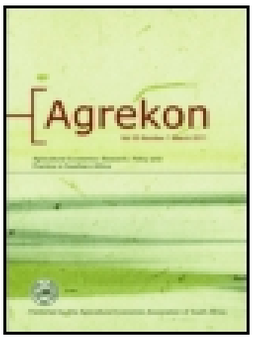

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DETERMINANTS OF HOUSEHOLD PARTICIPATION IN THE CHILD LABOUR FORCE: THE CASE OF IWO LOCAL GOVERNMENT AREA IN OSUN STATE, NIGERIA

Taiwo Alimi and Micah B. Masuku[1]

ABSTRACT

This study determines the factors that influence households' participation in the child labour force in Nigeria. Multistage sampling was used in selecting 1671 households, of which 1457 had children ages 5–14 years. Data were analysed using descriptive statistics and logit model. The results indicated that a high proportion (76.94%) of households participate in child labour. The results further showed the determinants of child labour participation to be household per capita income ($p<0.05$), children's levels of education ($p<0.05$), household head's perception of child labour ($p<0.05$) and usefulness of children's education ($p<0.05$), as well as literacy level (tertiary level-$p<0.10$) and sex of household head ($p<0.10$). Nonparticipating households scored significantly better than participating households on those socioeconomic characteristics that discourage child labour; as such, these must be influenced to reduce or eliminate child labour.

Key words: Nigeria, child labour, child labour determinants, logit model

1 INTRODUCTION

Child labour has become an area of interest to academics, policy makers and the media in Nigeria in recent times. Growing interest in poverty reduction among the most vulnerable sections of the population, which includes children and especially working children, increases the focus on child labour. Ashagrie (1993) estimated that, globally, some 79 million children of the ages five to fourteen years were working full time. The ILO (1996) revised this figure upwards to 120 million children working full time, and an additional 130 million part time. Despite the fact that the estimate of child labour obtained is a function of the definition of work, child and the data collection method used, there is agreement that child labour is a problem of high magnitude.

The proponents of child labour, most especially poor parents/guardians, see children as assets for the generation of income to use in the household. Thus, these parents/guardians exploit the children for economic support of the household in the short term at the expense of the children's future development. Children

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engage in child labour to fend for themselves or for their households, the supposed responsibility of the household adults. If household adults performed or were endowed with the capacity to perform their responsibilities towards their children/wards, there would be no child labour.

Ojo (1999) and Olawoye (2001) indicated the importance of child labour in Nigeria's agriculture. Children are generally regarded as economic assets, given their potential role and productive contribution in the generation of income in rural communities of Nigeria. In developing countries, religion and culture tend to give parents and guardians full right and control over their children/wards. Obikeze (1995) noted that the work assigned to the child becomes part of the child's socialisation process, as child-rearing customs in Nigeria necessitate that children be given some domestic work commensurate with age, sex and physical structure.

Anti-child labour activists believe that child labour hampers the intellectual and physical development of children, a hazard that is more pronounced for children involved in hazardous work. Psacharapoulos (1997) noted that, in general, child labour impedes the acquisition of education and thus reduces productivity in the long run. Osotimehin *et al*. (1999) in their study of child workers in agricultural markets in Nigeria concluded that child labour is injurious to health, and the physical and personality development of the children involved. Child labour prevents children from benefiting fully from school and may thereby condemn them to perpetual poverty and low wage employment (Ray 2000). Alimi *et al*. (2006) also concluded that children contribute their labour for household poverty alleviation and a high proportion of children have an unfavourable attitude towards their involvement in child labour, as participation affects their leisure and time for study**.** Bequele and Boyden (1988) note that child labour causes and contributes to adult unemployment and low wages in developing countries. This is because children compete with adults for jobs, thereby increasing the supply of labour when compared with a situation of adults alone being in the labour market. The increase in labour supply will drag down the wage rate. In line with Bequele and Boyden (1988), Grant and Hamermesh (1981) found that, in the United States, children are substitutes for white women in production.

Considering the deleterious effects of child labour to the children in particular and the nation in general, there is a need to discourage the practice. In order to prevent child labour, it is necessary to understand its key determinants. Saga (1975) concluded that the economic value of children to their parents varies substantially with the family characteristics that influence the cost-benefit ratio of the practice of child labour. This study identified socioeconomic characteristics of households that influence child labour participation. The study also compared the socioeconomic characteristics of child-labour participating and nonparticipating households,

in order to inform the formulation of policies for child labour eradication or reduction. Stated in another form, what are the household characteristics that favour/ discourage participation in child labour, and are there any significant differences in any of the socioeconomic characteristics of the participating and nonparticipating households?

2 CONCEPTUAL AND ANALYTICAL FRAMEWORKS

For this study, child labour is defined as the involvement of children within the age group of five (5) to fourteen (14) years in any economic activities that generate income or reduce cost, for the upkeep of the children and/ or their households. Participation of children in household chores that do not negatively affect their future development is not considered to be child labour if it is aimed at training them. Normally, children in this age group should be engaged in future development activities such as being in school. This definition is based on the premise that it is the adult members of the child's household that should engage in economic activities to maintain the household (child inclusive). The basic proposition of this study is that the household's socioeconomic status is an important determinant of its participation in child labour. The various socioeconomic characteristics of households considered include: household income, household size, household head's literacy level, literacy level of the children, household head's perception of child labour, and household head's perception of the relevance of education to the future development of the children.

Poverty has been indicated as one of the major causes of child labour. Families need money to survive and the children are a source of additional income. The luxury axiom of Basu and Van (1998) states that a family would only send the children to the labour market if the family's income from nonchild labour sources dropped very low. Jacoby and Skonfias (1997) indicated evidence of children being withdrawn from school in India in response to seasonal shocks to household incomes. In this study, household per capita income (only the income of adult members of the household, excluding income from child labour) rather than total income of the household is used as a proxy for poverty, to eliminate the effect of household size on total income. The first *a priori* expectation of this study is that child labour depends essentially on the per capita income of the household. The higher the per capita income of household, the lower the probability of its participation in child labour.

A child is either in school or engaged in child labour. A child in school is not likely to be available for child labour, and the reluctance/refusal of a child to participate in child labour is likely to increase with the child's level of education. The second *a priori* expectation is that the higher the literacy level of the child(ren), the lower the probability of the household participating in child labour.

The educational level of the household head is assumed to have impact on the household income and in having flair for children's education. The third *a priori* expectation, therefore, is that there will be an inverse relationship between the household head's educational level and child labour.

The fourth *a priori* expectation is on the gender of household head and states that the participation of a household in child labour is a function of the sex of the household head. The probability of a female-headed household participating in child labour is higher than that of a male-headed household. This is based on the assumption that the male (husband) has a greater potential to earn higher income than the female (wife), most especially in a gender biased culture, like the study area, where resource allocation favours the male.

The household head's perception of child labour will affect the household participation in child labour. If the household head, who is the ultimate decision maker on matters relating to household, sees nothing wrong in child labour or sees children as a group that must struggle to survive, the probability of such household participating in child labour will be higher than households whose heads have a contrary opinion. The fifth *a priori* expectation is that there is a direct relationship between the positive disposition of the household head towards child labour and participation of the household in child labour.

Similarly, the perception of the household head regarding the relevance/usefulness of education in the future development of the child will determine whether the child would be educated or sent to the labour market. The sixth *a priori* expectation is that the probability of a household, having an antichild-literacy head, participating in child labour is higher than that of a prochild-literacy head.

3 METHODOLOGY

3.1 Research Design

The study used quantitative descriptive design. It utilised cross-section data collected from households having children between ages five and fourteen years in the Iwo Local Government Area (LGA) of Osun State, Nigeria.

3.2 Sampling procedure

The target population was all households having children between ages five and fourteen years in Iwo LGA of Osun State, Nigeria. Multistage (Nested) sampling technique was used in selecting the respondents that were interviewed. The first stage was the selection of five wards from the ten wards in the LGA using simple random sampling technique. The second stage was the selection of one building out of every three contiguous buildings in the LGA. For the third stage, a list was

made of the households in each selected building, and households having children between ages five and fourteen years were purposively chosen. The fourth stage was reached where a building contained more than one household having children between ages five and fourteen years, and one household was selected using simple random sampling technique.

3.3 Data collection

Data were collected using a structured questionnaire. The head of the selected household was approached for interview. Primary data collected were socioeconomic characteristics of the household such as income, household size, sex of household head, literacy level of household head, literacy level of the children, perception of the household head regarding child labour, perception of the relevance of child's education for future development, and participation/nonparticipation in child labour.

3.4 Data analysis

The socioeconomic variables were analysed using descriptive and inferential statistics. Frequency distribution was used to summarise the socioeconomic characteristics of households. The mean levels of the socioeconomic characteristics of participating and nonparticipating households were determined and compared using t-test of difference between two means for quantitative variables; and between two proportions for qualitative variables in order to test the null hypothesis of no significant difference at 5 per cent and 10 per cent levels. This is to indicate whether the two categories of households are similar or dissimilar in their socioeconomic characteristics.

Regression analysis was used to identify the determinants of household child labour participation. The dependent variable is the participation or nonparticipation of the household in child labour. The socioeconomic characteristics of households are the explanatory variables that could be either qualitative or quantitative.

3.5 Description and measurement of independent variables

i) Household income per capita (X_1). It is the total income earned by all the adult members of the household (excluding the income earned by children in the household) divided by the household size. A household is defined as a group of persons living together under the same roof and pooling resources to meet household needs. It is measured in monetary terms and in thousands of naira[2].

ii) Literacy level of children in the household (X_2). This is the mean number of years of schooling of the child(ren) in the household. Where the number of

children in the household was more than one, the mean years of schooling of the children was used.

iii) Literacy level of household head (X_3). The level of education of household heads was divided into three categories: less than secondary school, secondary school and tertiary education. A dummy variable (D_3) is used, where less than secondary school category serves as the base. If secondary school level ($D_{3.1}$) = 1, otherwise = 0. If tertiary level ($D_{3.2}$) = 1, if otherwise = 0.

iv) Sex of household head (X_4). This was represented by a binary dummy variable (D_4). $D_4 = 1$, if household head is female, and $D_4 = 0$, if household head is male.

v) Perception of household head of child labour (X_5). It is measured by a binary dummy variable (D_5). $D_5 = 1$, if household head favoured child labour; $D_5 = 0$, if otherwise.

vi) Household head perception of relevance of children's education (X_6). Binary dummy variable (D_6) was used, where $D_6 = 1$, if household head favoured child education; $D_4 = 0$, if otherwise.

3.6 Description and measurement of dependent variables

The dependent variable (participation or nonparticipation) is qualitative and can take only two values. If the household has at least one child in child labour, it takes a value of one, and a value of zero if it has no child in child labour. The three most commonly used approaches for estimating regression models, in which the dependent variable is dichotomous and independent variables are either dichotomous or continuous, are linear probability model (LPM), logit model and probit model (Gujarati 1995). The LPM has a number of insurmountable problems, which discourage its use. The logit and probit models, which are similar, conveniently take care of the critical deficiencies in LPM. The logit model was used for this study. The logistic distribution function is presented in equation (1).

$$P_i = \frac{1}{1+e^{-z_i}} \quad (1)$$

$$\text{Where } Z_i = \beta_0 + \beta_i X_{ij} \quad (2)$$

Equation (1) indicates that P_i ranges between 0 and 1 and is nonlinearly related to Z_i (i.e. X_i), thereby satisfying the two critical areas of deficiency of LPM. However, equation (1), as it is, does not make P_i to be linearly related to β_j thereby making estimation of parameters using familiar OLS procedure impossible.

Given equation (1),

$$P_i = \frac{i}{i + e^{zi}} e^{zi} \quad (3)$$

$$\text{Therefore, } \frac{p_i}{1 - p_i} = e^{zi} \quad (4)$$

The left hand side of equation (4) is simply the odds ratio in favour of the characteristic of interest, which in this study is the participation in child labour. Taking the natural log of both sides of equation (4) gives

$$L_i = \ln \left(\frac{p_i}{1 - p_i}\right) = \beta_0 + \beta_i X_{ij} \quad (5)$$

L_i the log of the odds ratio, is not only linear in X but in the parameters too.

β_0 is the value of the log odds when all the independent variables are zero.

β_j measures the change in L for a unit change in X_{ij}, indicating how the log odds in favour of child labour participation changes with a unit change in socioeconomic characteristics of households. For the purpose of estimation, equation (5) is rewritten as

$$L_i = \text{In } \left(\frac{p_i}{1 - p_i}\right) = \beta_i + \beta_i X_{ij} + \mu_i \quad (6)$$

Since for an individual observation the P_i is either 1 (participating in child labour) or 0 (not participating in child labour), inserting these values (0 or 1) directly into the logit L results in meaningless values. Thus, for data at micro or individual level (the type in this study), estimation could not be done with standard OLS method as such maximum-likelihood method was applied to estimate the parameters using Shazam programme.

$$L = \text{log of odds ratio} = \text{In } \left(\frac{p_i}{1 - p_i}\right) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_{3.1} D_{3.1} + \beta_{3.2} D_{3.2} + \beta_4 D_4 + \beta_5 D_5 + \beta_6 D_6 \quad (7)$$

Where L, βs, Ds and Xs are as stated earlier.

The apriori expectation of signs of the study variables are as stated below:

β_4 & $\beta_5 > 0$

β_1, $\beta 2$, $\beta_{3.1}$, $\beta_{3.2}$, & β_6, < 0

4 RESULTS AND DISCUSSION

4.1 Characteristics of households

A total of 1671 households were contacted, out of which 1457 had children aged 5 to 14 years, representing 87.19 per cent of the total households. The total number of households involved in child labour was 1121, while the remaining 336 were non participating child-labour households. The participating households represented 76.94 per cent of the total households with children aged 5 to 14 years. The high proportion of child-labour participating households indicates the popularity of the child labour practice among the households in the study area.

The distribution of total annual income earned by adult members of households is indicated in Table 1. None of the households earned less than ₦91, 000 and more than ₦330, 000. None of the non participating households earned less than ₦131, 000, while 5 per cent of the participating households earned less. While 11 per cent of the non-participating households were in the ₦291, 000 and ₦ 330,000 income category, only 3 per cent of participating households earned this much. The mean income of non participating households was ₦233, 300, which is significantly higher than the participating households' mean income of ₦204, 100.

The family size of households ranged between four and eighteen. None of the participating households had a family size as small as six. The mean family size (9.40) of non participating households was significantly lower than that of the participating households (11.72). The higher household income and lower family size of non participating households relative to participating households result in the higher per capita income of non participating households.

Table 1: Summary of annual income of adult members and size of participating and non participating child labour households

Characteristics	Distributions (%)		t_c
	Participating	Non participating	
Annual income (₦ '0000)			
9.1-13.0	0.05	0.00	
13.1-17.0	0.21	0.09	
17.1-21.0	0.25	0.21	
21.1-25.0	0.36	0.35	
25.1-29.0	0.10	0.24	
29.1-33.0	0.03	0.11	
Mean(X)	20.41	23.33	10.44*

Characteristics	Distributions (%)		t_c
	Participating	Non participating	
Household size			
4-6	0.00	0.15	
7-9	0.32	0.34	
10-12	0.24	0.41	
13-15	0.26	0.09	
16-18	0.18	0.01	
Mean	11.72	9.40	13.64*

* means significant at 5% level

The distribution of annual household income per capita is indicated in Table 2. While about two-fifths of the participating households had a per capita income of less than ₦15000 per annum, only 10 per cent of the non participating households were in this category. Only 2 per cent of participating households earned above ₦30,000, and about a quarter of the non participating households earned this much. The mean per capita income of no non participating households (₦24,750) is significantly higher than participating households (₦17,400). Using income as proxy for poverty, the participating households were poorer than non participating households.

The household heads of non participating households were significantly more literate than those of the participating households. While 18 per cent of the non participating household heads had tertiary education, just 7 per cent of the participating households were in this category. More than half of the participating household heads had less than secondary education, while about a third of non participating households was in this range.

Children of non participating households had higher literacy level than those of the participating households, with a mean literacy level of 3.82 as against 2.61 of the participating households. Among the participating households, 88 per cent were male headed while 90 per cent of the non participating household heads were males.

As high as 67 per cent of participating households considered child labour desirable against 13 per cent of the non participating, which indicates a significant difference. A very high proportion of households (89 per cent and 92 per cent of participating and non participating households, respectively) in the two categories perceived formal education as good for future development of children. However, the proportions having this perception in the two groups are not significantly different. Generally, the participating and non participating households were different in the socioeconomic characteristics of household income, household

per capita income, literacy level of household heads, literacy level of children in which non participating households were higher but lower in household size and perception of desirability of child labour. Both were not significantly different in the proportion perceiving formal education as good for children and in the proportion of male-headed households. This indicates that non participating households were significantly better in attributes that discourage child labour.

Table 2: Summary of socioeconomic characteristics of participating and non-participating child labour households

Characteristics	Distributions (%)		t_c
	Participating	Non participating	
Income per capita (₦ '000)			
10–14.9	0.41	0.10	
15–19.9	0.32	0.14	
20–24.9	0.16	0.20	
25–29.9	0.09	0.32	
30–34.9	0.02	0.24	
Mean (X)	17.40	24.75	18.42*
Literacy level of household head			
Less than secondary	0.58	0.35	
Secondary	0.35	0.48	
Tertiary	0.07	0.18	
Mean	1.49	1.85	8.63*
Children's literacy level (years of schooling)			
0.0	0.31	0.14	
1–3	0.33	0.36	
4–6	0.31	0.30	
7–9	0.05	0.20	
Mean	2.61	3.82	7.49*
Sex of household head			
Male	0.88	0.90	1.05
Female	0.12	0.10	
Household head's perception of child labour			
Child labour is good	0.67	0.13	23.37*
Child labour is bad	0.33	0.87	

House head's perception of child education			
Education is good	0.89	0.92	6.07*
Education is bad	0.11	0.08	

* means significant at 5% level

4.2 Logit regression estimate

The logit regression estimate and the probability of a household with the given characteristics are indicated in Table 3. The logit regression results reveal that X_1 (household per capita income), X_2 (literacy level of the children), X_5 (Household head's perception of child labour) and X_6 (Household head's perception of child education) are significant at 5 per cent level. In addition to these variables, X_3 ($D_{3.2}$ – tertiary education) and X_4 (sex of household head) are significant at 10 per cent level. This indicates that all the identified variables are significant in explaining the level of child labour participation among households, except literacy level of household head at secondary school level ($X_{3.1}$). The probability of a household with the average value of given characteristics participating in child labour is 0.3433.

All the variables have the expected signs. Household per capita income carries a significant negative sign, indicating that the higher the per capita income of household the lower the odds ratio and thus the probability of the household participating in child labour. An increase in the household per capita income by ₦1000, decreases the probability of household child labour participation from 0.3433 to 0.3377. If the per capita income of a household is high, it will be able to meet financial commitments of its members without participating in child labour. Effort should be directed at empowering the adults in the household to get involved in (high) income generating activities or providing employment for all the adults to earn enough for the upkeep of members of the household in order to release children for future development activities.

Children's educational level carries a significant negative sign, showing an inverse relationship between level of child's education and probability of household's participation in child labour. A one year increase in children's educational level will decrease child labour participation from 0.3433 to 0.3385. It implies that to discourage child labour, children's education should be encouraged. Possibly, compulsory free primary and secondary education levels for children should be implemented, after which adulthood might have been reached and they (children) might have been adequately prepared to participate usefully in the labour market.

Table 3: Probability of household child labour participation to change in each socioeconomic characteristic of households

	βs	t-ratio	Mean	∂X_1	∂X_2	∂X_3	∂X_4	∂X_5	∂X_6
Per capita income (X_1)	-0.025**	2.51	19.095	20.095	19.095	19.095	19.095	19.095	19.095
Child education (X_2)	-0.0218**	3.59	2.889	2.889	3.889	2.889	2.889	2.889	2.889
Household head education (X_3) Less than secondary (base) Secondary education Tertiary education	-0.006 -0.128*	1.11 1.69	$D_{3.2}$ = 1	1	1	0	1	1	1
Household head Sex (X_4)	+0.065*	1.72	D_4 =1	1	1	1	0	1	1
Perception of child labour (X_5)	+0.112**	3.24	D_5 =1	1	1	1	1	0	1
Perception of education (X_6)	-0.094**	2.18	D_6 =1	1	1	1	1	1	0
Constant	-0.063**	2.93							
ln (P_1) $1-P_1$			-0.648	-0.673	-0.670	-0.520	-0.713	-0.760	-0.554
P_1			0.3433	0.3377	0.3385	0.3727	0.3288	0.3185	0.3648

∂ means a unit change in socioeconomic characteristic

P1 means probability of household child labour participation for a set of given socioeconomic characteristics

** means significant at 5% level

* means significant at 10% level

There is an inverse relationship between levels of household head's education and participation in child labour. Child labour participation rises from 0.3433 to 0.3727 when the educational level of household head changes from tertiary to secondary or less. The probability of an educated (tertiary level) household head getting a good job and earning higher income and knowing the disadvantages of child labour is high for discouraging household participation in child labour.

A direct (positive) relationship exists between participating in child labour and gender of household head. Probability of household head participating in child labour increases with a change from male-headed to female-headed household, and a change from female-headed household to male-headed household decreases the probability of household participation in child labour from 0.3433 to 0.3288. This might be because female-headed households have less access to resources, as resource control in the area of study is male dominated. It arises from this that to reduce child labour, female-headed households should be empowered economically.

There is a significant positive relationship between household head's perception of child labour and participation of the household in child labour. A change from favourable to unfavourable perception of child labour will decrease probability of child labour participation of household from 0.3433 to 0.3185. In order to reduce or eliminate child labour, perception of households has to change, and this could be achieved through publicity by canvassing against child labour.

A negative relationship exists between child labour participation of household and its head's perception of the relevance of child education to his/her future development. The probability of a household with a household head that is favourably disposed towards child education, participating in child labour is lower than the converse. The probability of child labour participation increases from 0.3433 to 0.3648, if household head's perception turns against child education. It means that the importance and relevance of education in the future development and in preparing children for challenges should be orchestrated. The type of education that would make economically productive, employable children and potential employer of labour should be implemented. This would encourage parents to see their children's education as a worthwhile investment.

5 CONCLUSION

This paper identified the determinants of household child labour participation, the probability and change in probability of child labour participation as a result of a unit change in the socioeconomic characteristics of the household. The differences in socioeconomic characteristics of child labour participating and non participating households to assist in policy formulation against child labour were also examined.

Results revealed that household child labour participation was popular in the study area, as more than three-quarters of the households were involved. The household socioeconomic characteristics that influenced child labour participation were: household per capita income, literacy level of child, literacy level of household head, sex of household head, household head's perception of child labour, and child's education. The probability of household child labour participation decreased with increase in household per capita income, literacy level of child, literacy level of household head, change from female- to male-headed household, change in perception against child labour, and in favour of child education. Non participating households were generally better in socioeconomic characteristics that discouraged household child labour participation. In order to discourage households from participating in child labour, measures to raise household per capita income, increase literacy level of household head and children, empower female headed households, change perception of household head in favour of child education and against child labour participation should be implemented.

NOTES

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2 ₦ = Naira, Nigerian currency, exchange rate R1 = ₦16.80.

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