

**THE EFFECTS OF EDUCATION AND FOSTERAGE ON CHILD  
LABOUR: EVIDENCE FROM GHANA**

**BY**

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**THIS THESIS IS SUBMITTED TO THE DEPARTMENT OF  
ECONOMICS, UNIVERSITY OF GHANA, LEGON IN PARTIAL  
FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF  
MASTER OF PHILOSOPHY (MPHIL.) DEGREE IN ECONOMICS**

**JULY, 2018**

**DECLARATION**

This is to certify that, this thesis is the original research undertaken by ***KELVIN ALBERT DOGBE*** towards the award of a Master of Philosophy (MPhil.) degree in the Department of Economics, University of Ghana.

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**DEDICATION**

This thesis is dedicated to the Lord God Almighty, my wife (Elikplim Dogbe), my family and all child labourers in Ghana.

## ACKNOWLEDGEMENT

My first and foremost gratitude goes to the Almighty God for His guidance and protection throughout the entire period of the program. His Grace and mercies have brought me this far.

Secondly I want to express my profound gratitude to my supervisors Dr. Daniel Kwabena Twerefou and Dr. William Bekoe for their correction, constructive criticism, commitment and willing to assist, contributed immensely to the success of this thesis document.

Thirdly I also want express my deepest appreciation to my parents Mr. Joseph Fikpanu and Mrs. Veronica Adedivi for their financial support and encouragement and not forgetting my siblings Seth Dogbe, Jonas Dogbe, Diana Dogbe and Gladys Dogbe for their support.

My Special thanks goes to my wife (Elikplim Dogbe) for her support throughout my MPHIL course and Dr. Faustina Ainguah-Frimpong of the Regional Institute for Population Studies (RIPS), University of Ghana Legon for the advice and encouragement to pursue my post-graduate program.

Finally I also want to appreciate relentless assistance to Foster Shitsi and Christian Kwaku Osei.

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## ABSTRACT

The study examines the effect of education and fosterage on child labour with specific emphasis on fishing and mining communities. The study sample was on children between the ages of 5 – 17 years in Ghana using the 2012/2013 Ghana Living Standard Survey. In order to achieve the objectives of the study, we estimate a bivariate probit model while controlling for multicollinearity and endogeneity in the data set.

The results of the study suggests that quality of school and hours children spent in school per week has a significant negative relationship with child labour in Ghana. In examining fosterage, the results suggest that fosterage is not significant to explain child labour in Ghana.

The study also investigates how hours children spent in school and fosterage can have effect on child labour in the fishing and mining communities. The result from the study suggests that in the fishing communities fosterage has the tendency to increase child labour in Ghana. In the case of hours spent by children in school per week, the outcome suggest that increasing the time children spend in schools by one hour would decrease child labour in the mining communities.

Finally, variables such as age, gender, household size, head of household, educational status, location and child's wage are significant to explain child labour, while household poverty, mother and father's presence are insignificant to explain child labour.

## ACRONYMS

ADP	Accelerated Development Plan
ASM	Artisanal and Small-scale Mining
FEM	Fixed Effect Model
FCUBE	Free, Compulsory and Universal Basic Education
GLSS	Ghana Living Standards Survey
GSS	Ghana Statistical Service
ILO	International Labour Organization
OLS	Ordinary Least Square
QMLE	Quasi-maximum Likelihood Estimation
REM	Random Effect Model
SIMPOC	Statistical Information and Monitoring Program on Child Labour
SAP-FL	Special Action Program to combat Forced Labour
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund

## CHAPTER ONE

### INTRODUCTION

#### 1.0 Background

Globally child labour is one of the critical issues. Child labour and education are very critical because of their significant impact on children development and the roles they play in human capital development and growth of countries. Child labour is actually not a recent phenomenon. Karl Marx, a renowned German economist and a philosopher argued that child labour started due to industrial revolution and Malthus also argued that it was prevalent in the late 18<sup>th</sup> centuries due to the fact that parents could not provide the basic needs of children and children decided to fend for themselves (Edmonds, 2007). This study will provide an insight on issues about child labour, education and fosterage.

Education is very important and it is on this basis that The UN Conventions on Human Right and The Children's Right has been introduced to protect children from working instead of being in school. Education is a very important component for developing a nation's human capital and it is also the foundation to improve people's lives and mitigate poverty in developing countries (Allais & Hagemann, 2008).

In spite of the widespread of child labour during the 18<sup>th</sup> centuries as argued by Malthus, (Edmonds, 2007), the International Labour Organizations (ILO) started measuring progress in the reduction of child labour in the year 2000. Child labour has a lot of effects on individuals and nations across the world and there is the need to eradicate it and let the children go to school instead of working when they are below 15 years.

According to ILO, child labour is an economic activity or work that is mentally, physically, socially or morally dangerous and harmful to children and deprives them of the opportunity to attend school, interferes with their schooling, obligating them to leave school prematurely and requires them to attempt to combine school attendance with excessively long hours and heavy work (ILO, 1973). The International Labour Organizations (ILO) Convention No. 138 and 182 of 1973 clearly defined the boundaries for which a child can enter into employment in order to mitigate child labour across the world. According to the ILO Convention No. 138 of 1973, the minimum age at which any child should be admitted into any labour force should not be less than the compulsory schooling age of the child, that is, 15 years while the ILO Convention No 182 of 1973 deals with elimination of worst forms of child labour such as sexual exploitation of children, children in armed conflicts, work that exposes the child to hazardous weather such as scorching hot sun and hard rain, work which is likely to harm the health, safety and morals of children, child bondage and so on. Even though ILO sets the minimum age at 15 years, children between the ages 13-15 years are permitted to work if the work is considered to be a light work. The ILO Convention (No. 138) defined light work as any work that would not be detrimental to the child's health, development safety and would also not harm the child's school attendance (ILO, 1973).

According to Ghana's 1992 constitution on the Right of the children and the Children's Act, 1998, Act 560, a child is any person below 18 years. The Children's Act, 1998 Act 560 also prohibits children below the age of 18 years from doing hazardous work, that is, any work that has the tendency to endanger the health, safety or morals of the child. Some of the hazardous work include fishing, mining or quarrying, portorage or carrying of heavy loads, and other work which involved using chemicals and exposing children to immoral behavior

ILO estimates that 152 million children across the whole world between the ages of 5 -17 are entrapped in child labour. Out of the 152 million, almost 50 percent of the children are involved in a hazardous activity (ILO, 2017). The engagement of children in hazardous activities makes it more disheartening.

At the continental level, ILO estimates that 72.1 million children are entrapped in child labour in Africa, indicating that Africa has the highest number of children entrapped in child labour. This shows that approximately 50 percent of the world's entrapped children in child labour are in Africa which translates into 1 out of every 5 children in Africa is into child labour (ILO, 2017).

In Ghana, child labour issues are not different from what pertains in Africa and it requires urgent attention. There are some children between the ages of 5-17years who are engaged in all forms of economic activities which are harmful to their health and this compromises their educational attainment. It is estimated that 1.9 million children between the ages of 5 - 17 are trapped in child labour while 1.2 million of them are engaged in hazardous activities in Ghana (GSS, 2014). The number of males in child labour is slightly higher than that of females. The Ghana Living Standard Survey Round 6 (GLSS 6) shows that 25.2% of children between the ages of 5-14 years are engaged in all forms of economic activities, some of which are very risky.

Ghana has made a lot of effort in the area of education in order to increase enrolment in basic schools. It started before the independence in 1951 where there was Accelerated Development Plan (ADP) which abolished school fees but parents were supposed to pay for their children's books, equipment and stationaries with the aim of achieving universal primary education for all.

The Education Act 1961, Act 87 was introduced as a legislation to augment the ADP and this resulted in increased enrolment over the period (Akyeampong 2009, Oduro, Djangbah & Seidu, 2007) especially in the southern part of Ghana. In the 1980s, the educational system underwent a lot of reforms, some of which involved the restructuring of the educational system towards investing more in the basic schools in Ghana in order to achieve the government's aim of providing education for all children. In order to make the free basic education more a constitution was enacted in 1992 and a policy was formulated with a title 'Basic Education – A Right' and is a provision for Free, Compulsory and Universal Basic Education (FCUBE). The aim of the FCUBE program was to make basic education free and achieve universal education by 2005. The FCUBE policy viewed school fees in whatever form as an impediment to attending school especially the poor and this puts a hindrance to demand for school and hence the need to abolish it. The FCUBE was introduced in 1995 but could not meet its target because, under the policy, school fees were abolished but the schools did not get enough funding so they decided to charge indirect fees. This actually made revenue available to schools based on how rich surrounded communities were (Donge, 2003). In the end, schools in the village were of low quality as compared to schools in the city due to the wealth differences creating a gap between the rural and urban schools.

The Ghana Living Standard Survey (GLSS) Round 6 estimated that 88.9 percent of children between the ages of 5 - 17 were in school which translates into 9 out of every 10 children in Ghana are in school while 5.9 percent of the children had never been to school before. In terms of the age groups, 91 percent of children between the ages of 12 - 14 years are enrolled in school which is the highest in terms of enrollment while 76.1 percent of children aged 15 - 17 years are enrolled in school, representing the least (GSS, 2014).

According to UNESCO, a foster parent is any person who is not the father or mother of the child but is willing to assume the role of the parent for that child in terms of the needs of the child. Anybody above 21 years, who has good moral character and has integrity can be allowed to foster a child. In Africa, children are generally raised by their biological parents but sometimes, in some disturbing situations, they are given to extended family members or friends for them to be raised. Most schools in Ghana are located in urban areas and due to this, rural parents send their wards to their relatives or friends in the urban areas for them to attend school. Empirical evidence has shown that fosterage increases enrolment in basic schools in Ghana (Lloyd and Gage 1995). In Africa, artisanal mining provides direct employment to millions of people. Child labour issues in artisanal mining has attracted a significant attention across the world. ILO (2003) reports estimate that 13 million people are directly employed by artisanal mining worldwide and a significant amount of them are women and children. After publishing the report 'Social and Labour Issues in Small-Scale Mines', ILO has made much effort to create awareness that child labour is widespread in artisanal mining across sub-Saharan Africa. In addition to creating awareness, ILO officers also mobilized funding for the campaign by arguing that it is possible to eradicate child labour in the ASM since only 1 million children are entrapped in it worldwide in 1999 (Hilson, 2012). In Ghana's case, empirical evidence has shown that child labour is prevalent in the artisanal mining (galamsey) communities (Okyere, 2012).

The fishing industries employ a lot of people in Africa and are also characterized by using children for its work. According to the Bureau of International Labour Affairs report in 2016 on child labour, Ghana was cited for continuous engagement of children in child labour and forced labour in fishing communities. This means that in Ghana fishing communities are not just into child labour but also forced labour. In the fishing communities, it is believed that fishing is an integral part of their

cultural identity and every child must be identified as such in terms of fishing and fish processing no matter the situation and their level of education (Afenyadu, 2008a).

### **1.1 Statement of problem**

In Ghana, there are some children below the age of 15 years who are engaged in all forms of economic activities that are harmful to their health and this compromises their educational attendance, and the Education Act of 1961 (Act 87) stipulates that the free and compulsory age for children to be in school is 15 years which is made up of 6 years of primary and 3 years of junior secondary school.

The Ghana Living Standard Survey (GLSS) 6 report shows that 21.8 percent of children who are between the ages of 5-17 years are engaged in child labour. However, it was also estimated that, within the same age category, approximately 9 out of every 10 children in Ghana are in school. It is therefore observed that though educational enrolment is high, child labour is also seen to be significantly high. We should therefore have expected the increase in child educational enrolment to offset the rise in child labour. It, therefore, becomes imperative to re-examine the role of education on child labour in Ghana.

The role of fosterage on child labour in Ghana is not clear. Most parents in rural areas see fosterage as a means to enhance children social mobility. These children are therefore sent to live with relatives or non-relatives in order to get access to better schools (Ainsworth 1996). In West Africa, fostering is a usual phenomenon and dominant. Empirical evidence has shown that fosterage increases enrolment in our basic schools in Ghana (Lloyd and Gage 1995). A work by Isiugo-Abanihe (1985) in Ghana also revealed that urban mothers send their children into fosterage than

the rural mothers. This made the role of fosterage unclear and therefore the need to re-examine the role of fosterage on child labour in Ghana.

In Ghana, the fishing communities are not just noted for child labour but also the worst forms of child labour in the country while educational enrollment is very low. Dela (2010) worked on child labour in fishing communities in Ghana and indicated that fostered parenthood is one of the reasons for child labour in our fishing communities. In his view, there is the need to examine the role of fosterage and education on child labour in the fishing communities in Ghana.

The mining communities in Ghana cannot be exempted in terms of child labour issues. It has been established that artisanal mining is one of the reasons for the prevalence of child labour in the mining districts in Ghana with children doing work that are very harmful to their health. Okyere, (2012) worked on child labour and education in the Kenyasi, mining community, and established that child labour is prevalent in the community and the work children do is very risky. Some children confess to the risky and dangerous nature of the work they do. The media in Ghana consistently indicate that child labour is prevalent in artisanal mining and it is believed that fosterage has something to do with it. In line with the foregoing discussions, research questions that arise are:

1. Does a child's education affect child labour in Ghana?
  - How does the number of hours spent in school affect child labour?
  - How does the quality of the school affect child labour?
2. Does fosterage promote child labour in Ghana?

3. Does a child's education affect child labour in the mining and fishing communities in Ghana?
4. Does fosterage promote child labour in fishing and mining communities in Ghana?

### **1.2 Objective of the study**

The main objective of this study is to examine the role of a child's education and fosterage on child labour with specific emphasis on fishing and mining communities. The specific objectives are to:

1. Examine the effect of a child's education on child labour.
  - Investigate the effect of the quality of a child's school on child labour.
  - Investigate the effect of the number of hours spent by a child in school on child labour.
2. Examine the effect of fosterage on child labour.
3. Examine the determinants of child labour in the mining and fishing communities in Ghana.

### **1.3 Significance of the study**

The study is intended to contribute to the empirical literature in the area of child labour with a specific emphasis on fishing and mining communities since few studies have been done on quality of school, fosterage and hours spent in school by children on child labour in Ghana.

The results of the study will also inform policy makers on the extent to which hours in school can influence child labour in Ghana. It would also inform policy makers on how to deal with quality of school and fosterage to mitigate child labour with specific emphasis on fishing and mining communities in Ghana.

#### 1.4 Organization of study

The thesis consists of six chapters. Chapter one comprises of the background of the study, problem statement, objectives, significance of the study and the organization of the study. Chapter two provides an overview of child labour, education and fosterage in Ghana. Chapter three focuses on both the theoretical and empirical literature review of child labour, education and fosterage. Chapter four examines the theoretical framework and methodology used in the study. Chapter five deals with the analysis of the results and the final chapter provides the summary, conclusion and policy recommendations.

## **CHAPTER TWO**

### **OVERVIEW OF CHILD LABOUR, EDUCATION AND FOSTERAGE IN GHANA**

#### **2.0 Introduction**

This chapter looks at the general overview of child labour, child's education and fosterage in Ghana. The chapter would help us to define child labour from ILO and Ghana perspectives as well as fosterage. The chapter would also look at demand and supply of child labour, forms of child labour, worst forms of child labour, location, as well as the gender dimensions of it.

#### **2.1 Definition and concept of child labour**

According to Ghana's 1992 Constitution and 'The Children's Act of 1998, Act 560' of Ghana, a child is clearly stipulated as anybody below the age of 18 years. Children have a right to be protected, right to be safe, taken care of and be loved.

Child labour is very complex and difficult to define according to International Labour Organizations (ILO). ILO defines Child labour as any work that is detrimental to a child's physical development, deprives children of their childhood, their potential and dignity and detrimental to their mental development (ILO 1973). In Ghana 'The Children's Act of 1998, Act 560' section 87 clearly prohibits people from exploiting children in terms of engaging them in employment, that is, any work that is detrimental to their health, education or development. Section 89 of 'The Children's Act' also sets the minimum age for a child to enter into employment at 15 years. Although the minimum age is 15 years, the Act allows children between the ages of 13 to 14 years to do light work (Children Act of 1998, ILO 1973). In Ghana, light work is defined to include work that does not harm a child's school attendance or the ability of the child to benefit from school

work, work that would not affect the health of the child or his/her development. The minimum age for engaging children in hazardous work in Ghana is 18 years. According to ‘The Children’s Act of 1998, Act 560’, hazardous works includes going to sea, mining and quarrying, portorage of heavy loads, work in manufacturing firms or industries where chemicals are used or produced, work in places where machines are used and working in hotels, bars, places of entertainment where person may be exposed to immoral behaviour. In Ghana, children are considered to be in child labour if:

1. They are doing hazardous work or
2. They are less than 12 years and are involved in an economic activity or
3. They are aged 12 to 14 years and involved in economic activities that are not defined as light work.

Working children are considered to be in hazardous work if they are found to be in any one of the following categories:

Children working in designated hazardous industries (mining, quarrying and construction)

1. Children working in designated hazardous occupations (they refer to the list of hazardous work established by the national legislation);
2. Children working long hours (42 hours or more per week);
3. Children working under other hazardous conditions such as night work, using hazardous tools and being in an unhealthy work environment (GSS, 2014)

## **2.2 Forms of child labour**

Child labour comes in various forms according to the International Labour Organization (ILO). In Sub-Sahara Africa and Southeast Asia, child labourers are found to engage in the worst kinds of child labour, which include bonded child labour, child trafficking, child prostitution, strenuous child domestic work, and hazardous child labour among others (Amon et al., 2012).

In Ghana some children below 18 years are engaged in all kinds of economic activities which are risky, making child labour prevalent in the country (GSS, 2014). Even though children engage in all forms of economic activities in Ghana, not all of them are classified as child labour, this means that working children are not the same as child labour. According to a report by Bureau of International Labour Affairs in 2016 on child labour, Ghana was cited for continuously engaging children in child labour and forced labour in fishing communities. This means that, in Ghana, there is both child labour and the worst form of child labour.

## **2.3 Worst form of child labour**

International Labour Organization through the General Assembly in 1999 adopted the Convention on worst form of child labour - Convention No. 182. The ILO has categorized the worst form of child labour into four.

The first worst form of child labour according to ILO is any form of slavery or practices similar to slavery, such as sale and trafficking of children, forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict, debt bondage and serfdom and any

similar practices. Children who are engaged in such activities such as slavery or armed conflicts are affected psychologically and physically.

The second worst form of child labour is when children are engaged or persuaded into immoral activities such as prostitution, for production of pornography or for pornographic performance. That is any work which exposes children to physical, psychological or sexual abuse. This kind of child labour has an adverse effect on children in future.

The third worst form of child labour is the situation where children are persuaded or engaged in illicit activities, in the production of drugs or trafficking of drugs. This form of child labour poses a lot of danger to children because they might end up becoming the users of the drug instead of distributors.

Finally, the worst form of child labour also includes any work that has the tendency to jeopardize the health, safety and morals of children. Working in an unhealthy environment which exposes children to risky substances or vibration damaging to health, working in the night, transport of heavy loads and so on. (GSS, 2014).

Human capital development has been given so much importance in Ghana and so child labour issues have been addressed through both human right and developmental perspectives. Ghana has been part of the effort to implement and ratify the UN Conventions and has successfully established an institution to oversee child's right and development. Ghana has made several efforts to eliminate child labour. Under National Plan Action (NPA), several instruments have been

developed to eliminate it and one of such instruments is Ghana Child Labour Monitoring System, which is an active instrument to regularly check workplaces to make sure children are not working in these workplaces and the young ones who work over there are adequately protected. However, children in Ghana continue to engage in the worst forms of child labour, including forced labour in fishing and cocoa harvesting. Resource constraints severely limited the Government's ability to fully implement policies and social programs during the reporting period.

The worst form of child labour such as slavery or practices similar to slavery, such as sale and trafficking of children, forced or compulsory labour, debt bondage and serfdom and any similar practices are found in the fishing areas in Ghana (Dela, 2010).

#### **2.4 Supply factors of child labour**

In Ghana, there are several factors that account for children engaging in child labour. Malthus argue that child labour is prevalent in the 18<sup>th</sup> century due to the fact that parents could not provide basic needs of children and they decided to fend for themselves, resulting in its prevalence (Edmonds, 2007). In most theoretical literature, poverty is considered a central cause of child labour. Parents normally send their children to work in other to support them when they are poor. Dela (2010) carried out a study on child labour in the fishing communities in the Volta region of Ghana. There results indicates that poverty is the main cause of child labour. Empirical evidence has also shown that children from poor home or households are most likely to engage in child labour than those not from poor homes for all age groups (Blunch & Verner, 2000).

The next category of supply factor of child labour is the distance between child's location and the nearest primary school. Blunch & Verner (2000) again find a positive relationship between the distance to the nearest primary school and likelihood of children engaging in child labour in Ghana. Most schools in Ghana are located in the urban areas while few are located in the rural areas making the distance to most of the primary schools far from the location of the children. The long distance eventually makes parents send their wards to the farm instead of sending them to school which results in child labour.

One important determinant or contributing factor to child labour in Ghana is ownership of land, cattle and sheep. Most of these places are found in the rural areas of the country. Canagarajah and Coulombe (1997) worked on child labour in Ghana and the evidence shows that child labour is prevalent in rural communities due to the fact that children from rural areas help their parents in the farm.

Cultural practices is also another supply factor of child labour in the country. The practice of children learning the work of their parents at all course is a contributing factor to child labour in Ghana. In the fishing communities in Ghana, fishing and fish processing is considered as part of their culture and so they are supposed to learn it no matter the case. According to Afenyadu (2008a), a study he conducted revealed that the people of Tongu in the Volta region whose main occupation is fishing, consider fish processing and fishing as part of their cultural identity and so no matter their social class and educational background, children are trained how to swim, work with the fishing net and dive into the lake which is very risky.

## **2.5 Demand factors of child labour**

The desire to pay low wages or salaries by employers as well as an industrial revolution in the 18<sup>th</sup> century was the reason for the upsurge of child labour in the world as argued by German economist and philosopher Karl Marx. Employers prefer hiring children to adults because children are easy to control than adults and also they have the opportunity to offer lesser wages to children compared to adults (Edmonds, 2007).

Agriculture is one of the demand factors accounting for child labour. Most families in the agriculture sector are not financially sound and unable to employ adults to work on their farms and so rely on their children. Also, some rural businesses yield low output and therefore cannot afford to employ and pay for the services of adult workers. This gives rise to the demand for child workers who are paid very little sums of money or are unpaid at all. Children may be used as shopkeepers in small shops. Basu and Van (1998) explain that children are the better option to be used as labourers on the farms of poor rural residents who cannot afford to employ labourers to work on their farms.

## **2.6 Urban and rural child labour in Ghana**

In Ghana, child labour is mostly seen as a rural phenomenon. The agriculture sector which is mostly found in rural areas is noted for engaging most children in the labour market in Ghana. Most of the farming is done in rural part of Ghana and most farmers prefer to use children in doing the farming work rather than paying other people to do it, due to poverty issues. Ray (2003) conducted a study on child labour in Ghana and the evidence shows that child labour is very significant in the rural part of the country but this is not the case in the urban areas.

Table 2.1 indicates that child labour in urban centres is insignificant compared to rural areas. The GLSS 5 shows that the vast majority of child labourers are in rural areas with a percentage of 72.3 compared to 27.3 percent of children in urban areas. This result simply shows that even though child labour is prevalent in rural areas, it is also evident in urban areas. The case is not different with GLSS 6 which shows the same pattern with rural areas accounting for 72.9 percent of children in child labour and the urban areas accounted for 27.1 percent. This shows that, percentage wise, child labour has not changed in rural and urban areas from 2005 to 2013.

## **2.7 Gender aspect of child labour in Ghana**

Gender has been one of the focal points of most of the research works done on child labour in Ghana. Girls and boys engage in different kinds of child labour in Ghana. Even though they engage in different kinds of child labour, they sometimes work in the same industries. In the mining industry in Ghana, both boys and girls engage in child labour but girls mostly do works that are similar to what they mostly do at home even in the mining industry, such as fetching water, carrying sand and stones (Okyere, 2012).

In Ghana, the construction industry, the fishing industry and wood furniture industry are industries with higher likelihoods of boys engaging in child labour than girls. According to Patrinos and Psacharopoulos (1995), boys are more involved in child labour compared to girls because girls are mostly engaged with household chores.

Table 2.1 indicates that in 2005/2006, 52.4 percent of boys were engaged in child labour compared to 47.6 percent of girls. While in 2012/2013, 53.6% of the boys engage in child labour compared

to 46.4% of the girls engaged in child labour. This shows that the percentage of boys continue to dominate girls in child labour for Ghana. This is consistent with the finding of Patrinos and Psacharopoulos (1995).

**Table 2.1 Locations and sex of children between 5 – 17 years in Child labour**

	<u>Children in Economic Activity</u>		<u>Child Labour</u>	
	% of Children	Total	% of Children	Total
<b>GLSS 5 2005/2006</b>				
Male	19.4	55.6	31.7	52.4
Female	16.6	44.4	30.3	47.6
Urban	<b>4.8</b>	<b>7.3</b>	<b>31.9</b>	<b>27.3</b>
Rural	23	92.7	30.6	72.7
<b>GLSS 6 2012/2013</b>				
Male	29.2	51.9	22.7	52.7
Female	<b>27.7</b>	<b>48.1</b>	<b>20.8</b>	<b>47.3</b>
Urban	16.8	28.1	12.4	27.1
Rural	<b>39</b>	<b>71.9</b>	<b>30.2</b>	<b>72.9</b>

**Source:** GLSS 5 & 6 Report 2008, 2014, Ghana Statistical Service

## 2.8 Overview of education in Ghana

Ghana's basic educational structure, which is compulsory for children below 15 years is made up of 6 years of primary and 3 years of junior high. The basic educational structure has its root back in the colonial season. Most colonial masters provided education to sustain the colonial rule but

much of the education got the expansion through Christian missionary work, which they regard as a necessity for the mission work to continue. One popular Governor of Gold Coast now Ghana, Gordon Guggisberg (1919 –1927) produced the clearest idea on how education in Ghana can be expanded, by providing 16 principles for the development of education. These principles stressed equal educations for both girls and boys, however, he did not subscribe to basic education being free and compulsory(Akyeampong et al., 2007).

In 1945, as the colonial rule was gradually coming to an end, the government proposed a 10 year plan with the aim of achieving universal basic education for all, within 25 years and this plan could not achieve its aim due to the fact that quality was set as a criteria for expansion. In 1951, the Accelerated Development Plan (ADP) was introduced and it was to achieve universal education for all children below 15 years. In order to achieve this goal, tuition fees were abolished but parents were asked to pay for their wards' books, stationery and equipment. In order to strengthen ADP, the Education Act of 1961 (Act 87) was introduced as a legislation to augment the gains of ADP. The Education Act of 1961 (Act 87) stipulates that the free and compulsory age for children to be in school is 15 years. This policy has helped expand education in Ghana but could not achieve the universal education (Akyeampong, 2009).

Another educational reform was enacted in 1974 and the idea is to have thirteen years of pre-tertiary education; six years primary school, three years Junior Secondary School (JSS), and four years senior secondary school (SSS). It also proposed the idea of pre-technical and pre-vocational subjects in the JSS curriculum to make it comprehensive and thus cater for all talents and provide them with practical skills. The 1974 reform, unfortunately, coincided with a deterioration in

Ghana's economy, which resulted in a shortage of teachers, textbook, material for teaching and so on. 1987 witnessed another educational reform to improve access to basic education but this time around, it included measures that would improve quality, efficiency, and equity in the education sector. The main target of the 1987 reform was to implement the 1974 reforms throughout the country. It 1987 reform also introduced the 3 years senior secondary school (SSS) instead of the 2 years SSS Lower followed by the 2 years SSS Upper which was proposed under the 1974 plans.

1987 has three main targets:

- Provide practical skills training in technical and vocational subjects to all children;
- Prepare majority of children whose formal education terminated after JSS for the world of work
- Enable all products of the primary school to have access to a higher level of general academic training as pertained in the lower forms of the traditional secondary school to address the inequity between secondary school and the middle school/continuation school

The technical and vocational aspect of the reform was not successful due to unavailability of well-trained technical and vocational teachers but the reform has improved access and quality of basic school (Akyeampong et al., 2007).

In order to deepen the free basic education in Ghana, a new constitution in 1992 was enacted. The 1992 constitution enacted a policy titled 'Basic Education - A Right: Programme for the provision of Free, Compulsory and Universal Basic Education (FCUBE) by 2005. The goal of the FCUBE is to abolish school fees so that demand for school can increase. The FCUBE focuses on demand and supply side. The demand side practically consists of education policy and management changes whiles supply side focused on improving the physical infrastructure and construction of

new classrooms. This policy led to an increased gap in quality of education between urban and rural areas in Ghana due to lack of revenues to run the schools and they resorted to charging indirect fees (Akyeampong, 2009).

In 2002 another educational reform was proposed. This time around a two-year voluntary nursery for children age 4 and 5 to become part of the mainstream educational system. The formal basic education has been extended to 11 years comprising of 2 years of kindergarten, six years of primary school and three years of junior high school (Akyeampong et al., 2007).

Education is one of the important variables when it comes to mitigating child labour (Allais & Hagemann, 2008). Table 2.2 indicates that in year 2005/2006 academic year 87.8 percent of the children between the ages of 6 – 18 years were in school compared to 94.1 percent of them in 2012/2013 academic year. This shows that within 6 years, enrolment in the basic school has increased by 6.3 percent among children in Ghana. In relation to the age category, children between 12 – 15 years had the highest attendance of 89.5 percent according to the GLSS 5 in 2005/2006 compared to 95.0 percent of children within the same age bracket in 2012/2013 (GLSS 6). Children between 6 – 11 years in both GLSS 5 and GLSS 6 had the lowest school attendance of 86.1 and 93.0 percent respectively. This show that at lower ages school attendance is low compared to when the child grows (GSS, 2014).

The issue of giving equal chance to both girls and boys, to access education dated way back in the colonial era. The governor of Gold Coast now Ghana, Gordon Guggisberg (1919 - 1927) in his 16

principles for the development of education, stressed in the 4<sup>th</sup> principle the need to give equal chance to both girls and boys in terms of education (Akyeampong et al., 2007).

Research has shown a general pattern of boys getting more enrolment in school than girls. According to Shabaya & Konadu-Agyemang, (2004) girls do have low enrolment than boys because of the perception about females regarding their roles, beliefs of the society and their practices and also the opportunity cost of sending girls to school. Evidence in Ghana has shown that there is favouritism of boys over girls in terms of education in Accra and Koforidua (Yaboah, 1997).

Generally, attendance rates for boys are higher than for females but the differences are small at both age categories and national levels. Table 2.2 indicates that 88.0 percent boys were enrolled in school compared 87.3 females in 2005/2006 while in 2012/2013 94.2 boys were enrolled compared to 93.1 girls (GSS, 2014).

Generally, attendance rates in both location are high but urban areas are a little higher compared to rural areas. According to the GLSS 5 in table 2.2, 96.4 percent of children in urban areas of Ghana are in school while 84 percent of them are in school in the rural areas. In 20012/2013 urban areas had 97.2 percent of children between 6 – 18 years in school whiles 91 percent of children in the rural areas.

**Table 2.2 Educational enrolment of children by locality, age and sex**

Age group	<u>Sex</u>		<u>Locality</u>		Total
	Male	Female	Urban	Rural	
<b>GLSS 5 2005/2006</b>					
<b>6 - 11</b>	86.1	86.2	91.9	80.3	86.1
<b>12 - 15</b>	90.4	88.5	94.8	84	89.5
<b>16 - 18</b>	<b>87.6</b>	<b>87.3</b>	<b>95.4</b>	<b>82.1</b>	<b>87.7</b>
<b>GLSS 6 2012/2013</b>					
<b>6 - 11</b>	93.3	92.6	97.3	89.0	93.0
<b>12 - 15</b>	<b>95.1</b>	<b>94.7</b>	<b>98.1</b>	<b>92.3</b>	<b>95.0</b>
<b>16 - 18</b>	94.2	92.1	96.2	90.6	94.2
<b>Total</b>	<b>94.2</b>	<b>93.1</b>	<b>97.2</b>	<b>91</b>	<b>94.1</b>

**Source:** GLSS 5 & 6 Report 2008 & 2014, Ghana Statistical Service.

## **2.9 Fosterage in Ghana**

According to the Children’s Act of 1998, Act 560, a fostered parent is anyone who is not the real parent of the child but he or she is willing to take full responsibility of him/her in terms of providing his/her needs, taking care of his or her education and basically acting as the parents. The fostered parent of the child is liable for contravention of any of the provisions under the Children’s Act. In Ghana, anyone with a high moral and proven integrity and is above the age of 21 can foster a child (The Children’s Act, 1998, Act 560).

The unavailability of schools in most rural areas have been argued to be the cause of fosterage in Ghana. Most parents in rural areas see fosterage as means to enhance children’s social mobility.

These children are therefore sent to live with relatives or non-relatives in order to get access to better schools and possibly, better employment (Ainsworth 1996). Evidence has shown that boys and girls who lived away from their mothers have a higher enrolment than those who lived with their mothers (Lloyd & Gage-Brandon1995).

Gender is one of the most important factors accounting for fosterage in Ghana. Between the ages of 5 -17, 15.5% of male in fosterage while 19.9% of them are female. This clearly shows that more females are into fosterage than males (GSS, 2014). This is consistent with the finding of (Lloyd & Blanc, 1996). The case is not different in 2005/2006 with GLSS 5. Table 2.3 indicates that there are more females into fosterage compared to males and in this case, the percentage difference is more pronounced.

Generally, there are more children into fosterage in the urban centres compared to rural areas. Table 2.3 shows that in 2005/2006, 23.80 percent of the children in urban centres are into fosterage as compared to 19.6 percent of those in the rural areas. This case is the same with regards to GLSS 6 and this confirmed the evidence of Ainsworth (1996) that fosterage is prevalent in the urban centres due to the fact that parents regard it as a means for their children to get access to better schools and possible better employment.

**Table 2.3 percentages of children by sex, locality and whether they are into fosterage.**

	<u>Sex</u>		<u>Locality</u>	
	Male	Female	Urban	Rural
<b>GLSS 5 2005/2006</b>				
Living with mother only	17.20%	20.70%	19.30%	8.90%
Living with father only	<b>9.10%</b>	<b>3.25%</b>	<b>4.20%</b>	<b>2.31%</b>
Living with both parents	52.80%	51.20%	52.70%	69.19%
Fosterage	<b>20.90%</b>	<b>25.35%</b>	<b>23.80%</b>	<b>19.60%</b>
Total	100%	100%	100%	100%
<b>GLSS 6 2012/2013</b>				
Living with mother only	<b>19.80%</b>	<b>21.00%</b>	<b>24.10%</b>	<b>17.00%</b>
Living with father only	4.90%	4.00%	4.50%	4.30%
Living with both parents	<b>59.80%</b>	<b>55.10%</b>	<b>51.60%</b>	<b>62.80%</b>
Fosterage	15.50%	19.90%	19.80%	15.80%
Total	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Source: GLSS 5 & GLSS 6 Report 2008 & 2014, Ghana Statistical Service**

## 2.10 Conclusion

From the overview above it clearly shows that child labour is prevalent in Ghana in both the GLSS5 and GLSS 6. The rural areas seemed to be leading with regards to child labour in Ghana and this could be partly attributed to poverty in the rural areas, lack of education, lack of quality schools and so on. The statistics also show that males are vulnerable in both GLSS 5 and GLSS 6 compared to females with regards to child labour in Ghana. The overview of education indicates

that basic education in Ghana is not entirely free, parents are expected to provide books, bags and so on which makes it difficult for Ghana to attain the universal basic education for all. The statistics from the overview indicates that in 2005/2006 and 2012/2013, more females are in fosterage than males in Ghana. The statistics from the fosterage data in 2005/2006 and 2012/2013 shows that more children are into fosterage in the urban centres compared to the rural areas. Poverty has been noted as one of the reasons for fosterage, lack education and child labour in Ghana.

The next chapter would review both the theoretical and empirical literature in the areas of child labour, education and fosterage.

## **CHAPTER THREE**

### **LITERATURE REVIEW**

#### **3.0 Introduction**

Child labour has received a considerable attention in developing economies across the world. This chapter of the study reviews both theoretical and empirical literature on education and fosterage and its implications on child labour.

#### **3.1 Theoretical Literature Review**

The theories behind child labour, education and fosterage have been well elaborated especially in the developing economies across the world. This section would review the assumptions and theories that underline child labour, education and fosterage.

##### **3.1.1 Theoretical foundations of child labour, education and fosterage**

Basu and Tzannatos (2003) stipulate that the theory behind child labour is based on two key assumptions; luxury assumption and substitution assumption. The luxury assumption simply means poverty is the main driving factor that pushes parents into ushering their children into child labour. Parents or guardians do not normally allow their children to work unless they are constrained by some circumstances. That is, if adults in the households cannot perform their responsibility due to low income, they push their children into child labour. In terms of the child either schooling or working, the luxury good is schooling. Schooling is a luxury commodity since the parents cannot afford to send their children to school while they are poor. In every household, there is a tolerable level at which a family consumes its income and if adult members in the household's income are below the sustainable level, they are forced to send their children to work

rather than to school (luxury assumption). Depending on the type of work children do, it can put pressure on the children to drop out of school or their school attendance might drop. The second assumption is the substitution assumption which specifies that children and adult workers are a perfect substitute. This assumption simply means that works that adult can do, children can also do the same if given the same opportunity. This gives employers the opportunity to recruit children instead of adults and pay them very little and control them which results in the exploitation of children. In theory, the more education the child gets, the higher he/she is developed in terms of human capital and the less education the child gets and works instead of education, the poorer the child becomes. In a basic logic, persons who were sent to work as children end up sending their children to work as child labourers.

Basu et al. (1999) theoretically stress that people who receive more education grow up to have a higher human capital. Hence children who engage more in child labour and get less education would end up becoming poor in their adulthood. They assert that, in the era of the industrial revolution, children were forced to engage in work on family lands and factories. The kind of works these children were engaged in was very risky and deadly and children were more prone to sickness than any other thing. The main reason for the use of children was because of low or potentially, the absence of wages paid to children and ability of employers to control these children without much stress, unlike adults.

In developing countries, the labour market is imperfect. This is very crucial in determining whether children should work as a child labourer or go to school. In theory, Land holding is one of the

important factors that affect the productivity of the children and is very important in determining whether the child works or goes to school (Oryoie, Alwang, & Tideman, 2017).

Theoretically, we have the traditional kinship fosterage and modern educational fosterage. The traditional kinship fosterage is the oldest form of fosterage, mostly practised in Africa where parents take care of other people's children as if they are their biological parents. The modern educational fosterage is seen as the way for children in the rural areas to get access to education (C. Nortermans, 2004). In theory, poverty is the main reason for people to send their children into fosterage. In theory, poverty affects child labour, same as education and fosterage and since all these variables would affect human capital and consequently the growth of the country, policy makers need to pay more attention to these issues.

### **3.2 Empirical Literature Review**

The issues of child labour have received a substantial attention throughout the history of economics. The empirical works on child labour started some few decades ago. In the recent years, empirical work on child labour has received a shocking increase in it. Between 1980 to 1990 only 6 peer journal articles made publications on the topic but between 1990 to 2000, 65 journal articles were published and the first 5 years of the past decade, 143 peer journals were published (Edmonds, 2007). The empirical work on child labour continues to increase for three main reasons. Child labour has drawn significant policy attention and public interest over the last two decades. Secondly, the public interest has boomed theoretical literature on why children work and finally household surveys are becoming increasingly available. It has become so much important in Africa because almost half of the entire child labour issues are in Africa (ILO, 2017).

### **3.2.1 Studies implying child labour negatively affects school performance.**

A plethora of studies have confirmed the negative relationship between child labour and school performance across the world, especially in developing economies. Buonomo Zabaleta (2011) worked on the impact of child labour on educational performance in Nicaragua. The study made use of a panel household data-set from Nicaragua Living Standard Measurement Survey which was administered between 1998 and 2001. He used the OLS, Second Stage Regression and a probit model in estimating the impact of child labour on educational attainment and in order to address potential biases stemming from correlated disturbances and potential endogeneity of the past, child labour and educational outcomes were taken care of through an instrumental variable. The evidence shows that, after controlling for human capital and other factors such as time spent in working, child labour had a negative effect on the education outcome of the children. This finding is consistent with Ray and Lancaster (2005). In terms of differentiating between the child's work at home and labour market and its effects, the study concluded that although both works are harmful to the child's schooling outcomes, evidence shows that time spent in the market by a child has tremendous negative consequences on the educational outcomes than time spent in doing their household chores.

In a related study, Goulart & Bedi (2008) examines the relationship between child labour and educational success in Portugal. The study used a household survey data collected in 1998 and 2001 in Portugal. Both surveys were used to analyze the prevalence of child labour but only 2001 household data was used for the econometrics work. Using the probit model and two-stage estimation in his analysis, he treated the work of the child as endogenous and differentiated between works that children do. The evidence indicates that economic work is detrimental to the

child's educational success while household chores do not affect the educational outcomes of the child. In the analysis, socioeconomic variables were controlled for. Variables such as a child's ambition in school and his or her interest in school were found to have a substantial effect on improving the educational success and reducing economic work.

Recently, the impact of child labour on educational performance of children in the rural part of Vietnam was investigated by Le & Homel (2015) which is similar to Goulart & Bedi (2008). This study made use of Vietnam Living Standard Survey (VLSS) which was conducted in 1997/1998, by the Statistical Service of Vietnamese General Office with support from the World Bank for its analysis. The sample of the study was restricted to rural areas of Vietnam because about 35% of children in rural Vietnam engaged in non-household labour supply compared to 6% in urban areas. Le used the simultaneous Tobit probit to estimate the determinants of child labour and used ordered probit to estimate the determinants of the educational performance. The results of the study suggests that child labour has immense negative consequences on the academic performance of children but the effect on the girl child is bigger than the boys. The findings of Le confirmed the same relationship between child labour and educational performance as Goulart & Bedi (2008)

A more recent study by He (2016) examined child labour and academic performance in rural part of China using the Gansu Survey of Children and Families data in 2000 and 2004. The quasi-maximum likelihood estimation (QMLE) model was used to find the impact of child labour on academic performance while logistics model was used to find the impact of child's academic performance on child's working hours when talent was controlled. The evidence from QMLE shows that when child's working hours exceed one hour in the previous time period, it affects the

academic performance of him or her negatively and this substantiates the findings of Le & Homel (2015). But from the logistics model, the evidence shows that the immediate past academic performance of a child has no strong significant effect on child labour.

In a similar study, Ray and Lancaster (2005) contribute to the literature by investigating the impact of child's work on educational performance of children using multiple countries for their analysis. They used data from Belize, Cambodia, Namibia, Panama, Philippines, Portugal and Sri Lanka which was collected by Statistical Information and Monitoring Program on Child Labour (SIMPOC) of ILO in 1998. A multinomial logit model was employed to analyze factors that determine whether the child should be engaged economically and or schooling. A single equation with an instrumental variable was used to investigate the effect of child labour hours on his or her education while controlling for probable endogeneity in the data set. Finally, they also made use of three-stage least squares estimator to analyze child labour hours and schooling simultaneously. The evidence from the study indicates that child labour hours even on the minimal scale is disadvantageous to a child's performance in school. In Cambodia and Namibia, it negatively affects their ability to read and write and in Portugal, it increases the child's chances of failing. Similar to Goulart & Bed (2008) and Le & Homel (2015), the findings further revealed that child's work is more harmful to the girl child than boys in terms of performance. They concluded that Sri Lanka's experience suggests a sharp contrast from other countries. Children in Sri Lanka can combine work and schooling and their performance would not be affected.

In a similar study, Sanchez et al. (2003) as cited by Orazem, Peter F and Gunnarsson (2003) employed a cross-sectional data of 10 countries for children in grade 3 and 4 to examine the

relationship between child labour and educational performance in reading and mathematics in Latin America. The study suggests that the performance of children in mathematics and in reading is lower when children work outside their home. The results indicates that the more hours a child works outside the home, the bigger the impact on the performance of the child in terms of reading and mathematics. Orazem, Peter F and Gunnarsson (2003) improve upon the work of Sánchez et al. (2003) by accounting for the endogeneity of the child labour. She took into account the variation in the starting age of schooling and legal variations across the countries as a means of identification by assuming that child labour variation is within a country but not across the country. After she controlled for endogeneity the impact of child labour on the performance of the children in the test score became more negative.

In the same year Orazem, Peter F and Gunnarsson (2003) focus on child labour in Latin America, Heady (2003) also used GLSS to investigate the relationship between child labour and educational performance in Ghana which has information on test scores of children. The work confirmed the assertion that child labour has an immense effect on academic performance of children in mathematics and in reading which is consistent with the finding of Orazem, Peter F and Gunnarsson (2003). The effect on the child's reading and mathematics is intense even after controlling for his/her innate ability using the Raven's test. The real reasons attributed to the children's low performance is the tiredness or lack of interest in the academic performance when children are actively engaged in the labour market.

Boozer & Suri (2001) employed the Ghana Living Standard Survey 1988/1989 to examine the trade-off between child labour and schooling decision in Ghana. He used OLS and considered

monthly and regional variation in child labour intensities while doing his analysis. The evidence shows that child labour reduces school attendance by approximately 0.38 hours and the impact is statistically significant.

### **3.2.2 Child labour and educational enrolment**

In the past few decades, various studies have been conducted on the relationship between the child labour and educational enrolment or school attendance across the world. Studies include Ranjan Ray (2003), Tzannatos (2003), Assaad (2005), Nkamleu (2009), Kim (2011), Putnick & Bornstein (2015) among many others

Assaad (2005) uses a modified bivariate probit model to investigate the effect of child labour on school attendance in Egypt. The study used the Egypt Labour Market Survey in 1998 for its analysis. The results suggested that child labour harms educational attendance for both boys and girls in Egypt. For Egyptian girls, the evidence clearly indicates that household works are the main contributor of the lower rates of school attendance while market work is a serious hindrance to schooling of the boys. The impact on boys is greater compared to girls in terms of the effect of work on a child's school attendance. It was also revealed that work by a child has negative consequences on the children, by making them drop out of school.

On the issue of children's enrolment in school and child labour, Tzannatos (2003) investigated child labour and children's enrollment in schools in Thailand in the 1990s. The evidence suggests that the main reason for pulling the children out of schooling is not for them to go and work but they are rather pulled out because there is not enough fund for them to continue the education. The

study also revealed that subsidies can be used to revive enrolment of children in school where their enrolment is very low. The subsidies alone is not enough but public education should continue because it gives households incentives to keep children in school.

A recent study by Putnick & Bornstein (2015) employed dataset on children between 7-14 years of age bracket from 30 low-income and middle-income developing countries to examine whether child labour is a hindrance to school enrolment. He examined children working in family businesses, working outside the home and excessive household works to determine whether they have any relationship with enrolment of children in school. The logistic regression analyses was used to determine the relationship between the child labour and child's enrolment. Putnick & Bornstein's (2015) findings conclude that when all the countries are considered together there is a negative relationship between all the forms of child labour and educational enrolment which is consistent with the findings of Assaad (2005). The relationship is not uniform as the effects range from small to medium as well as by country and by gender of children. At the country level, the relationship is bigger for children working in the family businesses and excessive household works but was not the case for working outside the home.

In a similar study, Kim (2011) studied the effects of child labour on the education of children in Cambodia. The pleasant thing about child labour issue in Cambodia is that the majority of working children combine the schooling and work at the same time. The evidence from Kim (2011) indicates that the wider gap between the education sector and the actual practice is due to the problem in the educational sector which includes issues of governance. This further decreases the working children's chances of deriving the benefit from education.

Githitho-Muriithi (2010) explores the issues of child labour in Kenya where there is a push to achieve Education for All. This study investigated the relationship between child labour and children's schooling in poor communities in Kiambu district in Kenya using language capabilities. She argued that there is a relationship between poverty and education and so the poor communities need to be empowered in order to achieve the 'Education for All'.

Ranjan Ray (2003) employs a simultaneous equation estimation, -using three-stage least squares (3SLS) and multinomial logit estimation to estimate the simultaneous relation between child labour, poverty and education and made a comparison between Nepal and Pakistan. The 3SLS actually controls for endogeneity as well as recognizing the mutual interactions between the three variables. Ranjan Ray (2003) use the Nepalese child labour data which was conducted in June 1995 by Nepal Living Standard Survey (NLSS) and the Pakistan child labour data which was conducted in 1991 by Pakistan Integrated Household Survey (PIHS). The result of the study shows that school attendance of both boys and girls decreases the number of hours of child labour in both Pakistan and Nepal but the reduction is bigger in the number of hours for the boys than girls. He further stated that household poverty tends to have a harmful effect on the child's education with or without him/her engaging in child labour. The impact on poverty is much bigger in Nepal than Pakistan.

In a similar work, Coulombe (1997) explored child labour and schooling in Ghana using the Ghana Living Standard Surveys 1987/1988, 1988/1989 and 1991/1992 for his analysis. He relied on a bivariate probit model for his analysis. According to Coulombe (1997), in terms of gender, there is no significant differences between the boys and girls in terms of their likelihood to work. This

is right because he did not take into account the household chores of the girls. He stated that child labour and schooling are not two independent decisions and that they increase with the age of children. Finally, his findings indicate that going to school has a negative relationship with child labour. He concludes that increased demand for education is the most effective way to combat child labour in Ghana.

In a related work, Nkamleu (2009) scrutinized determinants of child labour and schooling in the Native cocoa-growing households in Côte d'Ivoire. The paper used data collected in 2002 for more than 11,000 respondents who are members of cocoa growing households in Côte d'Ivoire. Nkamleu (2009) used multinomial logit to analyze work and schooling of the children. His findings revealed that child labour and school enrolment are negatively related. The results further indicated that the age, gender of children, fosterage, educational level of parents, household dependency ratio, the farm size, the cocoa productivity level, agro-ecological zone and communities' characteristics are all significant in explaining child work or schooling outcome in Côte d'Ivoire.

### **3.2.3 Child labour in artisanal and small-scale mining**

Some few studies have confirmed the positive relationship between child labour and school attendance across the world in artisanal mining. In a recent study by Maconachie & Hilson (2016), they -thought on the problem of child labour in artisanal and small-scale mining in Sub-Saharan Africa specifically in the rural part of Sierra Leone. The evidence suggests that child labour in the artisanal and small scale mining firms in rural communities increases the child's chances of getting a better future. This is because it helps the children to pay their fees and continue their education and also helps in alleviating poverty in Sierra Leone which corroborates the findings of Okyere

(2012). Maconachie & Hilson (2016) concludes that education is not a remedy to child labour problem in the artisanal mining communities in Sierra Leone.

Hilson (2010) delved into the issue of child labour in Ghana's artisanal and small-scale mining (ASM) in the Northern part of the country to find out why thousands of children are into child labour. He relied on the fieldwork conducted in the Talensi-Nabdam District of the Upper East Region of Ghana. He conducted in-depth interviews and did focus group discussions to determine what is fueling child labour among boys and girls in the Talensi-Nabdam District. The findings suggest that child labour in Talensi-Nabdam District's small-scale gold camp is just the diversification of livelihood from agriculture to gold mining, which would help children to go to school. His findings disagree with the findings that parent's inability to pay for their wards school fees is the reason why children in Talensi-Nabdam District in the Upper East Region of Ghana are not attending school.

In a similar study, Okyere (2012) re-examined issues of child labour and education nexus in artisanal mining at Kenyasi, a rural community in Brong Ahafo Region of Ghana. He collected primary data on 57 children which comprises of 30 girls and 27 boys between the ages of 14 - 17 years who worked in artisanal mining at Kenyasi using unstructured interviews. Out of the 57 children who participated in the survey, 50 of them are in school. He argued that child labour in artisanal mining is not harmful to children's education but rather enhances their education in Ghana.

Huesca (2013) worked on child labour and gender dimensions in artisanal and small-scale mining industry in Davao Oriental, Philipines. His findings suggest that women are economically equal with men based on mining jobs but during the lean season men normally outnumber the women. He concludes that ASM is the best alternative livelihood for residents in Davao Oriental and child workers do a lot of work in the mining industry. The child workers are less paid and are abused physically, socially and economically by adult miners.

In the same year Okyere studied child labour in Ghana, Hilson (2012) scrutinized issues of child labour in small-scale gold mining in Kamana West communities considering family hardship and cultural values in southern Mali. The main economic activity of Kamana West is agriculture. They have few months to engage in agriculture due to poor climate conditions. Hilson (2012) findings suggests that poverty, cultural practices and changing of livelihood from agriculture which is less profitable compared to the small-scale mining as the reason for child labour in the country. His findings conclude that child labour is more nuanced than analyzed by the international organizations and the policy makers across the world.

#### **3.2.4 Child labour in fishing**

In a recent study, Chantavanich, Laodumrongchai, & Stringer (2016) worked on forced labour among the fishermen of Thai's, Cambodians and Myanmar's. They implore both quantitative and qualitative means to solicit responses from respondents, both in-depth and quantitative questionnaire was developed by Asia Research Center for Migration and the Bangkok Office of the ILO. The questionnaire was administered from March to July of 2012 but an additional one was collected in December, 2012. Due to the short nature of the research period, some fishermen

on the long-haul vessels could not be accessed due to the long period they spent on the sea. To scrutinize the labour force data, they implored 11 indicators developed by ILO's Special Action Program to combat Forced Labour (SAP-FL). The findings indicate that workers in the fishing sector were deceived, coerced, forced and exploited in the fishing sector of Thailand. The result also confirmed the presence of child labour. The results further indicate that the average salaries of those in the fishing sector are less than 50% of the average salary of Thailand nationals.

In a similar work by Hamenoo & Sottie (2015), they investigated child trafficking and child labour in communities along the Volta Lake of Ghana. In-depth interviews were used to collect data from participants. Parents or guardians of the children were also interviewed through the in-depth interview process. 43 trafficked children participated in the study based on access in South Tongu, North Tongu and Krachi East in the Volta Region of Ghana. The study used thematic procedure and narrative structures of stories to analyze its data. The result of the study indicates that 42 children were used for fishing even though they are not up to 18 years. The findings further show that trafficked children were ill-treated, denial of adequate sleeping, starvation, denial of essential health care, non-provision of clothing and so on. Finally, the study also finds that children were also denied access to education and the females were sexually harassed which is consistent with the findings of Dela (2010).

In a related study, Dela (2010) examines child labour in fisheries and aquaculture in fishing communities in Ghana. The study revealed that children, both boys and girls, work on the river for at least 12 hours a day mostly between the hours of 6.00a.m-7.00p.m but on the marine, it could last for days. The paper also revealed that children go through frequent abuses and that they receive

both verbal and physical cases of abuse through beating. Beside the abuse, the most frequently mentioned reason for the death of child labourers is that they get drawn in the river. Dela (2010) findings further revealed that female child labourers suffer sexual harassment from either owners of the boat or other boys in the same work which mostly results in girls getting pregnant. Finally, the evidence shows that children often resort to self-medication by taking pain killer when they feel sick, which eventually harm them.

### **3.2.5 Child labour, education and fosterage**

Gage (2005) used children between the ages of 7-17 years in the 1991/1992 GLSS to investigate interrelationship between education, child labour and fosterage in Ghana. Gage (2005) also explored gender and age differences in relation to child labour, education and fosterage concurrently. In analyzing the data she includes simultaneity of child's labour force participation, schooling and fosterage of children by using three different equations, multivariate probit model. She made use of trivariate probit to analyze the data and to avoid bias in selection, she prevented children who were interviewed during the holiday period from being part of her sample since child labour period was based on the week before the interviewed. She observed that trade-off between child's education and engaging in economic activity is greater among girl child than boys during the adolescent period. She also observed that the interrelationship between child's work and fosterage is stronger among females than boys. She observed that child labour is harmful to school attendance, particularly among females. The analysis from the study indicates that fosterage is not significant to explain the child's schooling and child labour. Finally, the study demonstrates that girls would be the most harmed when we look at the interrelationship between fosterage, child's schooling and child labour.

Isiugo-Abanihe (1985) used the multivariate analysis and employed OLS regression method to analyze women who are married between the ages of 15 – 34 and those who have ever married by utilizing the 1971 census data from Ghana. He investigates the consequences of child fosterage as well as the repercussions of omitting fosterage when analyzing demographic data. He also tries to find out what drives people into practising fosterage and also forms of child fosterage that exists. The results of the study suggest that women's age and the mother's level of education have a negative relationship with fosterage. The results further state that the number of surviving children of parents, household size and residing in urban centres all have a positive relationship with fosterage. The study also indicates that child fosterage could have an effect on the child's survival and this could be positively or adversely affected depending on where he or she finds him or herself.

Schildkrout (1973) tries to determine reasons for child fostering in urban centres specifically in Kumasi, in the Ashanti Region of Ghana. The evidence suggests that child fostering is a way by which families of the fostered child can be in touch with families who are higher in socio-political class in the Zongos in Kumasi. He submits that child fosterage is a means by which urban residents can get children. Finally, the paper concludes that fosterage is as a result of changing economic, social and political condition in Kumasi.

### **3.2.6 Child labour and poverty**

The relationship between poverty and child labour was revisited by Blunch & Verner (2000) in Ghana. They used the 1997 data collected by the Ghana Statistical Service. The study reaffirms that there is a positive relationship between poverty and child labour. The study further indicates

that the gender gap in child labour is linked to poverty. The evidence further indicates that girls in the urban areas, rural areas and poverty sub-samples were consistently found to engage in harmful child labour than boys.

In a related study, Ranjan Ray (2000) used the Peru and Pakistan data to test two hypotheses: there is a positive association between hours of child labour and poverty, and there is a negative association between child schooling and poverty. The Pakistani data confirmed the two hypotheses, whereas the Peruvian data did not confirm it. The study suggests that there is a reduction in poverty rates due to income from child labour being greater in Pakistan than in Peru. The nature of the interaction between adult and child labour markets varies with the gender of the child and the adult. The study concluded that in Peru rising men's wages significantly reduces labour hours for girls, whereas in Pakistan there is a strong complementarity between women's and girls' labour markets. Findings from the study in both countries show that increasing adult education can improve child welfare.

In a similar study, Chaudhary and Khan (2002) gathered information on 125 children who worked in the city of Dera Ismail in Pakistan. The effect of child labour on working children was examined by taking into account hours of work, the condition of health as well as their attitude and behaviour of employees. In order to know the main determinants of child labour, variables such as poverty, schooling, size of family, literacy rate of adults and traditional factors were examined. Some findings which were obtained after cross-tabulations of 125 child workers in Dera Ismail Khan, a city in Pakistan are outlined as follows. The main determinant of children working is poverty, which is substantiated by the finding of Blunch & Verner (2000). In addition, family size, fertility

and the level of education of adults influence child labour supply. Also, the incidence of child labour is relatively less serious among female child workers than males. The findings from the study also suggests that working conditions among children is very poor and harmful which affects them, causing visual impairment, acute lung disease, defamation of bones and in extreme cases death among them.

Contrary to the finding of Blunch & Verner (2000), Canagarajah and Coulombe (1997) used the first three rounds of the Ghana Living Standards Survey (GLSS) to evaluate the determinants of child work and schooling among 7-14-year-old children in Ghana. They used bivariate probit models with different specifications to establish the findings that child work and schooling have a significant inverse relationship. This implies that when demand for child education is increased, the incidence of child work will reduce. Also, father's education is negatively related to child work with a stronger effect on girls than boys. Thus parental literacy reduces child work. Moreover, household characteristics were observed to have great influence on decisions of child work or schooling. For instance, there was a significant negative influence on the education of the father on child work, with influence being greater for girls than boys. Canagarajah and Coulombe (1997) concluded that poverty is not the main cause of child work, using the income level of the household to measure poverty.

Again contrary to the findings of (Blunch & Verner (2000), Ranjan Ray (2003) examines the GLSS 1988/1989 data for Ghana with the aim of finding the determinants of child labour. Ray concentrated on household poverty as a possible cause of child labour, bearing in mind the Luxury Axiom by Basu and Van (1998). Child schooling, poverty and child labour are estimated using

simultaneous equations, controlling for the endogeneity that exists between them. Also, the two-stage Heckman estimation procedure was used in estimating the determinants of child labour. The findings suggest that household poverty was not the primary cause of child work but only significant in the rural area of Ghana which confirms the findings of Canagarajah and Coulombe (1997). The explanation for the findings was that in poorer communities there are fewer employment opportunities for children. Variables such as parent's educational level and access to quality school in the community were found to have a significant impact on hours of work of children. Ranjan Ray (2003) proposed that policies which seek to increase children's schooling and enhance the quality of schools should motivate parents to educate their children rather than making them work.

### **3.2.7 Other studies about child labour.**

The effect of health status of parents or other household members on child labour and educational outcomes was investigated by Alam (2015). He used Kagera Health and Development Survey (KHDS) from the year 1991 to 1994 from the Kagera district of Tanzania. He used the OLS technique in analyzing the data and the evidence indicates that father's illness would reduce the child's educational attainment through the income of the household but there was no evidence in relation to promoting child labour. Also, mother's illness has no effect on the child's education and child labour.

Emerson & Souza (2008) used the Brazilians Census data collected in the year 1998 to analyze the effect of birth order on the prevalence of child labour and schooling among Brazilian children between the ages 7 - 16. To estimate this effect, Emerson & Souza (2008) used the bivariate probit

model. The findings from the study indicate that first born male children are more likely to engage in child labour while the last born is mostly sent to school. The evidence shows that female first borns are mostly kept out of school to help their parents at home instead of being in school. They concluded that other siblings are likely to be in school compared to first born's and the last born's are less likely to work as a child labourer.

The impact of income and non-income shocks on the incidence of child labour was examined by Bandara, Dehejia, & Lavie-Rouse (2015) in Tanzania. They also examined how agricultural shocks, access to credit or household assets can affect child labour. They relied on OLS and Fixed Effect models to analyze a panel data from two rounds of Tanzania National Panel Survey (TNPS) which was collected from 2008/2009 and 2010/2011 in Tanzania. The evidence suggests that agriculture shocks have more effect on boys in terms of child labour while crop shocks has the tendency to make a girl child stop schooling than boys. The result further indicates that having bank accounts decreases child labour among boys and reduces the household work for girls. Finally, they conclude that household assets are not significant to safeguard against shocks among both boys and girls.

Alcaraz, Chiquiar, & Salcedo (2010) used the Mexican National Occupation and Employment Survey which was conducted in 2008 and 2009 in Mexico to analyze the effect of remittances from the United State to Mexico on the incidence of child labour and schooling in Mexico. They divide the sample into two groups - treatment group which is made up of children between the ages of 12 – 16 years, whose household receives remittances while the controlled group does not receive remittances. In order to estimate this effect, they employed the differences-in-differences

technique and the probit model. Their findings conclude that, with adverse shocks on remittances, household's results in substantial increases in the incidence of child labour and reduces school attendance among remittance-receiving households.

In a similar study, Edmonds & Shrestha (2014) worked on how interventions could help promote schooling and discourage child labour. The interventions are divided into two, the first one pays for expenses related to schooling and the second one offers in-kind stipend conditional and scholarship on school attendance. The evidence shows that taking care of expenses related to school encourages schooling but only at the beginning of the year while the combination of scholarship and an in-kind stipend conditional does not only increase schooling but also reduces the rate at which students fail by 46 percent. They concluded that giving incentives to school children lessens the incidence of child labour.

Cockburn and Dostie (2007) assessed child work and schooling by concentrating on household's ownership of assets and poverty in rural Ethiopia. They used multinomial logit and simultaneous equation models in their estimation techniques. They observed that household composition and ownership of assets are the primary causes of child work. The findings were that, the greater the assets that a household has, the lesser the probability of children in the household engaging in child work. Such children are more likely to be schooling. Also, household composition, which refers to the number of adults, children, workers and non-workers in the household, influences child labour. Thus, household composition and ownership of assets lead to a tradeoff between schooling and working among children.

### **3.3 Conclusion**

Studies such as Goulart & Bedi (2008), He (2016), Sanchez et al. (2003), Le & Homel (2015), Boozer & Suri (2001), Buonomo Zabaleta (2011) and many others reviewed, indicated that child labour eventually hurt academic performance. Others, such as Nkamleu (2009, Putnick & Bornstein (2015), Ray (2003), Tzannatos (2003) also show that child labour has negative consequences on the educational attainment of children. Since child labour eventually affects academic performance and educational attainment, the development of children would be affected.

The issue of child labour has been shown to be prevalent in the developing countries, especially middle to low-income countries in Africa as suggested by previous empirical studies conducted in countries like Ghana and Côte d'Ivoire.

This literature reviewed suggests the significance of the study and re-thinking of existing policies which seems not to yield dividend and hence the need for high commitment by all policy makers. The next chapter would examine the theoretical framework and the methodology that will be used to address the research questions outlined in section 1.2 of chapter one. It would also look at the dataset to be used.

## CHAPTER FOUR

### THEORETICAL FRAMEWORK AND METHODOLOGY

#### 4.0 Introduction

The review of empirical literature shown that different authors have used different estimation technique to analyze issues relating to child labour across the world, particularly in developing countries. Some of the authors used bivariate probit model (Canarajah and Coulombe 1997, Assaad, 2005, Emerson & Souza, 2008) while others used multinomial logit technique (Ray 2003, Ray & G. Lancaster 2005 & Nkamlem 2009) and a combination of second –Stage regression and probit models (Buonomo Zabaleta, 2011; Goulart & Bedi, 2008; Le & Homel, 2015) was used to analyze child labour issues. The type of methods used by each author was based on the objectives of the author and the type of data used.

This chapter looks at the theoretical framework, the statistical method and the data used for the study. The first part of this chapter look at the theoretical framework for child labour and its effect on education and fosterage. The second part deal with the method employed to estimate, the effect of education and fosterage on child labour. The final part of the chapter deals with the data source and the variables used.

#### 4.1 Theoretical Framework

This study explain the theory underpinning child labour, education and fosterage in Ghana and the circumstances that pulled children into it. It follows from Ranjan Ray (2003), who based his theoretical framework on the model of increasing sophistication and complexity. In the ideal situations, parents or guardians are those responsible for maximizing children’s utility.

Let assume  $U_{(y,l)}$  is the utility of the child to be maximized by the parents.

Subjected to budget constraint  $P_y \leq (I - E) + wl$

Where 'y' is the vector of goods consumed by the child

'l' is child labour

$P_y$  is the price multiply by all goods consumed by the child

'I' is the adult's households' total income

'E' is the total expenditure by adults in the household

'wl' is the wage of the child multiply by his or her labour working hours

Our objective is to maximize the child's utility  $U_{(y,l)}$  subjects to constraints  $P_y \leq (I - E) + wl$

or

$$U_{(y,l)} \dots\dots\dots (1)$$

$$\text{Max} \dots\dots P_y \leq (I - E) + wl \dots\dots\dots (2)$$

By using the Lagrange multiplier, we obtain

$$L = U_{(y,l)} + \lambda [P_y - (I - E) - wl]$$

The first order condition yields

$$U_y + \lambda_p = 0 \dots\dots\dots (3)$$

$$U_l - \lambda_w = 0 \dots\dots\dots (4)$$

From equation (3) and (4)

$$\frac{U_y}{U_l} = \frac{-p}{w} = MRS$$

$$l_i = l_i(C, H, w, I^*) \dots\dots\dots (5)$$



From the first order condition yields

$$U_y + \lambda_p = 0 \dots\dots\dots (8)$$

$$U_e + \lambda p_s = 0 \dots\dots\dots (9)$$

$$U_l - \lambda_w = 0 \dots\dots\dots (10)$$

Taking into the account the constraints, child labour equations became

$$l_i = l_i(C, H, e, P_s, w, I^*) \dots\dots\dots$$

where ‘*e*’ is the hours spent in schooling by the child, while ‘*P<sub>s</sub>*’ represent the price of the schooling (cost of schooling).

#### 4.2 The Model Specification

Various authors used different model in analyzing the effect and determinants of child labour in developing countries across the world. Ranjan Ray & Lancaster (2005) and Nkamlem (2009) used multinomial logit model, while other authors such as Buonomo Zabaleta (2011), Goulart & Bedi (2008), Le & Homel (2015) used probit in combination with other models such as second-stage regression to analyze child labour in developing economies. This study would use a probit model to determine the effects of education and fosterage on child labour due to the fact that the dependent variable, child labour, is a dummy.

$$CL = \beta_0 + \beta_1 CC_i + \beta_2 HH_i + \beta_3 HSCH + \beta_4 SCHFEES + \beta_5 FOS + \beta_6 FC + \beta_7 MC + \beta_8 FCHSCH + \beta_9 FCFOS + \beta_{10} MCHSCH + \beta_{11} MCFOS + \varepsilon_i$$

Where  $\beta_0$  is the constant term.

$\beta_1 \dots \beta_{11}$  are the coefficients and  $\varepsilon_i$  is the error term

Where *CL*= Child labour

*CC<sub>i</sub>*= Child’s characteristics

$HH_i$  = Household's characteristics

$HSCH$  = Hours children spent in school

$SCHFEEES$  = School fees

$FOS$  = Fosterage

$FC$  = Fishing communities

$MC$  = Mining communities

$FCHSCH$  = Fishing communities and hours children spent in school

$FCFOS$  = Fishing communities and fosterage

$MCHSCH$  = Mining communities and hours children spent in school

$MCFOS$  = Mining communities and fosterage

### Definition of variables used

**Table 4.1: Definition of Study Variables**

Name of variables	Definition of Variables
Child_Labour	Child is a labourer ( yes=1, no=0)
Child_Age	Age of the child (continuous)
Child_Gender	Gender of the child ( male=1, female=0)
Hhsize	Size of the children's household (continuous)
HHEdu_status	Head of household's educational status ( yes=1, no=0)
HPov_status	Household's poverty status (poor=1, non-poor=0)
Rur_Urb	Location of child's residence (Rural=1, Urban=0)
Hours_CISchool	Hours child spent in school (continuous)
SchoolFees	Amount of fees child pay in school (continuous)
Child_Wages	Child receives wages (yes=1, no=0)
Fosterage	Child is a fostered child (yes=1, no=0)
Fishing_Com	Child is in fishing communities (yes=1, no=0)
Mining_Com	Child is in mining communities (yes=1, no=0)

**Source:** Author's Construction

### **4.3 Explanation of variables used**

#### **4.3.1 Dependent Variable**

##### **Child Labour**

According to ILO, child labour is any economic activity or work that is mentally, physically, socially or morally dangerous and harmful to children and deprives them of opportunity to attend school, interferes with their schooling, obligating them to leave school prematurely and requires them to attempt to combine school attendance with excessively long hours and heavy work (ILO, 1973). Any child below 13 years who engages in any economic activity with such characteristics is into child labour. ILO gives children between the ages of 13-15 an opportunity to work but they should engage in a work that is considered light work. In this regard, any child between 13-15 years whose work is not regarded as light is into child labour. Finally, ILO (1973) stipulates that children between the ages of 16 – 17 years should not engage in work in certain industries which includes fishing, mining or quarrying, portage or carrying of heavy loads among others. In this study, the dependent variable child labour is categorical, which is equal to 1 if the child is into the labour market and 0 if otherwise.

#### **4.3.2 Control Variables**

The paper seeks to examine the effects of hours spent in school, quality of school, fosterage and its effects in the mining and fishing communities on child labour. The study controlled for demographic, socio-economic characteristics of children as well as their household characteristics.

## **Child's Characteristics**

### **Age of the child**

According to 'The Children's Act, of 1998, Act 560' a child is anyone who falls below the ages of 18 years old. Various authors used different age groups to analyze child labour data in developing economies across the world. Assaad (2005) used children between the ages of 6 to 17 years to investigate the effects of child labour in Egypt. Ranjan Ray (2003) and Gage (2005) worked on child labour in Ghana by using children between 7 – 17 years old. Putnick (2015) employed dataset on children from 7-14 years of age bracket from 30 low-income and middle-income developing countries to examine whether child labour is a hindrance to school enrolment. This study would also use children between the ages 5 – 17 years because the compulsory age for children to be in school starts from 5 years and 'The Children's Act, of 1998, Act 560' also classified children as those below 18 years. In theory, as children grow they become more responsible and want to help their parents by taking care of some of their basic needs and as a result, the probability of entering the labour market is very high. Also, child labour involves carrying of heavy loads, going to the sea, working in artisanal mining, selling on the street, etc which might not be appropriate for the very younger ones. It is, therefore, more likely for the older ones to engage in child labour and we expect the sign to be positive. In this study, a child's age is a continuous variable. Coulombe (1997) analyzed child labour and the result confirmed the positive expected sign that is child labour increases with his/her age.

### **Gender of the child**

Gender of the child is mostly seen as one of the most important variables in determining whether the child engages in child labour or not. According to Assaad (2005), evidence shows that girls are

burdened in terms of hours of work than boys. Gage (2005) also worked on child labour in Ghana and the evidence indicates that there is a negative relationship between child labour and schooling among girls in Ghana. The adverse effect of child labour on girls is significant compared to boys (Le & Homel, 2015). In this study, the gender of the child is a dummy. A study by Canagarajah and Couloumbe (1997) in Ghana came out with gender discrimination, with boys having a greater likelihood of going to school compared with girls and in this study, since gender is coded as 1 to be equal to male and 0 to be equal to female, we expect the sign to be positive.

## **Household/Family Characteristics**

### **Household size**

The size of the household determines whether a parent can send their children to school, into employment or into fosterage. Large family or household size is mostly prevalent in developing countries across the world. Theoretically the larger the household size the bigger the responsibility. Large household size means more income is needed to take care of them. As a result, parents push their children into employment in order to get enough income to improve the livelihood of the family, as a result, we expect household size to have a positive sign. Malthus argues in Edmonds (2007) that parent's inability to provide basic needs of children is the reason behind the prevalence of child labour in the 18<sup>th</sup> century. Webbink, Smits & de Jong (2011) examined child labour in 18 developing countries and the findings suggest that hours worked by children increases with the number of siblings. Household size is a continuous variable.

### **Household poverty status**

In theory, it has been established that poverty is the central cause of pushing children into the labour market. Parent's inability to provide basic needs of their children is the reason for the prevalence of child labour in the 18<sup>th</sup> century. In theory, when a parent's income is low and they cannot afford the needs of the family, they push their children into the labour market in order to improve their livelihood resulting in child labour. In this study, the poverty status of the household is a dummy. Theoretically, poverty is expected to have positive sign since poor parents are likely to push their children into the market in order to take care of the family. Household poverty status in this study is equal to 1 if the household is poor and 0 if the household is not poor. In this study household poverty study is a dummy.

### **Head of household's educational status**

Human capital development is an agenda for developing countries across the world. According to Allais & Hagemann (2008), education is the way of developing countries human capital and improving individual lives and also the right response to mitigate child labour. The level of the parent's or guardian's education determines the child's participation in the labour market. In this study, the educational level of the head of the household is a dummy. In theory, we expect parents who are educated to know the implications of child labour on their children. As a result, we expect educated parents to pull the children away from child labour and if this happens we expect the head of household's level of education to have a negative sign. Head of household's level of education is equal to 1 if he/she is educated and 0 if he/she is not educated.

### **Location of child's residence**

The location of the child's residence is an important determinant of whether he/she engages in labour market or not. In Ghana, child labour is mostly seen as a rural phenomenon where it is mostly found in the agricultural sector of the country. Evidence has shown that child labour is significant in rural areas of Ghana (Ray, 2003) making the location an important variable. In this study location is a dummy. Output for businesses and farms in the rural areas are mostly low making those in rural areas financially handicap and unable to employ adults and rather rely on children. As a result, we expect child labour in the rural areas to be rampant compared to urban centres. Since the rural is equal to 1 and urban is 0 we expect the sign to be positive.

### **Child's Wages**

From the labour equation (11), it clearly shows that one of the important variables that affect the decision of children to engage in the labour market is wages. This means that without wages in the estimations, child labour approximations will not be entirely accurate in this study. In theory, financial benefit is one of the reasons that push people to get into the labour force and we expect that to be the same for children in engaging in the labour market. As a result, we expect wages to have a positive sign. In this study Child's wages is a dummy. Child Wages is equal to 1 if child receives wages and 0 if otherwise.

### **Child's hours spent in school**

From the labour equation (11) above, hours spent in school by children affect child labour equation. The study is actually interested in hours children spent in school in order to determine an important policy decision as to whether or not to increase hours spent in school by children.

The study aims at determining whether increasing hours spent in school by the children can mitigate child labour in Ghana. Children in school cannot be at work at the same time and we expect that the more the number of hours children spent in school the lesser the hours the child has to work. As a result, we expect to have a negative sign. In this study, the number of hours children spent in school per week is a continuous variable.

### **School fees**

Another variable that affects the decision of child labour in equation (11) is school fees that children pay. In this study, school fees children pay is of interest because it would help us determine an important policy decision of quality of the school. The school fees are used as an indicator of quality of the school. In this study, school fees is a proxy as quality of school and it is a continuous variable. There is the assertion that the quality school are able to impact more knowledge and this eventually leads to improvement in human capital and this results in better jobs compared to less quality school. As result parents or guardians prefer to send their wards to quality of school. As a result, we expected school fees to have a negative sign.

### **Fosterage**

Fosterage is view as a means by which children in rural areas get access to education by living with other people in urban centres who are not their real parents. Child labour is prevalent in the rural part of the country compared to urban centres. Children in rural areas can climb the educational ladder by staying with people who are not their actual parent in urban areas. Most schools are located in urban centres and in this study fosterage is a dummy. There is the assertion in the public domain that fosterage children are being used in economic activity instead of putting

them in school, as a result, we expect fosterage to have a positive sign. Fosterage is equal to 1 if child is a foster child and 0 if otherwise.

### **Fishing Communities**

There is the notion that fishing in Ghana in one way or the other has an effect on child labour, education and fosterage. The media in Ghana consistently cite the fishing communities as the ground for low educational attendance, force labour, fosterage and sometimes child trafficking in Ghana. The 2016 report of Bureau of International Labour Affairs cited Ghana for its continuous engagement of children in force and child labour in its fishing communities. The variable fishing communities is a dummy, which is equal to 1 if the child is in fishing community and 0 if otherwise. Since the fishing communities are noted for engaging children in the labour market we expect the fishing communities to have a positive sign.

### **Mining Communities**

It is believed that the artisanal mining industry (galamsey) employs a lot of children in its operation. Empirical evidence by Okyere (2012) has shown that there is child labour in artisanal mining (galamsey) in Ghana. Mining community is coded as a dummy which is equal to 1 if the child is in a mining community and 0 if otherwise. Since mining communities are also noted for engaging children into the labour market, we expect it to have a positive sign.

## **4.4 Estimation Technique**

The probit model is used to estimate the effects of education and fosterage on child labour. The probit model is a method used when the dependent variable is dichotomous. Child labour in this

instance has two possible outcomes - whether the child engages in the labour market or not. It takes the values of one (1) or zero (0), where one (1) means 'child labour' while zero (0) means 'not in child labour'.

$$\text{Child labour} = \begin{cases} \text{yes} = 1 \\ \text{no} = 0 \end{cases}$$

Now, instead of estimating values of zeros and ones, the probit model estimates the probability ( $p$ ) that a child engages in child labour as a function of independent variables. If child labour is represented by "CL." then,

$$1 = \Pr(\text{CL} = 1 | X) = F(X1\beta)$$

That is to say that the probability of child labour= 0, would be (1- $p$ ).

$$F(X1\beta) = \Phi(X1\beta) = \int_{-\infty}^{(X1\beta)} \phi(z) dz$$

As a result, the predicted probabilities lie between the values of zero (0) and one (1). The probit model is estimated by Maximum Likelihood Estimation, and its errors (disturbances) are assumed to follow the standard normal distribution,

$$\phi(\epsilon) = \frac{1}{\sqrt{2\pi}} e^{-\frac{\epsilon^2}{2}} \text{ with a variance of 1}$$

The marginal effect for the probit model is derived as:

$$\frac{\partial y}{\partial x} = \phi(X1\beta)$$

The marginal effect at the mean is estimated for the average person in the sample as:

$$\frac{\partial y}{\partial x} = F(X1\beta)\beta$$

Since it is less likely to find individuals at the mean, the average marginal effect is estimated as the average of the individual marginal effects expressed as:

$$\frac{\partial y}{\partial x} = F \frac{(X1\beta)}{n} \beta$$

#### **4.4.1 Justification for using probit model**

In a cross-sectional data where the dependent variable is dichotomous, meaning the dependent variable can take only two responses zero(s) and ones, ordinary least squares cannot be appropriate. The OLS methods assume that the error term is normally distributed but when the dependent variable a binary the error term would not be normally (randomly) distributed. In estimating a linear function using OLS method, the assumption is that there is homoscedasticity, meaning there is constant variance but if the dependent variable is dichotomous the assumption is violated as a result the standard error would be wrongly estimated and the hypothesis test would be incorrect.

For the error term to be normally distributed, it must be between negative and positive infinity ( $\pm\infty$ ). But the error term in the probit model takes the value of 0 or 1 for the dependent variable. This means that the variance of the error term depends on the regressors, implying heteroscedasticity as explained by Gujarati (2014). Thus, the assumption of the OLS method that the independent variables and the error term must not be correlated is violated in this model. This renders the OLS method inappropriate in estimating this model. The best options available are the probit or logit models.

#### **4.5 Estimation Technique issues**

We suspect that there could be endogeneity in the data set. From Coulombe (1997) child labour participation affects education and education affects child labour participation and therefore there is a possibility that there is the issue of endogeneity in the data.

$$CL_i = \beta X_i + \delta CIS + \varepsilon_i$$

$$CIS_i = \gamma Z_i + \mu_i$$

$$E(\varepsilon_i) = E(\mu_i) = 0; \text{Var}(\varepsilon_i) = \text{Var}(\mu_i) = 1; \text{Cov}(\varepsilon_i, \mu_i) = \rho$$

#### 4.6 Bivariate probit model

The likelihood of the presence of endogeneity in our estimation equation will be corrected by the use of the bivariate probit model. The bivariate probit model is a joint model for two binary outcomes, these outcomes may be correlated with correlation  $\rho$ . If the correlation turns out insignificant, then we can estimate two separate probit models, otherwise we have to use a bivariate probit model.

The unobserved latent variables are presented

$$y_1^* = x_1 \beta_1 + e_1$$

$$y_2^* = x_2 \beta_2 + e_2$$

The bivariate probit model specifies the outcomes as:

$$y_1^* = \begin{cases} 1 & \text{if } y_1^* > 0 \\ 0 & \text{if } y_1^* \leq 0 \end{cases}$$

$$y_2^* = \begin{cases} 1 & \text{if } y_2^* > 0 \\ 0 & \text{if } y_2^* \leq 0 \end{cases}$$

#### **4.7 Interpretation of bivariate probit/probit coefficients**

The child labour regressors in this study include categorical and continuous variables. In interpreting the bivariate probit/probit coefficients, we take into consideration the sign, significance, and magnitude of the marginal effects.

In interpreting a dummy explanatory variable in the bivariate probit/probit model, there is always a reference category or group. For instance, considering whether child attends a private or public school in Ghana, one of the variables must be a reference group. Assuming private school is zero for all and public school is equal to one (1), then the private school becomes the reference category and serves as the basis for the comparison. Here the approximation is done with regards to whether the sign is positive or negative and also its significance. A dummy positive explanatory variable indicates that the variable is more likely to determine child labour than the reference category or group and also its level of significance. The opposite of the interpretation is correct if the sign is negative and statistically significant.

The sign of continuous explanatory variables is considered when interpreting whether the child engages in child labour or not together with its significance. Assuming income is one of the independent variable, a positive sign for the income indicates that an increase in income would result in an increase in the likelihood of a child being engaged in child labour. The opposite of the interpretation is correct if the sign is negative and statistically significant.

When interpreting the bivariate probit/ probit model, it is also necessary to assess how a given unit change in the independent variable would affect the probability of a child engaging in child labour.

#### **4.8 Data Type, Source and Definition**

This study uses the 2012/2013 Ghana Living Standards Survey Round Six (GLSS 6) data for its analysis. The first GLSS was undertaken in 1987, but what makes GLSS 6 unique is that it has a particular focus on labour force module designed to collect data on labour indicators. The labour force module was designed or extended to include child labour which helps to analyze child labour issues in Ghana. GLSS datasets are mainly collected to better appreciate poverty and household welfare levels in Ghana.

This study uses probit model to find the effects of fosterage and education on child labour in Ghana. In order to estimate the probit model, the 2012/2013 GLSS- round 6 was used. The GLSS 6 is a national household survey which was undertaken in Ghana from October 18, 2012, to October 17, 2013. The GLSS round 6 collected detailed information on issues such as population characteristics, health, education, employment and time use, migration, housing conditions and household agriculture, among others. The GLSS round 6 was designed to complete 18,000 households in 1,200 enumeration areas (EAs). 655 out of 1,200 enumeration areas in rural areas which represent 54.6 percent while urban areas is also made up of 545 enumeration areas which represent 45.4 percent. 16,772 households out of the 18,000 households had been enumerated successfully which represents 93.2 percent of the response rate.

#### **4.9 Conclusion**

This chapter looks at the theoretical framework of the study, model specification, description of the variables used, econometric technique, justifications for using probit model, interpretation of

the probit results and finally data use, the source of data and type of the data. The probit method is employed to analyzed child labour issues in Ghana.

The next chapter will look at, analysis of the effects of fosterage, hour's child spent in school and school fees on child labour in Ghana and its implications in both mining and fishing areas using the probit model.

## CHAPTER FIVE

### ANALYSIS AND DISCUSSION OF RESULTS

#### 5.0 Introduction

The main emphasis of chapter five is to analyze and discuss the findings in order to achieve the objectives of the study. We examined the effects of quality of school, hours spent by children in school and fosterage on child labour in Ghana using the bivariate probit model. In addition, we estimate the marginal effect of the bivariate probit model.

The description, as well as summary of the dataset, is done in this chapter. We also test for endogeneity and multicollinearity in the data set. Finally, the results of the data analyzed are presented and interpreted.

#### 5.1 Data Description

The 2012/2013 Ghana Living Standard Survey (GLSS) round 6 was used for this study. The GLSS round 6 was designed to interview 18,000 households but only 16,772 households were enumerated successfully which represents a response rate of 93.2 percent. GLSS 6 is unique and has a module on labour designed to collect data on the labour market. The labour force module was extended to include child labour, which helps to analyze child labour issues in Ghana. The dataset shows that the survey comprehensively collected data on children between 5 – 17 years.

The dependent variable in the study is child labour, which is children who engage in some economic activity for pay and are between the ages of 5 to 17 years. This variable is introduced as a dummy. The explanatory variables are child's age, child's gender, household size, household

poverty, head of household's educational status, child's location, child wages, school fees which is used as proxy for quality of school, hours the child spent in school per week, fosterage, mining communities, fishing communities, mother and father's presence in the household as a separate variables and finally we interact mining communities with fosterage, mining and hour's child spent in school, fishing communities and fosterage, fishing communities and hour's child spent in school. We also used various region in the country to know the regional effects on child labour in Ghana.

**Table 5.1: Description of children from 5 – 17 years in Ghana**

<b>Name of variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b><i>Child labour</i></b>		
Yes	14,583	60.11
No	9,676	39.89
<b><i>Child in school</i></b>		
Yes	20,978	86.07
No	3,394	13.93
<b><i>Child's gender</i></b>		
Male	12,413	50.93
Female	11,959	49.07
<b><i>Household poverty status</i></b>		
Poor	9,598	39.38
Not Poor	14,774	60.62
<b><i>Head of household educational status</i></b>		
Educated	9,805	40.23
Not educated	14,567	59.77
<b><i>Location</i></b>		
Rural	15,787	64.78
Urban	8,585	35.22
<b><i>Child's wages</i></b>		
Receives wages	795	3.26
No wages	23,577	96.74
<b><i>Mothers presence</i></b>		
Yes	19,243	78.97
No	5,124	21.03
<b><i>Fathers presence</i></b>		
Yes	15,867	65.10
No	8,505	35.90

No		
<b><i>Fosterage</i></b>		
Yes	5,274	21.64
No	19,094	78.36
<b><i>Fishing Communities</i></b>		
Yes	2,556	10.49
No	21,816	89.51
<b><i>Mining communities</i></b>		
Yes	857	3.52
No	23,515	96.48
<b><i>Region</i></b>		
Western	2317	9.51
Central	2081	8.54
Greater Accra	1840	7.55
Volta	2236	9.17
Eastern	2356	9.67
Ashanti	2451	10.6
Brong Ahafo	2496	10.24
Northern	3357	13.77
Upper East	2340	9.60
Upper West	2890	11.89

**Source:** Author's calculation from GLSS6

Table 5.1 indicates that a higher proportion of children below the legal age for labour force participation are engaged in paid jobs, thus, child labouring. Evidently, 14,583 children representing 60.11 percent of all children are engaged in child labour and the remaining 9,676 representing 39.89 percent are not.

There is a higher percentage of children who are males between the ages of 5 to 17 compared to females. Evidentially, 12,413 children are males which represent 50.93 percent while 49.07 percent of them are females.

In terms of school attendance, a greater proportion of children attends school compared to those not schooling between the ages of 5 to 17 years. Specifically, 20,987 children attend a school which represents 86.07 percent while the remaining 13.94 percent are not in school.

Further, a greater percentage of the children are in the rural areas of the country. The rural areas accounted for 64.78 percent of the children sampled while the urban centre accounted for 35.22 percent. Among the regions, the Northern region accounted for the highest, 13.17 percent of the children while Greater Accra had the least 7.55 percent.

Households of 39.38 percent of the children between the ages of 5 – 17 years are poor, while 60.62 percent of them are not poor. This means that the number of children from poor homes is almost double that of those not from non-poor homes.

## 5.2 Data summary

Summary of GLSS round 6 data of children between the ages of 5 – 17 years collected in the years 2012/2013 is presented in table 5.2.

**Table 5.2: Summary statistics of GLSS 6 data of children between 5 – 17 years**

Name of variables	Obs	Mean	Std. Dev.	Min	Max
Child Labour	24259	.3988623	.4896744	0	1
Child in school	24372	.8607418	.3462228	0	1
Child's age	24372	10.70684	3.667113	5	17
Child's gender	24372	.509314	.4999235	0	1
Household (HH) size	24372	6.920852	3.257111	1	29
Household poverty	24372	.3938126	.4886042	0	1
Head of HH educational status	24372	.4023059	.4903731	0	1
Location (Rural/ Urban)	24372	.6477515	.4776807	0	1

Child's wages	24372	.0326194	.177642	0	1
Mother's presence	24367	.7897156	.4075189	0	1
Father's presence	24372	.651034	.476653	0	1
School fees	16995	75.41179	276.8914	0	10530
Hours child spent in sch.	15023	27.69427	10.26493	0	84
Fosterage	24368	.2164314	.4118201	0	1
Fishing communities	24372	.1048744	.3063979	0	1
Mining communities	24372	.0351633	.1841962	0	1
Fishingcom*fosterage	24368	.0228989	.1495842	0	1
Fishing com*hours child spent in school	15023	2.626373	8.521277	0	60
Mining*fosterage	24368	.0060325	.0774361	0	1
Mining*hours child spent in school	15023	1.195367	5.969353	0	56
Region					
Western	24372	.0950681	.293315	0	1
Central	24372	.0853849	.2794593	0	1
Volta	24372	.0917446	.288671	0	1
Eastern	24372	.0966683	.2955116	0	1
Ashanti	24372	.1005662	.3007597	0	1
Brong Ahafo	24372	.1024126	.3031964	0	1
Northern	24372	.13774	.344634	0	1
Upper east	24372	.0960118	.2946135	0	1
Upper west	24372	.1189069	.3236856	0	1

**Source:** Authors calculation

### 5.3 Diagnostic tests

#### 5.3.1 Test for endogeneity

Based on the empirical evidence reviewed in chapter three, most of the studies accounted for endogeneity in the dataset. In controlling for endogeneity they either used instrumental variable (IV) probit or bivariate probit model. In this study, we test for endogeneity based on the bivariate probit model,  $\rho=0$ . Table 5.3 indicates that there is the presence of endogeneity since the coefficient is significant at 1 percent in the dataset and we use the bivariate probit model for the analysis instead of the probit model.

**Table 5.3 Test for endogeneity (Based on Bivariate probit model)**

Correlation between Disturbance term	FULL SAMPLE Coefficient	Linearized standard error
Rho( $\rho$ )	-0.2432005***	0.0745429
Obsevation	11934	

Source: Authors calculation

### 5.3.2 Test for multicollinearity

The variance inflation factor (vif) is used to diagnose multicollinearity in the model. The rule of thumb says that a variable with a vif value greater than ten (10) suffers from multicollinearity and demands further investigation. From the table below, since the vif values for all the variables are less than ten (10) the model is free from collinearity.

**Table 5.4 Test for multicollinearity**

Variables	VIF	1/VIF
<i>Child's age</i>	7.98	0.12538
<i>Child's gender</i>	2.03	0.49239
<i>Household size</i>	6.57	0.1523
<i>Household poverty</i>	2.06	0.486
<i>Head of household's educational status</i>	2.18	0.45871
<i>Location</i>	3.76	0.26629
<i>Child's wages</i>	1.04	0.95907
<i>Mother's presence</i>	7.39	0.13533
<i>Father's presence</i>	5.3	0.18858
<i>School fees</i>	1.18	0.84591
<i>Hours children spent in school</i>	8.02	0.12468
<i>fosterage</i>	3.06	0.32703
<i>Fishing communities</i>		
<i>Mining communities</i>	8.28	0.12071
<i>Fishing communities and fosterage</i>	1.49	0.66961
<i>Fishing communing and hours spent in school</i>	9.71	0.10295
<i>Mining communities and fosterage</i>	1.25	0.80108

<i>Mining communities and hours spent in school</i>	8	0.125
<b>Region</b>		
<i>Western</i>	1.96	0.51141
<i>Central</i>	1.61	0.6208
<i>Volta</i>	1.83	0.54653
<i>eastern</i>	1.95	0.51391
<i>ashanti</i>	1.92	0.52159
<i>Brong ahafo</i>	2.06	0.48603
<i>northern</i>	2.42	0.41312
<i>Upper east</i>	2.29	0.43652
<i>Upper west</i>	2.32	0.4305
<b>Mean VIF</b>	<b>4</b>	

Source: Author's calculation

#### 5.4 Estimations of bivariate probit regression result

This section presents the bivariate probit result and corrects for endogeneity in the dataset. Table 5.5 is the result of the bivariate probit model, it has the coefficients, standard errors and the marginal effects

**Table 5.4 Bivariate probit estimates of child labour supply equation in Ghana**

Pr(Child labour)=yes	Coefficients	Marginal effects
Regressors	(Standard errors)	(Standard Errors)
<i>Child's age</i>	.1627124*** (.003902)	.0492914*** (.0009339)
<i>Child's gender</i> (ref. cat. Female)		
Male	.0527561** (.0256167)	.0169644** (.0077489)
<i>Household size</i>	.0100207** (.0042166)	.002717** (.0012731)
<i>Household poverty status</i> (ref. cat. Not poor)		
Poor	.0118874 (.0302103)	.0039022 (.0091462)
<i>Head of HH educ. Status</i> (ref. cat. not educated)		
Educated	-.1571204*** (.0295962)	-.0480188*** (.0089395)

<b>Location</b> (ref. cat. Urban)		
Rural	.4889293*** (.0320236)	.147308*** (.009475)
<b>Child wages</b> (ref. cat. No)		
Yes	1.176389*** (.1188236)	.3539729*** (.0352438)
<b>Mother's presence</b> (ref. cat non-presence)		
Presence	-.0512471 (.0440434)	-.0169197 (.0133432)
<b>Father's presence</b> (ref. cat. non-presence)		
Presence	.0213282 (.0379965)	.008356 (.0114829)
<b>School fees</b>		
	-.0001967*** (.0000715)	-.0000598*** (.0000216)
<b>Hours child spent in school</b>		
	-.0059007 *** (.0013341)	-.0017045*** (.0004021)
<b>Fosterage</b> (ref. cat. no )		
Yes	-.0448837 (.0536457)	-.0136689 (.0162265)
<b>Fishing communities</b> (ref. cat. no)		
Yes	-.3682761*** (.1323591)	-.1116248*** (.0399648)
<b>Mining communities</b> (ref. cat no)		
Yes	.0166161 (.1816223)	.0237558 (.0550065)
<b>Fishing com*fosterage</b>		
	.1980688** (.100514)	.0787368** (.0306797)
<b>Fishing com*Hours child spent in school</b>		
	.0020288 (.004493)	.0005978 (.0013578)
<b>Mining com*fosterage</b>		
	-.0533192 (.174942)	-.0169706 (.0528662)
<b>Mining com*Hours spent in school</b>		
	-.009977* (.0060575)	-.003083* (.0018304)
<b>Region</b> (ref. cat. Greater Accra)		
Western	.0650833 (.0614417)	.0232939 (.0179863)
Central	-.2963441*** (.0748629)	-.0761251*** (.0197891)
Volta	.1293163** (.0658386)	.0421045** (.0194599)
Eastern	.3372391*** (.0610189)	.1049325*** (.0185086)
Ashanti	.1395841** (.0595601)	.0436044** (.0175767)
Brong Ahafo	.3861596*** (.0598248)	.1226388*** (.0181725)

Northern	.0974617 (.0619242)	.0322311 (.0181886)
Upper East	.5530227*** (.0614476)	.1726548*** (.0189235)
Upper West	.2869879*** (.0650068)	.0906797*** (.0196969)
Constant	-2.380109*** (.091607)	
Observations	23472	

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**Standard errors in parenthesis**

**\*\*\*p<0.01, \*\*p<0.05, \*p<0.1**

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**Source:** Author's Construction

In the results of the Bivariate probit of the probability of a child labour in Ghana, with respect to the child, community and household characteristics. The coefficients of the bivariate probit are interpreted with respect to the sign, significance and the magnitude of the marginal effects.

There is a positive relationship between the child's age and child labour in Ghana. The estimates show that as the child's age increases by one year, his/her likelihood of engaging in child labour increases by 4.9 percent at 1 percent significance level. This is consistent with the finding of Nkamleu (2009) that the older the child, the more likely the child is to engage in child labour. The result of the study was also confirmed by Coulombe (1997) that child labour increases with his/her age. This could be attributed to the fact that child labour involves carrying of heavy loads, going to the sea, working in artisanal mining, selling on the street and so on which is more appropriate for older children than younger ones.

The gender of the child is one of the important determinants of child labour in most developing countries. The bivariate probit result indicates that male children are likely to engage in child labour by 1.7 percent compared to females in Ghana at 5 percent significance level. The findings from the study confirmed the findings of Patrinos and Psacharopoulos (1995) that boys are likely to engage in child labour compared to girls. The result is also consistent with the findings of Assaad (2005) that, the effect is bigger for boys compared to girls. According to Coulombe (1997), the reason is that girls are generally more engaged in home chores and boys get involved in the labour market.

One of the topical issues in Ghana is the number of children couples should give birth to. A lot of empirical evidence has established a relationship between child labour and the size of the child's household. The results from the model suggest that there is a positive relationship between child labour and the size of the child's household. An additional child to the household increases the likelihood of the child engaging in child labour by 0.3 percent at 5 percent significance level. This result confirmed earlier findings by Goulart & Bedi (2008) which shows that increases in the size of the child's household increases the likelihood of the child engaging in child labour. The finding is also consistent with Webbink, Smits, & de Jong (2011) that hours worked by children increases with the number of siblings. According to Webbink, Smits, & de Jong (2011), this observation could be attributed to a deliberate choice of the parents, as children are cheap labourers. However large family size is the result of cultural habits and lack of knowledge.

Poverty maintains the theoretically positive sign with child labour but it is not significant in estimating child labour in Ghana. This findings also confirmed earlier findings of Canagarajah and

Coulomb (1997) that poverty is not the main cause of child labour. However, this is in a sharp contrast with the findings of Blunch & Verner (2000) which re-affirmed that poverty is the main cause of child labour. Coulombe (1997) suggests that poverty correlates with child schooling, which may result in a negative relationship between schooling and employment.

The educational status of head of household also maintained the negative sign as expected and it is highly significant in explaining child labour in Ghana. The outcome suggests that educated household heads are about 4.8 percent less likely to push their children into child labour compared to uneducated ones at 1 percent significance level. This is consistent with the finding of Nkamleu (2009) that children are more likely to work if the parents are uneducated and he alluded this observation to the fact that educated parent knows the negative effect of child labour.

Location of the child retained its positive expected sign and is statistically significant in determining child labour in Ghana. The outcome of the bivariate probit suggests that children in the rural areas are about 15.0 percent more likely to engage in child labour compared to those in urban centres. The outcome confirm earlier findings by Ranjan Ray (2003) that child labour is rampant in rural areas in Ghana. The result is also consistent with the findings of Goulart & Bedi (2008) that about 35 percent of children in rural Vietnam engaged in non-household labour supply compared to 6 percent in urban areas. This is also consistent with Assaad (2005) that child labour is mostly found in the agriculture sector. Columbe (1997) suggests that this is the case because about 90 percent of child labour in Ghana are found in the agriculture sector which is located in the rural areas.

Wages is one of the pulling factors of child labour in developing countries across the world. It has retained its positive theoretical sign and is highly significant at 1 percent. This result indicates that when children engage in pay economic activity, they are likely to engage in child labour by 35.0 percent compared to those who do not receive wages. This could be due to the fact that children try to work for money to provide basic needs for themselves as argued by Malthus.

School fees are a proxy for quality of school and it retains a negative sign and highly significant at 1 percent. This indicates that, as school fees increases by one Ghana cedi, the child is less likely to engage in child labour by 0.006 percent. This is consistent with the finding of Bonnet (1993), Coulombe (1997) that when the quality of school is poor, parents prefer to pull their children from school into employment rather. This is also consistent with the finding of Ray (2003) that the improvement in quality of school can be fruitful in curbing child labour. He suggests this observation could be due to parent's willingness to pay for their children education.

Hours spent by a child in school per week retains its negative sign as expected and it is significant at 1 percent in explaining child labour in Ghana. The outcome suggests that increasing hours children spent in school per week would have a substantial impact on child labour in the country. A one hour increase in time spent in school by child per week would reduce child labour by 0.2 percent per week at 1 percent significance level. The reason for the observation could be that the more hours the child spends, the less time he/she has to go and work.

Fosterage assumes a negative sign but insignificant to explain child labour in Ghana from the bivariate probit. This outcome is consistent with the earlier finding by Gage (2005) that fosterage is not significant in explaining child labour in Ghana.

The interaction between fosterage and fishing communities maintains a positive sign as expected and statistically significant at 5 percent. This outcome indicates that in fishing communities, fosterage is more likely to engage children in child labour by 7.9 percent compared to non-fosterage children in the fishing communities. This is consistent with a recent finding of Chantavanich, Laodumrongchai & Stringer (2016) that child labour is present in the fishing communities. It is also consistent with the earlier finding of Hamenoo & Sottie (2015) who worked on trafficked children in the fishing communities.

The interaction between hours child spent in school and mining communities retain a positive sign as expected and at 10 percent significance level. The outcome suggests that increasing hours children spent in school per week by an hour in mining communities would result in a 0.3 percent decrease in child labour in mining communities. However, in mining communities, fosterage is not significant in explaining child labour. The reason for the observation could be that in the mining communities the more hours the child spends the less time he/she has to go and work.

## **5.5 Conclusion**

This chapter examines the effect of hours spent in school and fosterage on child labour in Ghana. The result of the data was analyzed and discussed in order to satisfy the objectives. The chapter used bivariate probit model to analyze the data-set. The bivariate probit was used ahead of probit

because the  $\rho=0$  is statistically significant at one percent which means there is the presence of endogeneity in the data and the bivariate probit was used to correct it.

The outcome of the bivariate probit suggests that fosterage has a negative relationship but insignificant to explain child labour in Ghana. But in fishing communities, it has a positive relationship with child labour and it is statistically significant.

The result also shows that hours children spent in school has a negative relationship with child labour after controlling for endogeneity in the data-set and it is significant at one percent. However, in mining communities, increasing hours children spent in school has the tendency to increase child labour in Ghana.

The study also finds that school fees proxied for quality of school can help mitigate child labour in Ghana. The next chapter would look at the conclusion, summary of the study and policy recommendations

## CHAPTER SIX

### SUMMARY, CONCLUSION AND POLICY RECOMMENDATION

#### 6.0 Introduction

This is the final chapter of the study. The summary of everything in the study is done in this chapter, conclusion is drawn and policy recommendations are made from that conclusion. In this chapter, the limitations of the study were also specified.

#### 6.1 Summary and conclusion

The main aim of this study is to examine the effect of hours spent by children in school, quality of the school and fosterage on child labour in Ghana using 2012/13 GLSS 6 dataset. School fees are a proxy for quality of schools in Ghana. Based on the existing empirical and theoretical literature, variables such as child age, child gender, child's wages, relation to the household head, household size, head of household's educational status, father's presence in the household, mother's presence in the household, residence, household poverty and regional dummies were used to estimate probit regression for child labour in Ghana. Based on the empirical literature reviewed in chapter three, various estimation methods such as bivariate probit, OLS regression, second stage probit, multinomial logit Tobit, ordered probit, IV probit and so on, have been use to address child labour in developing countries across the world. In order to achieve the objective of the research without endogeneity problem in the dataset, a bivariate probit model was estimated and the analysis made in that regard.

The importance of the issues relating to child labour in developing economies cannot be ignored. According to 2014 child labour report in Ghana, 21.8 percent of children engaged in child labour

(GSS, 2014), this means that academic performance would be hurt and human capital development would also be affected. With these issues, there is the need to look at ways by which child labour can be mitigated in Ghana.

With these in mind, this study examines the effect of quality of school on child labour by using school fees as a proxy for quality of schools. The findings support the view that child labour would be mitigated with quality schools. This is consistent with earlier findings by Bonnet (1993) that, in some African countries, poor quality of schools makes parent take their children out of school and put them into employment instead.

In examining hours children spent in school on child labour, the study finds that it actually mitigates child labour in Ghana. This is due to the fact that, the more hours children spent in school, the less likely they are to engage in child labour because the child cannot be at school and workplace at the same time. A child spending more hours in school would not only mitigate child labour but also improve upon the human capital development of the country as stipulated by the findings of Allais & Hagemann (2008).

The outcome from the study suggests that the larger the household size of the child, the higher the likelihood that the child would engage in child labour. This result confirmed earlier findings by Goulart & Bedi (2008) that increases in the size of the child's household increases the likelihood of the child to engage in the labour market

In examining fosterage, the study suggested that fosterage is insignificant to explain child labour issues in Ghana.

In investigating fosterage in the fishing communities, the result suggests that fosterage has the tendency to increase child labour in fishing communities in the country. This means that fishing communities are not the problem per se but the fostered children are more likely to be used for child labour.

In the mining communities, hours spent by children in school has the tendency to mitigate child labour in Ghana. The outcome of the findings shows that when the number of hours children spend in a week increases, child labour decreases, all things being equal.

The outcome of the study shows that child labour is a rural phenomenon compared to the urban areas in the country. The results of the study also show that the child's age, gender, and wages are all positively related to child labour. While the presence of mother and father in the household is insignificant to explain child labour in the country, the head of household's educational status have a negative relationship with child labour and are significant in explaining child labour in Ghana.

## **6.2 Policy Recommendations**

The effects of hours spent by children per week in school, quality of schools, proxied by school fees and fosterage on child labour is very essential because of its significance to the stakeholders, NGO's and policy makers in Ghana. Most essentially the effects in the mining and fishing

communities across the country because of the views about child labour in those areas. Most child labour studies did not focus on hours children spent in school, quality of school and fosterage.

From the outcome of the study, we recommend that policy makers improve on the quality of basic schools across the country since this would mitigate child labour in the country. Specifically, the policy should aim at improving the quality of public primary and junior high schools, since these schools are considered less of a quality compared to private ones. Improving on quality of the schools means that the Ghana Education Service (GES) and Ministry of Education should build new schools especially in the rural areas, prudently monitoring teachers, making sure school has adequate teachers and so on. Apart from improving the quality of schools, the institution responsible for Free, Compulsory and Universal Basic Education (FCUBE) should implement it appropriately to allow all children below 15 years to get access in order for it to achieve its aim.

In 2017, the government through the National Population Council was trying to propose a maximum number of children a couple should have and the outcome from this study supports this view. This would help mitigate child labour in the country. We recommend that the government set a maximum number of children a couple should have.

We further recommend that policy maker should increase the number of hours children spent in school since this would help lessen child labour menace in the country. In 2017 the Ministry of Education proposed a policy to increase the number of hours children spend in school and the findings from this study supports this since it will help mitigate child labour. We further recommend that GES and Ministry of Education should collaborate and agree on the number of

hours they should add to the existing hours they spend in school in a day. We also recommend that teachers should monitor the children so that they do not run away from school before school closes. Parents who allow that wards to work during school hours should be sanctioned. This would not only help mitigate child labour but also help to develop the human capital base of the country. Workplaces need to be regularly monitored by the Ministry of Labour to prevent children below 15 years from working.

We recommend that government institutions such as Ministry of Gender and Social Protection which is responsible for children affairs to ensure that every fostered child who is of school going age attends school and parent who do not send their fostered child to school should be sanctioned especially in the fishing communities. The Ministry should also ensure that children in the fishing communities enjoy all privileges under “The Children’s Act 1998, Act 560”. The Ministry should organize durbars and educate the fisher folks about the dangers of child labour to the country and their family as well as having a representative in the fishing communities to monitor the activities of children. The Ministry of labour and the Ministry of Gender and Social Protections should collaborate and come up with an action plan on how to tackle child labour in the fishing communities in Ghana. The action plan can include a specific day and time they goes for monitoring fishermen and any fishermen who use minors for fishing should be sanctioned, which would serve as a deterrent to others.

The government need to look at the number of hours children spend in school especially in the mining communities because it has a negative relationship with child labour, but in the fishing communities, it has no effect. We propose that institutions such as GES and Ministry of education

should increase hours children spent in school in the mining communities but not in the fishing communities.

The government need to target the rural areas in other to curb the child labour menace in Ghana. Child labour is mostly viewed as a rural phenomenon compared to the urban centres. This could be due to a high level of illiteracy in the rural areas, lack of schools and poor quality of schools. Also, parents do not know the effects of child labour. We recommend that traditional rulers and the local authorities be engaged as major stakeholders in an effort to promote child education. This will involve organizing durbars together with traditional rulers in the rural areas on child labour and its implications on children. The Ministry of Labour needs to ensure that the Department responsible for child labour is effective in the rural areas.

The study recommends that special attention must be given to the head of household with no formal education. The study, therefore, suggests that the local schools must be encouraged by the GES and the schools to organise frequent durbars, debates, drama and other extra-curricular activities in communities to educate the adults about the implications of child labour on their children. Such activities will sensitise them on the essence of basic school education.

### **6.3 Limitation of the study**

The study relied on data from the 2012/2013 Ghana Living Standard Survey (GLSS) round 6 based on nationally representative survey. However, this study is limited as data from fishing and mining communities were not purposively sampled. Since the selection is not based on any selection criteria, it makes the data biased. Also due to the unavailability of the instrumental variable for

school fees in the dataset, the study could not use instrumental variable probit model for its analysis.

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## APPENDIX

Table 5.3 Probit estimates of child labour supply equation in Ghana

Pr(Child labour)=yes	Coefficients	Marginal effects
Regressors	(Standard errors)	(standard Errors)
<i>Child's age</i>	.1626624*** (.0039008)	.0493306*** (.0009359)
<i>Child's gender</i> (ref. cat. Female)		
Male	.0526207** (.0256179)	.0159583** (.0077648)
<i>Household size</i>	.0099849** (.0042149)	.0030281** (.0012774)
<i>Household poverty status</i> (ref. cat. Not poor)		
Poor	.0122575 (.0302098)	.0037173 (.0091613)
<i>Head of HH educ. Status</i> (ref. cat. not educated)		
Educated	-.1568099*** (.0295886)	-.0475557*** (.0089504)
<i>Location</i> (ref. cat. Urban)		
Rural	.4889128*** (.03202)	.1482726*** (.0094873)
<i>Child wages</i> (ref. cat. No)		
Yes	1.175099*** (.1187861)	.3564724*** (.0353398)
<i>Mother's presence</i> (ref. cat non-presence)		
Presence	-.0517136 (.0440395)	-.0156832 (.0133536)
<i>Father's presence</i> (ref. cat. non-presence)		
Presence	.0215752 (.0379867)	.0065431 (.0115197)
<i>School fees</i>	-.0001962*** (.0000713)	-.0000595*** (.0000216)
<i>Hours child spent in school</i>	-.0058936*** (.001334)	-.0017874*** (.0004035)
<i>Fosterage</i> (ref. cat. no )		
Yes	-.0449953 (.0536392)	-.0136457 (.0162645)
<i>Fishing communities</i> (ref. cat. no)		
Yes	-.3692448*** (.1324001)	-.1119809** (.0401141)
<i>Mining communities</i> (ref. cat no)		

Yes	.0166965 (.1816135)	.0050635 (.0550786)
<i>Fishing com*fosterage</i>	.1991743** (.1005358)	.0604036** (.0304736)
<i>Fishing com*Hours child spent in school</i>	.0020277 (.0044973)	.000615 (.0013627)
<i>Mining com*fosterage</i>	-.0533256 (.1749328)	-.0161721 (.0530526)
<i>Mining com*Hours spent in school</i>	-.0099765* (.006572)	-.0030256* (.0018368)
<b>Region</b> (ref. cat. Greater Accra)		
Western	.0652222 (.0614167)	.0191681 (.0180326)
Central	-.2961346*** (.0748391)	-.0802442*** (.0198529)
Volta	.1294141** (.0658251)	.0384787** (.0195897)
Eastern	.3371662*** (.0610021)	.1034638*** (.01885899)
Ashanti	.1393199** (.0595283)	.0414952** (.0176715)
Brong Ahafo	.3858288*** (.0597888)	.1191103*** (.0182303)
Northern	.097689 (.0619041)	.0288824 (.0182669)
Upper East	.5778961*** (.0624345)	.1736799*** (.0189604)
Upper west	.2868904*** (.0649774)	.0874424*** (.0197705)
Constant	-2.379526*** (.0915421)	
Observations	23472	

**Standard errors in parenthesis**

**\*\*\*p<0.01, \*\*p<0.05, \*p<0.1**