates in **Table-5** show that if the mother works for pay or profit, this will have a positive effect on children school attending. If father increases his own education level, it will positively effect on his children’s school attending. Results also

Table-5 Probit estimates (Dependent variable: Children school attending)

Explanatory Variables	Probit Model Results	
	Coeff: estimate	Standard error
Mother works for pay or profit	0.143***	(0.0304)
Father’s education	0.0448***	(0.00429)
Log of household expenditure	0.682***	(0.0376)
Household size	- 0.0694***	(0.00419)
Mother age of marriage	0.0139***	(0.00425)
Female	- 0.260***	(0.0263)
Rural	- 0.158***	(0.0306)
Punjab	0.517***	(0.0307)
Kpk	0.178***	(0.0362)
Baluchistan	- 0.160***	(0.0434)
Constant	- 8.529***	(0.434)
Total observations	17,054	

Source: Computed from PSLM/HIES 2013-14 survey.

*** Represent at 1% significant, ** Represent at 5% significant, * Represent at 10% significant

show that if the household has an increase in income, it will positively affect the children's school attending. Similarly result of the probit analysis also shows that the children growing up in a large family household are less likely to attend the school. Another important decision within the household is the age of marriage for women. The later a woman marries the more positive the effect this will have on school attending of her children. For girls as a whole and children living in the rural areas the likeliness of attending school is less. Results are segregated at provincial level. In comparison of

Sindh province the children from Punjab and KPK provinces are more likely to attend the school while, the children from Baluchistan province are less likely to attend the school.

Moreover, the marginal effect of probit model has been used for further analysis and to see the magnitude of the independent variables that affects the decision on children school attending.

Table-6 shows that if the mother of a child is working for pay or profit, the child will have 0.105 probabilities to attend the school. It can also be seen in the results that if the father

Table-6 Marginal effect of probit estimates (Dependent variable is children school attending)

Explanatory Variables	Marginal effect of Probit Model	
	Coeff. estimate	Standard error
Mother works for pay or profit	0.105***	(0.0259)
Father's education	0.0398***	(0.00341)
Log of household expenditure	0.716***	(0.0298)
Household size	- 0.0583***	(0.00324)
Mother age of marriage	0.00946***	(0.00355)
Female	- 0.316***	(0.0219)
Rural	-0.179***	(0.0257)
Punjab	0.579***	(0.0278)
Kpk	0.186***	(0.0316)
Baluchistan	- 0.152***	(0.0356)
Constant	- 8.459***	(0.351)
Total observations	17,054	

Source: Computed from PSLM/HIES 2013-14 survey.

*** Represent at 1% significant, ** Represent at 5% significant, * Represent at 10% significant

of child increases one additional year of his own schooling, this will increase probability of school attending of his child by 4 percent points. Similarly, the household income has a very high impact on children school attending. If there is one unit increase in the log of household expenditure (which is the proxy variable of the household income) there is 0.716 probability for children to attend school. The result also shows that, if the household increases one additional member of the family the child of that household is less likely to attend the school by 6 percent point. As discussed earlier, women's decision about the age of marriage is important for both children and mother's well-being in terms of their socio-economic condition. If the mother of a child decides to delay her marriage by one year the child of that mother will have 0.009 probabilities to attend school. If the child is a girl there is a 0.316 probability that she will not attend school. Likewise, if the child is living in the rural areas there is a 0.179 probability that the child is less likely to attend school. Meanwhile, results regarding the decision of children school attending are varies at the provincial level. If the child is from Punjab or KPK provinces the child has 0.579 probabilities and 0.186 probabilities respectively, to be more likely to attend the school as compared to Sindh province and a child from Baluchistan has 0.152 less probability to attend school as compared to Sindh province.

Notes

* The author acknowledged to, Professor Atsushi Maki and Professor Satoshi Ohira for incredible technical support. They always gave me valuable comments, constructive suggestions, and useful critiques during my research. I am indebted to my office, Bureau of Statistics, Planning and Development Department

VI. CONCLUSION AND RECOMMENDATIONS

This study used the micro data of HIES 2013-14, collected on the socio-economic indicators at the household level. The purpose was to look at household socio-economic background that determined the probability of children school attending. Children school attending is one of the main problems in Pakistan, where 40% of children are out-of-school.

The research confirms that family background has a significant impact on children school attending in Pakistan. To strengthen the socio-economic condition of families in Pakistan, the government and policymakers should concentrate on improving the well-being of the deprived families by adopting some effective policies and programs. For example they should create job opportunities for females. Effective family planning programs which educate people about the ways to control household size should be developed. The programs might also work to bring awareness of the disadvantages of early marriage which has negative effects on both child and mother, especially child education.

To bring out-of-school girls in the schools, effective security and safety should be insured. Construction of new schools in rural areas and provision of quality teachers to increase school attendance in rural areas should also be priorities.

Government of Sindh, Pakistan to encourage me for higher education and granted me permission to participate in the master degree program at TIU and to finish my research.

- 1) World Bank 2015
- 2) UNICEF Pakistan 2013

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