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# Proximate Determinants of School Dropout: A study on Rural West Bengal

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## **Abstract**

School dropout has emerged as major hindrance to human capital formation in developing countries globally and efforts are on to stem this. The present paper attempts to identify proximate determinants of school dropout and suggest policies to tackle the problem in India context by using field data and logistic estimation technique. Results indicate gender differences in chances of drop out. Mother's education, distance of school, family size and parental occupation emerge as important factors that affect school dropout. Short and long term policy suggestions to improve chances of universalization of education have also been outlined based on results.

**Key Words:** School Education, Literacy, Dropout, Logistic Estimation, Gender

**JEL Classification:** H11, I21, I24, I25, I2

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## Proximate Determinants of School Dropout: A Study on Rural West Bengal

### I. Introduction

Access to education is a basic human right and essential to human well-being. Formal education is one of the instruments for accelerating the process of social mobility. School and college education generally give students the confidence that they can improve their lives. It also has the potential to make them aware of the difficulties and obstacles that may hinder their paths. Apart from that education has long been identified as one of the most important determinants of economic growth. It is considered to be both an indicator and instrument of economic development. Education increases labour productivity and thereby helps a nation to have a strong economic growth. It is an instrument to raise earning and reduce poverty. The Kothari Commission<sup>3</sup> has beautifully said

*“The destiny of India is now being shaped in her classrooms. This we believe is no mere rhetoric. In a world based on science and technology it is education that determines the level of prosperity, welfare and security of people. On the quality and number of persons coming out of our schools and colleges will depend on our success in the great enterprise of national construction whose principal objective is to raise the standard of living of our people”.*

In terms of social returns, schooling helps to improve perception, attitudes and behavior. It generates awareness and builds personality so as to promote development and welfare of a country and its people. India’s progress in providing access to education to its children and youth is remarkable for the last decade especially after Sarva Shiksha Abhiyan. During the six decades between 1951 and 2001, India’s Per Capita GDP increased three times, while literacy rate increased 3.5 times and Gross Enrolment Ratio increased 2.5 times. The number of Out of School Children in the age group of 6-14 years has declined from around 45 million in 2001 to around 14 million<sup>4</sup> by the end of 2008. Since the year 2000, Sarva Shiksha Abhiyan has played a significant role to bring the children into school but still a major portion of the enrolled children are found to be leaving school before completing their primary education.

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<sup>3</sup> Kothari Education Commission, 1964-66, was the sixth commission in the history of commission in India. The Commission was appointed under provision of a resolution of the Government of India, dated 14th July, 1964. The Commission included eminent educationists in diverse fields from India and abroad. Dr. D.S. Kothari, chairman of the U.G.C. was appointed as the chairman of the commission.

<sup>4</sup> World Bank database, <http://data.worldbank.org/>; accessed on 11<sup>th</sup> September, 2012

A cross country comparison of educational attainment reveals that India is among the front runners among the low income countries in terms of providing child education (Appendix Table-1). However, the neighbouring country of Sri Lanka has proved herself to be even much better in terms of high enrollment rate followed by low dropout rate among the learners. In contrast to the high income countries, India is far lagging behind. While those countries have ensured nearly 100 per cent enrollment in elementary schooling with a dropout rate of less than even 5 per cent long back, India is still struggling to be there. According to the World Development Report 2009-10, the Net Enrolment Rate (NER) and Dropout Rate in India is 89.5 and 6.4 respectively. The status of the focused state of discussion, West Bengal is even poor in this regard (Appendix Table-2). West Bengal seems to be having a near satisfactory NER but is struggling with a high dropout. The dropout rate in primary among boys and girls in West Bengal is 19.6 and 15.4 respectively. It is interesting to note that the capital of the state, Kolkata and its surrounding districts is better in providing child education. Irrespective of the gender of the child, in Kolkata the NER is close to 100 with no dropout. The two surrounded districts Howrah and North 24 Parganas are also having same kind of a performance in providing education to children. This could be taken as a clear example of Centre Periphery Theory. Looking at the enrollment figures, all the districts are nearly similar and are close to achieve the universal enrollment. So, this is not a reason to be worried any more. But school dropout has emerged to be prime problem as visualized by the dropout figures of the districts, especially in Uttar Dinajpur, Purulia, Maldah and Dakshin Dinajpur. Students are leaving school just after being enrolled. Majority of the students leave school between the transition of class I and II, not even going for higher classes<sup>5</sup>. Given this scenario, the paper makes an attempt to identify the proximate determinants of elementary schooling for a child so as to identify the causes of school dropout. The paper also finds the relative strength of those identified factors to affect the probability of schooling for a child. The paper sums up by providing some short and long term policy suggestions derived from the analytical discussion carried out in the study.

## **II. Review of Related Literature**

From the view point of policy perspective for long run economic growth of a developing economy, controlling school dropout is of special interest to the policy makers and planners. Ensuring enrollment and reducing dropout are the two basic steps for universal education and

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<sup>5</sup> District Report Cards, District Information System for Education (DISE)

human capital building to ensure the sustainable growth of a nation. In Indian context the first such attempt to recognize elementary education as a must need for the country to enhance its growth was done by Weiner (1996). The study puts an effort on education of children to be recognized as the basic mean to sustain the continuous expansion of the economy and to cater the growing need of human capital, thereby suggesting to invest in its children. Considering investment on children as necessary condition for long run economic growth, many researchers has focused on the achievement of sufficient condition latter on, viz. Accessibility, Availability and Affordability to those fruits of investment on child. Many studies were made to address the socio-economic determinants of elementary education across varied locations considering caste-class barrier along with some household level factors. Significant among them are by Bhatta (1998), Banerji (2000), Kaul (2001), Sengupta and Guha (2002), Sajjad et al (2012).

In international context also, many literatures are found on the identification of determinants of elementary education with special emphasis on developing/underdeveloped countries. Notable among them are by Levy (1971), Cairns et al (1989), Stromquist (1989), Ilon and Mooock (1991), Fuller et al (1995), Colclough, Rose and Tembon (2000), O'Higgins et al (2007), Mike et al (2008).

Regarding the factors considered for discussion to determine the school participation of a child, some studies found to be focused on the role of parental education in child's schooling. Notable among those are by Behrman and Wolfe (1983), Chernichovsky (1985), Jamison and Lockheed (1987), Burney and Irfan (1991), Llyod and Blanc (1996), Tansel (1997). Some studies are also found to be comparing between the relative importance of Mother's and Father's education behind girl's education. Significant among them are by Leibowitz (1974), Rosensweig and Evenson (1977), Murnane (1981), Wolfe and Behrman (1984), King and Lillard (1987), Psacharopoulos and Arrigada (1989), Hill and O'Neill (1994), Alderman et al (1996). Researchers have also tested if family income has a significant impact on the school participation of a child. Those include the works by Hossain (1990), Knodel et al (1990), Haveman et al (1991), Ghosh (1992), Tansel (1997). Researchers like Behrman and Taubman (1989), Hamid (1993), Parish and Willis (1994) has worked on the effect of family occupation on child's schooling and has found that children from White collar families are better in terms of schooling outcome. Studies by Knodel and Wongsith (1990), Jajeebhoy (1993), Parrish and Willis (1994),

Mukhopadhyay (1994), finds that belonging to a large family and having many younger siblings negatively affects school participation.

In some sense or other, our study also deals with the achievement of sufficient condition to eradicate the problem of child education. But we have focused on finding the relative importance of different socio economic factors what affects the school going chances of a child. In this regard the previous studies the various factors to affect the schooling probability of a child like influence of parental education, father's occupation, etc. on child's schooling has been found to be useful to identify the variables for our proposed model. Study discussing the relative importance of different socio economic factors in determining child education is sparse and the present authors did not come across any study on this aspect in Indian context. This present paper aims to fulfill this gap in existing literature.

### **III. Data & Sample Selection**

Apart from some secondary data used for the background information on school enrolment and dropout, the paper is based on primary data obtained through Field Survey in the district of Burdwan. A four stage stratified random sampling process was used to collect data. The first step is to choose the district. The district of Burdwan has been chosen on the basis of the level of human development across districts of West Bengal. The idea was to select such a state where the level of human development is moderate. Accordingly, West Bengal Human Development Report 2004 has been used to select the district. One may think that why the concept of human development has been used to choose the district? Literacy across districts could be the best indicator as the paper deals with education. The notion of human development has been chosen because, the paper intends to explore all the socio economic factors which may affect school going probability of a child. Human Development Index (HDI) is known to be developed by capturing the status of all relevant socio economic variables. Hence, the level of human development as measured by HDI would be the best way to select the sample district. Selection on the basis of literacy percentage may lead to a sample selection bias as the other socio economic factors are not captured. At the 2<sup>nd</sup> stage of stratification the district has been divided in two stratum – North & South. At the 3<sup>rd</sup> state, four villages were chosen, two each from Burdwan North and Burdwan South. Choice of villages has been made randomly using administrative map of census 2001. In North Burdwan the chosen villages are namely Orgram and Sillakote In south Burdwan those are Bolpur and Belsar. At the 4<sup>th</sup> stage, a purposive

random sampling method was used to select households for survey from each of the selected villages. The purpose was to identify the factors responsible to influence child's schooling. Accordingly, a random sampling was done among households with at least one child in the age group of 6-14. Following this, a total of 456 households has been surveyed from the two selected villages (115 in Bolpur, 95 in Belsar, 122 in Orgram and 108 in Sillakote). Special attention was paid to ensure proper distribution of households among different castes, classes (low/middle/high income families) and occupations (type of occupation of the household head). The sample consists of 356 children in the age group of 6 to 10 years; 291 goes to school and 65 do not go to school. The sample of 356 children has been drawn from 2349 number of population of 456 surveyed households.

The study was conducted mainly to address the problem of school dropout among children and to find the possible reasons of avoiding school. In other words, the primary objective of the survey was to identify the determinants of a child's school participation. A series of demographic, social and Parental characteristics has been considered to address those questions. The period of survey was March-April, 2012.

#### **IV. Methodology**

The probability of child's school participation is predicted from a series of demographic, household and parental characteristics. A logistic regression approach is followed to identify the proximate determinants of a child's school participation. Variables like parental educational qualification, household characteristics, distance to school, etc. are considered to be the explanatory variables causing an influence on the categorical dependent variable, child's school going status. We used to expect that the more educated parents would recognize the future benefits of education for their child, and therefore, have a higher propensity to enroll them in school. To account for this aspect, parental education (in absolute number of years of schooling) has been taken as an explanatory variable. The estimated coefficients of father's and mother's education may also be helpful to explore the person who plays more important role behind the education of the child. Is this father of the child or the mother? Keeping the prevalence of gender disparity in almost every sphere of Indian economy in mind, gender of the child has also been introduced as one of the factors to influence the schooling of a child.

As proxy to financial support to children in terms of maintaining educational expenditure, the father's occupation and monthly gross family income is used. With higher family income greater

demand for child's schooling is expected. Father's profession is also likely to have an impact on child's school going status. Parents with white collar job are relatively more educated and are expected to earn more. They are also aware of the benefits of having educated as compared to the parents engaged in Pink or Blue collar job. White collar job is meant for the service holders who are engaged in teaching, administrative, management and clerical jobs. Pink collar job is meant for Trade & Service sector and Blue collar job is for labourers. Among the household level factors to determine the child's schooling, the size of the family is also expected to have an impact on the probability of school going. Poor people are very likely to raise their family size. This is because of the fact that adding one member in the family leads to an addition of one more earning hand. This can be supported by the theory of 2<sup>nd</sup> stage of demographic transition. Hence, we may expect household size to have a negative impact on the school going chances of the child. Apart from household level factors, distance to school acts as an important factor as for a child. It may not be possible for a child to cover a long distance to go to school and this is true especially for girls.

The explained variable, the child's school going status is a dichotomous variable, assuming value '1' if the child goes to school and '0' if the child does not go to school i.e. dropped out or never enrolled. The explanatory variable as explained earlier are : i) Gender of the child (*childgen*), ii) Father's educational level (*fatheredu*), iii) Mother's educational level (*motheredu*), iv) Father's Occupation –White (assumes the value '1' if the child's father is engaged in White collar job, '0' otherwise), (*occuwhite*), v) Father's Occupation –Pink (assumes the value '1' if the child's father is engaged in Pink collar job, '0' otherwise), (*occupink*), vi) Father's Occupation –Blue (assumes the value '1' if the child's father is engaged in Pink collar job, '0' otherwise), (*occupink*), vii) Household Size (*hhsiz*), viii) Distance to School (*distschool*).

In the model while considering father's occupation, three kind of occupational category is considered, out of which White collar job is taken as the base or control variable so as to avoid the dummy variable trap. Given the quantitative nature of the dependent variable, a logistic estimation technique is used. The model on school going status of a child assumes a nonlinear functional relationship between the dependent and independent variables.

The equational framework used for the analysis may be postulated as –

$$L_i = P(y_i = 1) = F(\beta_1 + \beta_2 hhsiz + \beta_3 childgen + \beta_4 fatheredu + \beta_5 motheredu + \beta_6 occupink + \beta_7 occublu + \beta_8 distschool + \beta_9 grossfaminc)$$



Where  $y_i = 1$  if the child goes to school

0 if the child does not go to school or has dropped out

And  $F(\cdot)$  is the cumulative logistic distribution function; “ $i$ ” indexed the individual child.

**Explained Variable:** School going status of the child (‘1’ if child goes to school, ‘0’ otherwise)

It to be noted that, we have also considered caste and religion in our model but they are found to be insignificant. We dropped those by using a step wise regression through backward elimination. This seems be contradictory to the finding by Jamison and Lockheed (1987), Raju (1991), Sarkar (1986). They have found that children, especially girls from socially backward class families have a lower probability of school going. But we did not come across any such finding for the region of our study. Hence, we dropped caste and religion from our model.

## V. Results and Discussion

The estimated coefficients of the model shows that among all the socio-economic factors considered, some are having positive impact on the school going chances of a child and some others are having negative impact. The estimated model is summarized in Table 1. Among the factors which are having positive effect on the child’s schooling, mother’s educational qualification is observed to be having the strongest positive influence. Similar kind of result has also been found by Behrman and Wolfe (1983), Jamison and Lockheed (1987), Llyod and Blanc (1996), Tansel (1997). For unit increase in mother’s educational qualification, the probability of being enrolled and retained in school for a child increases by 18 percentage point. The probability increases by only 10 percentage point for that of a father. Comparing the relative influence of parental educational qualification, it can be inferred that female literacy plays relatively more important role behind child education as compared to male literacy.

Income of the parents is always assumed to have a vital role to determine the child’s education. This is simply because parents need to finance the child’s education. However, our estimated model doesn’t find any significant impact of family income on the child’s school participation. It shows that, increase or decrease in family income does not have any impact on the school going chances of the child. This finding seems to be contradictory to some earlier studies by Taubman (1989), Hossain (1990) and Alderman et al (1997). This may be the explained in terms of free & financially supported schooling up to class VIII.

Table - 1  
**Common Regression Results** (*considering all children together*)

Variables	$\beta$	Sig.	$e^{\beta}$
Gender of the Child <sup>a</sup>	-0.007	0.981	0.99
Household Size	-0.233*	0.001	0.79
<u>Parental Education Level</u>			
Father's Education <sup>b</sup>	0.096***	0.081	1.1
Mother's Education <sup>b</sup>	0.168*	0.007	1.18
<u>Father's Occupation</u>			
Pink Collar Job <sup>c</sup>	-2.104**	0.054	0.12
Blue Collar Job <sup>c</sup>	-2.259**	0.037	0.1
Family Income (log Rs/month)	0.225	0.433	1.25
Distance to School (km)	-0.227**	0.045	0.8
Nagelkerke R Square	<b>0.28</b>		
No. Of Observations	<b>356</b>		

*Notes:* a – Girls are Control Group; b – In completed years of formal schooling; c –White-collar occupations are Control group; \* Significant at 1 per cent level, \*\* Significant at 5 per cent level, \*\*\*Significant at 10 per cent level

For our analysis, we have considered the children belonging to the age group of 6 to 14 i.e. those who are supposed to be studying between classes I to VIII. Education up till this stage is being freely provided by the Government with free books, uniforms and one time meal every day. Hence, parents don't have to spend anything on their children at least up to this stage. Add to that, if the parents are not capable of feeding their child properly, sending the child to school would ensure at least one time meal. On the other side, this may act as an incentive for a child to be sent in school. This explains the insignificant coefficient of family income in our model.

To discuss on the negatively affecting factors, household size, distance to school and father's occupation are observed to be among those factors which affects the primary education in an adverse way. A unit increase in family size leads to a 21 percentage point drop in school going probability for a child. This is mere indication of the fact that bigger the family, lesser the child's school going chance or greater is the chance for being dropped out. This finding is quite similar to earlier studies by Parish and Willis (1994), Lloyd and Gage-Brandon (1994).

Distance to school is identified to be another factor to increase the chances of dropout. For unit increase in distance, the children's school going chance decrease by about 20 per cent.

With regard to occupational categories, it is observed that if father's occupation belongs to Pink/Blue collar job category, then chances of school going for a child is low as compared to

others with fathers' engaged in White collar job. Similar result has been observed by some other studies like Behrman and Taubman (1989), Hamid (1993). A child with his/her father engaged in white collar job has the strongest possibility of being enrolled and retained in school. However, if the child's father is engaged in trade and service sector (pink collar job), then the probability of being dropped out for that child is nearly 88 per cent and the probability goes up to 90 per cent in case where the child's father is a casual labour (Blue collar job). Accordingly, children of the people who are employed in unorganized sector, working as a casual labour, have the highest chance of leaving school at a very early age.

Lastly, gender of the child is expected to play a vital role to determine whether the child will be sent to school or not. In our study, the estimated coefficient of gender is found to be insignificant to influence the child's school participation. This basically says, at the primary level, girls no longer face any discrepancy to be educated. But, to allow for the gender specific discrepancy in the magnitude of the other coefficients, we tried separate regression for boys and girls (Table – 2). This basically enables us to find the difference in probability attached for boys and girls in terms of their school going chances.

Unlike the earlier estimated model, here also parental education is noticed to be strongest enough to influence the child's school going chances. However, mothers seemed to be relatively more

Table - 2  
**Regression Results: Separately for Boys and Girls**

Variables	Boys			Girls		
	$\beta$	Sig.	$e^\beta$	$\beta$	Sig.	$e^\beta$
Household Size	-0.193**	0.057	0.86	-0.288*	0.002	0.75
<u>Parental Education Level</u>						
Father's Education <sup>a</sup>	0.029	0.693	1.03	0.183**	0.038	1.20
Mother's Education <sup>a</sup>	0.217**	0.016	1.24	0.122	0.167	1.13
<u>Father's Occupation</u>						
Pink Collar Job <sup>b</sup>	-19.818	0.998	0.00	-0.807	0.503	0.45
Blue Collar Job <sup>b</sup>	-19.635	0.998	0.00	-1.357	0.248	0.26
Family Income (log Rs/month)	0.197	0.625	1.22	0.291	0.492	1.34
Distance to School (km)	-0.299**	0.055	0.74	-0.152	0.363	0.86
Nagelkerke R Square	<b>0.27</b>			<b>0.32</b>		
No. of Observations	<b>189</b>			<b>167</b>		

Notes: a – in completed years of formal schooling; b – Control group: White-collar occupations; \* Significant at 10 per cent level, \*\* Significant at 5 per cent level, \*\*\*Significant at 1 per cent level

caring to her male child, fathers being just the opposite. Father's occupation doesn't seem to matter for boys as the marginal impact is found to be nil irrespective of the type of job category that the boy's father is engaged in. However, this seems to matter for a girl child. It is interesting to note that boys are privileged to be educated irrespective of their father's profession, whereas girls are deprived from this opportunity. This again reflects the gender discrepancy in chances to be educated at the very early age of a child. Girls coming out of casual labour families are worsely affected as compared to those coming from other families who are engaged in either service sector or trade and business. Another issue that matters to a child to continue schooling is the distance that s/he has to cover to attend the school. Hence, irrespective of the gender of the child, this is expected to affect the probability of schooling adversely. Interestingly, the dampening effect of increase in distance is more for boys. This may again be a representation of the fact that boys are more cared than girls. Lastly, the income of the family is playing a positive influence on the primary education of a child. However, the influence is noticed to be more for girls than for boys.

However, in econometric sense, running separate regression for boys and girls is causing loss of observations. This will adversely affect the overall fitness of the model and degrees of freedom. Moreover, the power of the tests will fall. To get rid of this problem, we have carried out another regression using an interaction dummy and seen if there is any variation in result. This may cause a loss in degrees of freedom as the number of parameters to be estimated will go up but may be defended by the increased number of observations. The magnitude of the estimated coefficients of the regressors using this approach is nearly similar to the earlier regression except for the coefficient of family income. However, substantial differences can be noted in the absolute value of the odds ratios (Table – 3). Family income was found to have a positive impact on the child's school going chances (both for boys & girls) in our earlier estimation (done separately for boys and girls). In this last approach, it found to be affecting girls negatively and boys positively. In econometric sense, the last regression using slope dummy is more methodical because of sufficient number of observations. This can also be treated as an alternative to chow test. Hence, it would be better to go by the results of last regression.

One other concern might be the significance levels of  $\hat{\beta}_i$ s. For some explanatory variables, the significance level for estimated  $\beta$  is quite poor. However, keeping the objective of the study, it

should be noted that, here magnitude of the coefficient is more important as compared to the level of significance.

Table - 3  
**Regression Results: Using Interaction Dummy**

Variables	Girls			Boys	
	$\beta$	Sig.	$e^{\beta}$	$\beta$	$e^{\beta}$
Household Size	-0.270*	0.005	0.76	-0.184	0.83
<u>Parental Education Level</u>					
Father's Education <sup>a</sup>	0.173**	0.046	1.19	0.024	1.02
Mother's Education <sup>a</sup>	0.132	0.136	1.14	0.221	1.25
<u>Father's Occupation</u>					
Pink Collar Job <sup>b</sup>	-0.899	0.462	0.41	-4.088	0.02
Blue Collar Job <sup>b</sup>	-1.848***	0.1	0.16	-3.919	0.02
Family Income (log Rs/month)	-0.088	0.785	0.92	0.209	1.23
Distance to School (km)	-0.166	0.316	0.85	-0.291	0.75
Nagelkerke R Square	<b>0.29</b>				
No. of Observations	<b>356</b>				

Notes: a – in completed years of formal schooling; b – Control group: White-collar occupations; \* Significant at 1 per cent level, \*\* Significant at 5 per cent level, \*\*\*Significant at 10 per cent level

Table - 4  
**Derived Marginal Impacts (of 1 unit rise) – Percentage Point Increase in Chances of School Going**

Variables	Common Regression	Separate Regression		Regression with Slope Dummy	
		Girls	Boys	Girls	Boys
Gender <sup>a</sup>	0	-	-	-	-
Household Size	-21	-25	-18	-24	-17
<u>Parental Education Level</u>					
Father's Education	10	20	3	19	2
Mother's Education	18	13	24	14	25
<u>Father's Occupation</u>					
Pink Collar Job	-88	-55	-100	-59	-98
Blue Collar Job	-90	-74	-100	-84	-98
Family Income (log Rs/month)	25	34	22	-8	23
Distance to School (km)	-20	-14	-26	-15	-25

Note: a – for Boys vis-à-vis Girls

## **VI. Policy Prescription**

Universalization of education among children requires enrollment in school as necessary condition with sufficient condition being retention in the learning system. In this paper we have tried to identify the probable factors responsible to influence child's school participation. Based on the empirical analysis done throughout the paper, we have tried to derive some interesting policy implications. Some of our suggested policies may readily be implemented on short term basis and some others are expected to be useful in long term.

**Short Term Policy:** Among all the discussed socio economic determinants in our model, Parental education and distance to school may be useful to target as a short term policy to enhance schooling among child at in present days. These two are found to be highly influencing factors to determine the chance of school going. Child's mother is observed to be having more important role behind the education of the child as compared to father. Looking at our model, it says, for one standard increase in mother's education the probability of school going increase by about 18 per cent, whereas the increase in probability is about 10 per cent for that of father. This finding may prove to be helpful to the policy makers as it shows which factor is to be emphasized so as to achieve the target of "zero dropout" more quickly. It is quite clear from the analytical part of our discussion that, if female literacy is enhanced then that would help to achieve the goal more quickly. In the short run it is not possible to increase the level of education of the parents as they are not a part of schooling system any more. But the basic idea is to increase awareness about education among parents. This can easily be done by setting up adult education centers where people can come during their leisure time and can enrich their knowledge (Hati and Majumder, 2011). For quick fulfilling of our target i.e. to reduce the number of drop out, the policy makers need to ensure a high number of female participation in those centres as female literacy has more influence on child's school participation.

The second important factor that we have identified as an obstacle towards universalization of elementary education is the distance to school from the household. This may also prove to be helpful if considered as a short term target. However, the target must be to reduce the distance that a child has to cover every day to attend school. It is not possible to cover a long distance for a student who has just completed primary education and is dreaming to be admitted to high school. This problem is more acute especially for girls. Our econometric exercise reveals the fact that one Kilo Meter increase in distance to school leads to a 20 percentage point fall in the school

going probability of a child. We may take this as a suggestion on the other way. If the distance to school can be reduced by one Kilo Meter then that would lead to a 20 percentage point increase in school going chances. Say, for example, in our study the average distance to school is 2.92 Kilo Meters. If this distance can be reduced by 2 Kilo Meters then that would increase the child's school participation chance by 40 percentage points. Following this if the Government takes an initiative to set up one primary and one middle school within one Kilo Meter radius of each and every hamlet in coming five years, then that would definitely help in bringing down the number of dropout from the learning system.

***Long Term Policy:***

Development to be sustainable, every policy should be taken on basis of a long term thought. In fact, there are certain things which are ought to be taken care of on long term basis. Parental occupation and family size comes under these types of factors. To start speaking with occupation, about 94 per cent of our country's population is working in unrecognized sector<sup>6</sup> and are basically what we call Blue Collar job holders. Large number of the people are found to be with Trade & Service, the Pink Collar Job leaving a very few people working in White collar job category. From our explanatory analysis it is found that children of the people with White collar job has a high probability of school going where as the probability is low for that of Pink and Blue collar job. Hence, what is required is an occupational shift which is basically a long term phenomenon. Considering the child's father as 1<sup>st</sup> generation and child as 2<sup>nd</sup> generation, this benefit can be obtained by the 3<sup>rd</sup> generation learner if and only if there is an intergenerational upward occupational mobility from the 1<sup>st</sup> generation to the 2<sup>nd</sup> generation. With increased literacy among today's children (earlier termed as 2<sup>nd</sup> generation), many of them will be capable of getting White collar job. To be precise, if we look to ensure universal schooling for all children with no out of school children, an intergenerational upward mobility is to be ensured as a long term goal. This long term objective can be achieved through the short term measure of increasing literacy among the parents.

Apart from earlier discussed factors, size of the family has also been identified to explain a large amount of variation in school going status of a child. This seems have a dampening impact on the chances of school going. Greater the family, the lower is the probability of child's school participation and vice versa. This finding is basically recommends to have a small family and

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<sup>6</sup> Labour in India, Wikipedia; Accessed from [http://en.wikipedia.org/wiki/Labour\\_in\\_India](http://en.wikipedia.org/wiki/Labour_in_India) on 25<sup>th</sup> October, 2012

that has to be considered as the long term objective. To fulfill this objective, at the very first instance, is to be ensured that the family size is not raised further as of now. This can be done by giving benefits to those who are having less number of children and later on as long term perspective policies are to be taken so as to make people aware of the various benefits of small family and awareness about family planning is also to be spread. This would surely help us not only in reducing the number of school dropout and form human resource of the tomorrow's growth but also will help us to control the population explosion of the country.

The derived policy implications using the empirical analysis done throughout the paper is expected to help the policy makers to abolish the problem of school dropout to its minimum possible level so as to ensure the average level of education of the society as well as of the economy.

## **VII. Conclusion**

It may thus be inferred from our exploratory analysis that even after ten years of Sarva Shiksha Abhiyan and many other educational awareness programmes across country, school dropout still persists as the major problem to form human capital needed for economic growth of the country. As the paper is more focused on finding the causes of dropout, parental education & occupation has been found to be highly influencing factor to cause school education of a child. Keeping the relative influence of the discussed factors affecting the child's school participation, emphasis on adult education for females in the short run and emphasis on the quality of learning of the present readers in the long run is strongly recommended.



## References

- Alderman, H., Behrman, J. R., Khan, S., Ross, D. R., & Sabot, R. (1997). The Income Gap in Cognitive Skills in Rural Pakistan. *Economic Development and Cultural Change*, 46(1), 97-122.
- Alderman, H., Behrman, J. R., Ross, D. R., & Richard, S. (1996). Decomposing the Gender Gap in Cognitive Skills in a Poor Rural Economy. *The Journal of Human Resources*, 31(1), 229-254.
- Banerji, R. (2000). Poverty and Primary Schooling. *Economic & Political Weekly*, 35(10), 795-802.
- Behrman, J. R., & Paul, T. (1989). Mostly in the Genes'? Nature - Nurture Decomposition, Using Data on Relatives. *Journal of Political Economy*, 97(6), 1425-1446.
- Behrman, J. R., & Wolfe, B. L. (1983). The Socioeconomic Impact of Schooling in a Developing Country. *The Review of Economics and Statistics*, 66:296-303, 66, 296-303.
- Bhatty, K. (1998). Educational Deprivation in India: A Survey of Field Investigations. *Economic and Political Weekly*, 33(27), 1731-1740.
- Burney, N. A., & Irfan, M. (1991). Parental Characteristics, Supply of Schools, and Child School-Enrolment in Pakistan. *The Pakistan Development Review*, 30(1), 21-62.
- Cairns, R. B., Cairns, B. D., & Neckerman, H. J. (1989). Early School Dropout: Configurations and Determinants. *Child Development*, 60(6), 1437-1452.
- Chernichovsky, D. (1985). Socioeconomic and Demographic Aspects of School Enrolment and Attendance in Rural Botswana. *Economic Development and Cultural Change*, 33(2), 319-332.
- Colclough, C., Rose, P., & Tembon, M. (2000). Gender inequalities in primary schooling: The roles of poverty and adverse cultural practice. *International Journal of Educational Development*, 20(1), 5-27.
- Development and Planning Department, Govt. of West Bengal. (2004). *West Bengal Human Development Report*.
- Fuller, B., Singer, J. D., & Keiley, M. (1995). Why do Daughters Leave School in Southern Africa? Family Economy and Mothers. *Social Forces*, 74(2), 657-681.
- Ghosh, A. (1992). Education for All: The Financing Problem. *Economic and Political Weekly*, 27(14), 679-683.
- Hamid, S. (1993). A Micro Analysis of Demand Side Determinants of Schooling in Urban Pakistan. *The Pakistan Development Review*, 32(4), 713-723.

- Hati, K. K., & Majumder, R. (2011). Impact of Alternative & Innovative Education Programmes: A Study of Bridge Course Centres in Bardhaman District. *Journal of Educational Planning and Administration*, 25(3), 257-276.
- Haveman, R., Barbara, W., & James, S. (1991). Childhood Events and Circumstances Influencing High School Completion. *Demography*, 28(1), 133-157.
- Hill, A. M., & O'Neill, J. (1994). Family Endowments and the Achievement of Young Children with Special Reference to the Underclass. *The Journal of Human Resources*, 39(4), 1064-1100.
- Hossain, S. I. (1990). Interrelations between Child Education, Health, and Family Size: Evidence from a Developing Country. *Economic Development and Cultural Change*, 38(4), 763-781.
- Hossain, S. I. (1990). Interrelations between Child Education, Health, and Family Size: Evidence from a Developing Country. *Economic Development and Cultural Change*, 38(4), 763-781.
- Ilon, L., & Mook, P. (1991). School Attributes, Household Characteristics, and Demand for Schooling: A Case Study of Rural Peru. *International Review of Education*, 37(4), 429-451.
- Jamison, D. T., & Lockheed, M. E. (1987). Participation in Schooling: Determinants and Learning Outcomes in Nepal. *Economic Development and Cultural Change*, 35(2), 279-306.
- Jejeebhoy, S. J. (1993). Family Size, Outcomes for Children and Gender Disparities: Case of Rural Maharashtra. *Economic and Political Weekly*, 28(35), 1811-1821.
- Kaul, R. (2001). Accessing Primary Education: Going beyond the Classroom. *Economic and Political Weekly*, 36(2), 155-162.
- King, E. M., & Lillard, L. A. (1987). Education Policy and Schooling Attainment in Malaysia and Philippines. *Economics of Education Review*, 6(2), 167-181.
- Knodel, J., & Wongsith, M. (1990). Family Size and Children's Education in Thailand: Evidence from a National Sample. *Demography*, 28(1), 119-131.
- Knodel, J., Havanon, N., & Sittirai, W. (1990). Family Size and the Education of Children in the Context of Rapid Fertility Decline. *Population and Development Review*, 26(1), 31-62.
- Leibowitz, A. (1974). Home Investments in Children. *Journal of Political Economy*, 82(1), 11-31.
- Levy, M. B. (1971). Determinants of Primary School Dropouts in Developing Countries. *Comparative Education Review*, 15(1), 44-58.

- Lloyd, C. B., & Blanc, A. K. (1996). Children's Schooling in Sub-Saharan Africa: The Role of Fathers, Mothers and Others. *Population and Development Review*, 22(2), 265-298.
- Lloyd, C. B., & Gage-Brandon, A. (1994). High Fertility and Children's Schooling in Ghana: Sex Differences in Parental Contributions and Educational Outcomes. *Population Studies*, 48, 293-306.
- Mike, I. O., Nakajjo, A., & Isoke, D. (2008). Socioeconomic Determinants of Primary School Dropout: The Logistic Model Analysis. *Economic Policy Research Centre*.
- Mukhopadhyay, A. (1994). Girl Child in Three Indian States. *Economic and Political Weekly*, 29(23), 1379-1382.
- Murnane, R. J. (1981). New Evidence on the Relationship Between Mother's Education and Children's Cognitive Skills. *Economics of Education Review*, 1(2), 245-252.
- O'Higgins, N., D'Amato, M., Caroleo, F. E., & Barone, A. (2007). Gone for Good? Determinants of School Dropout in Southern Italy. *Giornale degli Economisti e Annali di Economia*, 66(2), 207-246.
- Parish, W. L., & Willis, R. J. (1994). Daughters, Education and Family Budgets. *The Journal of Human Resources*, 28(4).
- Parish, W. L., & Willis, R. J. (1994). Daughters, Education and Family Budgets. *The Journal of Human Resources*, 28(4), 863-897.
- Psacharopoulos, G., & Arriagada, A. M. (1989). The Determinants of Early Age Human Capital Formation: Evidence from Brazil. *Economic Development and Cultural Change*, 37(4), 683-708.
- Raju, S. (1991). Gender and Deprivation: A Theme Revisited with a Geographical Perspective. *Economic and Political Weekly*, 26(39), 2827-2839.
- Rosenzweig, M. R., & Evenson, R. (1977). Fertility, Schooling and the Economic Contribution of Children in Rural India: An Econometric Analysis. *Econometrica*, 45(5), 1065-1079.
- Sajjad, H., Iqbal, M., Siddiqui, M. A., & Siddiqui, L. (2012). Socio-Economic Determinants of Primary School Dropout: Evidence from South East Delhi, India. *European Journal of Social Sciences*, 30(3), 391-399.
- Sarkar, B. N. (1986, April). Enrolment and Primary Education Force in Rural India. *Margin*, 72-89.
- Sengupta, P., & Guha, J. (2002). Enrolment, Dropout and Grade Completion of Girl Children in West Bengal. *Economic and Political Weekly*, 37(17), 1621-1637.

- Stromquist, N. P. (1989). Determinants of Educational Participation and Achievement of Women in the Third World: A Review of the Evidence and a Theoretical Critique. *Review of Educational Research*, 59(2), 143-183.
- Tansel, A. (1997). Schooling Attainment, Parenta Education and Gender in Cotd'Ivoire and Ghana. *Economic Development and Cultural Change*, 45(4), 825-856.
- Taubman, P. (1989). Role of Parental Income in Educational Attainment. *The American Economic Review*, 79(2), 57-61.
- Weiner, M. (1996). Child Labour in India: Putting Compulsory Primary Education on the Political Agenda. *Economic and Political Weekly*, 31, 3007-3014.
- Wolfe, B. L., & Behrman, J. R. (1984). Who Is Schooled in Developing Countries? The Roles of Income, Parental Schooling, Sex, Residence and Family Size. *Economics of Education Review*, 3(3), 231-245.

## Appendix

Appendix Table: 1

### Status of Enrollment and Dropout- An International Comparison

Country	Net Enrolment Rate			Dropout Rate		
	All	Boys	Girls	All	Boys	Girls
Bangladesh	86.6	87.3	85.9	42.5	44.4	40.4
Pakistan	n.a.	n.a.	n.a.	39.7	33.1	46.6
Sri Lanka	99.8	99.6	100.0	0.0	0.0	0.0
India	89.5	91.0	88.0	6.4	4.7	8.3
<b>Low income</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>34.3</b>	<b>30.9</b>	<b>37.8</b>
Indonesia	40.9	39.2	42.6	0.0	0.0	0.0
Philippines	48.2	45.5	51.1	7.7	10.4	4.9
<b>Middle Income</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>6.4</b>	<b>5.2</b>	<b>7.2</b>
Australia	100.0	100.0	100.0	< 5.0	< 5.0	< 5.0
Japan	100.0	100.0	100.0	< 5.0	< 5.0	< 5.0
United Kingdom	100.0	100.0	100.0	< 5.0	< 5.0	< 5.0
United States	73.8	71.2	76.6	4.1	5.3	2.9
Canada	100.0	100.0	100.0	4.3	4.0	4.5
<b>High Income</b>	<b>&gt; 95.0</b>	<b>&gt; 95.0</b>	<b>&gt; 95.0</b>	<b>&lt; 5.0</b>	<b>&lt; 5.0</b>	<b>&lt; 5.0</b>

*Note:* n.a. – Data not available.

*Source:* World Development Report, 2009-10

Appendix Table: 2  
**Net Enrolment Rates and Dropout Rates in Primary Education along with the status of  
Human Development in Districts of West Bengal**

District	Net Enrolment Rate		Dropout Rate		HDI Score	HDI Rank
	Boys	Girls	Boys	Girls		
Bankura	98.90	98.90	12.50	17.30	0.52	11
Bardhaman	99.40	99.40	9.70	6.90	0.64	5
Birbhum	98.70	98.70	0.01	0.00	0.47	14
Dakshin Dinajpur	96.40	96.40	36.30	31.10	0.51	13
Darjiling	98.10	95.90	65.20	66.20	0.65	4
Haora	96.90	96.90	0.01	0.00	0.68	2
Hugli	99.50	99.50	15.60	8.40	0.63	6
Jalpaiguri	99.10	99.10	24.00	21.20	0.53	10
Koch Bihar	97.20	97.20	9.30	5.00	0.52	11
Kolkata	99.60	99.60	0.00	0.00	0.78	1
Maldah	98.30	98.30	41.90	29.80	0.44	17
Murshidabad	98.40	98.40	10.90	0.00	0.46	15
Nadia	99.70	99.70	16.20	11.40	0.57	9
North 24 Pargana	98.90	98.90	0.00	0.00	0.66	3
Paschim Medinipur	97.90	97.90	0.00	0.00	0.62	7
Purba Medinipur	99.00	99.00	20.90	16.00	0.62	7
Puruliya	98.80	98.80	40.60	46.40	0.45	16
Siliguri	98.70	98.70	1.40	7.70	n.a.	n.a.
South 24 Pargan	97.60	97.60	22.90	14.50	0.60	8
Uttar Dinajpur	96.80	96.80	57.20	51.00	0.51	13
<b>West Bengal</b>	<b>98.50</b>	<b>98.50</b>	<b>19.61</b>	<b>15.42</b>	<b>0.61</b>	<b>--</b>

*Note:* HDI score and rank for Purba and Paschim Medinipur are same because at the time of calculation of district wise HDI these two districts were together. So, we have just replicated the values of HDI score and rank for both the newly formed district. No further state human development report has been prepared after this administrative breakup. The values of the two Dinajpurs are also similar for same reason; n.a. – Data not available.

*Source:* Data for Net Enrollment Rate is taken from the West Bengal Development Report, Planning Commission, Government of India; Dropout Rate is authors' calculation based on data from State Report Card 2005-06 to 2009-10, District Information System for Education (DISE); Human Development Index (HDI) scores and ranks are taken from the West Bengal Human Development Report 2004, Development and Planning Department, Govt. of West Bengal