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CHOICE BETWEEN EDUCATION AND WORK AMONGST CHILDREN OF BIDI WORKERS A CASE STUDY OF BOKARO DISTRICT IN JHARKHAND

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1. Introduction

Aaccess to knowledge in its various dimensions is critical to building of human capabilities and human capital, enhancement of freedom, and empowerment of people. The millennium Development Goals (MDG) adopted and ratified by India also speaks of Universalization of Primary Education and Promoting gender Equality in Education. India is a huge country with a vast and heterogeneous population base. Amongst its many problems two important social problems are the problem of child labour and that of the incidence of irregular school going. Both these problems are interrelated as incidence of child labour accentuates the problem of irregular school going. On the other hand those unlucky students who fail to go school regularly for various reasons ultimately fail in the competitive world in the quest of a better carrier option. So this is very important to study why young students are not regular in school going and how this feature is related with other socio economic features of school children.

In India, children were always working and participating in economic activities with their parents. But it is participative type of work which helps children to develop skills required to handle the traditional family occupation, so that intergenerational transfer of occupation becomes smooth Usha and Radha Devi (1997) in their study, based on field survey with bidi and agarbatti workers of Mukkudal Village of Tirunelveli district of Tamilnadu found parents occupation and education played significant role in determining whether a child become a child labour or not. In modern times extreme poverty compels children to join even to the ranks of wage workers to support their family (ILO, 1983). Rekha Pande (1996) in her study on "Child labour on Bidi Industry of Andhra Pradesh, based on a sample survey of 1000 households, reported that bidi rolling activities are dominated by girls. Regular school going children rolls 250 to 300 bidis before or after school hours and those who roll more bidis are drop outs or irregular at school (Mishra, 2000).

The tribals constitute one fourth of Jharkhand's population in 2011. The share of Scheduled Castes is 12 per cent. But poverty level is very high among both the Scheduled Castes and Tribes. The SCs and STs dependency on agriculture is very high. The agricultural labourers are the most vulnerable group of unorganized workers, who record the highest poverty proportions amongst different household occupational categories. Bokaro comes under the extended part of the Chhotonagpur Platue. It is south eastern district of Jharkhand, adjacent to the Purulia district of West Bengal. Depleted Jungles, underdeveloped agriculture, low level of industrialization are compelling people to do whatever is possible to earn livelihood. Poverty is a general problem and to combat with poverty people are using family labour in home based industries like bidi, khaini (chewing tobacco), Sal Leaf Plate Making etc. Children are actively participating with parents. At times they even don't go to school rather as opportunity cost of going school is not bearable for the family.

2. Objectives

Lack of work opportunities in agriculture throughout the year and obsolescence of traditional industries of this place, are making people to opt for a mixed work portfolio suitable for all members of the family to enjoy extra cushion on its earning opportunities. Legal provisions are there to stop child labour but when it is for the financial support of own family then children compromise with regular school going. To solve immediate hardships of the family children participate in paid work at employers place or at home if it is home based contractual work taken by the family. Sometimes or to earn experience and/or skill in family business children also do participate in work at an early age. Childhood is the time to build career through learning at school. If it is spent on immediate gain of the family then in the long run career options will be fewer due to lack of acquired skill in child hood. This is as a result of poverty as well as resulting in poverty for them who are future citizens of our country. Therefore our intention is to look into the determinants of school going in the child hood of the children of a place with poor underdeveloped rural population. Since poverty, family size, student teacher ratio, caste, occupational status, sex, access to school etc. are important factors regarding the decision for sending the children to school we shall attempt to study how school going is affected by these factors.

3. Model, Methodology and Data

Data have been analyzed through descriptive cross sectional analysis along with graphical exposition and also through presenting the summary statistics. Simple regression analysis is also done to study the importance of the selected explanatory

variables using EViews 6 and Math Type 6 software. We have assumed that school attendance is determined by poverty, family size, student teacher ratio, caste, occupational status, sex, access to school etc. Therefore we consider a simple log linear model taking all these variables as explanatory variable to explain attendance of a child at school.

$$\log(TOTATTN) = C + {}_1\log(AVMINC) + {}_2\log(FAMSIZE) + {}_3\log(STUTEAR) + {}_4CASTE + {}_5OCCUSTAS + {}_6SEX + {}_7ACCESSS + U$$

Here,
TOTATTN = Total attendance of a child at his/her school in an academic session.
AVMINC= Average monthly income of the family of the child and it is measured in rupees.
FAMSIZE = Family size of the family where the child belongs to and it is a whole number.
STUTEAR = Students-teacher ratio at the school of the child, it is also a pure number.
CASTE is taken as general or non general type in this analysis. It is a dummy variable with value one (=1) when the child belongs to general category otherwise zero.
OCCUSTAS = Occupational status of the parents of the child is a dummy variable. If any one of the parents is bidi worker, its value is one (=1) otherwise zero.
SEX is a dummy variable with value one if the child is a boy and it takes value zero if the child is a girl.
ACCESSS = Access to school when the school is located in the nearest location or within the accessible distance. It is a dummy variable with the value one (=1) if the school is within accessible distance otherwise zero.
We are to test seven hypothesises and they are as follows.
Hypothesis-1
The average monthly income is expected to induce positively total attendance of the children in the school. That, is we want to test the null hypothesis $H_0 : {}_1 = 0$ against the alternative $H_1 : {}_1 > 0$.
Hypothesis-2
The family size is expected to induce positively total attendance of the children in the school. That, is we want to test null hypothesis $H_0 : {}_2 = 0$ against the alternative $H_1 : {}_2 > 0$.
Hypothesis-3
The student teacher ratio is expected to put negative impact on the total school attendance of the child. That is we want to test null hypothesis $H_0 : {}_3 = 0$ against the alternative $H_1 : {}_3 < 0$.
Hypothesis-4
Caste is likely to have positive impact on school attendance of the child. A general caste student is likely to come more to his/her school than non general caste student. That is, we want to test hypothesis $H_0 : {}_4 = 0$ against the alternative $H_1 : {}_4 > 0$
Hypothesis-5
Occupational status is expected to have a negative impact on the school attendance of the child. A child of a bidi worker family is likely to come less at his/her school than a child of a non bidi worker family. That is we want to test hypothesis $H_0 : {}_5 = 0$ against the alternative $H_1 : {}_5 < 0$.
Hypothesis-6
Sex is likely to have positive impact on school attendance of a child. As it is expected that a male child is expected to come more at his school that a female child. That is we are to test whether $H_0 : {}_6 = 0$ against the alternative $H_1 : {}_6 > 0$.
Hypothesis-7
Access to school is likely to put positive impact on school attendance of a child. That is we are to test whether $H_0 : {}_7 = 0$ against the alternative $H_1 : {}_7 > 0$.
Data collection is done through structured questionnaire among 193 selected students. Twenty four schools were selected first at random among thirty eight schools near habitations of bidi roller families in the district. Mostly selected schools belong to blocks adjacent to Purulia district of West Bengal. In the selected 24 school, students of age between 7 years to 14 years were selected at random in proportion to the total students of the said age group to select finally 193 students. Monthly attendance report of the students were collected from respective schools and compiled with the data set generated from data points of questionnaire.

4. Empirical Estimates and Analysis

We have presented summary statistics in Table 1. Average monthly income of the different households from which the children belong is Rs. 3888/-. Highest average monthly income is Rs. 24000/- and lowest average monthly income is Rs. 3500/-. Income of these families varies a lot as it is envisaged by a high value of coefficient of variation measuring as high as 96.02. Average family size is 6 and in the sample largest family size is of 12 members and the smallest family is constituted by two members. Average student-teacher ratio is 40.24 i.e., on an average a teacher is taking care of 40 students per school, highest value found is 72 and minimum value is 21. Average attendance per student in an academic session is 69. Highest number of school attendance found is 131 and lowest value found is 37 only.

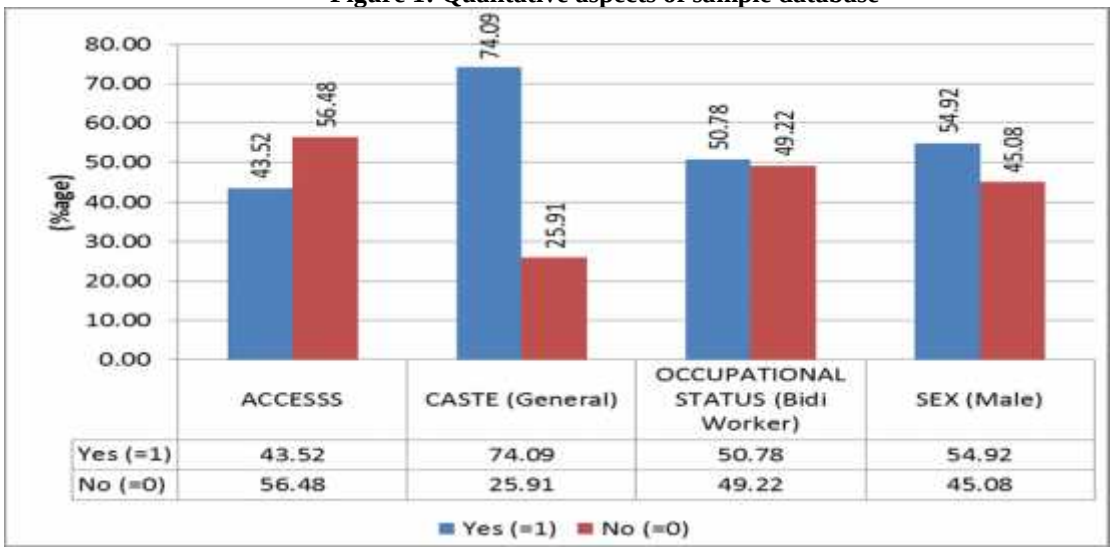
Table 1: Summary Statistics of Quantitative variables

	AVMINC (Rs.)	FAMSIZE (Number)	STUTEAR	TOTATTN
Mean	3833	6	40.24	69
Median	3500	5	40.00	67
Maximum	24000	12	72.00	131
Minimum	400	2	21.00	37
Std. Dev.	3680	2	10.59	17
CV	96.02	36.22	26.32	24.57
Skewness	2.159	0.691	0.59	0.875
Kurtosis	10.070	2.982	3.15	4.305
Observations	193	193	193	193

Source: Author's calculation based on sample observations.

Values of qualitative variables along with graphical presentation are given in Figure 1. It shows percentage of sample children who have access to school; belong to general caste, male and from a bidi rollers family along with the respective complementary events. We find 43.52 per cent children are getting a school within their village or commutable distance without much hardship whereas 56.48 per cent of children report they find problem to come to school regularly as it is not accessible to them or not within commutable distance.

Figure 1: Qualitative aspects of sample database



Source: Author's calculation based on sample observations.

General caste students constitutes 74.09 per cent of our sample and 25.91 per cent students are of non general category. SCs, STs and OBCs all constitute this non general caste category. A little more than half (50.78 per cent) of our sample children is from bidi workers family and 49.22 per cent of children are from non bidi worker's family. Male students are 54.92 per cent and female students are 45.08 per cent in our sample database.

Table 2 and Table 3 summarises quantitative variables when sample is divided into two categories as children from non bidi workers and children from bidi workers. In Table 2 summary statistics of children from non bidi workers are shown. We are having 95 children from non bidi worker families and 98 children from bidi worker families. Average total attendance in school of the children from non bidi workers families as well as from bidi workers families in an academic year is 69. For non bidi workers Maximum value is 131 and minimum value is 37, whereas for bidi workers maximum and minimum values are 121 and 37 only. Average family size of the non bidi workers is 5 and that of bidi workers is 7 (Table 3). Maximum and minimum family size figures for non bidi workers are 9 and 2 respectively. For bidi worker families, maximum and minimum family size figures are 12 and 2 respectively. It shows that family size of non bidi workers is smaller than family size of bidi workers. Average monthly income of non bidi worker families are Rs.2043/- only with maximum value of Rs. 18000/- and minimum value of Rs. 400/- only. Income of these families varies greatly between themselves as coefficient of variation is amounting to 152.78. Average family income of bidi workers is Rs. 5568/- which is far greater than family income of non bidi workers. Maximum and minimum average monthly family incomes for bidi worker families are Rs. 24000/- and Rs.1400/-. Coefficient of Variation of income between these families is 60.08 less than the variation among non bidi workers.

Table 2: Summary Statistics of Quantitative Variables of Children from Non Bidi Worker

	TOTATTN	FAMSIZE(Number)	AVMINC (Rs.)	STUTEAR
Mean	69	5	2043	42
Median	67	5	900	42
Maximum	131	9	18000	72
Minimum	37	2	400	22
Std. Dev.	17.96	2	3122	11
CV	25.94	34.67	152.78	25.36
Skewness	1.05	0.70	3.44	0.40
Kurtosis	4.75	3.16	16.27	2.66
Observations	95	95	95	95

Source: Author's calculation based on sample observations.

Average student-teacher ratio in schools amongst children of non bidi worker families is 42 which is higher than the average student-teacher ratio in schools amongst children of bidi workers.

Table 3: Summary Statistics of Quantitative Variables of Children from Bidi Worker

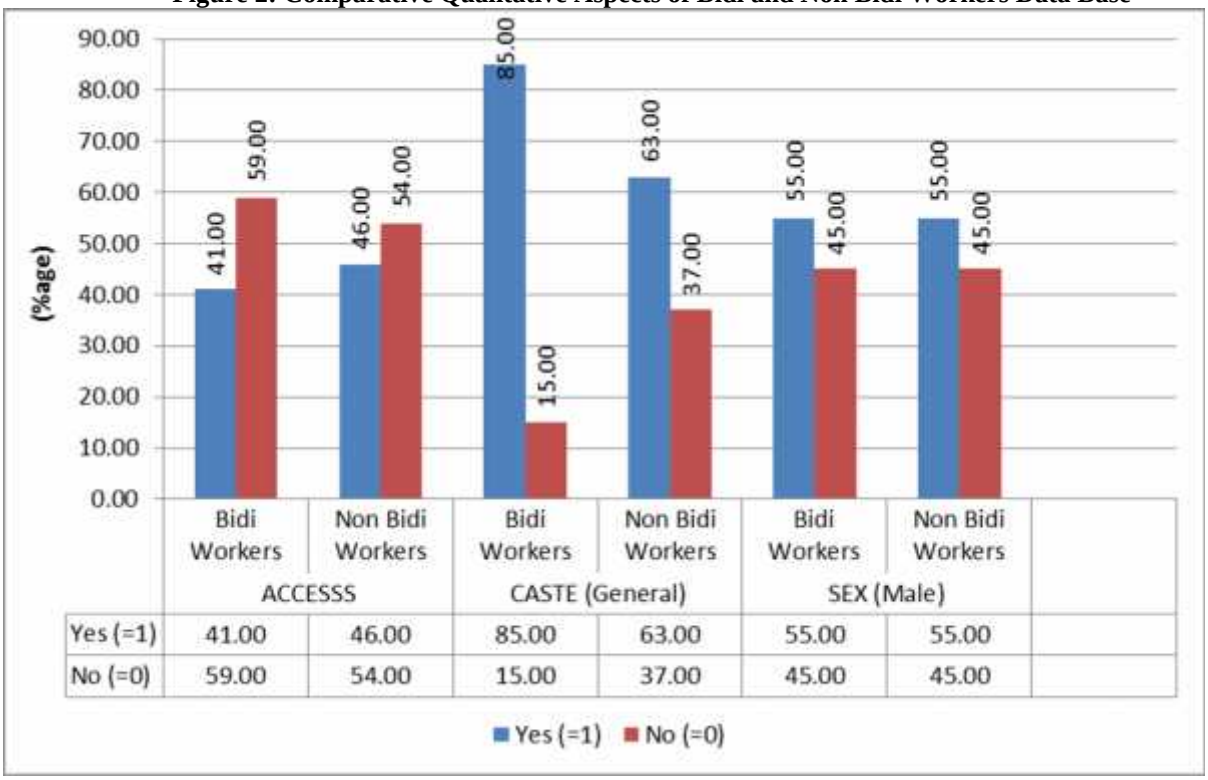
BIDI WORKER				
	TOTATTN	FAMSIZE(Number)	AVMINC (Rs.)	STUTEAR
Mean	69	7	5568	38
Median	66	6	5000	38
Maximum	121	12	24000	72
Minimum	37	2	1400	21
Std. Dev.	16.09	2.19	3344.99	10.06
CV	23.29	33.30	60.08	26.36
Skewness	0.63	0.55	2.81	0.81
Kurtosis	3.49	2.55	14.11	4.04
Observations	98	98	98	98

Source: Author's calculation based on sample observations.

Three qualitative characteristics of the databases of children from non bidi workers and databases of children from bidi workers are shown side by side for comparison between them in Figure 2. It is seen from the figure that access to school is greater for children from non bidi workers than children from bidi workers. For bidi workers it is 41 per cent and for non bidi

workers it is 46 percent. Bidi workers are mostly of general caste. Incidence of other caste is greater among non bidi workers. Incidence of male and female students is same among both categories of workers.

Figure 2: Comparative Qualitative Aspects of Bidi and Non Bidi Workers Data Base



Source: Author's calculation based on sample observations.

Regression results are presented in Table 4. Three of our estimated coefficients are found to be significant. Log of average monthly family income is found to be negatively associated log value of attendance of a child. It is expected that with increase in financial solvency parents tend to send their children more regularly and so attendance is likely to be associated positively with income. But a negative value implies, for an increase in percentage change in average monthly family income there will be a corresponding decrease in percentage change in attendance of a child. The estimated coefficient with a negative sign explains active participation of children in income earning attempts of families. Higher average monthly income is reducing school attendance of children. But the estimator is not statistically significant at 5 per cent so we accept the null hypothesis.

Table 4: Results of Regression Analysis

Dependent Variable: LOG(TOTATTN)				
Method: Least Squares				
Date: 08/29/15 Time: 09:17				
Sample: 1 193				
Included observations: 193				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(FAMSIZE)	0.040	0.031	1.321	0.188
LOG(AVMINC)	-0.021	0.014	-1.570	0.118

LOG(STUTEAR)	-0.507	0.045	-11.187	0.000
CASTE	0.004	0.022	0.201	0.841
OCCUSTAS	-0.021	0.026	-0.790	0.430
SEX	0.041	0.020	2.093	0.038
ACCESSS	0.183	0.023	8.103	0.000
C	6.066	0.207	29.300	0.000
R-squared	0.71	Mean dependent var		4.206495
Adjusted R-squared	0.70	S.D. dependent var		0.234807
S.E. of regression	0.128016	Akaike info criterion		-1.23296
Sum squared resid	3.048198	Schwarz criterion		-1.0982
Log likelihood	127.5968	Hannan-Quinn criter.		-1.17839
F-statistic	66.18668	Durbin-Watson stat		1.933659
Prob(F-statistic)	0			

Source: Author's calculation based on sample observations.

Family size is having positive impact on school attendance but the estimator is found to be statistically insignificant so we accept the null hypothesis and conclude that family size is not positively inducing school attendance of a child. Student-teacher ratio is found to be a statistically significant estimator of school attendance of children. As expected it is found that with an increase in the rate of student-teacher ratio rate of attendance of children to school decreases. So we reject the null hypothesis and accept the alternative hypothesis. Caste is (a dummy variable) found to be statistically insignificant variable with a positive estimated coefficient implying if a child is of general caste then school attendance will increase only, we reject the null hypothesis. Occupational status is found with a negative estimated coefficient implying a child from a bidi workers family will have lower number of attendance than a child from a non bidi worker, family. However the estimator is not significant at 5 per cent level so we accept the null hypothesis. Sex found as a significant explanatory variable of school attendance. The estimator is with a positive sign implying for a boy school attendance will increase only and for a girl child it is not going to increase. Access is another statistically significant explanatory variable of school attendance. The positive coefficient suggest with access to school at the own village or at commutable distance attendance will increase otherwise not. The variable is significant at 5 per cent level so we reject the null hypothesis and accept the alternative hypothesis.

5. Conclusion and Policy Prescription

It is observed from our study that students are not coming regularly to their schools due to lower access to schools, high student-teacher ratio and gender discrimination. Access to school is lower for the students from bidi roller families as they get lesser time to devote for commuting to schools as they help their families in bidi rolling activities. As girls help their mothers in regular household activities and also in income earning activities through bidi rolling so they are lagging behind in school attendance. Poor families will go for use of family labour but due to gender discrimination girls suffer and miss schools more than a boy of same age. Given this situation following suggestions are forwarded for the fulfilment of the objective of universalization of basic education.

1. Increase number of teacher student ratio at different schools providing basic education.
2. In a hilly terrain like Bokaro number of schools to be increased keeping in mind physical structure of the place rather than number of population of the place.
3. For girl students in the locality of bidi rollers number of schools to be increased as their access to school increases.
4. Parents are to be made conscious about the future of their child rather than engaging them in income earning activities of the family for immediate gain.
5. Government to provide some income incentive to the children of bidi workers for going to school regularly and that too in an easy way.

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