Determinants Of Girl's School Enrolment In Pakistan

Ahmed Raza Cheema
&
Mazhar Iqbal
Department of Economics
University of Sargodha

Abstract

The developing countries like Pakistan are facing the problem of low girls' school enrolment rate. The study estimates the determinants of girls' school enrolment by employing Binary Probit modal using the PSLM data 2010/11.The results show that though the education of both mother and father affect positively the girls' school enrolment, yet the former affects it more as compared to the latter. The relationship between age of children and school enrolment is of inverted 'U' shaped. Foreign remittances and land ownership have more chances to affect the female school enrolment. School distance and poverty are major problems for female school enrolment. Further, females have more chances of school enrolment in urban areas as compared to rural ones. The results at provincial level reveal that mother's education has more chances to affect the probability of girls' enrolment in Sindh followed by Punjab as compared to KPK and Baluchistan. At a policy level government should pay more attention on girls' school enrolment who are to become mothers tomorrow. The government should provide schools as near as possible to their homes. Free education should be provided especially for the poor. The ministry of Overseas Pakistanis and Human Resource Development should be made more effective in searching out jobs abroad.

Keywords: Girl's School Enrolment, Mother's Education, Father's Education, Poverty, Age of Children, School Distance, Land Ownership, Foreign Remittances.

تلخیص

پاکستان جیسے ترقی پذیر ممالک میں سکولوں میں لڑکیوں کے کم شرح داخلہ کے مسئلے سے دوچار ہیں۔ یہ مطالعہ پی ایس ایل ایم ڈیٹاسال ۲۰۱۰ء اور ۲۰۱۱ء پر بائنری پر ابٹ ماڈل کے ذریعے لڑکیوں کے اسکول میں اندراج کے متعین کاروں کا اندازہ لگاتا ہے۔ نتائج سے ظاہر ہوتا ہے کہ ماں اور باپ، دونوں کی تعلیم مثبت انداز میں داخلہ پر اثر انداز ہوتے ہیں۔ تاہم پہلے کا اثر مابعد سے زیادہ ہے۔ بچے کی عمر اور سکول میں اندراج کا تعلق اندرونی جھکاؤ والے "U" کی شکل کا ہے۔ بیرونی ترسیلات اور زمین کی ملکیت کے اندراج پر اثرات کے امکانات زیادہ ہیں۔ سکول کا فاصلہ اور غربت خواتین کے سکول کے اندراج میں بڑے مسائل ہیں۔ مزید یہ کہ شہری علاقوں کی بچیوں کے پاس داخلے کے مواقع دیہی علاقوں سے زیادہ ہیں۔ صوبائی سطح کے نتائج ظاہر کرتے ہیں کہ ماؤں کی تعلیم کے اثر انداز ہونے کے امکانات خیبر پختون خواہ اور بلوچستان کی نسبت سندھ اور پھر پنجاب میں زیادہ ہیں۔ پالیسی کی سطح پر حکومت کو لڑکیوں کے اسکول میں داخلوں پر زیادہ توجہ دینی چاہیے کیونکہ وہ مستقبل کی مائیں ہیں۔ حکومت کو گھروں کے جتنا نزدیک ممکن ہو، سکول مہیا کرنے چاہیے۔ غریبوں کے لیے خاص طور پر مفت تعلیم مہیا ہو۔ بیرون ملک پاکستانیوں اور انسانی وسائل کی ترقی کی وزارت کو بیرون ملک کام کی تلاش میں زیادہ متحرک ہونا چاہیے۔

کلیدی الفاظ: لڑکیوں کا سکول میں اندراج، ماں کی تعلیم، باپ کی تعلیم، غربت، بچوں کی عمر، سکول کا فاصلہ، ملکیت زمین، بیرونی ترسیلات

Introduction

One of the major problems of the developing countries is low girls' school enrolment. According to World Bank (2014) developed countries have high girl's net enrolment rate such as Australia 94%, France 99%, Germany 98%, USA 99%, England 100%. While developing countries have low enrolment rate such as Nigeria 64%, Pakistan 67%, Guinea 74%, Azerbaijan 94%, Bangladesh, 90%, India 93%. Thus, Pakistan still persists at very lower girl's enrolment rate as compared to the other developing countries. School enrolment is very critical issue in Pakistan. According to different economic surveys from 2001 to 2013 net female enrolment percentage is 36.96, 38.55, 42.33, 41.4, 40.8, 46.4, 46.3, 49, 53, 54, 54 and 53 that shows very small increase in school enrolment rate over the period of time.

Keeping in view girls' low school enrolment following studies have been conducted to estimate the determinants of female school enrolment in Pakistan Chishti and Lodhi (1988), Hamid (1993), Sathar & Lloyd (1994), Alderman et al. (1996), Arif et al. (1999), Saqib (1999), Khan and Ali (2005), Rehman and Khan (2005), Toor & Parveen (2006), Haq et al. (2008), and Lodhi et al.(2011) But there is little evidence about estimating the factors responsible for girl's enrolment in Pakistan using the fresh available PSLM data 2010/11. Again there is little evidence about estimating the relationship between poverty and school enrolment at least in Pakistan. Similarly, the foreign remittance is very important factor. Families receiving foreign remittances may have more chances for their children to be enrolled but it has also been ignored in Pakistan yet.

The structure of the article is as follows: Following introduction literature review is discussed in the section II, whereas the data and methodologies employed are explained in the section III. The results and discussions are presented in the section IV, whereas the final section draws some conclusions and gives some policy implications.

Literature Review

Female school enrolment is a fundamental basis for the discussion of worldwide educational goals. Low School enrolment is major issue of developing countries. There are lot of studies conducted on school enrolment in developed and developing countries. These studies analyzed economic, social and cultural factors that may affect children school enrolment. Some studies are given below.

Chishti and Lodhi (1988) investigated determinants of school enrolment decision using data from socioeconomic survey of Karachi collected during 1987-88. By using Binary Logit model, study revealed that the decision to attend school depends on the gender of the potential student, household income, parental education, family size and school

distance. Karachi is the largest city of Pakistan with the highest literacy rate in the country. Hence findings for this city cannot be automatically generalized for the rest of the country, especially rural areas. Parental education and family income had positive impact on children enrolment while school distance and family size negatively effects school enrolment.

Sathar and Lloyd (1994) estimated determinants of school enrolment by using Logit regressions. Study used data from Pakistan Integrated Household Survey of 1991/92. Study found that in general children with educated parents, higher household consumption level, and those who live in Punjab are more likely to attend school. Girls are less likely to attend a primary school, though their chances in rural areas are improved with the availability of a girl's only public school within a distance of one kilometer.

Alderman et al. (1996) estimated determinants for school attendance in Pakistan. The data used in this study was composed by IFPRI (International Food Policy Research Institute) in its survey of rural Pakistan during 1988-89. The purpose of this study was to decompose the gender gap in cognitive (literacy and mathematical) skills into components attributable to various factors underlying this gap. For this purpose study employed binary probit model, which attempt to explain factors determining probability of starting school? Sample selected of the age group of 5 to 14 years because in this age most of the students attending primary school in rural Pakistan. Study found that travel times to school and book costs are important factors influence the decision to start schooling. Other variables such as household's permanent income, father's education, mother education, age of child and square of age are important determinants of school enrolment.

Maitra (2001) examined some of the individual and household level factors that effect the children enrolment in Bangladesh. The data set used in this study is used from the MATLAB Health and Socioeconomic Survey (MHSS), which was carried out in the MATLAB region of rural Bangladesh in 1996. For current enrolment select children aged 6–12 years. Sample consists of 10,906 individuals in this age group belonging to 4000 households. By using the binary probit model study showed that that per capita expenditures and parental education had positive relationships with children school enrolment. Mother education had a positive significant effect on children school enrolment than father education. There is no gender differential in current school enrolment status. Age of children has inverted 'U' shaped relationship with school enrolment. School distance significantly inhibit school enrolment.

Brown and Park (2002) examined the effect of poverty on the school enrolment for this purpose sample of children of age 5-16 years selected, using a 1997 survey of households and schools from poor counties in six provinces. Their measure of household wealth is

expenditure per capita (excluding expenditure on education), and they defined a household to be 'poor and credit-constrained' if it is lies below threshold of both expenditure per capita and access to credit. Using a proportional hazard model, study found that children are more likely to drop out of school if the household is poor and credit-constrained. Study also found that the test score (for enrolled pupils) to be higher if expenditure per capita is higher (implying that it improves quality), if there are older siblings, and for girl's (suggesting that the less able girl's drop out of school). However, their variables representing school quality (the ratio of pupil-teacher, the proportion of rain proof classrooms, and proportion of teachers with post secondary education) had no significant effects on test scores.

Jayachandran (2002) investigated the socio economic determinants of school attendance in India, and find determinants of disadvantage faced by the girl. By using population census data for 1981 and 1991, the study find determinants of inter districts differences in school attendance, separately for boys and girls. Census1991 showed that in the 5-14 age cohorts, 50% children school enrolled in India of which 29 are boys and 21 are girls. In rural India 45% children attend school in which 27 are boys and 18 are girls. School attendance in urban India is higher with 66% children attending school that consist 36 are boys and 30 are girls. Results indicated that school attendance is positively related to school accessibility and parental education, and negatively related to poverty and household size. There were a surprising positive association between women's labour force participation and children's school enrolment. The gender bias in school attendance declines with school accessibility and parental education and rises with household size.

Connelly and Zheng (2003) provided an analysis of school enrolment in China by employing Binary Probit model. This study used the 1990 Chinese Census to analyze educational enrolment and completion patterns of the age cohort of youth 10 to 18 years. Study showed that residential status and gender are representing to be highly related with school enrolment, rural girls being in particular deprived in terms of school enrolment. Parental education, the presence of siblings, per capita income and availability of school has positive effect on children school enrolment. Study also found that male children have more chances of school enrolment than female.

Glewwe and Jacoby (2003) investigated determinants of child school enrolment by using the panel data from Vietnam over the periods from 1993 to 1998. Study employed binary probit model and found that child school enrolment increased by increasing wealth of household. There was also found that father education and mother education highly significantly affect children enrolment. The per capita expenditure positively affect children school enrolment. Age of children and school enrolment has inverted U shaped relationship with school enrolment. School distance and family size negatively effects children enrolment probability.

Pal (2004) examined the gender difference in children school enrolment evidence from rural India. Study decomposes the result attained to found the extent of discrimination in school attendance by using bivariate probit model. The data is based upon six villages of West Bengal and ranges from years 1987-1989. The age group used for children and their respective school and household related characteristics is five to fifteen years. Study found that male had more chances of school enrolment than female. The model explained 30% gender discrepancy in enrolment while 70% was unexplained.

Appleton et al. (2006) examined gender differences school enrolment rates and educational expenditures by using the rural sub sample of a national household survey for 1995/96. Study selected students of age cohort from 15 to 18 years. Study found gender differences in school enrolment to be particularly pronounced in poorer households. The coefficient on household income per capita is positive and significant for girl's school enrolment but not for boys. This is interpreted as suggesting that girls' schooling is a luxury good whereas boys' is an investment good. Maternal education had a positive and significant effect on children school enrolment and on educational spending, whereas the effect of father education is weaker. The estimation of household income functions provided an economic explanation for the preferential treatment of boys, the coefficients of boys years of schooling indicated that has more returns than girl's year of schooling.

Chamarbagwala (2006) explored how households in different income groups respond to children school enrolment by using panel data 1983–84, 1987–88, 1993–94 and 1999–2000 respectively in India. Households are selected via stratified random sampling. By using binary probit model study found that higher income groups enhances the likelihood that boys and girl's school enrolment than lower income groups. Study also showed that higher income groups decreases the likelihood of their children to do work.

Anjum and Uzma (2007) explored determinants of school enrolment in Pakistan. Study used HIES data from 2001/02 by selecting the sample of 42,696 ages 6-12 years children. Study found that household income and parent's education are significantly and positively related to children school enrolment by using binary probit model. The child's own age as well as the number of siblings (up to age 18) are negatively related to the schooling decision and are important factors in low enrolment rates and high incidence of dropouts. It was also found that the availability of government schools to be an important determinant of enrolment in Pakistan. Family size and dependency ratio to enrolment are (positively with enrolment) opposing to the prior determined studies.

Haq et al. (2008) analyzed the primary school enrolment status in the city of Lahore. Primary data was collected from 3,320 households where 2,520 households belonged to the urban areas and 800 households belonged to the rural areas. Computations were

carried out by using both OLS and Logit models. Study showed that family size, asset ownership, expenses on education, literacy ratio and dependency ratio positively and significantly effect to net enrolment of children at primary school level.

Aslam (2008) investigated whether the intra household allocation of educational expenditure in Pakistan favours males over females for attending private school. The Study used individual level data from Pakistan Integrated Household Survey 2001/02. The study tested the probability of children to attend private schools through a linear probability model (LPM) against independent variables that include all children and household related characteristics. The enrolment variable took a binary form which equalled one if a child was enrolled in a private school and zero otherwise. The results for this particular model showed that huge pro-male biases existed in Punjab whereas Sindh exhibited a pro-female bias. The gender disparities were found more strongly apparent in Baluchistan, KPK and FATA, and in rural areas of Punjab.

Rani and Smit (2010) tested the role of socio-economic and cultural factors and the characteristics of educational infrastructure on the enrolment rate of primary schooling in India. Study used primary cross sectional data set of two hundred households. By employing binary probit model the study showed that mothers education, father's employment (whether salaried or business owner), mothers occupation, school standard and household wealth, all had a positive significant impact on enrolment rates of children. Ahmed et al. (2013) examined determinants of private school enrolment by parents in Pakistan. The Study used 1,024 households were surveyed in 64 clusters spanning over eight tehsils across seven districts. These households were a sub sample of the households surveyed under the MICS for 2007/08. By using probability choice model study showed that as wealth increased parents were 5 percent more likely to send their children to school. Even if the tuition fee is zero, parents incur considerable expenditure on uniforms, books, and stationery, etc. Also, if the children goes to school, it means that he/she is unavailable for household chores, which is especially relevant for females.

Mohamed (2013) investigated determinants of primary school enrolment of children aged between 6 and 14 years in Somalia. The results of binary Probit model showed that the child age, education, wealth, regions and area of residence is important determinants of primary school enrolment for boys and girls. Results indicated that the chance for children to be enrolled increased with age at decreasing rate. Wealth has positive influence on the chance for children to be enrolled. The results further showed that the wealth effect is larger for girls than boys. The results showed that children whose father and mother have no education have less chances of being enrolled than educated parents. Father's education exerts more effect on boys while mother education more effect on girl's enrolment. There were also found regional differences in chances of children enrolment.

Afzal et al. (2013) showed gender disparity in net enrolment has been measured by utilizing primary data collected by the Pakistan Bureau of Statistics (PBS) by using

"Multiple Indicator Cluster Survey (MICS) 2007-08". Gender disparity in this paper has defined as the gap indicated by preferences of males over females in any field of life. Gender disparity was reflected on overall basis (rural-urban, and male-female combined) with an NEI (net enrolment index) score of 0.86 as well as in rural areas with an NEI value of 0.72. In urban areas, the proportion of female enrolled students was slightly higher with an NEI of 1.05 favouring females, and in rural areas the adverse situation was observed with a higher proportion of male enrolled students. The estimated gender disparity was higher in rural areas relative to that in urban areas and this exhausted the effect of equalization in enrolment by sex estimated in urban areas and consequently gender disparity was observed on overall basis with an NEI of less than one i.e., 0.87. The gender differential favouring females in urban areas was found much lower than that of the gender differential favouring males in rural areas of Punjab.

Narayanan (2013) examined primary school choice in seven states in rural north India, using primary data from a survey of 1586 households in 274 villages. The analysis emphasized the role of choice sets faced by rural households, given uneven provision of primary education, and of the relative importance of voice versus exit in household decisions on school choice. By employing binary probit model the study found that parents value the facilities and functionality of the chosen school and are sensitive to the characteristics of the alternatives available, with possible differences based on the gender of the child. Significantly, the odds that the chosen school is privately managed are lower when variables denoting quality of the government schools in the village are higher. However, the presence of vehicles for parental representation denoting voice does not matter in expected ways. Overall, parents might be discerning with respect to individual school characteristics rather than merely sorting over school management type.

Andrew (2014) analyzed critical socio-economic factors influencing pupils' access to education in Kibera informal settlement in Nairobi County, Kenya. The study was premised on the Classical Liberal Theory of Equal Opportunity and Social Darwinism proposed by Charles Darwin. A descriptive survey research design using a sample of 114 respondents comprising 6 head teachers, 48 teachers and 60 parents was used to execute the study. The main tools for data collection were questionnaires for head teachers and teachers plus personal interview schedules for parents. The quantitative data from questionnaires was analyzed using descriptive and inferential statistics while the qualitative data from interviews was managed through thematic techniques. The major findings were that, first, the physical and other critical instructional resources were grossly inadequate and/or in pathetic condition are not conducive to education provision. Secondly, there was a positive and significant correlation between the level of formal education of parents and pupils access to education. Parents financing position also plays important role in children enrolment.

It is concluded that school enrolment has been widely discussed by many researchers, due to well reorganization of human capital for economic growth and development. Binary logit or Probit models were used by many studies. It is concluded that father education, mother education, quality of school, school distance, family size, per capita expenditures, land ownership and age of children were important determinants of school enrolment.

Data and Methodology

Female school enrolment is indispensable factor for developing labour force skills and productive efficiencies. In developing countries girl's low school enrolment causes human capital to decline that ultimately reduces economic growth and development. Therefore it is necessary to measure the determinants of female school enrolment. For measuring the determinants of school enrolment the study uses PSLM data 2010/11 that is presenting in section 3.1. The study is employing Binary Probit model for estimating the determinants of female school enrolment that is presented in section 3.2.

Data

This study uses PSLM data 2010/11. This study estimates the current girl'sschool enrolment by selecting children of age group 5-12 years. At this age stage of children it is assumed that households have completely decided about the enrolment of their girls Many studies (Holmes, 1999; Maitra, 2001; Chamarbagwala, 2006; Anjum & Uzma, 2007; Basant & Sen, 2013) selected this age cohort of children for estimating the determinants of school enrolment. The sample of study for measuring determinants of school enrolment consists of 11,810 girls. In which 64.5 percent enrolled in schools and 35.5 percent not enrolled in any school. There are 4,156 girls live in urban areas of Pakistan in which 78.1 percent are enrolled and 21.9 percent not enrolled. As well as 7,654 girls are belongs to rural areas of Pakistan. There are 57.1 percent girls enrolled in rural areas while 42.9 percent not enrolled in any institution.

Methodology

Female school enrolment is inevitable factor of economic growth and development. School enrolment encourages societies to develop creative and well knowledge persons, it also provide more chances of development to underdeveloped part of community. School enrolment is critical component of human capital thatws unanimously accepted as an essential part of financial improvement of a nation. This study employed Binary Probit regression for findings determinants of girl's school enrolment in Pakistan. When the dependent variable is binary variable, then Binary Probit model is the superior choice. The binary dependent variable consists of two categories; the probit analysis helps to find the probability of occurrence of each category. In this way Probit analysis is preferred for estimation of dichotomous dependent variable.

$$R = \beta_0 + \beta_1 FE + \beta_2 ME + \beta_3 AGE + \beta_4 AGSQ + \beta_5 FR + \beta_6 Poor + \beta_7 LO + \beta_8 SD + \mu_0$$

$$R = \begin{cases} 1 \ if \ child \ is \ currently \ enrolled \ in \ school \\ 0 \ if \ child \ is \ notcurrently \ enrolled \ in \ school \end{cases}$$

Hypotheses Testing
Null Hypotheses
H0: $\beta1 = \beta2 = \beta3 = \beta4 = \beta5 = \beta6 = \beta7 = 0 \beta8 = 0$
Alternative Hypotheses
H1: $\beta1 > 0, \beta2 > 0, \beta3 > 0, \beta4 < 0, \beta5 > 0, \beta6 < 0, \beta7 > 0, \beta8 < 0$

The dependent variable is female school enrolment consisting of two categories. If the child is enrolled in school it takes value of one otherwise it takes the value of zero. This study utilizes Binary Probit technique to assess the determinants of school enrolment. This study selects the children of age group 5-12 years for estimating the determinants of female school enrolment.

This study considers number of independent variables that may affect the girls' school enrolment. In order to analyse the determinants of school enrolment the study takes into account various factors. Hence school enrolment depends on following most important factors e.g. father education, mother education, poverty, age of student, land ownership, foreign remittances and school distance. The detail of independent variables is as presenting in Table 2.1.

Table: 2.1
Measurement of variables for school enrolment

Variables	Measurement
Father Education (FE)	Number of years of education
Mother Education(ME)	Number of years of education
Age	Age of girl's
Age Square (AGSQ)	Square of children age
Foreign Remittances (FR)	If household receive foreign remittance = 1, otherwise = 0
Poverty (Poor)*	If individual is poor=1, otherwise=0
Land Ownership	If individual own land=1, otherwise=0
School distance (SD)	Primary school distance

Source: Author's own calculations
*poverty line (Rs. 1745) of Government of Pakistan was used to define poor.

Results and Discussion

Female school enrolment is crucial for learning, expertise development, fitness and for developing abilities of human beings that can improve their output and effectiveness. School enrolment encouraged to creative and well knowledge persons, it also provide more chances of development for underdeveloped part of community. The higher rate of un-enrolled children are leading to stop social and country development and moving backward to adverse condition.

Female are major part of population. This study estimates the determinants of school enrolment in Pakistan at gender level. The outcomes are given in the Table 3.1.

Table: 3.1
Determinants of female school enrolment in urban/rural and overall Pakistan

Variables	Pakistan	Urban	Rural
Father Education	0.05 (17.51)*	0.06 (10.29)*	0.04 (13.16)*
Mother Education	0.14 (24.52)*	0 .13 (14.13)*	0.15 (17.99)*
Age of Child	0.91 (19.24)*	1.07 (11.15)*	0.86 (15.96)*
Age Square of Child	-0.04 (-17.09)*	-0.05 (-10.70)*	-0.04 (-13.53)*
Foreign Remittance	0.26 (4.15)*	0.42 (2.92)	0.24 (3.50)
Poverty	-0.30 (-9.17)*	-0.27 (4.78)*	0.31 (8.50)*
Land Ownership	0.13 (2.66)*	0.12 (0.38)*	0.18 (3.46)*
School Distance	-0.30 (-15.51)*	-0.27 (-4.89)*	-0.29 (-13.75)*
	N=11810 **LRchi2(8)** =3042 **Prob> chi2** =0.00 **Pseudo R2** =0.20	**N=4156** **LRchi2(8)**=1057.86 **Prob>chi2**=0.00**Pseudo R2** =0.24	**N=7654** **LRchi2(8)** =1563.83 **Prob> chi2** =0.00 **Pseudo R2** =0.15

Source: Author's own calculations, * shows within brackets are z-value, N = number of observations

The results show that parental education affects statistical significantly positively female school enrolment in Pakistan. The breakup of analysis shows that mother education has more chances to affect the probability of girls to be enrolled than father education. Similar results are found in urban and rural areas. These results are similar with those of Maitra (2001) in Bangladesh, Jayachandran (2002) in India, Lloyd et al. (2007) in Pakistan, Badr (2007) in MENA, and Sanchez and Sbrana (2009) in India. The age of girl's has inverted U shaped relationship with their enrolment. Results shows that poverty and school distance have negative relationship with girls' enrolment. Poverty and school distance both have more negative effects on rural girl's enrolment than urban girls enrolment. Land ownership has positive effect on girl's enrolment. It has more positive effect in rural areas than in urban ones. Foreign remittances have positive effect on girl's enrolment. It has more positive effect urban girl's enrolment than rural. These results are similar with those of Maitra (2001) in Bangladesh, Lloyd et al. (2007) in Pakistan, Badr (2007) in MENA, and Sanchez and Sbrana (2009) in India. Other results are alike above.

Table: 3.2
Determinants of female school enrolment at provincial level in Pakistan

Variables	Punjab	Sindh	Baluchistan	KPK
Father Education	0.05 (8.21)*	0.06 (11.29)*	0.05 (8.10)	0.06 (11.46)
Mother Education	0.13 (12.51)*	0 .15 (12.91)*	0.09 (7.37)	0.10 (6.18)
Age of Child	0.89 (9.66)*	0.87 (9.34)*	0.83 (7.91)	1.21 (11.34)
Age Square of Child	-0.04 (-8.44)*	-0.05 (-8.45)*	-0.04 -(6.99)	-0.06 (-10.61)
Foreign Remittance	0.30 (2.24)*	0.24 (0.73)	0.02 (0.22)	0.24 (0.95)
Poverty	-0.43 (-7.51)*	-0.32 (5.18)*	-0.26 (-3.76)	-0.21 (-2.97)
Land Ownership	0.09 (0.81)*	0.04 (0.37)*	0.18 (2.02)	0.04 (0.24)
School Distance	-0.50 (-11.81)*	-0.59 (-6.20)*	-0.24 (-6.76)	-0.20 (-6.97)
	N = 4235 LR chi2 =1020.26 Prob> chi2 = 0.00 Pseudo R2 =0.24	N = 2991 LR chi2 =899.64 Prob>chi2=0.00 Pseudo R2 =0.22	N = 2361 LR chi2 = 392.25Prob> chi2= 0.0 Pseudo R2 = 0.13	N = 2223 LRchi2=526.83 Prob>chi2 = 0.0 Pseudo R2= 0.17

Source: Author's own calculations, * shows within brackets are z-value, N = number of observations

The results show that mother education is effecting more girls' school enrolment than father education in all provinces. Results show that the relationship between school enrolment and age of children is inverted 'U' shaped in all provinces. Results depict that by increasing foreign remittances and land ownership there will be more chances of girl's school enrolment in all provinces. The results shows that poverty and school distance have negative effects on girl's school enrolment in all provinces.

Conclusions and Policy Implications

Female school enrolment is very imperative in enhancing real output and improvement of a country. Keeping in view such importance of school enrolment this study estimates the determinants of female school enrolment. The study estimates the determinants of school enrolment by employing Binary Probit model. For estimating the determinants of girl's school enrolment study selects 5-12 years age group of children. The region wise result shows that girls in urban areas have more chances of school enrolment than rural areas of Pakistan. The study estimates show that mother education has prominent affects on girl's

enrolment than father education at Pakistan and regional level. The results show that land ownership and foreign remittances have positive significant affect on girl's school enrolment. The results show that school distance and poverty are main obstacles for female school enrolment. Similar results have found at provincial level in Pakistan.

Policy Implications

On the basis of main findings, the study suggests following policy implications;
1. Female has less chances of school enrolment and mother education prominently encourage children school enrolment. Therefore there should be more emphasis on female school enrolment.
2. School distance has negative effects on female school enrolment. Thus there should be ensuring to provide school facilities specifically for girls nearest to their homes in Pakistan.
3. Land reforms should be implemented in letter and spirit.
4. The ministry of Overseas Pakistanis and Human Resource Development should be made more effective in searching out jobs abroad.

References

Abbas, T. (2003). The Impact of Religio-Cultural Norms and Values on the Education of Young South Asian Women. *British Journal of Sociology of Education*, vol.24:4, pp.411-428.

Afzal, M., Farooq, M., Shahid, A., Hafiz, K., Begum, I. & Quddus, M. A. (2010). Relationship between School Education and Economic Growth in Pakistan: ARDL Bounds Testing Approach to Cointegration. *Pakistan Economic and Social Review*, vol.48:1, pp.39-60.

Afzal, M. M., Muhammad, E., Begum, I., Sarwar, K. & Fatima, H. (2010). Relationship among Education, Poverty and Economic Growth in Pakistan: An Econometric Analysis. *Journal of Elementary Education*, vol.22:1, pp.23-45.

Aghili, M. & Kashani, M. (2012). Predicting Factors of Higher Education in Iran. *Journal of Basic and Applied Scientific Research*, vol.2:3, pp.2688-2693.

Aghion, P, Askenazy, P., Bourlès, R., Cette, G. & Dromel, N. (2009). Education, Market Rigidities and Growth. *Economics Letters*, vol.102:1, pp.62-65.

Akram, L. & Haroon, A. (2008). Imagining Agrarian Relations with Education. *Canadian Journal of Development Studies*, vol.39:6, pp.1145-1161.

Alderman, H, Orazem, P. F. & Paterno, E. M. (1996). *School Quality, School Cost, and the Public/Private School Choices of Low-Income Households in Pakistan*: Poverty and Human Resources Division, Policy Research Department, World Bank.

Amjad, R. K., Mohsin S. & Din, Musleh-ud. (2005). Human Capital and Economic Growth in Pakistan. *The Pakistan Development Review*, pp.455-478.

Anjum, S. & Iram, U. (2007). Socioeconomic Determinants of School Progression in Pakistan. *Applied Econometrics and International Development*, vol.7:2.

Andrew, S. L. & Orodho, J. A. (2014). Socio-Economic Factors Influencing Pupils' Access to Education in Informal Settlements: A Case of Kibera, Nairobi Country, Kenya. *International Journal of Education and Research*, vol.2:3, pp.1-16.

Andrabi, S. & Maxwell, C. (2007). A Review on Determinants of Education Achievement. *Journal of Research and Reflections in Education*, vol.9:3, pp.223-243.

Angel, J. L., Angel, R. J., Hill, T. D. & Burdette, A. M. (2010). Religious Attendance and Cognitive Functioning among Older Mexican Americans. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, vol.61:1, pp.3-9.

Appleton, S. (1996). Women-Headed Households and Household Welfare: An Empirical Deconstruction for Uganda. *World Development*, vol.24:12, pp.1811-1827.

Appleton, J., Christenson, S. L. & Furlong, M. J. (2008). Student Engagement with School: Critical Conceptual and Methodological Issues of the Construct. *Psychology in the Schools*, vol.45:5, pp.369-386.

Arif, G. M., Saqib, N., Zahid, G. M. & Khan, A. H. (1999). Poverty, Gender, and Primary School Enrolment in Pakistan. *The Pakistan Development Review*, pp.979-992.

Aslam, M. & Kingdon, G. G. (2008). Gender and Household Education Expenditure in Pakistan. *Applied Economics and International Development*, vol.40:20, pp.2573-2591.

Badr, M., Morrissey, O. & Appleton, S. (2012). Determinants of Educational Attainment in MENA: CREDIT (Centre for Research in Economic Development and International Trade) Research Paper No. 12.

Barro, R. J. (1999). Determinants of Economic Growth: A Cross-Country Empirical Study. *Journal of Economic Growth*, vol.5:1, pp.5–32.

Barro, R. J. (2001). Human Capital and Growth. *American Economic Review*, vol.91:2, pp.12–17.

Barro, R. J. & Lee, J. W. (2001). International Data on Educational Attainment: Updates and Implications. *Oxford Economic Papers*, vol.53:3, pp.541-563.

Barro, R. J., Lee, K. & Kim, B. Y. (2008). Both Institutions and Policies Matter but Differently for Different Income Groups of Countries: Determinants of Long-Run Economic Growth Revisited. *World Development*, vol.37:3, pp.533-549.

Basu, K. & Van, P. (1998).The Economics of Child Labor. *American Economic Review*, vol.88:3, pp.412–427.

Basu, C. B., Leong, M., Mateo, C., Hollier J., Larry, H. & Gregory N. (2008). Outcome-Based Residency Education: Teaching and Evaluating the Core Competencies in Plastic Surgery. *Plastic and Reconstructive Surgery*, vol.121:6, pp.441-448.

Baumann, R. (2007). Differences in the College Enrolment Decision Across Race. *Social Science Research*, vol.36:1, pp.329-352.

Becker, G. S. (1993). Human Capital: *A Theoretical and Empirical Analysis with Special Reference to Education*. Third Edition. The University of Chicago Press.

Blanchard, H., Alan, J., Victoria, L., Baldwin, S. A. & Fawcett, E. B. (2008). Does Marriage and Relationship Education Work? A Meta-Analytic Study. *Journal of Consulting and Clinical Psychology*, vol.76:5, pp.723-802.

Bliss, C. I. (1966). An Analysis of Some Educational Trap Records. *The Indian Journal of Statistics, Series A*, vol.28:3, pp.123-136.

Bol, L., Sparrin, G. & Steven, M. (2006). Charter Schools as a Vehicle for Education Reform: Implementation and Outcomes at Three Inner-City Sites. *Journal of Education for Students Placed at Risk*, vol.12:3, pp.271-300.

Brown, P. H. & Park, A. (2002). Education and Poverty in Rural China. *Economics of Education Review*, vol.21:6, pp.523-541.

Burney, N. A. & Irfan, M. (1991). Parental Characteristics, Supply of Schools, and Child School-Enrolment in Pakistan, *The Pakistan Development Review*, vol.30:1, pp.21-62.

Irfan, M. (1995). Determinants of Child School Enrolment: Evidence from LDCs Using Choice-Theoretic Approach. *International Journal of Social Economics*, vol.22:1, pp.24-40.

Chamarbagwala, R. (2006). Economic Liberalization and Wage Inequality in India. *World Development*, vol.34:12, pp.1997-2015.

Cheng, H. (2009). Inequality in Basic Education in China: A Comprehensive Review. *International Journal of Educational Policies*, vol.21:3, pp.88-106.

Chishti, S. & Lodhi, A. (1988). Simultaneous Determination of Choice to Attend School, and the Demand for School Education: A Case Study of Karachi, Pakistan. *Pakistan Journal of Applied Economics*, vol.7:2, pp.101-108.

Coleman, (1966). The Determinants of Scholastic Achievement-An Appraisal of Some Recent Evidence, *Journal of Human Resources*, vol.9:1, pp.3-24.

Connelly, R. & Zheng, Z. (2003). Determinants of School Enrolment and Completion of 10 to 18 Year Olds in China. *Economics of Education Review*, vol.22:4, pp.379-388.

Dar. J. (2002). Towards a Holistic Understanding of Enrolment and Growth. *Health Sociology Review*, vol.21:2, pp.141-155.

Drèze, J. & Kingdon, G. G. (2001). School Participation in Rural India. *Development Economics*, vol.5:1, pp.1-24.

Glewwe, P. & Jacoby, H. (1992). Estimating the Determinants of Cognitive Achievement in Low-Income Countries. *Journal of Human Resources*, vol.29:3, pp.843-864.

Glewwe & Jacoby (2003). The Role of the Private Sector in Education in Vietnam: Evidence from the Vietnam Living Standards Survey. *World Development Review*, vol.27:5, pp.887-902.

Hamid, S. (1993). A Micro-Analysis of Demand-Side Determinants of Schooling in Urban Pakistan, *Pakistan Development Review*, vol.32:4, pp.713-723.

Hamid.S. (2013). Widening Participation in Higher Education: Analysis Using Linked Administrative Data. *Journal of the Royal Statistical Society, Series A*, vol.176:2, pp.431-457.

Haq, B., Mazhar UL, & Shahid, S. (2008). Determinants of Enrolment in Primary Education: A Case Study of District Lahore. *Pakistan Economic and Social Review*, pp.161-200.

Holme, J. (2003). Measuring the Determinants of School Completion in Pakistan: Analysis of Censoring and Selection Bias. *Economics of Education Review*, vol.141:22, pp.249-64.

Jayachandran, S. & Lleras, M. A. (2002). Life Expectancy and Human Capital Investments in India, Working Paper No. 13947.

Juma, S., Enose, M. & Ayodo, T. (2014). Impact of Free Secondary Education Policy on Gender Equality in Secondary School Education in Kenya: A Case Study of Kericho County. *Educational Research Review*, vol.5:3, pp.2141-5161.

Khan, A. & Mahmood, N. (1997). Education in Pakistan: Fifty Years of Neglect. *The Pakistan Development Review*, vol.23:2, pp.647-667.

Khan, M. S. & Ali, R. (2005). Human Capital and Economic Growth in Pakistan. *The Pakistan Development Review*, vol.44:4, pp.455-478.

Khan, R. E. A. & Kazmi, T. (2009). Labor Force Participation of Married Women in Punjab (Pakistan). *Journal of Economic and Social Research*, vol.11:2, pp.77-106.

Khan, S. B. T. & Shaheen, A. (2013). Challenges to Promotion of the Fundamental Right to Education in Pakistan. *Academic Journal of Interdisciplinary Studies*, vol.2:2, pp.327-372.

Lloyd, C. B. (2007). The Effect of Gender Differences in Primary School Access, Type, and Quality on the Decision to enroll in Rural Pakistan. *Economic Development and Cultural Change*, vol.53:3, pp.685-710.

Lodhi, A. S., Tsegai, D. & Gerber, N. (2011). Determinants of Participation in Child's Education and Alternative Activities in Pakistan. ZEF *Discussion Papers* No.159 on Development Policy.

Lucas J. & Robert E. (1993). Making a Miracle. *Econometrica: Journal of the Econometric Society*, pp.251-272.

Maitra, P. (2001). Schooling and Educational Attainment: Evidence from Bangladesh. *Education Economics*, vol.11:2, pp.129-153.

Miller, L. (2007). *Learner-Centered Classroom Practices and Assessments: Maximizing Student Motivation, Learning, and Achievement*. 3rd Edition. Corwin Press.

Moffitt, T. E. (2012). Persistent Cannabis Users Show Neuropsychological Decline from Childhood to Midlife. *Proceedings of the National Academy of Sciences*, vol.109:40, pp.2657-2664.

Mohamed, A. M. (2013). Determinants of School Enrolment in Somalia: The Case of Primary Education. Master Thesis. University of Nairobi.

Narayanan, S. (2013). Choosing Private Schools: Examining Primary School Enrolment Decisions in Rural North India. Working Paper No. 25.Indira Gandhi Institute of Development Research, Mumbai, India.

Pal, J. S., Giorgi, F. & Bi, X. (2004). Consistency of Recent European Summer Precipitation Trends and Extremes with Future Regional Climate Projections. *Geophysical Research Letters*, vol.31:13, pp.345-260.

Pavcnik, N. E. & Eric, V. (2005). The Effect of Trade Liberalization on Child Labor. *Journal of International Economics*, vol.65:2, pp.401-419.

Psacharopoulos, G. & Patrinos, H. A. (2004). Returns to Investment in Education: A Further Update. *Education Economics*, vol.12:2, pp.111-134.

Psacharopoulos, G. & Anthony, H. (1993). Education and Human Capital. International Handbook of Development Economics, pp.341-545.

Psacharopoulos, G. & Harry, A. P. (2004). Returns to Invest in Education: A Further Update. *Education Economics*, vol.12:2, pp.111-134.

Sacharopoulos, G. W. M. (1985). Education and Development: An Analysis of Investment Choice. Washington D.C: World Bank.

Rehman, H. & Khan, N. (2011). Flaws in Pakistan's Educational System. *Journal of Social Sciences*, vol.4:1, pp.10-56.

Rani, Pr. & Smith, S. V. (2010). Economic Inequalities in Maternal Health Care: Prenatal Care and Skilled Birth Attendance in India, 1992–2006. *PLoS One*, vol.5:10, p.e13593.

Rebelo, S. & Easterly, W. (1992). School Enrolment and Economic Growth. *Journal of Monetary Economics*, vol.32:3, pp.417-458.

Reza, A. & Valeecha, S. (2007). Impact of Education on Economic Growth of Pakistan-Econometric Analysis. *Journal of Business and Management (IOSR-JBM)*, vol.5:4, pp.20-27.

Sánchez, M. V. & Sbrana, G. (2009). Determinants of Education Attainment and Development Goals in Yemen. Prepared for the Project Assessing Development Strategies to Achieve the Millennium Development Goals in the Arab Region, UNDP-RBAS, UN-DESA and World Bank.

Sánchez, M. V. (2011). Assessing Development Strategies to Achieve the MDGs. *Development Policy Review*, vol.29:1, pp.75-90.

Saqib, N. (1999). Production of Cognitive and Life Skills in Public, Private, and NGO Schools in Pakistan. *The Pakistan Development Review*, vol.42:1, pp.1-28.

Sathar, Z. A. & Lloyd, C. B. (1994). Who Gets Primary Schooling in Pakistan: Inequalities among and Within Families. *The Pakistan Development Review*, vol.1:4, pp.103-134.

Seebens, H. & Wobst, P. (2005). The Impact of Increased School Enrolment on Economic Growth in Tanzania. *African Development Review*, vol.17:2, pp.274-301.

Singh, R. D. (1992). Underinvestment, Low Economic Returns to Education, and the Schooling of Rural Children: Some Evidence from Brazil. *Economic Development and Cultural Change*, vol.25:12, pp.645-664.

Suleiman, A., Ballonoff, S. S. & London, J. (2006). Youth Action for Health through Youth-Led Research. *Journal of Community Practice*, vol.14:1-2, pp.125-145.

Todaro, (2002). Relationship of Personal Health Experiences with Interest in Health Careers among Youth from an Underserved Area. *Journal of Allied Health*, vol.42:3, p.135.

Toor, I. A. & Parveen, R. (2006). Factors Influencing Girl's' Primary Enrolment in Pakistan. *Lahore Journal of Economics*, vol.9:2, pp.141-157.

Udry, G., M. & Christopher (2008). The Profits of Power: Land Rights and Agricultural Investment in Ghana. *Journal of Political Economy*, vol.116:6, pp.981-1022.

Zaman M., Rehma, K., Imran & Naseem, I. (2002). Modeling the Causal Relationship between Energy and Growth Factors: Journey towards Sustainable Development. *Renewable Energy*, vol.63, pp.353-365.

Dr. Ahmed Raza Cheema is an Assistant Professor in the Department of Economics, University of Sargodha.

Mazhar Iqbal is M.Phil Scholar in the Department of Economics, University of Sargodha.