CHILD LABOUR, SCHOOLING AND POVERTY: AN ANALYSIS OF GHANA'S RECENT EXPERIENCE

THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MPHIL ECONOMICS DEGREE.

BY

RICHMOND KINGSLEY EGYEI

(10357616)

JULY, 2012

DECLARATION

I, RICHMOND KINGSLEY EGYEI, do declare that aside from the references to other authors and institutions which have been appropriately provided in the reference list, this work is entirely my own work and no part of this study or the whole work has been presented for another degree in this University and/or elsewhere.

.....

RICHMOND KINGSLEY EGYEI

(CANDIDATE)

.....	.....
DR. LOUIS BOAKYE-YIADOM	**DR. WILLIAM BEKOE**
(SUPERVISOR)	**(SUPERVISOR)**

ABSTRACT

In spite of the major efforts by governments in addressing the issue of children's participation in the labour market, much remains to be learnt about the determinants of child labour and schooling in Ghana. This study sought to explore the link between child labour, schooling and poverty using data from the 2005/06 Ghana Living Standards Survey. From a premise that child labour conflicts with the human capital accumulation of the child, an attempt is made using a logistic model to identify the determinants of child labour and schooling in Ghana.

The findings from the regression results established a gender gap in schooling – in favour of girls. Child labour is found to be more of a rural phenomenon. Fathers with relatively high levels of education were found to have a significant influence on reducing the likelihood of child labour. Household ownership of productive assets (land and livestock), and other household characteristics also has a significant role to play.

The result also established that children from poor households are more likely to participate in the labour market. The corresponding relationship with schooling shows that poverty reduces the likelihood of a child being in school. The result thus lends strong support to the view that poverty has a big impact on child labour. General and specific recommendations aimed at increasing school attendance and reducing child labour have been made.

DEDICATION

To my mum and all those who have been influential in my entire education.

ACKNOWLEDGEMENT

"Thee will I praise with all my heart, and tell mankind how good Thou art, how marvellous Thy works of grace; Thy name I will in songs record, and joy and glory in my Lord, extolled above all thanks and praise. MHB 80"

I would like to express my appreciation to my supervisors; Dr. Louis Boakye-Yiadom and Dr. William Bekoe for their guidance, constructive criticisms and encouragement during the entire process of this work.

I am thankful to my mum (Emelia Osam-Tewiah), my brother (Alex Essel Egyei) and my bible study group (Tuesday class, Mt. Zion Methodist Church, Apam) for their prayers, sacrifices and financial support throughout my education and life. I am also thankful to these three wonderful people in my life; Priscilla Asantewaa Adjei, Mr and Mrs Washington-Nortey for their prayers, love, encouragement and financial support.

I also thank the African Economic Research Consortium (AERC) for the training, and exposure offered me during the Joint Facility for Electives (JFE, 2011) programme at the Kenya School of Monetary Studies, Nairobi, Kenya. Finally, I am grateful to my classmates; Phidaux Aryitey (KNUST, 2009), Patrick Adjovor and Nicholas Essah, (MPhil class of 2012) and everybody in the Economics Department of the University of Ghana, for their support and assistance towards making this work a success.

RICHMOND KINGSLEY EGYEI

JULY, 2012

Table of Contents

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

ADP	Accelerated Development Plan
AERC	African Economic Research Consortium
BECE	Basic Education Certificate Education
COCOBOD	Ghana Cocoa Board
DOVVSU	Domestic Violence and Victim Support Unit
ESP	Education Strategy Plan
FCUBE	Free Compulsory Universal Basic Education
GCLS	Ghana Child Labour Survey
GLSS	Ghana Living Standards Survey
GPRS	Growth and Poverty Reduction Strategy
GSS	Ghana Statistical Service
ILO	International Labour Organization
IPEC	International Program on the Elimination of Child Labour
JHS	Junior High School
JSS	Junior Secondary School
LEAP	Livelihood Empowerment against Poverty

LSMS	Living Standards Measurement Survey
MDG	Millennium Development Goal
MHB	Methodist Hymn Book
MMYE	Ministry of Manpower Youth and Employment
NPECLC	National Programme for the Elimination of the worst forms of Child Labour
PSDP	Primary School Development Project
SIMPOC	Statistical Information and Monitoring Program on Child Labour
SSS	Senior Secondary School
UNDP	United Nation Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children and Education Fund
UPE	Universal Primary Education
WACAP	West African Cocoa and Commercial Agriculture

CHAPTER ONE

INTRODUCTION

1.1 Background

Children have always been part of the economic life of societies (Admassie, 2002). Since the earlier ages of agricultural civilization, to the rise of industrialization and capitalism, child labour has been part of the lives of millions of families all over the world (Estacio and Marks, 2005). Child labour may be defined as children's involvement in the labour market. At the moment, the International Labour Organization (ILO, 2010a) estimates that worldwide, up to 215 million children are in child labour.

Child labour is a widespread problem, particularly in developing countries with Asian-Pacific, Sub-Saharan Africa, Latin America and the Caribbean Countries accounting for about 96 percent of the total number. The highest incidence of child labour can be found in Sub-Saharan Africa (ILO, 2010a). It deprives children of their childhood, their potential and their dignity, and is harmful to their physical and mental development.

Child labour refers to work that is mentally, physically, socially or morally dangerous and harmful to children and interferes with their schooling by: depriving them of the opportunity to attend school; obliging them to leave school prematurely; and/or requiring them to attempt to combine school attendance with excessively long and heavy work (ILO, undated).

In its extreme forms, child labour involves children being enslaved, separated from their families, exposed to serious hazards and illnesses and/or left to fend for themselves on the streets of large cities – often at a very early age. Whether or not a particular form of "work" can be called "child labour" depends on the child's age, the type and hours of work performed, the conditions under which it is performed, and the objectives pursued by individual countries. The answer varies from country to country, as well as among sectors within countries (ILO, undated).

The United Nations Children and Education Fund (UNICEF) defines child labour as work that exceeds a minimum number of hours, depending on the age of a child and on the type of work. The organization argues that unless the work endangers children's physical, cognitive, social and psychological development, it may not necessarily be considered harmful. UNICEF does not oppose work that children may perform at home, on the family farm or for a family business as long as that work is not a danger to their health and well-being, and if it does not prevent them from going to school and enjoying childhood activities.

ILO Conventions 138 (1973) and 182 (1999) defines child labour as all children younger than 12 working in any economic activities. According to the ILO's Convention 138 on the Minimum Age for Admission to Employment and Work Children, children between the ages of 13 and 15 years old may be allowed to do light work, as long as it does not threaten their health and safety, or hinder their education or vocational orientation and training. Children in developing countries between the ages of 12 and 14 may be allowed to do light work.

Disregarding the differences in the measurements and definitions[1] of child labour, it is unarguably a pervasive phenomenon. The issue deserves attention because a child being in the labour force today is a disinvestment in his/her human capital formation and thus may affect the economic development of a country.

The literature identifies two schools of thought on the issue of child labour. The first school of thought, the poverty school, points out that the children enter the labour market as a result of poverty (see Basu and Van, 1998). The second school of thought termed as the education school advocates that there are many interlinked explanations for child labour and that education is a crucial component of any effective effort to eliminate child labour (see Baland and Robison, 2000; ILO, 2010b).

Poverty is perceived by most researchers to be the main reason children work and do not attend school (Admassie, 2002; Fallon and Tzannatos, 1998). This perception is due in part to the current geographical distribution of child labour as well as to the economic history of the developed world, which shows that economic development reduced child labour in the long run (Moyi, 2007). The poverty school assumes that child labour is inevitable in poor households. Poor households are vulnerable to income shocks and cannot afford to keep children in school and in other non-work activities. School and other non-work activities are viewed as luxury activities, and they are only consumed when incomes rise sufficiently to cover household costs (Basu and Van, 1998). Huebler (2008), Jensen and Nielsen (1997) and other literature have confirmed empirically the

[1]Cangarajah and Coulombe (1997) notes that "literature distinguishes between *child labour* and *child work*, where the latter is the more unharmful and probably healthy kind, and includes helping the household in various chores and household activities…"

relationship. However, Canagarajah and Coulombe (1997) and other empirical studies have questioned the relationship.

The education school argues that child labour cannot be approached separately from the issue of schooling. Schooling is a crucial component of any effective effort to eliminate child labour. Patrinos and Psacharopoulos (1997) argue that schooling and child labour are not mutually exclusive activities. Working children have been found to pay their own school fees as well as those of siblings (Bass, 2004; Patrinos and Psacharopoulos, 1997). However, when work does not prevent children from attending school, it may reduce study time reducing concentration and learning. Heady (2003) found that working children had substantially lower reading and mathematics test scores than non-working children in Ghana, even after controlling for innate ability measured by the Raven's Test.

The Ghana Child Labour Survey (GCLS) indicates that 2.47 million children aged 5 – 17 years (that is, about 39 percent of the estimated 6.36 million children in the age group) are engaged in economic activities. Half of the rural children and one-fifth of urban children are economically active (GSS, 2003). According to the Ministry of Manpower, Youth and Employment (2006), the worst forms of child labour in Ghana include *kayaye* (head porters), child domestic labour, the *Trokosi* system (ritual servitude), commercial sexual exploitation of children, quarrying and *galamsey* (small scale mining), fishing, and farming[2].

The 1998 Ghana Children's Act (Act 560) prohibits children from engaging in any work that is exploitative or hazardous to the child's health, education, or development. The

[2]Mainly in cocoa production

minimum age at which a person could be employed is 15 years. For the purpose of this study, child labour will be referred to as employment of basic school aged children (that is 7 to 14 years) at regular and sustained hours to earn a living for themselves or to supplement household income.

1.2 Statement of the Research Problem

Ghana, since independence, has made significant strides in her educational system. The educational reform programme introduced in 1987/88, the introduction of Free Compulsory Universal Basic Education (FCUBE) in 1996, capitation grant scheme in 2005, national school feeding programme in 2005/2006 academic year, free bus ride for school children in 2007 and the free school uniform for all in 2010 have contributed immensely to the structure of basic Education. The Government has also put in place a broad institutional framework such as the Child Labour Unit, the establishment of a Ministry of Women and Children's Affairs in 2001, Domestic Violence and Victim Support Unit (DOVVSU) of the Ghana Police, Social Services Sub-Committee of Parliament, Child Panels in the District Assemblies and Child Labour Monitoring Systems in some districts to address issues of child labour. Finally, the Government has included child protection issues explicitly in its Poverty Reduction Strategies (the Livelihood Empowerment against Poverty Programme (LEAP)).

Despite the major policy initiatives that have been adopted by past governments as well as the present one especially in the educational sector, children of basic school age continue to participate in the labour market at the cost of their human capital formation.

The Ghana Child Labour Survey (GCLS) indicates that 2 in 5 children between the ages of 5 years and 17 years are engage in economic activities in Ghana (GSS, 2003). The Ghana Statistical Service (2008a) also estimates from 2005/06 Ghana Living Standards Survey (GLSS 5) data set that around 13 percent of children within the 7 to 14 years age group are economically active. Estimate on net enrollment rate from GLSS 5 indicates a net enrollment rate of 95.0 percent for the urban areas and 79.9 percent for the rural areas. Net enrolment rate for those defined as "very poor" was 68.4 percent as against 91.2 percent for the "non – poor" (GSS, 2007).

Generally, there are gains in basic school enrollment nationally (from 83.4 percent in 1998/99 to 84.8 percent for 2005/06 period); rates however, are still low in many places, particularly in some of the rural areas of the country (GSS, 2008a). A situation blamed on the high incidence of child labour in the country. The incidence of child labour in certain parts of the country denies some children the right to basic education thus, affecting their human capital development and hence perpetuating poverty (a phenomenon Basu and Tzannatos (2003) call "dynastic trap") with its attendant effect on the household of the child and the nation at large. Child labour also has a potential ill – effect on the health, moral well – being and social development of the child with implications that can persist over the child's life cycle.

Ensuring that all children go to school and that their education is of good quality are keys to preventing child labour. Education also plays a significant role in poverty reduction. It lays the basis for sustained growth and provides people with human capabilities (Sen, 1999). Education has implications for key developmental indicators such as better health, empowerment and good governance (World Bank, 2004).

1.3 Research Question

In light of the above discussion, the research questions that emanate are:

- What determines children's participation in the labour market in Ghana?
- What determines children's participation in school in Ghana?
- To what extent does poverty influence child labour and schooling in Ghana?

1.4 Objectives

The main objective of this study is to explore the link between child labour, schooling and poverty in Ghana.

Specifically, the study seeks to:

- Identify the determinants of child labour in Ghana
- Identify the determinants of child schooling in Ghana
- Find out how poverty influence child labour and child schooling

1.5 Justification for the Study

Issues about child labour are vital to economic development. It affects the human capital development of an economy. ILO (2010a) report identifies sub-Saharan Africa as a region that needs particular attention with regards to the global pace of child labour reduction. ILO (2010a) estimate indicated that, the number of children in employment in

sub-Saharan Africa increased from 49.3 million in 2004 to 58.2 million in 2008. With more than a third of Africa's children not attending school (Canagarajah et al., 2001). Child labour poses a threat to sub-Saharan Africa economic growth and development.

The relationship between poverty and child labour seems not to be well grounded in empirical studies. Some empirical studies have questioned poverty as an important variable in explaining child labour especially in Africa (see Ray, 2002; Canagarajah and Coulombe, 1997). This study uses a simple econometric model to analyse the effect household poverty status has on child labour.

Children combine work and school attendance on a fairly regular basis in some countries, especially in Africa (Bhalotra and Tzannatos, 2003). A substantial fraction of children are also reported as being neither enrolled in school nor engaged in any regular income-generating activity. Hence some empirical studies on child labour define four possible states – work only, school only, both, and neither – for their estimation structure (see Dawit, 2010; Sasaki and Temesgen, 1999). The most commonly used estimation structure for this is the multinomial logit. This approach allows the researcher to define further states. However, it has its problems, most particularly, the assumption of the independence of irrelevant alternatives[3].

An alternative approach that has been used is the sequential probit (see Grootaert (1998) and Kruger et al. (2006)). This approach has some attractive modelling features, but it necessitates strong assumptions about the sequencing of decisions. In the contexts where combining children's principal activities is uncommon, the simultaneity of the school and

[3] It assumes that the odds ratio derived from the model remains the same irrespective of the number of choices offered

work decision has been modelled by estimating a bivariate probit (see Ndjanyou and Djienouassi (2010), Canagarajah and Coulombe (1997)). This study uses a simple logit model to identify the determinant of child labour and schooling in Ghana due to the considerations discussed about the various methods that have been used in child labour studies[4].

Though not all forms of child labour are clearly an imposition on the child, whether by poverty or by the extreme desire for wealth by an adult or the neglect of society. To the extent that the child is vulnerable and not in a position to exercise choice, the issue of child labour needs attention.

1.6 Organization of the Study

The study is organized into six chapters. Chapter one is the general introduction to the study, and provides the background, problem statement as well as the objective of the study. Chapter two discusses child labour and children economic activities issues in Ghana. A review of relevant literature on child labour, schooling and poverty is provided in chapter three. Chapter four provides a theoretical framework and relevant methodology for the study. The results and analysis is presented and discussed in the fifth chapter and chapter six presents the summary of findings, recommendation and conclusion.

[4] Refer to page 55 for a justification of the application of the logistic regression model.

CHAPTER TWO

CHILD LABOUR AND CHILDREN'S ECONOMIC ACTIVITIES IN GHANA

2.1 Introduction

The definition of child labour in Ghana is derived from the United Nations Convention on the Rights of the Child, ILO Convention 138, and 182, and the Ghana Children's Act 1998 (Act 560). Child labour is defined as all work that is harmful and hazardous to a child's health, safety and development. The definition takes into account the age of the child, the conditions under which the work takes place, and the time at which the work is done. A minimum age of 13 years is set for light work, 15 years for employment and apprenticeship and 18 years for hazardous work (Parliament of the Republic of Ghana, 1998).

The 1992 Republic of Ghana constitution prohibits slavery and forced labour (section 16) and states that it is the right of any person "to work under satisfactory, safe and healthy conditions" (section 24). Section 28 guarantees children "the right to be protected from engaging in work that constitutes a threat to … (their) health, education or development". The 1998 Children's Act defines a child as any person under the age of 18 years. This is in accordance with the definition of a child given by the United Nations Convention on the Rights of the Child.

2.2 Children's Economic Activities

The Ghana Child Labour Survey[5] carried out in 2001 indicates that 2,474,545 children aged 5 – 17 years of age were engaged in economic activity; that is 2 in every 5 Ghanaian children. Half of the rural children and about one fifth of the urban children were in the usual economic activity (GSS, 2003). About 40 percent of working children had worked for more than 6 months. The survey also indicates that more than a half of the children in Greater Accra, Central and Eastern regions worked for more than 6 months out of the year (GSS, 2003). The estimates also indicate that 1,590,765 children were attending school while working; that is 64.3 percent of the children engaged in usual economic activity. The Survey gives some evidence that children in Ghana, as young as five years, are engaged in economic activities (GSS, 2003).

The Ghana Living Standards Survey 5 (GLSS 5) also has information on children's economic activities as well as the conditions of work of respondents aged 7 to14 years[6] . GLSS 5 estimates that around 13 percent (that is 612,388 children out of the estimated 4.7 million) of children within the 7 to14 years age group were economically active in the seven days preceding the survey interview. Higher proportions of these children were males, and in rural areas, compared to females and urban dwellers. About 97.8 percent of the working children were contributing family workers (GSS, 2008a).

Table 2.1 indicates that about 89.3 percent of the working children were engaged in agriculture, which is the main activity in the rural areas. In the urban areas, children were engaged in two main activities: two-thirds were in agriculture and one-fifth in trade.

[5] The first and only nationwide data
[6] Captures majority of child labour age group

Nearly three percent of the working children were engaged in fishing as well as the hotel and restaurant sectors.

Table 2.1: Employed Children (7 – 14 years), by Type of Work, Locality and Sex (In percent)

Industry	Urban			Rural			Ghana		
	Male	Female	All	Male	Female	All	Male	Female	All
Agriculture	85.6	57.0	67.4	94.1	89.3	92.1	93.5	84.2	89.3
Fishing	2.5	0.0	0.9	3.0	1.8	2.5	2.9	1.5	2.3
Manufacturing	4.1	4.8	4.5	1.7	6.4	3.7	1.9	6.2	3.8
Construction	0.0	0.0	0.0	0.2	0.2	0.2	0.2	0.1	0.2
Trade	7.8	27.3	20.2	1.0	1.5	1.2	1.5	5.6	3.3
Hotel and restaurants	0.0	4.2	2.7	0.0	0.8	0.3	0.0	1.3	0.6
Other community services	0.0	5.7	3.6	0.0	0.0	0.0	0.0	0.9	0.4
Activities of private households	0.0	1.0	0.6	0.0	0.0	0.0	0.0	0.2	0.1
All	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: GLSS 5. See also GSS (2008a)

2.2.1 Child Labour Regulating Policies

The Ministry of Manpower, Youth and Employment, Ministry of Education, Science and Sports and the Ministry of Women and Children's Affairs are the main bodies responsible for programmes and policies that aim at reducing child labour in Ghana. In 2000, a national Steering Committee on Child Labour was established to spearhead the National Child Labour Elimination Programme. The committee was coordinated by the Ministry of Manpower, Youth and Employment with representatives from other ministries, the Ghana Cocoa Board (COCOBOD), the Ghana Statistical Service, ILO/IPEC, the University of Ghana and NGOs.

The cocoa sector has been the main intervention area. Between 2003 and 2006, Ghana participated in the West African Cocoa and Commercial Agriculture Programme to Combat Hazardous and Exploitative Child Labour (WACAP). WACAP was initiated

with the aim of preventing and eliminating hazardous child labour in the cocoa and other agricultural sub-sectors in Ghana, Cameroon, Côte d'Ivoire, Guinea and Nigeria. In 2006, the Ministry of Manpower, Youth and Employment released a five-year National Programme for the Elimination of the Worst Forms of Child Labour in the Cocoa Sector (NPECLC). The overall goal was to eliminate the worst forms of child labour in cocoa production by 2011 and in all other sectors by 2015. The programme was funded by the government, the cocoa industry and multi- and bilateral donors.

Child trafficking intervention has also been an area of concern in recent years. Ghana participated in a regional project christened LUTRENA (Abbreviation of the French project title "Projet de lutte contre le traffic d'enfants à des fins d'exploitation de leur travail en Afrique de l'Ouest et centrale) in 2001 to help combat child trafficking in the west and central Africa. The programme was supported by ILO/IPEC. Several regional and bilateral agreements to fight child trafficking were signed (ILO/IPEC, 2001; ILO 2005). The Government of Ghana has also passed the Human Trafficking Act (Act 694) (Parliament of the Republic of Ghana 2005). The Act scheduled the establishment of a Human Trafficking Management Board. The Board is responsible for recommendations for a national action plan, and for monitoring and reporting the progress of policies and research. In addition, a fund has been established for capacity building to support victims of trafficking for skills training, tracing families, rehabilitation and reintegration and the establishment of shelters (Parliament of the Republic of Ghana 2005).

A National Plan of Action for the Elimination of (the worst forms of) Child Labour has been drafted by the Ministry of Manpower, Youth and Employment (MMYE 2008). The goal is to reduce the incidence of child labour to the barest minimum by 2015 (MMYE

2008). The objective includes; updating laws on worst forms of child labour to ensure adequacy and to make them widely known, respected and effectively enforced; mobilizing society to respect and protect the rights of children; prioritizing the Free Compulsory Universal Basic Education policy in deprived communities; making quality post-basic education and training accessible to children aged 15 years and above in all parts of the country; establishing an institution to identify, withdraw, rehabilitate and socially integrate children engaged in unconditional worst forms of labour and to prevent others from being involved and to empower the most vulnerable households and communities to overcome the livelihood deficits that make their children vulnerable to exploitation (MMYE 2008).

The introduction of technologies and labour market reforms to reduce dependence on child labour; capacity building for agencies at central, regional, district and community levels to effectively address child labour; and implementation, awareness raising and advocacy activities, as well as the coordination, monitoring and evaluation of intervention were among the objectives and strategies of the action plan (MMYE 2008). The plan stresses that priority is given to deprived communities in all instances.

2.3 Child Schooling (Basic Education) in Ghana

2.3.1 Educational Reforms in Ghana

It is widely accepted by many organizations, including UNICEF, the World Bank, and UNESCO that education - and in particular, free and compulsory education of good

quality up to the minimum age of entering into employment as defined by ILO Convention 138 – is a key element in the prevention of child labour. The 1992 Constitution of the Republic of Ghana guarantees children the right to a free and a compulsory Basic Education. The government's Education for All programme[7] aims to ensure that all children have access to high quality basic education.

The current basic education structure and curriculum has its roots in Ghana's colonial past. Pre-independence education was characterized by attempts to create incentives for all children to attend school (CREATE, 2008). The earliest sign of a plan to universalize basic education was in 1945 when the colonial government proposed a 10-year plan to universalize primary education in 25 years based on cost projections set within affordable limits (CREATE, 2008).

A significant basic education expansion started in 1951 with the Accelerated Development Plan (ADP) for Education. This plan was aimed at achieving universal primary education (UPE) for all by abolishing tuition fees, although households were to be responsible for the cost of stationary, textbooks and among others. After independence, the government introduced the 1961 Education Act to continue its commitment to free basic education. Debate on educational reforms resurfaced again after 1966, when the Nkrumah era ended.

A Government Committee on Education, in 1973 recommended a "New Structure and Content of Education". Primary school was to be followed automatically and

[7] The Education for All - Fast-track Initiative (FTI) is a global partnership between donor and developing countries to ensure accelerated progress towards the Millennium Development Goal of universal primary education by 2015.

compulsorily by three year junior secondary for all. Educational reforms in 1974 introduced the idea of thirteen years of pre-tertiary education; six years primary school, three years Junior Secondary School (JSS), and four years senior secondary school (SSS). Unfortunately, the implementation of the 1974 educational reforms in its pilot form coincided with the decline of the Ghanaian economy. Throughout the 1970s the Ghanaian economy declined considerably. The period witnessed acute shortages in teachers (left to neighbouring Nigeria where it's new found oil wealth had become a magnet for attracting thousands of teachers), textbooks and instructional materials throughout the country's schools. Education increasingly became a tool for social stratification (Addae-Mensah, 2000).

To improve access to basic education, the 1987 educational reforms were introduced. It emphasized the need to include measures that would improve quality, efficiency, and equity in the education sector. Progression from primary to junior secondary school required no external examination. The 1987 reforms introduced the 3-Year SSS instead of the 2 Year SSS Lower followed by the 2-Year SSS Upper which was proposed under the 1974 reforms.

The FCUBE reforms were introduced in 1996 to fix the weaknesses in the 1987 reforms. FCUBE was aimed to achieve UPE by 2005. The FCUBE programme included a cost-sharing scheme to cover non-tuition fees, under which parents were expected to bear limited expenses. More importantly, no child was to be turned away for non-payment of fees. Implementation of the FCUBE was supported by the World Bank Primary School Development Project (PSDP). The FCUBE programme was also met with several

problems and constraints. Management weaknesses undermined its impact including poor supervision at system and school level (Fobih et al., 1999).

2.3.2 Current State of Basic Education in Ghana

The government's commitment towards achieving her educational goals in recent times has been expressed in various policy frameworks and reports. According to the Millennium Development Goal 2 (MDG 2), the Government is committed to achieving a UPE by 2015.

To meet the MDG goals for education the Government in 2005 introduced a 'Capitation Grant' system to take care of each pupil's levies (school repairs and fees for cultural and sporting activities) and textbooks previously paid for by parents. Schools are not permitted to charge any fees to parents. Now parents must buy only school uniforms and writing material (CREATE 2008).

Currently, a child's basic education under the 2007 Ghana educational reforms takes up to eleven years: two years at kindergarten, six years at primary school and three years at Junior High School (JHS). To ensure that all children including those from poor households are enrolled, basic education now enjoys the capitation grant scheme (2005), national school feeding programme (2005/2006), free bus ride for school children (2007) and the free school uniform for all (2010).

2.3.3 A Picture on Basic School Enrollment

Schooling (school attendance) is examined in terms of net enrollment rate which is the proportion of children in the relevant age range attending a basic school (GSS, 2007). Net enrollment rates in general have seen an increasing trend in recent years. According to a study by the Ghana Statistical Service (GSS, 2007) net enrollment increased from about 74 percent in 1991/92 to 83 percent in 1998/99, and marginally increased to 85 percent in 2005/06. Although this rate is a little higher than the estimate for sub – Saharan region in general, there is still a room for improvement (net primary enrollment in sub – Saharan Africa is 74 percent – UNESCO, 2007). Net enrollment rate for girls was slightly below that for boys between 1991/92 and 1998/99 but was at parity in 2005/06 (GSS, 2007).

Table 2.2: Net Enrollment Rates in Basic Schools, by Gender and Locality

Locality	Boys			Girls		
	1991/92	1998/99	2005/2006	1991/92	1998/99	2005/2006
Accra (GAMA)	91	91	95	87	86	96
Urban coastal	85	90	98	83	88	97
Urban forest	90	95	97	83	89	97
Urban Savannah	81	95	86	67	90	87
Rural Coastal	80	84	87	70	84	82
Rural Forest	85	91	95	82	89	94
Rural Savannah	51	66	62	46	61	61

Source: GLSS 3, 4 and 5. See also GSS (2007)

Table 2.2, gives an indication that net enrollment rates in primary school in the rural savannah have persistently been below 70 percent. In each of the localities, net enrollment rates increased between 1991/92 and 1998/99, with the biggest increases occurring in the Savannah zone (rural and urban). However, the gain recorded between these periods was eroded as there was a decrease in 2005/06 compared to 1998/99 figures. In each locality, net enrollment rates for girls are marginally below those for

boys, except in the Coastal zone (urban and rural) in 1998/99, and urban Savannah in 2005/06 where girls have a slight advantage.

An investigation into enrollment rates by households poverty status also reveals that net enrollment rates is relatively higher for the "non-poor" households compared to the "very poor" households for the 1991/92 and 1998/99 figures and in most localities for the 2005/06 figures. Table 2.3 gives an indication that relatively, children from very poor households have lower enrollment rate compared to those from the non-poor households.

Table 2.3: Net Enrollment Rates in Basic School, by Household Poverty Status and Locality

Locality	Very Poor			Poor			Non Poor		
	1991/92	1998/99	2005/06	1991/92	1998/99	2005/06	1991/92	1998/99	2005/06
Accra (GAMA)	84.4	60.7	88.3	80.6	73.2	93.1	91.8	89.9	96.2
Urban coastal	79.7	81.4	100.0	73.5	92.7	81.1	87.5	90.7	97.7
Urban forest	76.8	88.0	63.4	73.4	100.0	92.9	91.2	91.8	97.9
Urban Savannah	62.1	89.7	76.5	88.7	97.8	93.0	79.6	92.1	89.6
Rural Coastal	67.7	75.4	81.3	75.8	80.4	79.5	82.9	91.8	86.3
Rural Forest	80.2	82.9	94.9	84.2	89.9	91.1	88.3	92.9	94.7
Rural Savannah	45.2	61.8	53.8	50.7	74.6	61.7	56.1	73.6	72.5

Source: GLSS 3, 4 and 5. See also GSS (2007)

2.4 Poverty in Ghana

In recent past, Ghana has achieved impressive economic growth that has yielded impressive per capita economic growth rates. Ghana's gross domestic product has grown more than four percent per year on average since the beginning of the 1990s. It implies that, relatively Ghana's economic situation has improved after the period of economic decline and structural adjustment in the 1970s and 1980s.

The concept of poverty and definitions of 'the poor' vary in accordance with the perspective and the objective. Most definitions of poverty by economists have defined it with respect to being able to attain a standard of living (Oduro, 1999). Data from the last three rounds of the Ghana Living Standards Survey (1991/92, 1998/99 and 2005/06) show that, poverty in Ghana, as measured by consumption expenditure per adult equivalence has experienced a continuous decline.

The proportion of the population defined as poor fell from around 52 percent in 1991/92 to 39.5 percent in 1998/99 and further to 28 percent in 2005/06 (GSS, 2007). The incidence of extreme poverty also declined from 36 to 27 and 18 percent. Reductions in poverty in the 1990s were concentrated in Accra and the cocoa-producing forest areas. Recent GLSS (2005/06) data shows that poverty had fallen in all localities, except Accra. Majority of poor people live in rural areas of Ghana (GSS, 2008).

Table 2.4: Poverty Incidence by Locality, 1991/92, 1998/99 and 2005/06 (In percent)

Localities	**Poverty line = 370.89 Ghana cedis (3,708,900 cedis)**					
	Poverty Incidence	Contribution to total poverty	Poverty Incidence	Contribution to total poverty	Poverty Incidence	Contribution to total poverty
	1991/92		1998/99		2005/06	
Accra (GAMA)	23.1	3.7	4.4	1.3	10.6	4.4
Urban Coastal	28.3	4.7	31.0	4.6	5.5	1.1
Urban Forest	25.8	5.5	18.2	5.4	6.9	3.5
Urban Savannah	37.8	3.9	43.0	5.2	27.6	5.2
Rural Coastal	52.5	14.4	45.6	16.7	24.0	9.2
Rural Forest	61.6	35.3	38.0	30.1	27.7	27.2
Rural Savannah	73.0	32.6	70.0	36.6	60.1	49.3
Urban	27.7	17.8	19.4	16.6	10.8	14.3
Rural	63.6	82.2	49.5	83.4	39.2	85.7
All Ghana	51.7	100.0	39.5	100.0	28.5	100.0

Source: GSS, 2007

Poverty in Ghana has remained a disproportionately rural phenomenon up till now. Eighty-six percent of the total population living below the poverty line in Ghana is living

in the rural area. This is slightly higher than the 1998/99 figure (83 percent). As indicated in Table 2.4. The distribution of the population living below the poverty line ranges between one percent in Urban Coastal and about 50 percent in Rural Savannah.

Table 2.5: Poverty Incidence and Working Children (7 – 14 years), by Locality (In percent)

Localities	Poverty line = 370.89 Ghana cedis		Working Children		
	Poverty incidence	Contribution to total poverty	Male	Female	All
Accra (GAMA)	10.6	4.4	0.4	1.7	1.0
Urban Coastal	5.5	1.1			
Urban Forest	6.9	3.5	(Other Urban) 4.4	6.3	5.4
Urban Savannah	27.6	5.2			
Rural Coastal	24.0	9.2	10.3	4.7	7.6
Rural Forest	27.7	27.2	11.8	10.3	11.1
Rural Savannah	60.1	49.3	31.3	28.0	29.8
Urban	10.8	14.3	3.3	5.1	4.2
Rural	39.2	85.7	19.0	15.8	17.4
All Ghana	28.5	100.0	13.9	11.8	12.9

Source: compiled from GSS (2007) and GSS (2008a)

Comparing the incidence of poverty with children in economic activities, the highest incidence of child labour is found in areas with highest poverty incidence. It can be seen from Table 2.5 that rural savannah has the highest incidence of poverty and hence the highest number of children in the labour market.

2.4.1 Poverty Reduction Strategies and Child Labour

Poverty is considered a major determinant of child labour in Ghana. However, many other factors also influence child labour, such as tradition and cultural norms, gender

relations or the accessibility and quality of education (See Niels-Hugo and Verner, 2000; Bhalotra and Heady 2001). On the assumption that poverty reduction measures alone do not necessarily bring about a decrease in the number of working children, the government of Ghana have included child protection issues explicitly in its Poverty Reduction Strategies.

The 2006 Growth and Poverty Reduction Strategy (GPRS II) places more emphasis on growth as a means to accelerate poverty reduction and to eliminate the worst manifestations of poverty, social deprivation and economic injustice, from Ghanaian society. Priority is given to special programmes to combat all forms of child labour. As such the government of Ghana in 2008 came out with Livelihood Empowerment against Poverty (LEAP) Programme to support households in its fight against child labour. The aim is to help the extreme poor and provide direct cash transfer. The five-year programme is expected to extend support gradually to 164,370 households in 138 districts by 2012. Households whose income is below the lower poverty line qualify for LEAP provided, among other things, that all children of basic school age in the household are enrolled and that no child has been trafficked or is engaged in any of the worst forms of child labour.

The integration of child labour concerns into poverty reduction strategies represents an attempt to bring the problem into the mainstream of social policies.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

This chapter provides a review of both theoretical and empirical literature on child labour. It is divided into two sections: the first section – theoretical literature review – explains what child labour is and discusses the economics of child labour and how it relates to schooling and poverty. The final section reviews empirical literature on child labour, schooling and poverty relevant to the study.

3.2 Theoretical Literature Review

Child labour arises from the inability of households to trade-off resources inter-temporally in an optimal way (Beegle et al., 2002). By allowing a child to work today, the child makes an immediate contribution to household earnings. However, in the long-run child labour compromises future earning potential to the extent that the time a child spends working could be used instead to build up the child's long-run human capital (Fallon and Tzannatos, 1998).

Economists' recent interest in child labour stems from the rise in child labour in developing countries which is perceived to have negative consequences on school enrollments and educational outcomes with serious effects on child health, human capital

development and welfare (Okurut and Yinusa, 2011). Child labour has become one of the most important policy issues in the agenda of most countries. Finding evidence to inform policies directed at reducing the incidence and severity of child labour requires an understanding of the behaviour of markets and institutions and of the local political economy (Bhalotra and Tzannatos, 2003).

3.2.1 Concept and Definition of Child Labour

There is no single universally accepted way to define 'child labour.' Concepts and definitions are varied and sometimes vague. Some authors argue that child labour is a complex phenomenon that a single definition that captures all its facets is simply not possible. Child labour is regarded as a social construct which differs by actors, history, context and purpose (Weston 2005). Thus defining child labour is an exercise as much rooted in a culture or political discipline as is in an economic or scientific analysis. As a result, researchers find it difficult to provide a justification for any comprehensive definition of child labour or to prove that one definition is better than another.

The differences in concepts and definitions even between key organizations working on the issues of child labour show that there is no consensus in the academic or public policy literature on what child labour is. The World Bank for example, describes child labour as a 'serious threat' from the point of view of the harm it can do to long term national investment (Weston 2005). ILO relates the phenomenon to the harm done to the child by their current engagement in certain types of economic activity. UNICEF on the other hand emphasizes that the issue goes way beyond the concerns of investment or its

relation to economic activity, and includes several aspects of domestic work which conflicts with the best interest of the child (Huebler 2006). A convergence of what constitutes child labour is however important as it has implications for the type and scope of policies that are promoted. The definitions by ILO and UNICEF dominate the discussions in the literature.

The ILO concept of child labour is derived from the ILO Minimum Age Convention No. 138 of 1973, which sets 15 years as the general minimum age for employment. Any work in violation of Convention No. 138 is considered illegal child labour that should be eliminated. ILO introduces a distinction between child work, which may be acceptable, and child labour, which needs to be eliminated. Child work is not harmful and probably healthy kind, and includes helping household in various chores and household activity. These activities may take place after school hours or during holidays more intensively and are probably inevitable in rural areas (Canagarajah and Coulombe, 1997). Child labour on the other hand is defined as the participation of basic school-aged children on a regular basis in the labour market (Canagarajah and Coulombe, 1997).

ILO's definition covers only economic activity, that is, work related to the production of goods and services. Domestic work – such as cooking, cleaning, or caring for children – is ignored. Gibbons, Huebler, and Loaiza (2005) criticize ILO's definition as narrow in scope and understate the burden of work children perform, especially for girls, who are more likely to work in households than boys. UNICEF's definition expands ILO's definition of child labour by emphasizing the importance of domestic work by children in addition to economic work. UNICEF defines child labour as follows:

- Children 5 -11 years engaged in any economic activity, or 28 hours or more domestic work per week;
- Children 12-14 years engaged in any economic activity (except light work for less than 14 hours per week), or 28 hours or more domestic work per week;
- Children 15-17 years engaged in any hazardous work.

UNICEF's definition has the advantage of theoretically capturing all work that children do. A study of 18 countries in sub-Saharan Africa shows that this improved indicator reveals work by children, especially girls that would otherwise remain hidden. As a result, as many girls as boys are found to be engaged in child labour, which contradicts the statement of the ILO that boys are more likely to work (Gibbons, Huebler, and Loaiza 2005).

Huebler (2006) points out some limitations of UNICEF's definition. Child labour, from Huebler's perspective, is of concern for two reasons: it can be harmful to the health of a child; and it can interfere with a child's education. The definition of UNICEF provides a good indicator of child labour that is harmful to a child's physical or mental development. However, it is of limited value for an analysis of the trade-off between work and school attendance. The fact that a certain number of children in a country are engaged in child labour, as defined by UNICEF, does not mean that the remaining children are free to attend school.

For statistical purposes, defining whether an activity is harmful to a child's health or development is a challenge, because whether an activity is harmful depends on what the child would be doing in the absence of work (Edmonds, 2007). The ILO's Statistical

Information and Monitoring Programme on Child Labour (SIMPOC) is the international body charged with tracking child labour around the world. Their definition of what exactly is "child labour" varies over time, in part because of controversy over what can be considered harmful.

According to Edmonds (2007), the most common thing to do is to define children in wage work as child labourers. Children do not normally participate in the formal wage labour market. They are mainly involved in chores, the family business, schooling, etc. Hence, focusing on a limited set of activities can bias a researcher's understanding of the dynamics of child principal activities. For the purpose of this study child labour will refer to children's involvement in the labour market.

3.2.2 The Economics of Child Labour

Economists seeking government intervention in the issue of child-labour typically justify their recommendation by claiming that there are externalities to child labour. A more sophisticated claim is that child labour is a manifestation of failures in other markets, such as the market for capital or insurance (Grootaert and Kanbur, 1995).

The seminal work of Basu and Van (1998) sets out a theoretical basis for child labour discussion. They develop a model of an economy in which child labour is an important component. The economy exhibits multiple equilibria. The authors make two crucial assumptions; the Luxury Axiom and the Substitution Axiom. The "Luxury Axiom" states that children are sent to work only if household's income from other sources other than child labour is very low. The "Substitution Axiom" assumes that from the viewpoint of

firms, child labour is a substitute for adult labour. These two assumptions are related to the micro-behaviour of households and firms.

Basu and Van (1998) established the existence of both a good (no child work) and a bad (all children work) equilibrium using these two assumptions. They focus exclusively on labour incomes as a determinant of child labour. They justify this focus by assuming that non labour incomes (returns to capital) are consumed by either a "capitalist" class that owns all of the capital, or foreign owners of capital. The implication of the model is that child labour is a response to poverty because parents do not want their children to work in the labour market.[8]

Basu and Van (1998) paper is criticized for its neglect of macro behaviour. Swinnerton and Rogers (1999) show that in addition to the micro-level assumptions, there exists an essential assumption linked to the macro behaviour. They term this as the "Distribution Axiom", which states that income or wealth from non-labour sources must be sufficiently concentrated within only a few of the agents. They show that with sufficient equality in the distribution of non-labour income, market equilibrium with child labour cannot exist in the Basu and Van's theory. Swinnerton and Rogers (1999) assumed that some of the working households own capital. This makes them depart slightly from Basu and Van assumption about the ownership of the nonlabour income. This view is now increasingly held by international organizations, e.g., the World Bank (see Fallon and Tzannatos, 1998).

[8] Altruistic parents withdraw their children from the labour force once adult wages have reached some critical level.

In an attempt to understand, both theoretically and empirically, the causes and consequences of child labour, and to address policy issues, Cigno and Rosati (2005) made some refinement to some of the existing theories to yield more nuanced results. Like Basu and Van (1998), Cigno and Rosati (2005) argue that poverty is an important cause of child labour and that working at a young age can have lasting deleterious effects. They developed a sequential decision family model that considered the parts played by the decisions on fertility, human capital investment, child labour, and intergenerational transfers in the theoretical discussion. They assumed that economic decisions are made on children's behalf by altruistic parents, and that all families strive to achieve a subsistence level of consumption before making other purchases and investments.

Cigno and Rosati (2005) predict, for example, that child labour is due to poverty, that there is a trade-off between children's current consumption and their human capital formation, that there is a trade-off between quantity and quality of children, and that credit rationing (the refusal of lenders to satisfy certain borrowers' need for loans) leads to an excessively high and inefficient level of child labour.

Cigno and Rosati's model omit three important aspects of the literature: heterogeneity among children, the bargaining process between parents, and the intergenerational transmission of human capital. An allowance for child heterogeneity would allow one to predict specialization of time allocation among children; acknowledgment that a bargaining process may take place between parents would lead to the prediction that fathers and mothers have different effects on their children; and an intergenerational component in the model would make it possible to identify the specific nature of the intergenerational transmission of human capital

Generally, the literature on child labour has two main orientations. The first studies the phenomenon in relation to poverty. This approach is pioneered by Basu and Van (1998) and it is built on the luxury axiom. The second approach studies the phenomenon in relation to schooling. As Grootaert and Kanbur (1995) put it, "child labour and education are conflicting, even if they are not mutually exclusive".

3.2.3 Concept of Poverty

Poverty over the years has evolved from a simple statistical or economic indicators based on nutritional inputs, income and consumption for a household commonly used in the 1960s to the development of the basic needs concept championed by the International Labour Organization (ILO) in the 1970s. The 1980s set the tone for a more vigorous approach in redefining the concept of poverty to take on a multidimensional and a complex perspective (FAO, 2006).

Poverty is not a self-defining concept. Experts and academicians have suggested many definitions over time. For example, Watt (1968) defined poverty as the lack of command over commodities in general. Sen (1985) defines poverty as the lack of capability to function in a given society. Poverty can thus be described as either absolute or relative. Absolute poverty or destitution is the inability to afford basic human needs, which commonly includes clean and fresh water, nutrition, health care, education, clothing and shelter. Relative poverty on the other hand refers to lack of socially acceptable level of resources or income as compared with others within a society or country.

Most economists have mostly defined poverty with respect to being able to attain a standard of living (Oduro, 1999). For instance, according to Ravallion (1994) "poverty can exist in a given society when one or more persons do not attain a level of economic well-being deemed to constitute a reasonable minimum by the standards of that society". Ravallion's definition suggests that the concept of poverty is very much determined by the norms, values and circumstances of the society. Hence, poverty exists if the welfare of one or many people does not reach some level taken as the minimum for that society.

The World Bank (2000) defines poverty as "a pronounced deprivation in well-being, and comprises many dimensions. It includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. Poverty also encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better one's life".

"Fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation" (United Nation statement, 1998).

The UN and the World Bank definitions give an indication that poverty is multi-dimensional. It thus poses a problem of measurement. It entails a lot of factors which can be analyzed in terms of quantitative and qualitative indicators.

3.2.4 Measurement of Poverty[9]

The standard of living, and therefore poverty, may be represented by a uni-dimensional indicator (e.g. income, consumption expenditure) or a multi-dimensional approach (e.g. health conditions, family status, etc.). The uni-dimensional approach thinks of well-being (standard of living) as the command over commodities in general. People are assumed to be better off if they have a greater command over resources. Poverty by the uni-dimensional approach is seen largely in monetary terms and is the starting point for most analyses of poverty.

The definition of what a standard of living (norms, values and circumstances of the society) is, may pose a challenge in comparing poverty across countries and societies since the nature and structure of poverty may vary from one society to another. Total consumption expenditures are often used as an indicator of poverty. This is because they better reflect the concept of permanent income of an individual. In Ghana, the indicator of wellbeing on which the poverty measures are based is the household's total consumption per adult equivalence.

[9] Note that this discussion is largely based on the *Pattern and trend of Poverty* study (GSS, 2007, pp. 72-74), Poverty Manual (2005) and J.E. Foster, J. Greer and E. Thorbecke, "A Class of Decomposable Poverty Measures", *Econometrica*, Vol. 52 (1984), pp. 761-766.

The incompleteness of the income/consumption measures of poverty well-being is recognized and accepted. The consensus is that the standard of living and economic well-being is more than just the ability to purchase goods and services (Oduro, 1999).

A second approach to well-being (and hence poverty), a multi-dimensional approach goes beyond the traditional monetary measures of poverty. Multidimensional approach to well-being such the one articulated by Sen (1985) allows us to have a more shaded comprehension of poverty because it takes into account its complex and pervasive nature. Sen (1985) argues that well-being comes from a capability to function in society. Thus, poverty arises when people lack key capabilities, and so has inadequate income or education, or poor health, or insecurity, or low self-confidence, or a sense of powerlessness, or the absence of rights such as freedom of speech.

The main multivariate analyses that have been developed to study multidimensional approach are the UNDP Human Poverty Index, the functioning and capabilities approach introduced by Sen (1985), and the fuzzy sets theory applied to poverty. The UNDP's Human Development and Human Poverty Indices are attempts to encapsulate within one measure the multi-dimensional nature of poverty. A difficulty with this exercise is the issue of weighting. A disadvantage of a single composite indicator is that it does not reveal the differences in the nature of poverty between countries that have the same index. Thus countries may have the same value on the poverty index, but the nature of poverty may differ between them because one country may for example have lower enrollment rates and the other may have higher child mortality rates (Oduro, 1999).

A key poverty index is the Foster-Greer-Thorbecke (FGT) class of measures. The FGT generic index yields indicators of poverty incidence, depth, or severity, depending on whether a non-negative parameter takes the value 0, 1, or 2, respectively (see Foster, Greer, and Thorbecke, 1984).

Sen (1976) proposed an index that sought to combine the effects of the number of poor, the depth of their poverty, and the distribution of poverty within the group. Sen's index has the virtue of taking into account the income distribution among the poor however the index is rarely used outside of the academic literature. According to Deaton (1997) the index cannot be used to decompose poverty into contributions from different subgroups.

Watts (1968) also proposed a distribution-sensitive poverty measure (see Zheng 1993). Watts' index is attractive in that it satisfies all the theoretical properties that one would want in a poverty index. However, the index is rarely seen in practical field work.

3.2.5 Poverty and Child Labour

Poverty is an important reason why children work. If they were not to work, survival of the entire family could be at stake (Basu and Van, 1998). According to Ahmed (1999) 'there is by now a virtually unanimous view that poverty is the main, although not the only cause, of child labour'. A question that is important and influential in discussion about child labour is whether the position of a family below poverty line pushes a child to work. The main reason for this factor to be considered as a key determinant of child labour is the widespread hypothesis that family consumption could be smoothed over by

involving children in working activity if the family experience current reduction in income.

Theoretical argument that is commonly utilized to support the choice of household poverty as a determinant of child labour is Basu and Van's "luxury Axiom". The axiom gives an indication that children from non-poor households are less likely to become child labourers. Economists have used the "luxury axiom" to explain the relationship between child labour and poverty. According to the axiom, children enter the labour market to ensure their survival and that of their families; therefore, schooling and leisure are luxury goods. These poor households cannot afford to keep children in school and in other non-work activities. It assumes that only when household incomes rise sufficiently will children leave the labour force, implying that child labour will persist as long as poverty exists (Moyi, 2007).

Child labour is considered as a consumption good used by the household to increase income when income starts to decrease below a certain threshold (Basu and Van 1998). The household goes to arbitration between the spare-time activity (leisure) and child labour. The spare-time activity (leisure) is considered as a luxurious good inasmuch as the decision to offer it to the child depends on the income of the parents (Basu and Van 1998).

The basic microeconomic theory of labour supply also gives us another insight to investigate the relationship between poverty and child labour. The theory argues that if an individual is working under a binding income constraint or, equivalently, towards a target, then a drop in their wage rate will be matched by an increase in their labour supply

(Bhalotra and Tzannatos, 2003). More generally, if the household is very poor, the income effect will tend to dominate the substitution effect[10] and the wage elasticity will be negative (see Bhalotra, 2000).

3.2.6 Schooling

Schooling constitutes the main means through which a country invests in human capital. Schooling and human capital investments have been a central focus of development policy. Education has long been viewed as an important determinant of economic well-being. The theoretical growth literature emphasizes at least three mechanisms through which education may affect economic growth. First, education can increase the human capital inherent in the labour force, which increases labour productivity and thus transitional growth toward a higher equilibrium level of output as in augmented neoclassical growth theories by Mankiw et al. (1992). Second, education can increase the innovative capacity of the economy, and the new knowledge on new technologies, products, and processes promotes growth as in theories of endogenous growth (Lucas, 1988; Romer, 1990; Aghion and Howitt, 1998. Third, education can facilitate the diffusion and transmission of knowledge needed to understand and process new information and to successfully implement new technologies devised by others, which again promotes economic growth (Nelson and Phelps, 1966; Benhabib and Spiegel, 2005).

[10] The substitution effect is the effect of a wage change on the hours of work supplied, holding constant total income. It is always positive. Thus, if the wage goes up, hours supplied go up at constant income.

3.2.7 Schooling and Child Labour

Article 26 of the Universal Declaration of Human Rights, states that, "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory…" and Article 28 of the Convention on the Rights of the Child also recognizes "the right of children to education, and with a view to achieving this right progressively and on the basis of equal opportunity". Basic education therefore is a human right. It is now widely accepted by many organizations, including UNICEF, the World Bank, and UNESCO that education - and in particular, free and compulsory education of good quality up to the minimum age of entering into employment as defined by ILO Convention 138 - is a key element in the prevention of child labour.

Education is a crucial component of any effective effort to eliminate child labour. Experience shows that a combination of economic growth, respect for labour standards, universal education and social protection, together with a better understanding of the needs and rights of children, can bring about a significant reduction in child labour (ILO, 2002). Basu, (1999) note that the mere availability of good schools can do a lot to divert children away from long hours in the workplace.

Theoretically, Baland and Robinson (2000) make a direct connection of human capital formation to child labour whilst evaluating the efficiency characteristics of household decisions. The authors note that when parents are altruistic toward their children, and they have the ability to leave a bequest to their children, and have free access to capital markets, then investment in their children's education will be efficient. Parents in this

setting optimize by equating the earnings of the last hour of a child's labour to the present discounted value of earnings that would accrue to the family due to the last hour of human capital acquisition in school.

Poor parents would not invest in their children's education in an imperfect capital market because they are not sure if they will be repaid for their effort (Baland and Robinson, 2000). According to Alderman and King (1998), education is an asset from which those who invest in it do not benefit directly, but others (that is children) do. As parents are not sure that their children will use their income to guarantee security when they are older, they prefer not to invest in their education. Baland and Robinson (2000) argue that society does not allow children to make a contract with their parents, assuring them that they will pay them back if they invest in their education. It is because of this situation that child labour becomes inefficiently high and children are thereby the worst off.

3.3 Empirical Literature Review

3.3.1 Introduction

Most empirical research on child labour until recently used case studies in which small samples of working children were interviewed or observed to discuss the issue (Bhatty (1998) and Addison et al (1997)). These studies offered insights into the wages and working conditions of working children. However, they were unable to illuminate the fundamental question of why children work because they contain no information on the counterfactual.

Micro-data for developing countries have become widely available in recent times, and these have made it possible for new insights to be developed to look at the issue of child labour in a broader context. The Living Standards Measurement Surveys (LSMS) as is known is fairly suited for analysis of child labour. These are integrated household surveys on welfare indicators for developing countries.[11] The LSMS data include socio-economic and demographic characteristics at the individual, household and community levels.

3.3.2 Determinants of Child Labour and Schooling

Patrinos and Psacharopoulos (1997) used the 1991 Living Standards Survey data on Peru and studied family size, schooling and child labour in Peru. They analyzed the effects ethnicity, number of siblings, sibling's activities and sibling age structure have on child schooling progress and child non-school activity. The study identified the size of the family and age structure of siblings as important variables. They concluded that having a family with a greater number of younger siblings implied less schooling, more age-grade distortion in the classroom and more child labour. Patrinos and Psacharopoulos (1997) established a negative correlation between child labour and school attainment. Akabayashi and Psacharopoulos (1999) also confirmed the negative correlation between child labour and schooling by showing that children's reading competence (as assessed by their parents) decreased with child labour hours. Patrinos and Psacharapoulos (1997) found an insignificant income effect on the probability that school-going children will work in Peru raising doubt with regard to the income sensitivity of the child labour choice.

[11] The LSMS are mainly collected by Statistical Offices in developing countries

Jensen and Nielsen (1997) analyzed the activities of students in Zambia based on the assumption that for each child, households faced a binary decision: to send the child to school, or to engage the child in labour. In this context they analyzed the effects of several variables on the probability that a child would attend school. They concluded that poverty was an important reason why children do not attend school. Distance to school (considered a cost) and the proportion of household members working associated negatively with school attendance. The educational level of the household head and household savings and assets influenced school attendance positively.

Grootaert (1998) used a sequential probit model to examine the determinants of child labour in Côte d'Ivoire. The author identified five key factors (age and gender of the child, education and employment status of the parents, presence of household enterprises as an in-house source of employment for children, household's poverty status and its geographic location) that affect child labour supply. Grootaert (1998) found that the educational level of the parent was an influential factor at the decision stages involving schooling options. Parents with no or low education were more likely to choose work options for their children. The effect was found to be most pronounced in rural areas and for younger children.

Unlike Grootaert (1998), Nielsen (1998) analyzed child labour and schooling in Zambia as a joint decision (using bivariate probit model). The study established a gender gap for schooling decisions. Boys were found more likely to go to school than girls. This gender difference was attributed to the fact that girls often marry early or become pregnant. Jensen and Nielsen (1997) study showed that 6% of the 7-18 year old school leavers left school because they married or became pregnant. Further investigation of Priority Survey

II for Zambia also showed that more girls than boys marry early. Nielsen (1998) did not however, find gender – related differences in the working decision. Transport cost in the form of walking distance to school was found to affect schooling adversely. Furthermore, supply constraints on secondary schooling in the form of distance were found to negatively affect the demand for primary schooling. This accord with the view in Lavy (1996), who suggests that completion of primary schooling, may serve as a ticket to secondary schooling. Nielsen (1998) raised doubt about the earlier claim that poverty was an important reason why children work.

In accordance with the Nielsen (1998) study, Sasaki and Temesgen (1999) also established a gender related gap to schooling for Peru. They also found out that girls were more likely to work than boys and concluded that the work of girls may be said to somewhat subsidize the building up of human capital of their brothers. A positive relation between mothers' educational level and the likelihood of the child attending school was also established. They found no significant relationship between household income per capita and the schooling/work decision. Sasaki and Temesgen (1999) study also raised doubts to the claim of poverty being a main determinant of child labour.

Empirical evidence by Chaudhri et al., (1999) showed that child labour is strongly associated with the incidence of poverty for India, a result contrarily to Sasaki and Temesgen (1999) and Nielsen (1998) study. Chaudhri et al., (1999) conducted a preliminary search for the factors that affect demand and supply of child labour in India using the OLS technique to estimate both cross sectional and time series data between 1961 and 1991. They found out that child labour is strongly associated with the incidence

of poverty, female participation in labour force, and non-participation in the school system.

Ray (2002a) explored the key determinants of child labour hours and schooling experience in Nepal and Pakistan. A three stage least square technique (methodological feature that recognized a joint endogeneity of child labour, child schooling and child poverty) was used. The study identified a trade-off between child schooling and child labour. A common feature of both countries was the gender bias in favour of boys' schooling, though the bias was much larger in the case of Pakistan. Years of education of most educated household member was found to positively affect child schooling significantly. The study also found household poverty – defined as household income shortfall from the poverty line – as a significant determinant of child labour and schooling, though the study did not find the impact of the variable on the dependent variable as expected.

Bhalotra (2003) investigated the hypothesis that poverty is the major cause of child labour. Using a large household survey for rural Pakistan, labour supply models for boys and girls in wage work were estimated. Bhalotra found that poverty was the main cause of boys' involvement in child labour. Evidence was ambiguous in the case of girls.

In the absence of labour (and land) market, Bhalotra and Heady (2003) propose that there could be a wealth paradox for child farm labour, that is, children from land-rich households have higher tendency to work as compared to children from land-poor families. In their paper, they attributed this paradox to failures of the markets for labour and land, which is mitigated by credit market failure. Using data from Ghana and

Pakistan, they found that the wealth paradox persisted for girls, but it disappeared in the case of boys for both countries. Their findings contradict the commonly held presumption that child labour emanates from the poorest households.

Edmonds (2005) used a nonparametric approach to investigate the relationship between improvement in per capita expenditure and child labour in Vietnam. He found a nonlinear correlation between economic status and child labour. There is a theoretical reason to expect the relationship between child labour and families to be nonlinear. In Basu and Van (1998) model, children no longer work when families can meet their subsistence needs with adult earnings. Hence, variation in income below subsistence should have no effect on child labour, nor should variation in income above subsistence. It is only over the range of incomes that corresponds to the perceived subsistence needs in which Basu and Van would expect to see changes in child labour and that can correlate with improvement in living standards. Edmonds (2005) found support for this idea directly with panel data collected during Vietnam's economic boom in the 1990s. Edmonds (2005) provided two justifications for using expenditure rather than income. First, calculating the true income level of a household may be difficult as the household may not participate solely in formal labour markets. Secondly, expenditure varies less than income as households generally try to smooth their consumption over time[12].

Like Bhalotra (2003), Dammert (2005) aimed to test empirically the relationship between child labour and household income. Using data from the Peruvian Living Standard Measurement Survey and adopting a multivariate nonparametric approach, with continuous and discrete covariates, and cross-validation methods for optimal bandwidths,

[12] The Ando-Modiglaini Approach: The Life-Cycle Hypothesis

Dammert (2005) estimated elasticities that were larger than studies that used probit models and suggested that changes in income have a heterogeneous effect on employment and school participation with higher effects for low-income households.

Looking at child labour as one of the obstacles impeding the Millennium Development Goal of universal primary education, Huebler (2008) used data on child labour and school attendance from 35 household surveys that cover one quarter of the world's population. The data were collected with Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) between 1999 and 2005. A series of bivariate probit regressions identified the determinants of child labour and school attendance at the household level. Children from poor households and from households without a formally educated household head were identified to be more likely to engage in child labour and less likely to attend school than members of rich households and children living with an educated household head. This finding lends strong support to the hypothesis that poverty is the root cause of child labour.

Ndjanyou and Djienouassi (2010), trying to understand the phenomenon of child labour in Cameroon, studied the characteristics and determinants of child labour. Using data from the Cameroonian survey on employment and informal sector, they found evidence of a division of child labour within households which is around sex and kinship relations, and which varies according to the type of household. The results from the econometric estimations indicated that child labour resulted from the union of external and internal factors of the household: the sex, the level of education, the kinship relation, the age of the child; the gender, the level of education, the age and the type of job of the household

head; the income, the geographical location (where household resides) and the composition of the household.

Dawit (2010) tried to study the likely cause of high rate of child labour and low rate of school enrollment in rural Ethiopia. He examined the impact of individual child and household characteristics as well as access to a given asset on the child labour or schooling decisions in rural Ethiopia. The result of the study showed that incidence of child labour versus schooling depends on (among other factors) age of the child, education already attained, proximity to water, age and gender of the household head, presence of infants (for girls), household size, ownership of crop land (for boys) and ownership of cash crops. Dawit (2010) noted for Ethiopia that poverty – reduction approach that generally aims at increasing access of productive assets to the perceived poor might not lead to a better school enrollment or reduction in child labour. This is because some assets could increase the productivity of child labour, resulting in a higher demand for it.

Okurut and Yinusa (2011), in their contribution to the debate on child labour, provide analysis on the determinants of child labour and schooling in Botswana. They used the Labour Force Survey (LFS) 2005/06 data from the Central Statistics Office (CSO) and modelled it with multinomial logit. Their results suggested that the probability of children working while schooling is negatively and significantly influenced by the age of the child, female–headed household and employment status of the household head. However, the probability of child labour and schooling (jointly) is positively and significantly influenced by child education level, the number of children in the household, and the household head being engaged mainly in the agricultural sector.

Finally, Moyi (2011) examined child labour and school attendance in Kenya. He defined child labour to include household chores, a distinguishing feature from most studies that examined child labour as only an economic activity. Moyi's argument was that majority of child labour takes place within the household. The study assumed a simultaneous decision making and used a multinomial logistic model to analyze the determinant of child labour and schooling. Analysis of a multiple indicator cluster survey data for Kenya showed higher child labour rates among older children, rural dwellers, and those of lower household socioeconomic status. The years of education of the head of household and wealth of the household had an impact on child labour. Although poor children had a higher probability of working than wealthier children, poverty – defined in terms of household income – did not fully explain child labour in Kenya. Moyi (2011) suggested in his work that poverty – reduction strategy will not necessarily eliminate child labour in Kenya. Moyi's justification was that children of all socioeconomic levels in Kenya participated in child work. It should be note that the result of the study could have been influenced by the choice of definition the researcher used (the inclusion of household chores and the definition of child's age that is 6 – 17 years). The study also found that work and school were not mutually exclusive.

3.3.3 The Ghanaian Experience

Canagarajah and Coulombe (1997) analyzed the determinants of child labour in conjunction with the decision to school for Ghanaian children. They did not convincingly show that poverty was the main culprit of child labour as most studies claim. Using

bivariate probit models with varying specifications and variables, the study showed that there was a significant negative relationship between going to school and working; increasing schooling demand was described as the effective way of reducing child labour and ensure that Ghana's human capital is stabilized. Household characteristics were confirmed to have a big role to play in child's schooling and/or work decisions. Fathers' education had a significant negative effect on child labour; the effect was found to be stronger for girls than boys. Canagarajah and Coulombe (1997) found a positive but decreasing effect of the log of per capita total expenditure on the probability of child work and concluded that poverty was not a major cause of child labour.

Canagarajah and Coulombe (1997) did not allow for endogeneity of income status. Household income is expected to have a negative effect on child labour but, at the same time, we may expect a positive effect flowing in the reverse direction as child labour contributes to household income (Bhalotra and Tzannatos, 2003). Poverty is multidimensional and can be looked at from a different angle other than using income of the household alone as a measure of poverty because of the endogeneity problem it may pose.

Niels-Hugo and Verner (2000) started from a premise that child labour is not necessarily harmful. They reinstated the positive relationship between poverty and child labour, a conjecture that has been questioned by Canagarajah and Coulombe (1997). They found evidence of a gender gap in child labour linked to poverty. Girls as a group as well as across urban, rural and poverty sub-samples consistently were found to be more likely to engage in harmful child labour than boys. Niels-Hugo and Verner (2000) explained that the established gender gap do not necessarily imply discrimination but rather reflect

cultural norms. The main findings of the study were; the existence of structural differences in the processes underlying harmful child labour in Ghana across gender, across rural/urban location as well as across poverty quintiles of households.

Ray (2000b) also assessed data for Ghana to find the determinants of child labour. Ray paid a lot of attention to the household poverty as a possible cause of child labour taking into account the Luxury Axiom. A two-step procedure, discussed in Maddala (1983) for estimating labour supply equations was used. The result suggested that household poverty (poverty status of the household) was not the main cause of child labour. The explanation proposed by Ray (2000b) was that poor communities provide little employment opportunities for children. The variables that were found to have a significant impact on child labour hours included the educational level of the adults in the household, and the quality of schooling in the neighbourhood. Ray (2000b) suggested that policies aimed at improving the "quality" of schools and increases in school enrollment would encourage parents to keep their children in school rather than in paid employment.

Unlike Canagarajah and Coulombe (1997), Niels-Hugo and Verner (2000) Ray (2000) tackled endogeneity by subtracting the child's contribution to income from reported household income. This approach has two problems. First, it is difficult to estimate the child's contribution when the child works without an explicit wage on the household farm or enterprise, and this is the predominant form of child labour in developing countries (Bhalotra and Tzannatos, 2003). The assumptions made in imputing a wage to the child are often untenable (as in the case of Ray, 2000) Second, even where it is possible to estimate child income and deduct it, adult income is not exogenous to the extent that child and adult labour supply are jointly determined (Bhalotra 2000b)

Heady (2003) assessed the effect children's economic activities have on their level of learning achievement. This was made possible by the administration of tests to measure reading achievement and mathematical achievement to about half of the individuals surveyed as part of the second wave of the Ghana Living Standards Survey. The results showed that work (child labour) had a substantial effect on learning achievement in the key areas of reading and mathematics. Although these results confirm the accepted wisdom of the negative effects of work on education, they introduce a new view of how these effects arise. Heady (2003) asserts that the direct links could be because of exhaustion or because of a diversion of interest away from academic concerns. Alternatively, the results could arise because those children who work are innately less interested in academic achievement.

3.4 Conclusion

Studies on child labour identify at least four types of factors that are likely to influence household decisions about the child's principal activities. The first set of factors is child-specific: age, gender, and the child's level of schooling. As noted by Grootaert (1998) the magnitude and the direction of these effects are largely country-specific, depending on the cultural context, labour market opportunities, cost of schooling, and wage patterns. The second is related to parental characteristics. Most studies have shown that children are less likely to work when parents are better schooled (Okurut and Yinusa, 2011; Ray, 2002a; Jensen and Nielsen, 1997; Canagarajah and Coulombe, 1997).

The third set of factors includes household characteristics. The demographic composition of a household can have an impact on child labour. Numerous studies have shown that the number and the gender of siblings, the presence or absence of a parent, and the sex of the household head have significant influences on child labour and schooling (Huebler, 2008; Canagarajah and Coulombe, 1997). Fourth and finally, community-level factors, such as the cost of schooling, labour market opportunities, cultural norms, and child wage rates, can have an important bearing on the incidence of child labour (Ndjanyou and Djienouassi, 2010; UNICEF, 2007).

It is also important to note the points that stand out in the reviewed studies above. First, the existence of a gender gap in schooling – in favour of boys - seems to be a fairly well established result and common to some of the studies (Bhalotra, 2003; Ray, 2002; Niels-Hugo and Verner, 2000). However, there does not seem to be consistent evidence of discrimination in child labour. Finally, the often hypothesized relationship between poverty and child labour seems not to be well grounded in empirical studies. Together with other issues of the reviewed research as discussed above, these are issues that will be incorporated in this study.

CHAPTER FOUR

THEORETICAL FRAMEWORK AND METHODOLOGY

3.1 Introduction

The chapter provides the theoretical and empirical model for the study under consideration. Firstly, a theoretical framework that explains parents' decisions on the choice of a child's principal activities is provided. The theoretical framework is based on the work of Kruger et al. (2006). Though formally different, the model shares the same basic properties of the theory proposed by Basu and Van (1998). This is followed by the estimation technique and an insight into the variables (explanatory variables) as used in the study. Finally, the source and the types of data employed in the study are discussed to give an idea about the nature of the data that is used in the estimations.

3.2 Theoretical Framework

The theoretical model is based on a simple structural model of households decision regarding child labour and schooling developed by Kruger et al., (2006). The model explicitly takes into account the economic contribution of the household. The setting is the standard constrained utility maximization model of the households in which a consumption vector is maximized, subject to a resource endowment of the household.

Formally, the model is derived from the theory of households demand for schooling, in which education is viewed as an investment in human capital. Considering altruistic parents, the resource they inherit and their labour earnings are spent on household consumption and /or their children's human capital accumulation.

According to Kruger et al. (2008), a household derives utility from consuming goods (c) and investment in human capital (h).

The utility function is given as:

U=U(c, h)…… (1)

The utility function is assumed to be quasi-linear in the human capital of the child. Consumption goods are assumed to be purchased with labour earnings of parent (t_p) and child labour (l_c) – that is, if there is child labour. Consumption therefore satisfies the budget constraint:

$c \leq w_c l_c + w_p t_p$…… (2)

Where w_c is the child wage (or the outcome from the child's contribution to economic production), and w_p is the adult wage. Equation (2) implies that first, both children and adults can earn wages, so that their labour supplies are seen as substitutes from the perspective of generating income for the household (Substitution Axiom). Second, it is worth noting that the child can only be engaged in the labour market only if the wage of the parents falls below a certain exogenously fixed subsistence level. Equation (2) therefore respects what Basu and Van (1998) called the Luxury Axiom; thus, child work is driven by household poverty.

Assume further that a child has two main principal activities; work (in the labour market) and investments in human capital and is given as:

$$l_c + e_c = t_c \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

Where e_c is the time spent on investments in human capital by the child, and t_c is the total amount of time available to the child. Investment in human capital (education) is assumed to depend only on the time of the child, and individual specific factor (household and individual characteristics including household poverty status). That is h=h(e_c, v), where v represents individual specific factors (a vector of demographic characteristics). Equation (3) gives an indication that investment in human capital (education) is a crucial component of any effective effort to eliminate child labour. The time spent in educating a child can reduce the likelihood of a child's engagement in the labour market.

Writing down the full income constraint, the households' problem can be stated as:

Max U=U(c, h(e_c, v))

Subject to $c + w_c e_c \leq w_c t_c + w_p t_p$ …… (4)

The Family's decision regarding child work and schooling becomes evident from the first order conditions of the problem. Defining λ as the multiplier on the full-income constraint, first order conditions for c and e_c are, respectively,

$$\partial u / \partial c \,(c, h(e_c, v)) = \lambda, \quad \text{and} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (5)$$

$$\partial u / \partial h \,(c, h(e_c, v)) = \lambda w_c \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (6)$$

Substituting equation (5) into (6) yields:

$$\partial u/\partial h\,(c, h(e_c, v)) = \partial u/\partial c\,(c, h(e_c, v))w_c \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (7)$$

Solving for "w_c and e_c" maximization problem will give rise to the following simple model:

$$w_c = w_c(v,\ u) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (8)$$

$$e_c = e_c(v,\ u) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (9)$$

Where; "e_c and w_c" are the decision variables, child work and child schooling decision respectively, "v" is a vector of Individual specific factors and "u" is the error term

3.3 Estimation Technique

In light of the variable derived in equation (8) and (9), the study estimate two empirical models; one for child work decisions and the other for child schooling decisions from equation (8) and (9) respectively.

$$y_{1i}^{*} = x_i^{'}\beta_i + \varepsilon_1; \qquad y_{1i} = \begin{cases} 1\ if\ a\ child\ i\ worked\ in\ the\ last\ 7\ days \\ 0\ otherwise \end{cases} \quad \ldots\ldots\ldots\ldots \quad (10)$$

$$y_{2i}^{*} = x_i^{'}\beta_i + \varepsilon_2; \qquad y_{2i} = \begin{cases} 1\ if\ a\ child\ i\ went\ to\ school\ in\ the\ last\ 7\ days \\ 0\ otherwise \end{cases} \quad \ldots\ldots \quad (11)$$

The logit model is used in this study to identify the determinant of child labour and child schooling in Ghana. The logit models assume that, there is some continuous latent variable y* that determines participation in a certain activity. If y* is positive, then the child is involved in an activity and the observed binary outcome is one (1), otherwise the

outcome is equal to zero (0). The latent variable y* is modelled by a linear regression function of the person (Jones, 2005). The structural equation for the logit model as specified by Gujarati (2004) can be expressed as:

$$logit = \ln\left(\frac{p_i}{1-p_i}\right) = \beta_1 + \sum_{i=2}^{k} \beta_i X_i + u_i \quad \text{..... (12)}$$

Where; X_i = Independent variables;

β_1 = Intercept and

β_i = Regression coefficients and they are estimated using the maximum-likelihood method.

p_i = the observed binary outcome

The logit model assumes that the error term (u_i) is distributed as a logistic distribution function.

4.3.1 Justification for the Application of the Logistic Regression in the Study

In this study, the response for the dependent variable is either yes or no. This means that, the dependent variables can take only two (2) values. In such a situation, using the Ordinary Least Square (OLS) method to estimate a linear function that has a binary outcome may not be appropriate because the error term would not be normally distributed. For a normal distribution, it requires that, the error term should take any value between positive and negative infinity $(\pm\infty)$. However, the error term in such a model can only take either 0 or 1 for the dependent variables. This means that, the variance of the error term depends on the explanatory variables, hence bringing in the

issue of heteroskedasticity (Jones, 2005). This violates the assumption that there should not be any correlation between the error term and any of the explanatory variables under the application of the OLS method. Given this limitation, the most appropriate options here are either the logit or probit models.

Since both logit and probit give similar conclusions, this study assumes that the error terms are logistically distributed. With the logistic regression model, the coefficients of the independent variables only show whether the probability of an event occurring will increase or not when there is a change in the explanatory variables. A positive logit model means an increase in the value of the explanatory variable(s) will lead to an increase in the odds that the dependent variable equals one (1). On the other hand, a negative logit model means the odds that the dependent variable equals one (1) decreases as the value of that explanatory variable increases (Gujarati, 2004). The odds ratio which is the ratio of the probability of the event (child labour or schooling) occurring to the probability of not occurring and the marginal effect which measures the impact of a small change in the explanatory variable on the probability of participation are approaches used in interpreting a logistic model. This study uses the marginal effects approach for the interpretation of the logistic results.

4.4 Measurement of the Independent variables and their Expected Signs

The choice of the independent variables is based on the existing theoretical and empirical literature (see Bhalotra and Tzannatos (2003), Nielsen (1998), and among others) and they are made up of both discrete and categorical variables. The explanatory variables for

this study includes: age and squared age of the child, sex of the child, child's relation with the household head, parent's educational level, the sex of the head of the household, the ethnic group and religious inclination of the household head, household size, household poverty status, household ownership of productive assets (land and livestock) and the household location.

Child's age

This is the age of the child in completed years (the age on her last birthday). The age group 7 – 14 years defines the entry and the exit age for basic schools in Ghana. The definition of child's age varies across studies but they are most often defined as over 6 and below 15 years, sometimes below 18 years. For instance, Moyi (2011) used 6 – 17 years for Kenya while Nielsen (1998) used 7 – 14 years for Zambia. The choice of the upper threshold is usually guided by UN conventions and may be adjusted according to culture-specific knowledge of when children start to make their own decisions and/or to live independently of the parental home. This study also includes the squared age of the child to capture the non – linearity of the age effect (that is, whether the child will tend to withdraw from the labour market or school as they grow or vice versa). The study expects a child who is older to be more likely to work and less likely to be enrolled in school.

Child's Gender

Child gender captures the sex of the child. The variable is coded in this study as: 1 if the child is a male and; 0, otherwise. It is expected that, boys will be more likely to engage in economic activity than girls. This is because the definition of work used in this study does not include household chores where majority of the girls are active.

Child's Relation to the Households Head

This variable captures how the child relates to the head of the household. The head of the household is the person acknowledged as such by members of the household and he/she is usually responsible for the upkeep and maintenance of the household (GSS, 2008b) Households in developing countries are large and complex and often contain not just vertical but also horizontal extensions. As a result, nephews, nieces and sisters- in-law may be counted amongst children along with sons and daughters of the head of household. In sub-Saharan Africa, there is, further, a high prevalence of child fostering and orphans (Bhalotra and Tzannatos, 2003). Assuming that the head plays an important role in decisions regarding child labour and schooling, then, (biological) children of the household head are less likely to work and more likely to be in school.

Household Poverty Status

Poverty has many dimensions; it is characterized by low income, malnutrition, ill health, illiteracy, and insecurity. There could be also a sense of powerlessness and exclusion.

These different aspects usually interact and combine to keep households, and at times whole communities, in persistent poverty (GSS, 2008). A poverty line is set based on the level of the standard of living measure at which the minimum consumption requirements can be met. Two nutritionally-based poverty lines are set[13]; a lower poverty line and an upper poverty line. A household is defined as "very poor" if the household falls below the lower poverty line; "poor" if the household falls between the lower and the upper poverty line and "non-poor" if the household falls above the poverty line. Households' poverty status defines the standard of living of the households. It is expected that children from the very poor households will be less likely to be in school and more likely to work than their counterparts in the non-poor households all other things being equal.

Household ownership of Land

Land ownership especially among rural dwellers is likely to affect the probability of a child work. According to Basu (1997), one rationalization of the benefits to the landlord from pursuing sharecropping instead of renting the land out or hiring wage labour, is that it improves the landlord's access to labour by making available the labour of the tenant's family in addition to the labour of the tenant. In sub-Saharan Africa, in contrast to Asia, it is common for a household to own more than one plot of land and, indeed, for the plots to be controlled by different members of the household. Many studies do not include a measure of land ownership by the household. Canagarajah and Coulombe (1997); and Bhalotra and Heady (2000) included this variable in their study. The expected association

[13] A lower poverty line of 288.47 Ghana cedis (2,884,700 cedis) per adult per year: and an upper poverty line of 370.89 Ghana cedis (3,708,900 cedis) per adult per year.

of this variable with the dependent variable is difficult to predict a priori. It may have a positive association with child work and negative association with child schooling if the land owned is used for agricultural purpose. Such a situation is likely to put pressure on the households to engage the services of the children in the households. On the other hand it may have a negative effect on child labour and positive effect on schooling if land owned is viewed as an asset (wealth).

Household ownership of Livestock

One of the most important productive assets and major source of income for rural households is livestock. Livestock keeping acts as an insurance against income risk (Dawit, 2010). For instance, Livestock provides draught power and manure for crop production. Livestock embody savings, serving as a store of wealth to which rural households could turn to, in times of crisis and in times of cash needs. In addition, livestock provides an alternative food source for the family. Ownership of large and small livestock is expected to reduce income volatility, thereby inducing households to invest more in human capital accumulation. It can also be assumed that livestock ownership and child labour may be inversely related, and children in wealthier households will work less and go to school more. However, livestock production may also require more labour. Cockburn (2000) argue that the effect of livestock ownership on child schooling may be positive or negative, depending on the type of livestock.

Sex of the Household Head

According to GSS (2007), female-headed households are on average regarded as less poor than male-headed households. Usually one of the parents of the child is the head of the household, but in some case one of the grandparents act as the head of the household in a combined family system or in the case of missing parents. Assuming the head of the household is responsible for making decision regarding child's principal activity, then, this variable will capture the impact headship of the household have on child labour and schooling decision. Most studies (for instance Bhalotra and Heady, 2000; Canagarajah and Coulombe, 1997) use female headed household dummy to study the impact. The expected association between this variable and any of the dependent variables can either be positive or negative. For instance, if the household is headed by a female, then all things being equal, it is likely children will be preferred to be in school than to be in the labour assuming poverty have a positive influence on the likelihood of engaging children in the labour market. On the other hand, a male headed household is likely to engage children in the labour market.

Household size

This is treated as a discrete variable and it captures the number of people that make up the household. The expected association of this variable with child labour is difficult to predict a priori. It may have a positive relationship with child labour if a large household has majority of its members not in any gainful and formal employment. Such a situation is expected to put extra burden on the members who are working in terms of the

provision of household goods and services. Subsequently, children in such households may probably engage themselves in the labour market. On the other hand, children in households with majority of its members (adults) gainfully employed may affect child labour negatively and schooling positively.

Religious Inclination of the Household Head

This variable examines how religion affiliation of the head of the households affects the decision regarding the choice of a child's principal activity. According to the GLSS 5 data set, about two out of three household heads are Christians (Catholic, Anglican, Presbyterian, Methodist, Pentecostal and Other Christian), while Islam constitutes 16.5 percent, and about one in ten is Traditional. About 7.4 percent of household heads profess to have no religious affiliation. Traditional religion is more predominant among household heads in rural savannah (30.7%) than any other locality in Ghana. This variable is captured based on the notion that different religious groups have different religious beliefs and practices. The expected association of this variable with the dependent variable is difficult to predict a priori.

Ethnic group

Members of an ethnic group share certain beliefs, values and norms because of their common cultural background (GSS, 2008a). The GLSS 5 indicates that majority of household heads in Ghana are Akans (52.7%) followed by Ewe (12.4%), Mole Dagbani

(12.4%), Ga-Dangme (10.3%), Guans (3.6%) and Gurma (3.4%). Other groups like Grusi, Mande form about 5 percent of the ethnic groups in Ghana. The expected association of this variable with the dependent variable is difficult to predict a priori.

Parental Education

The educational level of an individual is believed to influence ones decisions making process. This variable is constructed categorically into "no education", "primary education" and "at least secondary education". The same categorisation is used for both father and mother. There is more or less consistent evidence that mothers' education has a negative effect on child labour, and the size of this effect often exceeds that flowing from fathers' education. However, there is considerable variation around this statement. Canagarajah and Coulombe (1997) found a negative effect on child work participation of fathers' secondary level education and no effect of mother's education in Ghana. The educational level is expected to have a positive association with the likelihood of a child schooling and a negative association with child labour. That is, the higher the educational level attained by the father or the mother, the more likely the child will be in school and vice versa.

Household Location

GLSS 5 data show that poverty had fallen in all localities, however, majority of poor people live in rural areas of Ghana (GSS, 2008). This variable is aimed to capture the

impact residing in a particular locality has on child labour and schooling in Ghana. It is expected that children who reside in the rural localities will be more likely to be engaged in the labour market and less likely to be in school compared to the urban counterpart, all other things being equal.

4.5 Data Type, Source and Definition

The study employed secondary source of data for it analysis. The data were drawn from the Ghana Statistical Service Survey; 1991/92, 19998/99 and 2005/06 Ghana Living Standards Survey (GLSS). The GLSS was conducted by the World Bank as part of the Living Standards Measurement Study (LSMS) household surveys in a number of developing countries. The purpose of the LSMS surveys is to provide policy makers and researchers with individual, household and community level data needed to analyse the impact of policy initiatives on living standards of households.

In the logit estimation model, the study used the 2005/06 Ghana Living Standards Survey – round five (GLSS 5)[14]. In Ghana, the survey was conducted from 4th September, 2005 to 3rd September, 2006. GLSS 5 is a nation-wide survey which collected detailed information on issues, including demographic characteristics of the population, education, health, employment and time use, migration, housing conditions and household agriculture. GLSS data sets are mainly collected to understand poverty and welfare levels in the country. GLSS 5 covered 8687 households involving 37128 individuals. These households lived in 580 enumeration areas. The 2005/06 GLSS

[14] This was the fifth consecutive time such a survey was conducted in Ghana

contained information on child labour and child schooling of 22205 children aged 7-14 years (17814 in the rural areas and 4391 in the urban areas).

4.6 Method of Analysis

In reality, individuals are confronted with a number of factors (economic, demographic, social, etc.) simultaneously. Hence, a multivariate analysis is used to look at how the independent variables interact to influence child labour and schooling decision. The p-values that are reported from using STATA 11 at 90%, 95% and 99% confidence levels are used to either reject or fail to reject the null hypothesis that the variable in question is statistically insignificant. Since the dependent variables (child labour and schooling) are considered binary in this study, a logistic regression is used for the estimation in the multivariate analysis.

CHAPTER FIVE

PRESENTATION AND DISCUSSIONS OF RESULTS

5.1 Introduction

This chapter first presents the descriptive statistics for both the dependent variables and regressors used in the study. The dependent variables are child labour (children's participation in the labour market) and schooling (school attendance). The child labour variable has been considered as whether or not a child of basic school age (that is 7-14 years) worked during the last 7 days preceding the survey interview. The age limit defines the age for which the child is expected to be in basic school. The schooling variable is considered as whether or not the child is currently in school.

The regressors include age and the squared age of the child, sex of the child, child's relation with the household head, parents' educational level (father and mother), the sex of the households head, the ethnic group and religious inclination of the households head, households size, households poverty status, households ownership of land, households ownership of livestock and households location.

This chapter provides the results from the logistic regression model and discuss the various significant factors in each sample in order to contribute to the existing literature and also see how they follow or contrast existing studies on child labour, schooling and poverty.

5.2 Descriptive Statistics for the Dependent variables

5.2.1 Child Labour (Children's Participation in the Labour Market)

The definition of work as used in the survey by the Ghana Statistical Service refers to any activity performed by a household member that contributes to economic production (to sell in a market, consume within the household or exchange with someone else for another product). Examples are working in an enterprise or for the government, working in one's own farm or enterprise, and working in a household member's farm.

As evident in chapter two of this study, rural dwellers are on average poorer compared to the urban dweller. Table 5.1 shows the extent of child labour (that is whether the child worked in the last 7 days preceding the survey interview) in the rural and urban areas.

Table 5.1: The Extent of Child Labour in the Rural and Urban Areas

Place of Residence	Child Worked	Frequency	Percentage	Cumulative
Rural	Yes	3,221	19.77	19.77
	Otherwise	13,070	80.23	100.00
	Total	16,291	100.00	
Urban	Yes	193	4.44	4.44
	Otherwise	4151	95.56	100.00
	Total	4,344	100.00	

Source: Compiled by the author from GLSS 5 data

Relatively, children in the rural areas are engaged in economic activities than those from the urban areas. The results from Table 5.2 indicate that about one out of every five children (19.45percent) in the rural area took part in an economic activity seven days prior to the survey but in the case of the urban, only 4.51 percent of the children took part in an economic activity. One possible explanation for the high number of child labour in the rural areas relative to the urban areas is that most working children are engaged in

agriculture (main activity in the rural areas), which is also the main activity children's are involved.

5.2.2 Schooling Decision (School Attendance)

Regardless of the fact that basic education is compulsory in Ghana, not every basic school aged child is in school (GSS, 2008). Table 5.2 presents a summary on the extent of children's school attendance for both the rural and urban samples as recorded in the GLSS round 5.

Table 5.2: The Extent of Children's School Attendance in the Rural and Urban Areas

Place of Residence	School Attendance	Frequency	Percentage	Cumulative
Rural	Child in School	12,620	77.47	77.47
	Otherwise	3,671	22.53	100.00
	Total	16,291	100.00	
Urban	Child in School	4,033	92.84	92.84
	Otherwise	311	7.16	100.00
	Total	4,344	100.00	

Source: Compiled by the author from GLSS 5 data

Basic education is free in all public (and some mission) schools and compulsory for all children within the 7 and 14 years age group. Therefore one would expect all basic school aged children to be in school. Unfortunately, a notable number of children are not in school. Table 5.2 shows clearly a number of basic school aged children who are not in school especially in the rural areas (22.12 percent of basic school aged children were not in school in the rural areas). It could probably be that children from the rural localities place less value on education than their urban counterparts. The difference can also be

attributed to the difference in the availability of basic school facilities in the two localities.

The descriptive statistics of the dependent variable gives an indication that school attendance is much lower and child labour much higher in the rural areas than urban area.

5.3 Descriptive Statistics for the Independent variables

5.3.1 Descriptive Statistics for the Discrete Independent variables

Table 5.3 presents the descriptive statistics for explanatory variables (that is, child's age and household size) that are considered discrete in the study.

Table 5.3: Descriptive Statistics for the Discrete Independent Variables

	NATIONAL SAMPLE		RURAL SAMPLE		URBAN SAMPLE	
Variable	**Child's age**	**Household size**	**Child's age**	**Household size**	**Child's age**	**Household size**
Observation	20635	20635	16291	16291	4344	4344
Mean	9.8626	6.1289	9.7939	6.2274	10.1201	5.7594
Standard Deviation	2.2412	2.7986	2.2288	2.9478	2.2688	2.1083
Minimum	7	2	7	2	7	2
Maximum	14	29	14	29	14	18

Source: Compiled by the author from GLSS 5 data

Generally, urban areas tend to have smaller household sizes than the rural areas. However, Table 5.3 does not much difference in the average household size for both the urban sample and rural sample. Both areas have a household size of about six (6) members with a standard deviation of approximately three (3) members. The minimum

and maximum household sizes were 2 and 18 for urban and 2 and 29 for the rural households.

Again, Table 5.3 does not show much difference in the average ages for both urban and rural areas; an average age of approximately 10 years for each area with standard deviations of about 2 years is indicated. It could probably be that the statistics have been affected by the definition of age group used in this study.

5.3.2 Descriptive Statistics for the Categorical Independent variables

The descriptive statistics from the full sample as well as the sub-samples are presented in Table 5.4. About 51 percent of the national samples were boys and 48 percent girls. Majority of children in each sample related to the household head as biological children (75.28 percent for the rural sample and 72.05 percent for urban sample). About 11.68 percent of the rural children in the sample and 13.54 of the urban children were the grandchildren of the household head. The remaining 13.04 percent of the rural children and 14.41 percent for the urban were either, adopted/foster children, step children or non-relative. The difference in the sample can be attributed to the use of domestic help in most urban households.

There was also a notable difference regarding the level of education of the father and mother in the rural and urban samples. Given that most of the educational facilities are easily available in the urban areas than in the rural areas may have accounted for such a

difference. An encouraging feature is the proportion that had only basic education in both samples.

Table 5.4: Descriptive Statistics for Categorical Independent Variables

Variable	National Percentage	Rural Percentage	Urban Percentage
Sex of the Child			
Male	51.04	52.37	46.06
Female	48.96	47.63	53.94
Household Head			
Male	49.61	50.39	46.69
Female	50.39	49.61	53.31
Relationship to the Head of the Household			
Child	74.60	75.28	72.05
Grand child	12.07	11.68	13.54
Distant Relative	13.33	13.04	14.41
Father's Educational Level			
No Formal Education	48.38	54.14	31.21
Primary	43.32	40.52	51.66
At Least Secondary	8.30	5.34	17.12
Mother's Educational Level			
No Education	68.36	72.33	54.56
Primary	28.82	25.82	39.24
At Least Secondary	2.82	1.85	6.20
Household Poverty Status			
Very Poor	29.22	35.06	7.32
Poor	11.68	13.21	5.94
Non Poor	59.10	51.73	86.74
Household own any Land			
Yes	61.68	66.81	42.43
No	38.32	33.19	57.57

Descriptive Statistics Continued

Variable	National Percentage	Rural Percentage	Urban Percentage
Ownership of Livestock			
Yes	77.06	84.92	52.58
No	22.94	15.08	47.58
Ethnic group			
Akan	36.98	33.38	50.50
Ga – Dangbe	5.27	5.06	6.06
Ewe	12.01	12.40	10.51
Guan	5.48	5.04	7.15
Mole – Dagbani	20.68	22.07	15.49
All other tribes	19.58	22.06	10.28
Religious Denomination			
Catholic	16.85	18.16	11.78
Protestant	12.10	10.78	17.04
Other Christian	37.90	36.39	43.57
Muslim	18.00	16.40	24.02
Traditional	15.16	18.28	3.43

Source: Compiled by author from GLSS 5 data

The descriptive statistics for the ethnic group variable shows that about half (50.50 percent) of the urban sample were Akans compared to the rural sample's 33.38 percent. This is obvious, given that two of the urban localities (urban coastal and urban rural) are mainly occupied by Akans. There is not much to be said in terms of the relative difference in the other ethnic groups. One striking feature with respect to the religious inclination variable was the difference in traditional religious group. While only 3.43 percent of the urban samples belong to the traditional religious group, the corresponding statistic for the rural sector was 18.28 percent. The relative difference in that religious

group can also be attributed to Ghana's rural setting. Most rural folks are traditional worshippers.

Households' poverty status is introduced to investigate the influence poverty has on the dependent variable. The result from the descriptive statistics in Table 5.4 showed that, relatively rural household are poorer compared to their urban counterpart. According to a study by the Ghana Statistical Service (GSS, 2007) poverty in Ghana has remained a disproportionately rural phenomenon up till now (GSS, 2007).

Table 5.5: Decision Concerning Children's Labour Market Participation and Household Poverty Status (In percent)

Child Worked	Household Poverty Status		
	Very Poor	Poor	Non Poor
Yes	27.22	15.65	11.50
Otherwise	72.78	84.35	88.50
Total	100.00	100.00	100.00

Source: Compiled by author from GLSS 5 data

Table 5.6: Decision Concerning Children's School Participation and Household Poverty Status (In percent)

Child in School	Household Poverty Status		
	Very Poor	Poor	Non Poor
Yes	63.12	80.52	89.43
otherwise	36.88	19.48	10.57
Total	100.00	100.00	100.00

Source: Compiled by author from GLSS 5 data

Table 5.5 indicates that relatively, children from the very poor households participate in the labour market more than those from non-poor households. About one fourth of children (27.22 percent) from the very poor households were involved in the labour market. The corresponding statistic for non-poor households was 11.5 percent (approximately one (1) out of 10). Table 5.6 also indicates that 36 percent of children in

the very poor households were out of school as against 10 percent of children in the non-poor household. Table 5.5 and 5.6 therefore gives an indication that school attendance is much lower and child labour much higher for the very poor households.

The descriptive statistics result in Table 5.4 further indicates that the proportion of female headed households is higher in the urban areas (53.31 percent) than the rural areas (49.61 percent). The proportion of female headed households in the urban areas indicates that most women in Ghana are gradually becoming independent.

5.4 Presentation and Discussion of Logistic Results

This section of the study presents the results from the logistic estimations. Section 5.4.1 looks at the determinant of child labour and 5.4.2 looks at schooling in Ghana. In order to assess the established gender difference in the literature (see Sasaki and Temesgen, 1999; Ray, 2002; Niels-Hugo and Verner, 2000), separate regressions are run for boys and girls. The results for the full sample as well as the results for the various sub-samples are presented in Table 5.7 and 5.8.

5.4.1 Determinants of Child Labour in Ghana

The logistic regression model is used to investigate which variables are significant in determining child labour in each sample. Here, the dependent variable assumes a value of one (1) if the child participated in any economic activity in the last seven (7) days

preceding the survey interview and zero (0) if otherwise. Table 5.7 presents the findings from the model.

Table 5.7: Logistic Result for Child Labour

VARIABLES	NATIONAL SAMPLE		BOYS		GIRLS	
	Coefficient	**dy/dx**	**Coefficient**	**dy/dx**	**Coefficient**	**dy/dx**
Age	0.7914***	0.0809***	2.677***	0.2663***	0.2299	0.0229
	(0.2781)	(0.02833)	(0.4738)	(0.0447)	(0.3885)	(0.0387)
Age squared	-.0319**	-0.0032**	-0.1227***	-0.012***	-0.00301	-0.0003
	(0.013)	(0.00133)	(0.02233)	(0.0021)	(0.0183)	(.00182)
Sex	0.3401**	.0348**	-	-	-	-
	(0.15504)	(0.01582)	-	-	-	-
Relatnshp to hsehld head						
Child	0.4021	0.0411	-0.5136	-0.0511	-	-
	(0.4828)	(0.0493)	(.60755)	(0.06039)	-	-
Grand Child	-1.031***	-0.1055***	-1.726***	-0.171***	-1.33***	-.1327***
	(0.1266)	(0.0125)	(0.2355)	(0.0215)	(0.1944)	(0.01863)
Distant Relative			REFERENCE CLASS			
Father's eductn level						
None			REFERENCE CLASS			
Basic Education	-1.26***	-0.1289***	-1.175***	-0.117***	-1.476***	-.1471***
	(0.17136)	(0.01714)	(0.2811)	(0.0273)	(0.2438)	(0.02374)
At least Sec Sch education	-2.141***	-0.2191***	-1.738***	-0.172***	-	-
	(0.4202)	(0.04256)	(0.5973)	(0.0589)	-	-
Mother's educatnal level						
None			REFERENCE CLASS			
Basic Education	0.34471*	0.0352*	0.7662**	.0762**	0.9506***	0.0947***
	(0.1883)	(0.01924)	(0.31005)	(0.0306)	(0.28007)	(0.02766)
At least Sec Sch education	0.60707	0.0621	2.426***	0.2414***	-	-
	(0.47207)	(0.04827)	(0.5748)	(0.0559)	-	-
Household head	0.451***	0.0461***	0.4755*	0.0473*	0.3916*	0.03903*
	(0.1511)	(0.01539)	(0.26368)	(0.0261)	(0.221)	(0.02203)
Ethnic groups						
Akan	-.00793	-0.00081	-2.046***	-.2036***	0.731***	0.0729***
	(.19204)	(0.0196)	(.3554)	(0.0335)	(0.272)	(0.0269)
Ga – Dangbe	0.2619	.0268	-0.1394	-0.0138	0.2825	0.0281
	(0.2953)	(0.03021)	(0.4604)	(0.0457)	(0.4175)	(0.0416)
Ewe	0.4013*	.04107*	-0.885**	-0.0880**	0.1134	0.0113
	(0.22908)	(0.0234)	(0.3883)	(0.0383)	(0.3435)	(0.0342)
Guan	-.4606	-0.04714	-	-	0.9992***	0.0995***
	(0.3075)	(0.03143)	-	-	(0.372)	(0.0368)
Mole – Dagbani	0.698***	0.0714***	1.393***	.1386***	0.323	0.0321
	(0.1578)	(0.0159)	(0.2746)	(0.0262)	(0.2211)	(.02198)
All other tribes			REFERENCE CLASS			

Logistic Result for Child Labour Continued

VARIABLES	NATIONAL SAMPLE		BOYS		GIRLS	
	Coefficient	**dy/dx**	**Coefficient**	**dy/dx**	**Coefficient**	**dy/dx**
Poverty Status						
Very poor	0.4594***	0.04701***	-0.2247	-0.0223	1.091***	0.1088***
	(0.1501)	(0.01525)	(0.252)	(0.02506)	(0.2262)	(0.02196)
Poor	0.4464**	0.0456**	1.441***	0.1434	0.02959	0.0029
	(.1739462)	(0.01777)	(0.2901)	(0.02802)	(0.2811)	(0.02801)
Non poor			REFERENCE CLASS			
Religious Denomination						
Catholic	0.1707	0.01746	0.5177	0.05151	-0.1059	-0.0105
	(0.175)	(0.01789)	(0.3159)	(0.0313)	(0.2419)	(0.0241)
Protestant	0.8035***	0.0822***	2.646***	0.2633***	-0.037	-0.00368
	(0.251)	(0.0255)	(0.4514)	(0.0427)	(0.3612)	(0.03599)
Other Christians	-0.1219	-0.0124	0.08009	0.00796	-0.0059	-0.00058
	(0.1929)	(0.0197)	(0.32293)	(0.03213)	(0.261)	(0.02601)
Moslems	0.7318***	0.0748	0.4693	0.04670	0.782***	.0779***
	(0.1934)	(0.01961)	(0.3371)	(0.0334)	(0.2643)	(0.02602)
Traditional			REFERENCE CLASS			
Household size	0.00512	0.00052	-0.01736	-0.0017	0.00365	0.00036
	(0.01803)	(0.00184)	(0.0331)	(0.0032)	(0.0233)	(0.0023)
Own a land	-0.2304**	-0.0235**	-0.3853*	-0.03834*	-0.3343**	-.0333**
	(0.1133)	(0.01158)	(0.2103)	(0.0208)	(0.1596)	(0.0158)
Livestock ownership	0.5459***	0.0558***	-0.08119	-0.00807	1.001***	0.0997***
	(0.1991)	(0.02031)	(0.3171)	(0.0315)	(0.2977)	(0.0294)
Household residence						
Accra (GAMA)	-0.75306	-0.07706	-	-	0.4144	0.0413
	(1.0709)	(0.1096)	-	-	(1.1308)	(0.1126)
Other Urban	-2.196***	-0.2247***	-3.336***	-0.332***	-2.874***	-0.286***
	(0.4323)	(0.04406)	(0.7116)	(0.0685)	(0.5966)	(0.0592)
Rural forest	1.142***	0.1169***	2.073***	0.206***	0.5998*	0.0597*
	(0.2251)	(0.02281)	(0.39717)	(0.0382)	(0.3111)	(0.0309)
Rural savannah	1.063***	.1088***	1.582***	0.157***	0.2265	0.02257
	(0.2378)	(0.02419)	(0.4291)	(0.0422)	(0.3187)	(0.0317)
Rural coastal			REFERENCE CLASS			
_cons	-7.66***		-15.882***		-4.849**	
	(1.481)		(2.445)		(2.084)	

***, ** and * mean significant at 1%, 5% and 10% levels of significance respectively.
Robust standard errors are in parentheses.

	National	Boys	Girls
Number of observations	3617	1432	1941
Pseudo R2	0.2725	0.3811	0.2563

Prior to the estimations for the study, it was expected that the age of the child should influence children's participation in the labour market positively. This variable was significant in the national and boys' sample (at 1 percent significant level), but lacked significance in the girls' sample.

The results suggest that, holding all other factors constant, as boys' increases in age, they are more likely (26 percentage point more) to participate in the labour market than the girl child. This could be attributed to the kinds of job children participate, usually manual (mainly agricultural and informal activities). Male children are often suited for such tasks; hence it is likely that all other things being equal, older boys are better suited for this kind of work than their younger counterparts. The significance of the estimated coefficients on the quadratic term of child's age in the boys' equation suggests that boys tend to withdraw from the labour market as they grow into their teens. The findings from this study contrast the study in Cameroon by Ndjanyou and Djienouassi (2010) and the study in Ghana by Canagarajah and Coulombe (1997). These studies found that the marginal propensity of children to carry out a job increases with age, except among boys.

The existence of a gender gap in the literature - girls are more likely to work than boys – seems not to be a fairly well established result. The results from this study suggest that, boys are more likely to work (3 percentage point more likely) when all other variables are held constant. This finding differs from the study (for Peru) by Sasaki and Temesgen (1999) that girls are more likely to work than boys to subsidize the building up of the human capital of their brothers. However, the finding from this study confirms the study by Patrinos and Psacharopoulos (1995) that boys are more likely to be involved in the labour market than girls.

The logit estimates further suggest that the head of the household (usually a parent of the child) plays an important role in child labour decision. Using distant relatives as the reference category, grand children of the households head variable was significant in determining child labour in all the samples. According to the results, being a grandchild of the households head reduces the likelihood of being engaged in economic activities (at 1 percent level of significance). In the national sample, the probability of a grandchild engaging in child labour is a 10 percentage point less than the probability of the reference category when all other variables are held constant. Being a biological child of the households head seems not to influence children's participation in the labour market; this is because it lacked significance in all the samples. The result from this study differs from Bhalotra and Heady (2000) study. They found that children of the household head are more likely to be in work in rural Pakistan.

The level of education, given the number of successful years of study, is one of the factors widely accepted in the literature to influence child labour. The higher the educational level of the parents, the more likely children are spared from the labour market. Using fathers with no formal education as the reference category, fathers with basic education and at least secondary education variables were significant in determining child labour. According to the results, fathers with basic education are less likely to send their children into child labour than their counterparts with no formal education; assuming fathers makes all relevant decisions regarding child labour in the household. The probability of a child whose father has had at least secondary education to engage in child labour was 21 percentage points less than their counterparts with no formal education in the national sample.

Using mother with no formal education as the reference category, mothers with basic education coefficient was significant in all the samples. In practice, it is difficult to know who the head of the household is; it is therefore reasonable to assume that even if the mother is not the household head, her decisions are vital. Holding all other factors constant, the results suggest that, nationally, mothers with basic education are more likely (3 percentage point less) to engage their children in economic activity. The probability of mothers with at least secondary education to send their ward into child labour lacked significance in the national sample. Surprisingly, in the boys' sample, mothers with at least secondary education were 24 percentage points more likely to engage their children in economic activity holding all other factors constant. In the literature, Canagarajah and Coulombe (1997) found a negative effect of fathers' secondary level education on child labour but no effect of mothers' in Ghana.

Male headship of the households also increases the probability of engaging children into the labour market. The coefficient of the households' head variable was significant in all the samples. However, in the literature, it is children living under the care of female headed households that are more likely to engage children into child labour (see Bhalotra and Tzannatos, 2003; Ray, 2000). According to Ray (2000), female headed households are more vulnerable to poverty, hence more likely to depend on child labour than the male headed households.

Empirically, it is fairly difficult to test directly the role land and livestock ownership plays in explaining child labour. These assets act as a source of income for most rural households. The ownership of these assets by households partly makes them insured against income risk (Dawit, 2010). The logit estimates (see Table 5.7) indicate that a

child from households that owns land is less likely to be engaged in child labour (2 percentage point less likely) all other things being equal. On the other hand the coefficient of the livestock ownership increases the probability of child labour in the household all other things being equal. One possible explanation for such a result could be that livestock production requires more labour particularly that of children hence the positive association between child work and livestock ownership.

Again, the results from this study further suggest that the religious and ethnic groups of the household head are a significant in determining child labour. The role of religion and ethnic groups in child labour decisions cannot be underestimated in Ghana since majority of Ghanaians are attached to a belief system. The statistical significance and positive signs (in the national sample) of the Protestant and the Islamic religious group dummies suggest religion to play an important role in determining child labour. Canagarajah and Coulombe (1997) did not find religious inclination to influence children's involvement in the labour market.

Like religious dummies, the Ewes, and Mole–Dagbani dummies were statistically different from the reference category (all other ethnic group) in the national samples. Using the reference category, the Ewes were more likely to engage children in child labour (4 percentage points more likely in the national sample), holding all factors constant. In the case of the boys' samples the Ewes were less likely engage boys in child labour. The result further suggests that the Mole – Dagbani tribes are also more likely to engage children in child labour (7 percentage points more in the national sample and 13 percentage points more in the boys' samples).

Another notable finding relates to the location of the household. The results revealed that child labour is more of a rural phenomenon. Using children from rural coastal as the reference group, children from rural forest were 11 percentage points more likely to be engaged in child labour, all other things being equal. Similarly, children from the rural savannah were 10 percentage points more likely to be engaged in child labour compared to the reference group (rural coastal) all other things being equal. On the other hand, children from other urban were 22 percentage points less likely to be engaged in child labour, compared to the reference group, all other things being equal.

Poverty is of particular interest in this study. It is obvious that, by and large, poverty is an important reason why children work. If they were not to work, the survival of the entire family could be at stake. However, a striking finding from the empirical literature on child labour is that both its unconditional and conditional correlation with household poverty is small, and often insignificant. An insignificant income effect is reported, for example, in Sasaki and Temesgen (1999) and Patrinos and Psacharapoulos (1997) for Peru, Nielsen (1998) for Zambia and Ray (2000) for Pakistan. In a review of empirical studies of Cote d'Ivoire, Ghana and Zambia, Canagarajah and Nielsen (1999) conclude that there is not much evidence in favour of the view that poverty is a very important cause of child labour.

Parents engage their children in the labour market only when their income falls below a level considered as subsistence to the society (Basu and Van, 1998). The logit extimates from Table 5.7 suggests that poverty affects the likelihood of engaging children in child labour. Using non poor households as the reference category, the very poor households were found to be more likely (4 percentage points more likely in the national sample) to

involve their children in the labour market all other things being equal. The poor households were also found to be more likely (4 percentage points more likely) to engage their children in child labour compared to the non poor households, all other things being equal. The finding is very robust since it is found to be statistically significant for the full and the boys' samples in the case of poor households and the girls' samples in the case of the very poor households. While the impact is somewhat small, the link is very clear in the descriptive statistics. This confirms the expectation of a positive link between poverty and engagement in child labour activities, while contradicting the findings of Canagarajah and Coulombe (1997) and Nielsen (1998) in the literature.

The statistical significance of the very poor and poor dummies in the child labour equation lends strong support to the Basu and Van (1998) Luxury Hypothesis that the household resorts to child work when its income is below a certain threshold.

5.4.2 Child Schooling in Ghana

The logistic regression model is again used here because of the binary nature of the dependent variable. Here, the dependent variable assumes a value of one (1) if the child is in school and zero (0) if otherwise. The results are presented in Table 5.8.

Child's age variable was found to be positive and significant in the national and the girls' sample (at 5 percent significant level and 10 percent significance level respectively). However, it lacked significance in the boy's sample. The age squared variable was negative and significant (at 5 percent significant level) except for the boys sample. The

coefficient of the age variable suggests that all other things being equal, girls are more likely to be enrolled in school as they grow.

Table 5.8: Logistic Result for Child Schooling

VARIABLES	NATIONAL SAMPLE		BOYS		GIRLS	
	Coefficient	**dy/dx**	**Coefficient**	**dy/dx**	**Coefficient**	**dy/dx**
Age	0.4959**	0.0595**	-0.6667	-0.07707	0.6288*	0.07627*
	(0.2413)	(0.0289)	(0.4319)	(0.0498)	(0.326)	(0.0394)
Age squared	-.0239**	-0.00287**	0.0315	.00364	-0.03101**	-0.0037**
	(0.0114)	(0.0013)	(0.0204)	(0.0023)	(0.0155)	(0.00187)
Sex	-0.4916***	-0.059***	-	-	-	-
	(0.1455)	(0.0173)	-	-	-	-
Relatnshp to hsehld head						
Child	1.531**	0.1838**	1.476*	.1706*	1.7738	0.2151
	(0.6767)	(0.081)	(0.845)	(0.0971)	(1.2836)	(0.15553)
Grand Child	0.7939**	.0953**	1.29***	.1491***	0.6861***	0.0832***
	(0.113)	(0.01321)	(0.21006)	(0.0227)	(0.1548)	(0.0185)
Distant Relative			REFERENCE CLASS			
Father's eductn level						
None			REFERENCE CLASS			
Basic Education	1.337***	.1605***	1.946***	0.225***	1.177***	0.1428***
	(0.1513)	(0.0177)	(0.287)	(0.0313)	(0.1980)	(0.02363)
At least Sec Sch education	1.259***	0.1511***	-	-	0.4435	0.05379
	(0.3438)	(0.0411)	-	-	(0.3994)	(0.04840)
Mother's educatnal level						
None			REFERENCE CLASS			
Basic Education	0.7666***	0.09203***	1.064***	0.123***	.46205*	0.05603*
	(0.1813)	(0.02167)	(0.3399)	(0.0388)	(0.2384)	(0.0288)
At least Sec Sch education	-0.00524	-0.0006	-1.47**	-0.1699**	1.393	0.16901
	(0.4225)	(0.05072)	(0.5756)	(0.0659)	(1.053)	(0.12777)
Household head	0.1726	0.02072	-0.23073	-0.02667	0.3072	0.0372
	(0.1444)	(0.0173)	(0.2355)	(0.0272)	(0.224)	(0.0271)
Ethnic groups						
Akan	0.6084***	0.073***	1.579***	.1826***	0.2306	0.02797
	(0.1726)	(0.0206)	(0.32116)	(0.03575)	(0.2304)	(0.02793)
Ga – Dangbe	-0.3525	-0.0423	0.0344	0.00398	-0.592*	-0.0718*
	(0.2565)	(0.03079)	(0.44725)	(0.0516)	(0.3546)	(0.04298)
Ewe	0.5160**	0.06195**	2.417***	0.2794	-0.03053	-0.0037
	(0.2085)	(0.02495)	(0.4178)	(0.04567)	(0.2647)	(0.0321)
Guan	0.7194**	0.0863**	-	-	0.0432	0.0052
	(0.3391)	(0.0406)	-	-	(0.3673)	(0.0445)
Mole – Dagbani	-1.057***	-0.1269***	-1.083***	-.125***	-1.221***	-0.1481***
	(0.1455)	(0.0168)	(0.2608)	(0.0292)	(0.1993)	(0.0233)
All other tribes			REFERENCE CLASS			

Logistic Result for Child Schooling Continued

VARIABLES	NATIONAL SAMPLE		BOYS		GIRLS	
	Coefficient	**dy/dx**	**Coefficient**	**dy/dx**	**Coefficient**	**dy/dx**
Poverty Status						
Very poor	-0.104	-0.0124	-0.2465	-0.0284	0.1348	0.0163
	(0.1417)	(0.01701)	(0.24042)	(0.0277)	(0.1964)	(0.0238)
Poor	-0.6866***	-0.0824***	-1.56***	-0.18***	-0.5406**	-0.065**
	(0.1574)	(0.01872)	(0.28396)	(0.0313)	(0.2198)	(0.0265)
Non poor			REFERENCE CLASS			
Religious Denomination						
Catholic	1.271***	0.15265***	.6435**	0.07439**	1.544***	0.1872***
	(0.1658)	(0.01915)	(0.3184)	(0.0365)	(0.20878)	(0.0239)
Protestant	1.475***	0.1771***	-0.08350	-0.00965	2.139***	0.2594***
	(0.2928)	(0.0347)	(0.54226)	(0.0626)	(0.37099)	(0.0441)
Other Christian	0.3754**	0.04507**	-0.8667***	-0.100***	.92503***	0.1121***
	(0.1679)	(0.02007)	(0.32601)	(0.037)	(0.2068)	(0.0245)
Moslem	1.117***	0.1341***	0.4635	0.0535	1.437***	0.17439***
	(.18511)	(0.0217)	(0.3317)	(0.0382)	(0.2414)	(0.0282)
Traditional			REFERENCE CLASS			
Household size	0.1165***	0.0139***	.08626***	.0099***	0.1183***	0.01435***
	(0.0203)	(0.00239)	(0.0335)	(0.0038)	(0.0287)	(0.0034)
Own a land	-0.2134**	-0.0256**	0.1581	0.0182	-0.3338**	-0.04049**
	(0.1037)	(0.0124)	(0.1918)	(0.0221)	(0.1386)	(0.01675)
Livestock ownership	0.4007***	0.0481***	1.30***	0.1503***	0.1413	0.01714
	(0.1461)	(0.0174)	(0.2649)	(0.0297)	(0.1952)	(0.0236)
Household residence						
Accra (GAMA)	-0.9089*	-0.1091*	-	-	-1.7619***	-0.213***
	(0.5058)	(0.0606)	-	-	(0.5763)	(0.06956)
Other Urban	0.41509*	0.04983*	1.707***	0.1974***	0.0686	0.00832
	(0.2211)	(0.0265)	(0.4621)	(0.0523)	(0.2828)	(0.0343)
Rural forest	-0.26405	-0.0316	-0.5388*	-0.0622*	-0.427	-0.05179
	(0.1839)	(0.022)	(0.3196)	(0.0368)	(0.2608)	(0.0316)
Rural savannah	-0.09534	-0.01144	-0.42104	-0.04867	-0.08609	-0.01044
	(0.1974)	(0.0237)	(0.3442)	(0.0397)	(0.268471)	(0.0325)
Rural coastal			REFERENCE CLASS			
_cons	-3.184**		1.97*		-3.497**	
	(1.264)		(2.213)		(1.7007)	

***, ** and * mean significant at 1%, 5% and 10% levels of significance respectively.
Robust standard errors are in parentheses.

	National	Boys	Girls
Number of observations	3617	1342	2100
Pseudo R2	0.2507	0.3670	0.2072

The significance of the age squared variable suggests that as girls grow into their teen they tend to withdraw from school. In Ghana, most girls have been reported as absent in the Basic School Certificate Examination (BECE) due to teenage pregnancy, thus may probably be the cause of their withdrawal from school at their teen. The finding is somewhat not different from the study by Canagarajah and Coulombe (1997). They found that the probability of going to school increases with age until 11 years and then starts to decline.

The logit estimates again reveals that boys are less likely to be in school (5 percentage point less) when all other variables are held constant. The coefficient was significant at the 1 percent level. The establishment of the Girl child education unit in 1997 along with the "send your girl child to school campaign" that made waves in the various television and radio networks in Ghana to sensitize parents and communities on the importance of girl child education could be an explanation to such a result. It could also be that society is now enlightened hence girls are no more discriminated against as it used to be in the past. This findings however, contrast the study by Nielsen (1998); and Sasaki and Temesgen (1999); that girls are less likely to be in school than boys. In explaining the gender gap in schooling in favour of boys, Bhalotra and Heady (2001) suggested that the perceived return to school for boys is larger than for girls.

This study further finds that the biological children and grandchildren of the households head variables were significant in determining child schooling in Ghana. Using distant relatives as the reference category, the biological children and grandchildren of the households head variable were positive and statistically significant at 5 percent in the national samples. Cockburn (2001) also assessed this variable in probit for Ethiopia and

found that children of the households head are more likely to attend school. The result from this study also confirms the findings of Ndjanyou and Djienouassi (2010) that children of the households head are more likely to be in school.

Again, it was expected prior to estimating the result for the study that the higher the educational level of the parents, the higher the likelihood that a child will be in school all other things being equal. Using fathers with no formal education as the reference category, the variable for basic education and at least secondary education were significant in determining schooling in Ghana. According to the results from this study, fathers with basic education are more likely to send their children to school than their counterparts with no formal education all other things being equal. The coefficient of fathers who have had at least secondary education also influenced child schooling positively.

Again, using mothers with no formal education as the reference category and holding all other factors constant, the logit results (see Table 5.8) suggest that, nationally, mothers with basic education are more likely (9 percentage point more likely in the national sample) to send their children to school assuming their decisions influence the household's decision. The result confirms findings of Canagarajah and Coulombe (1997) that mothers' education has a positive effect in children's school participation.

The coefficient of households' ownership of livestock variable suggests that children from such households' are likely to be in school. The effect is more pronounced for boys than girls (the coefficient is not significant in the case of girls' sample). Households' ownership of land variable on the other hand suggests that, all other things being equal,

children from such households are 2 percentage points less likely to be in school (national sample).

All else being equal, the Catholic, Protestant, other Christians and Islamic religious group variables were found to be positive and statistically different from the reference category (Traditional religious groups) in the national samples. Households' heads belonging to the Catholic religious groups were 15 percentage points more likely to send their children to school. The Protestants were 17 percentage points, other Christian 4 percentage points and Islamist, 13 percentage points more likely to send their children to school (in the national sample). This clearly reveals that religious groups have much influence not only on the values of education in societies but also on the facilities they make available through free or subsidized education facilities, which provides the incentive for parents to send children to school. In Ghana many good primary schools are run by Churches or Church organizations and they definitely have a key role in school participation behaviour. The effect of religion, by the results from this study is not different from an earlier study that included religion as a determinant (see Canagarajah and Coulombe (1997).

In the ethnic dummies the Akans, Ewes, Guans and Mole – Dagbani were statistically different from the reference groups in the national samples. Using all other tribes as the reference group, the Akans were 7 percentage points, Ewes 6 percentage points, and the Guan 7 percentage points more likely to send their children to school all else being equal (in the national sample). On the other hand, holding all factors constant households' head belonging to the Mole –Dagbani tribe were less likely to send their children to school compared to the reference category.

Regarding the role of household location, the results from the logit estimate indicated that children living in the other urban localities were more likely (4 percentage points more likely in the national samples and 19 percentage point more likely in the boys' samples) to be in school than children residing in the rural coastal (reference group) localities in Ghana. Surprisingly, children from households residing in the Greater Accra Municipality were less likely to be in school compared to children residing in the rural coastal (reference group). Although the coefficient of the rural forest and rural savannah variable had the negative sign as expected, it lacked significance in the national and girls' samples. The impact of place of residence predicted by the results from this study is not different from earlier findings by Nielsen (1998) for Zambia, and Ndjanyou and Djienouassi (2010) for Cameroon.

According to Patrinos and Psacharopoulos (1997) children from larger households are less likely to enrol their children in school because resource per person is smaller in larger households. However, the results from this study indicate otherwise. The results showed a significantly (1 percent level of significance) positive relationship between the household size and schooling in all the samples. The results suggest that large household size increases the probability of a child attending school. It can be argued that the introduction of the capitation grant and the compulsory nature of basic schooling have compelled household who otherwise would have been constrained by resource to send their children to school.

Finally, the result from table 5.8 indicates that all else being equal, children from the poor households are less likely to be in school compared to the non-poor households. This finding is statistically significant for the full samples as well as the boys' and girls'

sample. Contrary to expectation, the very poor households' variable had no impact on child schooling in Ghana although it had the expected sign in the national and boys' equation, it lacked significance.

5.5 Summary of Findings

The results revealed that quite a number of children are not in school (22.12 percent for rural and 7.13 percent for urban children). Information from the survey shows a number of children were into child labour in both localities (19.45 percent of children in the rural areas).

The descriptive statistics for the discrete independent variables did not show much difference in household size for the rural and urban areas. With the categorical variables, there were quite some differences. While majority of the parent of children from the rural areas had no formal education, their counterparts in the urban areas had at least basic education. Similarly, percentage wise, majority of children in the rural samples were from the very poor households relative to the urban samples.

Evidence from the descriptive statistics indicates that an appreciable number of female were regarded as households' head in the urban areas. Ownership of economic asset in the form of land and livestock were revealed to be more of a rural phenomenon. Also, from the descriptive statistics, there was not much rural-urban difference in variables like the child's relationship to the household head, and the households' heads religious inclination and ethnic group.

Generally, the results from the child labour estimations suggest that; the age and sex (male) of the child increases the likelihood of child labour except in the case of girls' equation; households' poverty also increases the probability of engaging children in child labour; households ownership of livestock increases the likelihood of child labour whiles households ownership of land reduces the likelihood of child labour; the higher the educational level of the father, the less likely a child will be in the labour market; and the religious inclination, ethnic group of the households head and where a household is located affects child labour.

The logistic results for schooling indicate that; the age of the child affects schooling positively except in the case of boys; households' poverty affects child schooling negatively; households' ownership of livestock increases the likelihood of a child schooling; the educational level of the father also affect child schooling positively; the child's relation to the households head, the religious inclination and ethnic group of the households head affects child schooling; the sex of the child is also an important determinant of child schooling.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

6.1 Introduction

Child labour is a problem particularly in the sub – Saharan Africa (sub – Saharan Africa has the highest incidence of child labour – ILO, 2010). It limits the human capital and the earning potential of the child. Education is a crucial component of any effective effort to eliminate child labour. Good and effective education is believed to be very critical in a country's growth and development process. Unfortunately, the numbers of children who are not in school and those who are engaged in the labour market have a negative consequence for the families involved and the nation at large. Given that a child of a basic school-age has a right to free and compulsory education, a further reduction in child labour will be central to the millennium development goals set to be achieved by the year 2015. Section 6.2 presents the summary of the study and the related conclusions based on the findings from the logistic regression analysis. Some policy recommendations are given in section 6.3.

6.2 Summary and Conclusions

Ghana, since independence, has made significant strides in her educational system. The Government has also put in place a broad institutional framework to address issues of

child labour. Despite the major policy initiatives adopted by past governments as well as the present one, children of basic school age continue to participate in the labour market at the cost of their human capital formation. Evidence also shows that the poor households are the ones that are affected the most.

The incidence of child labour in certain parts of the country particularly in the rural areas (where most households are considered poor) denies some children the right to basic education thus, affecting their human capital development and hence perpetuating poverty.

This study sought to explore the link between child labour, schooling and poverty using data set from the 2005/06 Ghana Living Standards Survey. The specific objectives were; to identify the determinants of child labour, to identify the determinants of schooling and to study the extent to which poverty influence child labour and schooling for basic school aged children in Ghana.

Although most of the previous studies have established fairly a gender gap in schooling in favour of boys, there does not seem to be consistent evidence of discrimination in child labour in the literature. Again, the often hypothesized relationship between poverty and child labour seems not well grounded in empirical studies. From a premise that child labour conflicts with the human capital accumulation of the child, an attempt is made in this study using a logistic model to assess the determinants of child labour and schooling paying particular attention to the role poverty plays and assess the gender aspect of the determinant.

Based on the existing theoretical and empirical literature, some variables like child's age, sex of the child, child's relation to the household head, the sex of the head of the household, the ethnic group and religious inclination of the household head, household size, the father's and mother's level of education, household poverty status, household ownership of productive assets (land and livestock) and the household location were assessed.

The descriptive statistics indicate that one out of every five children in the rural areas was into child labour. Similarly, one out of every five children in the rural areas was not attending school.

The findings from the regression results established a gender gap in schooling – in favour of girls. Child labour in Ghana is also found to be more of a rural phenomenon. The result also established that children from poor households are more likely to participate in the labour market. The corresponding relationship with schooling shows that poverty reduces the likelihood of a child being in schooling.

Fathers with relatively high levels of education have a significant influence on reducing the likelihood of child labour. The results of the regression also indicate that, the religious inclination and ethnic groups of the household head are important in determining child labour and schooling.

Finally, the variable for household ownership of land showed a significantly negative relationship with child labour and schooling variables, whilst the livestock ownership variable showed a significantly positive relationship with child labour and schooling variables.

6.3 Policy Recommendations

Targeting and changing economic incentives through poverty reduction for the poor households nationally is one avenue that can be exploited if a reduction in child labour and improvement in school attendance, especially for children in the rural areas is to be achieved. The findings from the regression results established that children from poor households are more likely to participate in the labour market at the expense of their schooling and human capital development. The study therefore proposes that such households should be identified, and when necessary, be given cash incentives to alleviate their poverty on the condition that their children regularly attend school. One of such programmes, the Livelihood Empowerment against Poverty (LEAP) which was started in 2007, is still on a pilot scale and yet to cover all districts in Ghana.

Again, the study recommends that, financial institutions that give out credit be encouraged to target such households and make available and accessible credit to enable such households to run and sustain their own businesses.

Where a household resides affect the likelihood of a child's engagement in child labour and the probability of being out of school. The study therefore proposes that the government of Ghana should readily make available more basic school facilities in the rural localities where child labour is evident to persuade children in such localities to be in school rather than actively participating in the labour market.

Institutions responsible in dealing with child labour issues should also be located in the rural communities where the act is going on. Other non-governmental organizations and

stakeholders should also be encouraged to lend a helping hand in the provision of basic school facilities to such communities.

Child labour force participation increases with age especially for boys. Therefore, the study recommend that policy makers should target older male children who are not enrolled in any basic school for various reasons and the older girls who are not in school and empower them with vocational skills.

Special attention should also be paid to parents (especially fathers) who have not had any formal education. The study therefore suggests that the Ghana Education Service should encourage local schools to organise drama (focusing on the need for schooling), debates, quiz competitions and other extra-curricular activities for basic school children in communities with lots of adults with no formal education to sensitize them on the need for basic school education.

The basic school education should be made "truly" free and compulsory to all basic school aged children. This will allow all children who hither to might be out of school to get the opportunity to be in school and reduce their participation in the labour market. The trade mark of the free and compulsory basic education should be quality education.

Male headship of households increases the likelihood of child labour. Given the important role the head of the household plays (usually the parent of the child) in the Ghanaian cultural setting, the study recommends legislation to be passed to make household heads who are fathers to be liable for the expenses on their children's education and their upkeep.

Finally, the study recommends that the campaign against child labour in favour of school should continue to be a major preoccupation of the government as well as non – governmental organizations, setting standards and raising awareness of the rights of children. The Government should not only campaign against child labour but should be able to identify areas where this phenomenon is still going on in Ghana and have in place mechanisms to control it.

6.4 Limitation of the Study

The kind of variables that were included in the estimation solely depended on the variables that were recorded in the 2005/06 GLSS because the study relied on secondary data. This means that some other relevant variables that were not available in the data were not included in the analysis. For instance, a variable like the quality of schools in the locality will be important in determining whether or not a child will be in school or not. Also, even though other equally important variables were captured, the issue of missing values in data set made it difficult for it to be used in the estimation.

6.5 Recommendation for further Studies

The results from the study raise questions that need to be answered in further research. Does household ownership of land or the size of land owned or the mode of operation (share cropping and among others) reduce the likelihood of children's participation in the labour market or it reduces child schooling in Ghana? Does household ownership of

agricultural asset in the form of livestock increase child labour and school attendance? For instance, small ruminants require less cash and capital to buy and maintain relative to labour. Ownership of large or herding animals requires more labour, particularly that of children. In order to examine the effect of these assets on child labour and school attendance, these assets should be disaggregated. It is therefore important that a study that takes into account the disaggregated assets be undertaken to inform policy.

REFERENCE

Addae-Mensah, I. (2000) Education in Ghana: A Tool for Social Mobility or Social Stratification. The J. B. Danquah Memorial Lectures April 2000

Addison, A., S. Bhalotra, F. Coulter and C. Heady (1997), "Reducing child labour in the developing world: A review of the issues." University of Bristol: mimeo.

Admassie, A (2002). "Allocation of Children's Time Endowment between Schooling and Work in Rural Ethiopia" *ZEF Discussion Papers on Development Policy*

Aghion, Philippe, and Peter Howitt (1998). *Endogenous Growth Theory*. Cambridge, MA: MIT Press.

Ahmed, I (1999): "Getting Rid of Child Labour", *Economic and Political Weekly,* XXXIV, 27:

Akabayashi, H., and Psacharopoulos, George. (1999) "The Trade-off between Child Labour and Human Capital: A Tanzanian Case." *Journal of Development Studies* 35(5): 120-140.

Baland, J. M and J.Robinson (2000). "Is Child Labour Inefficient?" *Journal of Political Economy*, 108, 663-679.

Bass L. E. (2004). "Child Labour in sub-Saharan Africa" Boulder: Lynne Rienner Publishers.

Basu, K. and P. Van (1998), The Economics of Child Labour, *American Economic Review*, *88*(3), pp. 412–27.

Basu, K. and Z. Tzannatos (2003). "The Global Child Labour Problem: What do we know and what can we do?" *World Bank Economic Review*

Beegle, K., R. Dehejia and R. Gatti (2002). “Do Households Resort to Child Labour to Cope with Income Shocks?” Manuscript: World Bank.

Benhabib, Jess, and Mark M. Spiegel. (2005). "Human Capital and Technology Diffusion." In *Handbook of Economic Growth*, edited by Philippe Aghion and Steven N. Durlauf. Amsterdam: North Holland:935-966.

Bhalotra, S. (2000) “Is Child Work Necessary?,” STICERD Working Paper, DEDPS No. 26.

Bhalotra, S. (2003).“Child labour in Africa.” OECD social, employment and migration working papers.

Bhalotra, S. and Z. Tzannatos, (2003), “*Child Labour: What Have We Learnt?*” Social Protection Discussion Paper Series # 0317; The World Bank.

Bhaltora, S. and C. Heady. (2003). “Child Farm Labour: The Wealth Paradox.” Bristol Discussion Paper No. 00/492

Bhatty, K. (1998). “Educational Deprivation in India: A Survey of Field Investigations”, *Economic and Political Weekly*, 33(27), 1731-40 and 33(28), 1858-69.

Canagarajah, S. and Coulombe, H. (1997) “Child Labour and Schooling in Ghana”, mimeograph, World Bank.

Canagarajah, S., J. C. Andvig, and A. Kielland (2001) “Issues in Child Labour in Africa” *Africa Region Human Development Working Paper Series*

Chaudhri, D.P., A.L. Nagar, T. Rahman and E.J. Wilson (1999) “Determinants of Child Labour in Indian States: Some Empirical Explorations (1961-1991)” Working Paper 99-9

Cigno, A. and F. Rosati (2005) The Economics of Child Labour, (Oxford University Press, Cambridge).

Cockburn, John (2000), Child Labour versus Education: Poverty Constraints or Income Opportunities? Paper presented at a Conference on Opportunities in Africa: Micro Evidence on Firms and Households, April, Oxford.

Coulombe H and Q Wodon (2007) "Poverty, Livelihood and Access to Basic Services in Ghana"

CREATE, Consortium for Research on Education, Access, Transition and Equity (2008): Educational Access in Ghana. Country Policy Brief.

Dammert Ana C. (2005) "Does Child Labour Decline with Household Income? A Nonparametric Approach"

Dawit S (2010) "Determinants of Child Labour versus Schooling in Rural Ethiopia" *European Journal of Social Sciences – Volume 17*

Edmonds, Eric V. (2005). "Does Child Labour Decline with Improving Economic Status?" *Journal of Human Resources* 40 (1): 77-99.

Edmonds, Eric V. (2007). "Child Labour" *in T. P. Schultz and J. Strauss, eds., Handbook of Development Economics Volume 4 (Elsevier Science, Amsterdam, North-Holland*

Estacio E. V. and D. F. Marks (2005) "Child Labour and the International Labour Organization's Convention 182: A Critical Perspective" *Journal of health psychology, SAGE publications, London*

Fallon, P. and Z. Tszannatos (1998). "*Child Labour" Issues and Directions for the World Bank* Washington: The World Bank.

FAO, (2006): Small scale fisheries: assessing their contribution to rural livelihoods in developing countries. Fisheries circular No. 1008, FAO, Rome.

Fobih, D., Akyeampong, K. A. and Koomson, A. (1999) Ghana Primary School Development Project: Final Evaluation of Project Performance. Accra: Ministry of Education

Ghana Statistical Service, (2003) "Ghana Child Labour Survey" Ghana Statistical Service (GSS), Accra, Ghana

Ghana Statistical Service, (2007) "Pattern and Trends of Poverty in Ghana" Ghana Living Standards Survey 5. Ghana Statistical Service (GSS) Accra, Ghana

Ghana Statistical Service, (2008a) "Report of the Fifth Round, Ghana Living Standards Survey 5" Ghana Statistical Service (GSS) Accra, Ghana

Ghana Statistical Service, (2008b) Interviewer's Manuel, Ghana Living Standards Survey 5. Ghana Statistical Service (GSS), Accra, Ghana

Gibbons, Elizabeth D., Friedrich Huebler, and Edilberto Loaiza (2005), *Child labor, education and the principle of non-discrimination*. In Human rights and development: Towards mutual reinforcement, edited by Philip Alston and Mary Robinson. New York: Oxford University Press.

Grootaert, C. (1998), "Child labour in Côte d"Ivoire: Incidence and determinants". Policy Research Working Paper N°. 1905. The World Bank, Washington, D.C.

Grootaert, Christian and R. Kanbur (1995), "Child Labour: An Economic Perspective"; *International Labour Review*, 134 (2), 187 - 203.

Gujarati, D. N. (2004) "Basic Econometrics" Fourth Edition, the McGraw-Hill Companies.

Heady C (2003) “The effect of Child Labour on Learning Achievement” World Dev., 31: 385-398

Huebler Friedrich (2008), “Public Child labour and school attendance: Evidence from MICS and DHS surveys” *Seminar on child labour, education and youth employment; Understanding Children’s Work Project* Universidad Carlos III de Madrid.

Huebler, Friedrich (2006), Child labor: *What is wrong with published statistics?*, “Something to think about” Bulletin no. 39 – March 2006, Internal bulletin sponsored by Global Policy Section, Division of Policy and Planning, UNICEF New York.

Huebler, Friedrich and Edilberto Loaiza (2002), *Child Labor and School Attendance in Sub- Saharan Africa: Empirical Evidence from UNICEF's Multiple Indicator Cluster Surveys (MICS)*, UNICEF New York.

ILO (2010a) “Accelerating action against child labour” Global Report under the follow-up to the ILO Declaration on Fundamental Principles and Rights at Work; ILO, Geneva

ILO (2010b) “IPEC action against child labour” Highlight 2010; ILO, Geneva

ILO (undated) “Child Labour” Workers' Activities Programmeme (ACTRAV) ILO International Training Centre; ILO, Geneva

Jensen, P. and Nielsen, H.S. (1997) “Child Labour or School Attendance? Evidence from Zambia”, *Journal of Population Economics* 10: 407–24.

Jones, A. M. (2005). “Applied Econometrics for Health Economists: A Practical Guide”. Second Edition, Department of Economics and Related Studies, University of York.

Kruger Diana, Rodrigo R. Soares and Matias Berthelon (2006) Household Choices of Child Labour and Schooling: A Simple Model with Application to Brazil

Lavy Victor (1996) School supply constraints and children's educational outcomes in rural Ghana. Journal of Development Economics 51:291-314.

Lucas, R.E. (1988). "On the mechanics of economic development." *Journal of Monetary Economics* 22(July):3-42.

Mankiw, N.G., D. Romer, and D. Weil. (1992). "A contribution to the empirics of economic growth." *Quarterly Journal of Economics* 107,no.2 (May):407-437.

Ministry of Manpower, Youth and Employment (MMYE) (2008), “National Plan for the Elimination of (the Worst Forms of) Child Labour 2008-2016 (draft)” Accra

MMYE, (2006) National Programmeme for the Elimination of the Worst forms of Child Labour. Ministry of Manpower, Youth and Employment (MMYE), Accra, Ghana.

Moyi, Peter (2007) “Child Labour, Poverty and Schooling In Ghana And Kenya: A Comparative Analysis” *Amherst College Amherst, Ma 01002*

Ndjanyou Laurent and Sébastien Djiénouassi (2010) “Characteristics and determinants of child labour in Cameroon” CSAE Conference: Economic Development in Africa

Nelson, R.R., and E. Phelps (1966) "Investment in humans, technology diffusion and economic growth" *American Economic Review* 56,no.2 (May):69-75.

Nielsen, H. S. (1998), “Child Labour and Schooling in Zambia”, The World Bank Working Paper.

Niels-Hugo Blunch and Dorte Verner (2000) "Revisiting the Link between Poverty and Child Labour: The Ghanaian Experience" *World Bank*

Oduro A D (1999) "A Note on the Nature and Structure of Poverty" *prepared for the Summer Research workshop of the World Bank, July, 1999*

Okurut, F.N. & D.O. Yinusa (2011) "Determinants of Child Labour and Schooling in Botswana: Evidence from 2005/2006 Labour Force Survey" *Botswana Journal of Economics*

Parliament of the Republic of Ghana (1998): The Children's Act (Act 560).

Parliament of the Republic of Ghana (2005): Human Trafficking Act (Act 694).

Patrinos H, Psacharopoulos G (1997). Family Size, Schooling, and Child Labour in Peru - An Empirical Analysis. J. Popul. Econ., 10: 387- 405.

Patrinos, H.A. and G. Psacharapoulos (1995) "Educational performance and child labor in Paraguay", *International Journal of Educational Development*

Ravallion, M. (1994) "Poverty Comparisons" Harwood Academic Publishers, Switzerland

Ray R. (2002) "Simultaneous Analysis of Child Labour and Child Schooling: Comparative Evidence from Nepal and Pakistan" *Economic and Political Weekly, Vol. 37, No. 52*

Ray, R. (2000a). "Analysis of Child Labor in Peru and Pakistan: A Comparative Study". *Journal of Population Economics*. Vol. 13(1), 3-19.

Ray, R. (2000b). "The Determinants of Child Labour and Child Schooling in Ghana" *Journal of African Economies,* December *11*(4): pp. 561-90.

Romer, P. (1990). "Endogenous technological change." *Journal of Political Economy* 99,no.5,pt. II:S71- S102.

Sasaki, M. and T. Temesgen (1999). "Children in Different Activities: Child Labour and Schooling in Peru". Washington D.C.: World Bank: mimeo.

Sen A. (1999), "Development as Freedom" Alfred Knopf, New York

Sen A., 1985. *Commodities and capabilities*, North-Holland, Amsterdam, The Netherlands.

Swinnerton, Kenneth A. and Carol Ann Rogers (1999), "The Economics of Child Labour: Comment", *American Economic Review*, v89, n5, pp. 1382-85

Watts H. W., (1968) "An Economic Definition of Poverty" in Moynihan D. P. (ed.), *On Understanding Poverty*, Basic Books, New York, USA.

Weston, B. (2005), *Child Labour and Human Rights: Making Children Matter*. Lynne Rienner Publishers.

World Bank (2000), World Development Report 2000-2001, World Bank, Washington, DC.

World Bank (2004); "Education for All (EFA) Fast Track Initiatives" Progress Report

Zheng, B. 1993. "An axiomatic characterization of the Watts poverty index," *Economics Letters*, 42(1): 81-86.

Appendix 1: Definition of Variables:

Dependent Variable:

Child work: 1 if worked in the last 7 days prior to the survey, zero otherwise

Child schooling: 1 if attended school in the last 7 days prior to the survey, zero otherwise

Explanatory Variables:

Age: Age in completed years

Age squared: Age squared

Sex: 1 if male, zero otherwise

Relationship to the household head

Child: 1 if child of household head, zero otherwise

Grandchild: 1 if grandchild of household head, zero otherwise

Distant relative: 1 if not a child or grandchild of the household head, zero otherwise (reference group)

Father's educational level

None: 1 if father has no formal education, zero otherwise (reference group)

Basic education: 1 if father has basic education, zero otherwise

At least secondary education: 1 if father has at least secondary education, zero otherwise

Mother's educational level

None: 1 if mother has no formal education, zero otherwise (reference group)

Basic education: 1 if mother has basic education, zero otherwise

At least secondary education: 1 if mother has at least secondary education, zero otherwise

Economic head: 1 if household head is a male, zero otherwise

Ethnic groups

Akan: 1 if household belongs to the Akan ethnic group, zero otherwise

Ga-Dangbe: 1 if household belongs to the Ga- Dangbe ethnic group, zero otherwise

Ewe: 1 if household belongs to the Ewe ethnic group, zero otherwise

Guan: 1 if household belongs to the Guan ethnic group, zero otherwise

Mole – Dagbani: 1 if household belongs to the Mole - Dagbani ethnic group, zero otherwise

Other: 1 if household belongs to the other ethnic groups, zero otherwise (reference group)

Religious inclination

Catholic: 1 if a catholic, zero otherwise

Protestant: 1 if a protestant, zero otherwise

Other Christian: 1 if other Christian, zero otherwise

Moslem: 1 if a Muslim, zero otherwise

Traditional: 1 if a traditional or animist, zero otherwise (reference group)

Owns a land: 1 if household owns a land, zero otherwise

Owns livestock: 1 if household owns livestock, zero otherwise

Household poverty status (Households are grouped using a measure of standard of living based on household consumption expenditure. – see GSS (2007)).

Very poor: 1 if household is considered below the lower poverty line, zero otherwise

Poor: 1 if household is considered to be within the lower and upper poverty line, zero otherwise

Non poor: 1 if household is considered above the upper poverty line, zero otherwise (reference group)

Household residence

Accra (GAMA): 1 if household resides in the greater Accra municipal area, zero otherwise

Other urban: 1 if household resides in other urban, zero otherwise

Rural forest: 1 if household resides in rural forest, zero otherwise

Rural savannah: 1 if household resides in rural savannah, zero otherwise

Rural costal: 1 if household resides in rural coastal, zero otherwise (reference group)