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CHILD FOSTERING AND EDUCATION EXPENDITURE IN GHANA

BY

PRISCILLA AFUA YEBOAH

(10314398)

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DECLARATION

I, Priscilla Afua Yeboah, the author of this thesis titled "**Child Fostering and Education Expenditure in Ghana"** do hereby declare that, except for references to other people's work, which have been duly acknowledged, this thesis is the result of my original work. This work has never been presented either in whole or in part for any other degree in this University or elsewhere.

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PRISCILLA AFUA YEBOAH

(10314398)

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DATE

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DR. M. LAMBON-QUAYEFIO	**DR. NKECHI S. OWOO**
(SUPERVISOR)	(SUPERVISOR)
.....	……..
DATE	**DATE**

ABSTRACT

Available literature shows that the practice of child fostering facilitates social mobility, copes with economic shock faced by the biological home, satisfies the labour needs of the host household and strengthens kinship ties especially between rural and urban households. However, various studies conducted by earlier authors did not consider the effect of child fostering on education expenditure. Thus, this study primarily accounts for the effect of child fostering on education expenditure in Ghana. In addition, the study explores the socioeconomic and demographic determinants of education expenditure among children in Ghana using data extracted from 2012/2013 Ghana Living Standards Survey (GLSS 6).

Applying the tobit model together with the ordinary least squares model as a robust check in the estimates, the study finds a negative relationship between fostering and education expenditure. Further, the study finds that, heads of households' level of education and income of the households have positive effects on education expenditure of children.

As recognized in the findings, the study recommends educational subsidy or scholarship for children from households which are less endowed both financially and human capital. It also recommended that, there is the need for Government of Ghana to provide Social Welfare Departments the needed logistics and resources for adequate provision fostered children under their care.

DEDICATION

This work is dedicated to Almighty God, all fostered and vulnerable children in Ghana and across the world.

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LIST OF ABBREVIATIONS

DHS	Demographic and Health Survey
FCUBE	Free Compulsory Universal Basic Education
GDP	Gross Domestic Product
GLSS	Ghana Living Standards Survey
GSFP	Ghana School Feeding Programme
GSS	Ghana Statistical Service
GoG	Government of Ghana
HDI	Human Development Index
MDAs	Ministries, Department and Agencies
MDGs	Millennium Development Goals
SDGs	Sustainable Development Goals
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund

CHAPTER ONE

INTRODUCTION

1.0 Background of the Study

Child fostering is practiced across the globe and literature reveals that it is mostly practiced in West Africa (Serra, 2009; Gage, 2005). The practice of child fostering is considered to be part of a larger mediation process that takes place amongst extended family networks (Caldwell, 1997; Akresh, 2005) and accepting a foster child occurs under diverse circumstances (Goody, 1982; Bledsoe & Isiugo-Abanihe, 1989). According to ethnography, households that accept foster children enjoy the added labour of the foster child and also benefit from the social insurance of investing in other people's children (Bledsoe, 1990; Caldwell, 1997). Above all, fosterage is practiced in anticipation of securing returns to the foster child, the parents and the foster mother or possibly to every party involved (Castle, 1995). Researchers have different views on the practice of child fostering.

In as much as writers have different opinions or definitions of child fosterage, there is a common understanding. In Ghana, the practice of fosterage is seen to be the transfer, exchange and relocation of children both within and between families (Fiawoo, 1978; Isiugo-Abanihe, 1985; Klomegah, 2000; Serra, 2009). There is a belief in Ghanaian culture that a child is not born only to the birth parents but to the entire society as well. Therefore, child fostering is an efficient mode of skilling or training a child to face adult life. Heads or adults in the family make the decisions whether to foster in or foster out children based on the availability of resources and

household choices to overcome economic and demographic destitutions through social networks such as the extended family (Isiugo-Abanihe, 1985; Akresh, 2004; Serra, 2009).

Human capital development is essential to policy makers due to its noted contribution to economic growth. At the micro level, investment in human capital is a key means of reducing poverty for many families while at the macro level, education is a way of ensuring that individuals have access to improved skills and knowledge that enhances economic growth (Quang, 2012). Thus, investing in human capital is generally acknowledged as a way to accomplish sustainable development. Child fostering is seen as a strategy by many families for enhancing children's education as a means of alleviating poverty (Ainsworth, 1996; Gage, 2005). The effect of child fostering on education is also a subject which needs careful attention as it is the basic means of not only becoming successful persons but also good parents, responsible citizens and productive members of the labour force.

On the subject of education in Ghana, its system is a blend of private and public schools and every child has the right to them. Irrespective of the economic circumstances, the government, parents and guardians have the primary responsibility to warrant a child's access to quality education. Quality of education at all levels in Ghana is mostly expressed in terms of pass rate especially at basic and secondary levels and equipping students with the requisite skills for the labour market at the tertiary level (IMANI-Ghana, 2013). According to IMANI-Ghana (2013), passing with good grades is a good proxy to quality education and not a comprehensive indication of its quality. One key benefit of education is that it helps individuals to earn more

income or wealth and also can add value to production in an economy (Sen, 1999). Conferring to the report of The Forum for Education Reform on the topic, "The state of education in Ghana", Government of Ghana in recent times uses over 6% of Gross Domestic Product (GDP) and budgetary expenditure on education as compared to other countries in the world with a global average of 5% (IMANI-Ghana, 2013).

Table 1.1

EDUCATION EXPENDITURE AS A PERCENTAGE OF GDP

Year	Ghana	Senegal	South Africa	Japan	USA	UK	Denmark	Finland
2008	5.8	5	5.1	3.4	5.5	5.4	7.7	6.1
2009	5.3	5.6	5.5	n/a	5.4	5.6	8.7	6.8
2010	5.5	5.6	6	3.8	5.6	n/a	n/a	6.8
2011	6.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Source: myjoyonline, 2013.

The above table shows expenditures of Government of Ghana (GoG) on education as a proportion of GDP as compared to other countries for the years 2008 to 2011. By indication, Ghana has one of the highest expenditures on education to GDP.

Table 1.2

EDUCATION EXPENDITURE RATIO TO GDP AND GOG EXPENDITURE (2008-2011)

YEAR	**2008 (GH¢)**	**2009 (GH¢)**	**2010 (GH¢)**	**2011 (GH¢)**
GDP	30,179,000,000	36,598,000,000	46,232,000,000	57,013,000,000
GOG EXP.	9,538,244,209	8,756,146,694	11,039,923,940	13,837,325,330
EDUCATION EXP.	1,743,571,719	1,949,768,414	2,564,363,358	3,565,710,571
EDUCATION EXP as % of GDP	***5.8***	***5.3***	***5.5***	***6.25***
EDUCATION EXP. as a % of GOG EXP.	***18.28***	***22.27***	***23.23***	***25.77***

Source: myjoyonline, 2013.

Table 1.2 gives a picture of education expenditure ratios to GDP and Government of Ghana expenditures for the years 2008 to 2011. Therefore, it can be concluded with the two tables above that obviously, Ghana spends a substantial amount of its GDP on education and needs to get better returns on education expenditure.

Primarily, some of the challenges particularly in the rural and remote areas of Ghana are limited schooling and scarcity of human resources. Evidently, education ensures the capacity for self-sustaining growth and development through modern technology. These, among many other reasons, are why heads of households count on the practice of fosterage as the means of enhancing the lives of their children.

1.1 Statement of Problem

Literature on human capital theory reveals that education is always considered to be part of the significant impacts to economic growth and an antidote to poverty at both national and household levels. Olaniyan and Okemakinde (2008) speculate that formal education is a major contributory factor and highly essential to improving the production capacity of a country. Accordingly, studies have shown some individual and household characteristics that contribute to economic growth through education. Sackey (2007) finds that the likelihood of children attending school is dependent on the educational level of his/her parents, especially at higher levels of education. He examines the determinants of school attendance and attainment in Ghana. It is found in his study that, the impact of the educational attainment of parents on their children is among the major reasons in studies concerning intergenerational transmission of human capital

and economic wellbeing among families (Sackey, 2007). Donkor and Amikuzuno (2011) however choose to study the possibility of household spending on children's education to examining the reasons to which some households may spend more than others. They account for the factors that influence educational expenses among children in Ghana. In spite of the numerous studies conducted earlier, none so far focuses on the impact fostering has on education expenditure. The dearth in literature motivates the study.

Farther away from the key objective of the subject under investigation, observing the living arrangements of children is of great importance in understanding the issues of their welfare. Hence, some studies have been conducted to establish the precise means by which the welfare of children is affected by their living arrangements. Many of such studies have been carried out to examine the outcome of fostering practices, child labour, school enrolment and attendance. For instance, Ainsworth (1996) notes a negative relationship between fostering and school enrollment in Cote d'Ivoire due to the demand for child labour for household production. Likewise, Okunola and Ikuomola (2010) have investigated the relationship of fosterage and child labour in Nigeria. They report that the major reason for fostering in children is mainly for livelihood support the receiving households might gain.

On the other hand, Zimmerman (2003) finds a positive result between the practice of fostering and school enrollment in South Africa. Nonetheless, while these evidences are based on enrolment, attendance, attainment and inconclusive results due to contradictory findings, this study provides further inquiry into the factors that encourage education expenditure and child

fosterage in developing countries focusing on Ghana using a relatively more recent data. The motivation for this study is, when other authors have established the enrollment and attendance rates of fostered children, this study would want to investigate the rate at which these foster parents would to invest in the education of the fostered children.

1.2 Objectives of the Study

- The general objective of the study is to inspect the socioeconomic together with the demographic determinants of education expenditures of children in Ghana.

Specific objective includes:

- To examine the effect of fostering on education expenditure of children in Ghana.

1.3 Research Questions

The questions to be answered in this study focus on the analysis of child fostering and education expenditure in Ghana. With this, the main research question is:

What are the socioeconomic and demographic determinants of education expenditure of children in Ghana?

The study follows with a specific question to address the topic under investigation:

- What is the effect of child fostering on education expenditure of Ghanaian children?

1.4 Relevance of the Study

Investment in education is a very vital component of investment in human capital as formal education is highly instrumental and necessary to improve the production capacity of a nation (Olaniyan & Okemakinde, 2008). Therefore, it is unsurprising that education was the fundamental key in achieving the eight (8) targeted Millennium Development Goals (MDGs). As a matter of fact, United Nations Children's Fund (2010), argues that education plays a central role even in meeting the other seven (7) goals. For instance, in achieving the first goal of the MDGs that is eradication of extreme poverty and hunger, it is argued that education empowers individuals with the necessary knowledge and skills needed to create or access jobs for themselves. As a result, they are able to increase production, raise income to reduce hunger and malnutrition.

UNICEF (2010) sees the importance of education to be the centre of social and economic development as it provides knowledge and skills, encourages new behaviour and increases individual and collective empowerment. Currently, the Sustainable Development Goal (SDG) four (4) – quality education also focuses directly on education. To be able to achieve the educational related SDGs, there is the need for governments and households to explore sustainable means of funding educational needs, both restorative and preventive. Globally, there is much effort to increasing the investment in education. In Ghana, Free Compulsory Universal Basic Education (FCUBE) and Ghana School Feeding Programme (GSFP) were introduced to relief households to mainly ensure the achievement of universal primary education. Another reason was to promote efficient teaching and learning, to ensure adequate and timely supply of

teaching and learning materials to schools regardless of the status of the child and the household heads.

However, Akyeampong (2009) records in his study that, the FCUBE policy did not achieve the target goal especially when poorest households benefitted least from it. A report by Shaibu and Opoku (2017) buttresses the assertion that, up until now parents do take care of the expenses of their children's education. In their report, parents who have their wards in the public schools, the notion that basic education in Ghana is free under the FCUBE, is just a fallacy. It is in this regard that heads of households need to explore other viable ways of funding their children's education.

Using a tobit and ordinary least squares models, this study attempts to investigate the impact of child fostering on education expenditure in Ghana. Moreover, the general determinants of household education expenditures among children in Ghana would be examined. The findings of the study will provide evidence-based recommendation to policy makers especially in the Ministries, Departments and Agencies (MDAs) and other stakeholders to make informed decisions on education and fosterage. The outcome will also contribute to the discussion on raising the awareness of child fostering and education in Ghana.

Furthermore, the research will make a valuable contribution to existing literature on the topic under study.

1.5 Organization of the Study

This study is structured into five chapters:

Chapter one covers general introduction to the study which is also sub-divided into the following aspects; background of the study, statement of problem, objectives, research questions, relevance and the organization of the study.

Chapter two contains a review of literature which presents relevant and available information from other authors on the topic under investigation.

Chapter three discusses research methodology employed for the study. It also takes into account the theoretical model and the source of data.

Chapter four presents and discusses the study results based on the research questions and its objectives.

Chapter five summarizes the entire study, the conclusion based on the results, limitations and recommendations for future research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This aspect of the study provides a review of relevant empirical literature in accordance with the objectives of the study. Some underlying factors that explain the motives for the practice of child fostering are considered. Furthermore, this section takes a look at the Ghanaian education system and some factors that determine children's education expenditure.

2.1 Definitional Issues

Universally, there is not a general, standard or a specific definition for child fostering and this has made the study of child fostering a little problematic. This study considers some of the various definitions by many writers.

Cichello (2003) defines the practice of child fostering to occur when parents choose to have their child reside in a household on permanent or temporal basis where neither of the parent is present. By this definition, it is considered that any child who does not stay with any of the natural parents is described to be fostered. Centering on this means, children residing outside their biological homes and are paid as house helps are all well-thought-out as foster children. Another comparable definition by McDaniel and Zulu (1996) express child fosterage to consist of anyone other than the biological parents to assume full rights and responsibilities associated with childbearing. Therefore, a child is said to be fostered when he or she moves away from his or her biological parents to a home of other individuals who agree to take on the responsibilities of

child rearing. The above are no different from Serra's (2000) definition as a short-term and changeable transfer of child rearing duties to other people than the biological parents.

Bledsoe et al (1988) and Castle (1995) focus on maternal co-residence and disregard the prospective effects of paternal co-residence on child welfare outcomes. From Bledsoe et al (1988) point of view, foster children are hardly adopted in the legal sense but can be taken back to their biological mothers or even sent on to different people such as relatives, friends, patrons or neighbors. They send a message across that, foster children are those living outside the home of their mothers since fathers usually involve themselves indirectly in child care. Castle (1995) also defines foster children as individuals who live under a spoken non-maternal care arrangement. In this context, children are said to be fostered when they live in a household different from their biological mother including children whose mothers are not known to be their primary custodians.

Djebbari & Mayrand (2011) agree with Goody (1982) on the classification that child fostering involves the division of rights and responsibilities with the natal parents with at least one of them being alive and the agreement may be either legally lawful or informal. This recommends that a foster child is described as one with at least a biological parent alive, excluding children who have no living parents. Their definition contradicts one of the resilient reasons according to Isiugo-Abanihe (1985) which suggests that, parental death is an important reason for the practice of child fostering.

Although there are different descriptions by different authors, there are also correspondences amongst all in terms of the practice of child fostering in less developed countries. First and foremost, it is noticed that all the above definitions acknowledge non-parental residence. This is a state whereby a child is considered fostered when the child resides in a home where none of his/her parent is available. The child is still considered to be part of the biological family except that he or she lives in a different household. Furthermore, there is delegation of parental rights and responsibilities. By observation, natural parents entrust their obligations to stand-in parents. Again, the definitions raise the value of the temporary and reversible nature of the practice. This vital element amid the definitions separates the understanding of child fostering from adoption which usually confuses people. Djebbari & Mayrand (2011) defines adoption to be a legally authorized and permanent relocation of the totality of rights and responsibilities from biological parents of a child to the new parents.

For the purpose of this study, the definition of child fostering takes clues from the many different definitions from different writers. Therefore, the study defines child fostering as a temporal or permanent and reversible transfer of a child below the age of sixteen (16) years from the natural household to another which accepts to bear child rearing responsibilities. The child is sent to a household where the child is not linked biologically to either the household head or to his or her partner where the child lives under the supervision of an adult. This definition takes into account orphans and ignores children who are paid for services as either house helps or for any other purpose at all in the receiving household.

2.2 Determinants or Motivations for Child Fostering

There are substantial factors that drive the practice of child fostering considering the welfare outcomes of the child. The decision whether to foster a child in or out is a critical one which has gained much attention because it can be a major determining factor of the child's future.

The relocation of children can be considered as a form of migration which is perceived to be a chief constituent of population variation (Isiugo-Abanihe, 1984). According to Isiugo-Abanihe (1984), fostering as a type of migration can be noted on at least two counts. On one hand, child fostering is measured to be a form of migration and on the other hand, the practice reduces the limitations that come with migration especially to parents who anticipate to moving either internally or internationally. Parents tend to partake in the practice when they decide to migrate and leave their children to relatives or non-relatives temporarily or permanently (Isiugo-Abanihe, 1984). Isiugo-Abanihe again highlights the practice of child fostering to be a form of convenience to women who have the intention of returning to school and/or labour force after some period of nursing.

Demographic imbalances by high fertility and infertility where some families have many children whilst others do not have at all are said to be lessened by the practice of child fostering through the exchange and relocation of children among these families (Lloyd & Desai, 1992). It is in these views that, child fostering has been described as a demographic phenomenon by Isiugo-Abanihe (1985). Based on information from 1902 individuals in the course of collecting 611 reproductive histories from Herero and Mbanderu pastoralists in north-western Botswana,

Pennington (1991) however does not find any significant influence fertility has on child fostering. Pennington (1991) finds gender of the child and marital status of the parents to be the major factors in child fostering. 50 percent of all children born to single mothers are seen to be fostered out compared to 32 percent of all children born to married mothers. This is associated to the reason that, mothers without husbands face difficulties supporting children. Owusu and Adjei (2008/2009) also suggest poverty, family disruption and the death of a parent to be the reasons for a household to practice child fostering in their study conducted in the three northern parts of Ghana. Besides this, Isiugo-Abanihe (1985) believes there are four main reasons a family or household would involve in the practice of child fostering and these reasons can be viewed in anthropologists', demographists' and economists' perspective. Foremost, households practice fosterage to facilitate social mobility which includes providing access to schooling and training for fostered children. Secondly, fosterage empowers families to cope with economic shocks faced by the biological home ex post such as death. Furthermore, to please the labour needs of the hosting household and last but not the least, to build up kinship ties especially between rural and urban households

Rolleston (2011) studies fosterage and access to schooling in Savelugu-Nanton, Ghana. With the help of the Ghana Living Standards Survey (GLSS) data, Rolleston (2011) identifies that parents do give girls to relatives for their up bring in household fostering decisions. It is realized that households prefer to keep their boy children and send them to school as compared to the girl child. This is so because it is believed fostering consists of providing children to serve, work and become experienced especially in domestic labour and in agriculture among the people of Dagbon. It is a reflection that girls are mostly supportive in carrying out menial tasks and chores

and accordingly more appreciated around the home as fosters. Isiugo-Abanihe (1985) also shares the same idea in his study of child fostering in West Africa in terms of decision to send out a child in Ghana. Specifically, on this view, Isiugo-Abanihe (1985) looks at the characteristics of fostered children and their mothers using comprehensive data on the relationship to the head of household from the 1971 Supplementary Enquiry of the 1970 census of Ghana. This enables Isiugo-Abanihe to justify his assertion that girls are usually fostered out to experienced women to be trained.

Isiugo-Abanihe (1985) examines how maternal factors and access to resources affect fosterage decision with the use of ordinary least squares regression technique. First and foremost, he finds that younger women are expected to send out their children to different households with the reason that younger women face social adjustments, geographic mobility and instability. Additionally, he indicates that mothers in urban areas have a higher prospect to foster children out than rural mothers because of poverty and related urban problems. Isiugo-Abanihe (1985) conversely found this contention to be counterintuitive with the reason as argued by Fiawoo (1978) that, if children are sent away mainly for schooling then there should be a principal flow of fosters from the rural areas to the urban since more and improved schools are situated in the urban areas in almost every country in Africa. Contrary to Isiugo-Abanihe's (1985) initial disclosure, Ainsworth (1996) by the use of Cote d'Ivoire Living Standard Measurement Survey examines economic sides of child fostering in Cote d'Ivoire and ascertains that rural households receive fewer children and send out more children than the urban households and vice versa.

Furthermore, Isiugo-Abanihe (1985) attests that maternal educational attainment has a role to play in whether to foster a child in or out. Women who are highly educated are known to be better equipped in raising their own children than less educated or illiterates and therefore prefer not to send out their children to different households. It is in this same assessment that Marazyan shares. Marazyan (2015) furthers Isiugo-Abanihe's (1985) view that if sending households have the aim of increasing their child's social mobility, then the parents look out for increasing firstly the child's schooling, learning opportunities and subsequently enhancing the child's access to economic, religious and political networks. With these reasons, sending households foster their children into educated, wealthy and at the same time households close to schools for educational purposes. Marital status of the mother is also a contributing factor in decision making in household fostering according to Isiugo-Abanihe (1985).

Isiugo-Abanihe (1985) shows that women with stable marriages or in monogamous unions have a decreasing likelihood of sending children out and vice versa with women in polygynous unions. With the help of multivariate analysis using ordinary least squares regression technique, Isuigo-Abanihe (1985) notes that, this is as a result of variability and hardship resulting from the absence or ineffective presence of husbands. This result is also confirmed by Rolleston (2011) and Beck et al (2014). Rolleston (2011) through a professional interview in Community E of Savelugu-Nanton recognizes a decline in the practices of fosterage due to reduction in polygamous routine in the community. In the findings of Beck et al (2014), by examining child fostering in Senegal via simple descriptive statistics, child fostering is widespread in polygamous homes than monogamous households. It is believed that the practice of polygamy gives rise to a

large extended family and therefore raises the number of possible foster children (Beck et al 2014).

Importance of household's wealth is taken into account by receiving household to decide on fostering. The probability of more affluent households to foster in a child is higher than poorer households (Akresh, 2005). Once more, Akresh (2005) assesses that households who have greater chances in terms of quality social network are more likely to foster children. Moreover, households are expected to foster children in order to offset demographic imbalances. In his study, Akresh (2005) finds consistency in his result with other authors such as Ainsworth (1996) and Goody (1982). By means of household and child fixed effects regressions, Akresh (2004) concludes that in decision of household fostering, there is the likelihood that households foster out more children due to negative income shocks. Akresh (2004) agrees with Thomas et al (2004) that, poorer households make the decision to foster out their children because it is likely parents will not possibly be able to afford their wards' school fees and other expenditures.

Now, Zimmerman's (2003) assertion on decision making in household fostering in his study of "Cinderella goes to school", he emphasizes on fostering being a valuable institution for building human capital. South African Project for Statistics on Living Standards and Development aided him to draw curtains on the fact that, households are willing to give out their children with the hope that the children would be enrolled in school. Therefore, households tend to foster into households that are most likely to send their children to school comparably to what the sending household could do. Secondly, Zimmerman (2003) considers age and the number of biological

children in a household as determining factors when it comes to the practice of fostering. The addition of a child decreases the chances of fostering in a child. Biological children between the ages of seven (7) and seventeen (17) in a family likewise reduce receiving households to consider fostering in (Zimmerman, 2003). To endorse how useful human capital is in fostering decisions, Zimmerman (2003) tests and achieves that the proximity of a medical facility is a contributing factor to decide. Fostering out households send their children to households located close to medical care centers.

With regard to age of children, McDaniel & Zulu (1996) addresses the issues pertaining to the incidence and forms of child-parent residence in sub-Saharan Africa. The study of mother, father and children with the emphasis on regional forms in child-parent habitation in sub-Saharan Africa by McDaniel & Zulu (1996) uses Demographic and Health Survey (DHS) data. They discover that, among people who foster with the intention to exploit the children's labour resources go in for older children. So, as the children grow, the willingness to foster them broadens. McDaniel and Zulu (1996) settle with Lloyd and Desai (1992) on migration as a factor for parents' decision to foster out. Using data from 19 Demographic and Health Surveys (DHS) in the study of children's living arrangements in developing countries, Lloyd and Desai (1992) adds to the decision making in household fostering that, mothers would send their children to other households due to lack of resources. According to them, this is usually caused by a family crisis for instance, divorce or separation, widowhood or environmental, economic or political crisis. Mothers also decide to foster in because of childlessness, the need for labor and many other reasons.

There are similar factors that constitute decision making in household fostering among different authors as well as variations. These can be attributed to different definitions of child fostering by different authors, different data, methodologies adopted, beliefs towards the practice among different countries and their populace. For instance, whiles Ainsworth (1996) finds the practice of child fostering to be essentially the mode of domestic labour transfer in her study in Cote d'Ivoire, Zimmerman (2003) in his study in South Africa also reaches the conclusion that evidence for the drive of domestic labor is inadequate and that, the desire to build social ties is a major contributing factor.

2.3 Child Fostering in Ghana

On the basis of evidence of mothers' responses on children away from their natural households in Ghana, Klomegah (2000) records a lower frequency of child fostering opposed to other authors such as Isiugo-Abanihe (1985). In 1985, Isiugo-Abanihe reported 35 percent and 25 percent of employed women and unemployed women respectively fostered out their wards to different households and the major incidence of the practice happened among urban women at 36 percent.

On the other hand, Klomegah (2000) concludes on a record of 3 percent women engaged in professional and skilled employments foster out their children against 3.1 percent unemployed women and 1.6 percent women employed in agriculture, labor-intensive and unskilled jobs with 2 percent of them in the urban areas. These findings in Ghana are attributed to the fact that professional and skilled women are incompatible with childrearing and child caring considering

the nature and demands of their jobs. Secondly with the unemployed women, they are compelled to foster out their children due to financial difficulties. On the contrary, women who are employed in agricultural and unskilled jobs find it convenient to raise their children since the demands of their jobs tend to be more suitable and thus the differences in the rates of the practice.

In terms of parent's education and fostering in Ghana, Klomegah (2000) finds a positive relationship. The higher the education of women, the greater the chances of the practice of fosterage. It is believed that higher educated women transfer their wards to live with surrogate parents to enable them engage in other activities such as labour force participation or further studies.

A study by Gage (2005) finds gender differentials in the prevalence of fosterage among school going age children between the ages of 7 to 17 years except children of primary school age. Gage (2005) finds fosterage to be more prevalent among girls of older age than among boys of older age in Ghana. Precisely in 2005, it was shown by Gage that 23 percent of older girls were fostered out as opposed to 17 percent of older boys. Among these children, the proportion attending school is higher for males than for their female counterparts. 76 percent of fostered boys in the age group of 12 to 17 years attend school compared to 54 percent of fostered girls with higher school dropout rates for girls. Talking about the relationship of fosterage, schooling and work, it is observed that boys in the age group of 12 to 17 years have a higher tendency of combining schooling and working compared to girls of the same age in Ghana. A greater

percentage of boys attend school on a full-time basis whereas a higher percentage of girls are engaged in the labour market only and the reverse is true among older fostered children.

Owusu & Adjei (2008/2009) analyze some of the reasons of the practice of child fostering with qualitative in-depth interviews in three districts of Northern Ghana. The interviews are done on both the foster children and the receiving households. They find out that fosterage is practiced as a social service within the extended families context and girls are mainly fostered out to different households. It is also realized that the main push and pull factors for some of the natives of Northern Ghana to participate in this practice are poverty, family disruption which normally is caused by polygamous marriage, and the death of a parent. With regards to the receiving households, they go in for children because of demands of tradition to assist families and foster bonds of unity. The most predominant type of fosterage observed in their study in relation to Northern Ghana is the *Crisis* type. This type of fostering comes about as a result of a crisis, usually as a result of the dissolution of the natural family or sometimes the presence of an impending danger which is often based on some form of superstition (Serra, 2009).

Another reason that gives room for the practice of crisis fostering is when a child is born out of wedlock (Isiugo- Abanihe, 1985). Societies in Ghana frown on having a child outside matrimony since marriage is the only culturally acknowledged legitimate domain for giving birth and as such, children born out of wedlock are sometimes stigmatized. To prevent people within the community from pointing fingers and calling these children names, families send them to a distance to be raised. Crisis fostering serves as a mode of improving the survival chances of the

children by removing them from the source of the real or an illusory crisis (Isiugo-Abanihe, 1985; Pilon, 2003).

In another scenario, children may appear vulnerable due to the practice of child fostering. For instance, Abukari (2008) explains that conventionally in Dagbon, girls who are ripe for marriage are required to have some items to be taken to their marital homes and such requirements of marriage for these girls could possibly put higher amount of pressure on fostered girls. He clarifies that in situations where foster parents are not able or prepared to assist than biological counterparts, such girls could experience higher amount pressure by entering into paid employment and most of the time they enter into work as porters commonly known in Ghana as kayayei (migrant labour often undertaken by girls from the Northern Region). In Abukari's (2008) perspective, most girls from the northern part of Ghana seen on the streets of Accra, Kumasi and other southern cities are fostered children who struggle to obtain property to support their foster parents in their attempts to satisfactorily marry them off.

Unlike in Africa where child fostering is widespread and considered to be a valued tradition practiced among ethnic groups, parents in the Western societies by and large raise their own children in a nuclear family. Adoption and child fostering take place in exceptional circumstances (Isiugo-Abanihe, 1985). The practice of child fostering has been higher in countries in sub-Saharan Africa comprising of Ghana according to a number of authors like Goody (1982), Gage (2005) and Serra (2009). Pilon (2003) reveals with the help of the late 1990s Demographic and Health Surveys that, the percentage of non-orphaned children below the

age of 15years and living farther from their own parents is around 20% in West Africa and more than 25% in Cote d'Ivoire, Guinea and Senegal. To this effect, one may think child fostering is a substandard way of raising a child but traditionally, it has been tailed for the opportunities it could provide a child in terms of widened knowledge, experience and training (Goody, 1982). Notwithstanding this, as stated in Isiugo-Abanihe (1985), child fostering is practiced and writers have conveyed in many parts of the world; (Kay 1963 in Oceania; Rawson and Berggren, 1973 in Haiti; Sanford, 1975 in the West Indies).

In sub-Saharan Africa, family is conceptualized to be more than just the nuclear family which consists of the biological father, mother and children. Verhoef (2005) holds the assessment that, the acceptance and the circumstances under which child fostering is practiced are inseparably connected to the culturally shaped views of family, parenthood and child development. Oni (1995) also believes that, in traditional societies, children do not belong to the biological parents but to the immediate and the whole extended family and therefore it is natural for children to grow up with a lot of their relatives. Families support each other in all circumstances and hence give room to the practice of child fostering commonly among sub-Saharan African countries. According to Eloundou-Enyegue and Stokes (2002), fostering helps to redistribute children from large and poor families into smaller and richer ones.

2.4 Education in Ghana

Economies across the globe rely on education of their citizens for development and to promote economic growth. Actually, in defining Human Development Index (HDI), the United Nations Development Programme (UNDP) includes education to be part of the three main components that make up this definition.

In Ghana, the education system is a blend of private and public schools. Education is structured into Pre-School, Basic or Primary School which is equivalent to Elementary School, Junior High School (Middle School), Senior High School (Secondary Education) and Tertiary Education or Institution (College and University) with their corresponding school going age of three (3) to five (5) years, six (6) to eleven (11) years, twelve (12) to fourteen (14) years, fifteen (15) to seventeen (17) years and eighteen (18) to twenty one (21) years respectively (Embassy of Ghana and Globescope Inc., 2004-2017). There are also Vocational and Teacher Training Institutions in Ghana. The accepted duration for basic education is eleven (11) years made up of two (2) years of Kindergarten, six (6) years of Primary School and three (3) years of Junior High School. After completion, students may decide which stream of Senior Secondary Education they would prefer and this comprises General Education, Technical, Vocational, Agricultural and Training or enter into an apprenticeship for a three-year course which prepare them for Tertiary Education.

Ghana had a handful of primary schools and one university as at the time of its independence in 1957. Currently, it is recorded that the country has about 18,530 primary schools, 8,850 junior high schools, 28 training colleges, 20 technical institutions, 4 diploma-awarding institutions, 7

public universities and over 15 private universities together with 12 polytechnics serving a population of about 30 million Ghanaians (Embassy of Ghana and Globescope Inc., 2004-2017). Government of Ghana provided an education plan; free primary education in 2007 in order to achieve a collective primary education in line with the Millennium Development Goals (MDG).

In the past decade, the country's expenditure on education has been between 30% and 40% of its annual budget (GhanaWeb, 2017).

2.5 Determinants of Education Expenditure

Households are faced with several factors in decision making of investment in education. Such factors may include economic, social and cultural. In terms of economic factors, households may consider lower consumption now and invest in education to obtain improved future earnings. On the other hand, households may consider higher consumption now and decide not to invest in education. Social and cultural factors deal with numerous individual and household features such as the educational level of the parents, their occupations, location and household size. These factors drive the extent the household invests in education. There are numerous studies on determinants of education expenditure of households in a variety of countries and the results from such studies suggest positive and significant effect of household income along with parental education on children's education across countries.

A study by Glick and Sahn (2000) in Guinea measures the impacts parent's educational level, income and household structure has on schooling of girls and boys. They focused their study on both the determinants of educational enrolment and expenditure. It is observed in their paper

that, although parents' education has influence on enrollments and expenditures of their children's education, it comes with gender disparity. There are differences in parental preferences for schooling daughters relative to sons. The schooling of both daughters and sons improves when the education of a father advances whiles only the daughters benefit when a mother's education advances. Again, the amount invested in the schooling of girls increases when household income increases but the schooling of boys is not significantly affected. All their findings were based on ordered and binary probit models because the approach allows them to incorporate several features of the data that simpler alternate such as ordinary least squares cannot.

The findings of Quang (2012) are no different from Glick and Sahn (2000) in terms of education expenditure. The only difference is that Glick and Sahn (2000) draws the distinctions between boys and girls. Quang (2012) studies the factors affecting household expenditure on education of children and the demand for education in Vietnam by examining the education expenditure pattern of Vietnamese households. With the help of the 2006 Vietnamese Household Living Standards Survey, Quang (2012) uses a tobit model to first of all identify that, education expenditure is largely affected by household income. Secondly, households whose heads have attained higher educational level or with skilled professions enhance the possibilities of education expenditure.

The conclusion in the finding is that, household heads with better education and higher income are always associated with increase in education expenditure for their children. One may

associate this to the fact that, these household heads know the benefits of education and therefore would want to have an impact on their children. Generally, the study by Quang (2012) proposes that educated families with finance are able to invest more in the education of their children.

Qian and Smyth (2008) examine expenditure of parents on the education of their children based on survey data from 32 selected cities across China in 2003. Using tobit model, they find educational attainment of parents, occupation and income to be the most influencing factors on children's education. Similarly, Glewwe and Patrinos (1999) find a positive relation between income of household and the readiness to spend on education of children using 1992/1993 Vietnamese household data survey. They as well reveal that, households located in the urban areas and the Southern regions of Vietnam have large tendencies of spending their resources on their children's education relative to other households.

Regarding the first objective of this study, which is to examine the socioeconomic and demographic determinants of education expenditure among children in Ghana, there are very limited studies of such in Ghana. For instance, Donkor and Amikuzuno (2011) examine the determinants of household education expenditure in Ghana with the help of the 2006/2007 Ghana Living Standards Survey data. Using a logit model, they distinguish between high education expenditure and the probability of spending on education. They find that, households headed by males make more expenses on their children's education but households headed by females have greater probabilities of spending on the education of their children. They also reveal that households whose heads are relatively young, have formal education as well as

durable assets have higher likelihood to afford for their children's education relative to households with higher number of children who are of school going age, rural households and households who live far from the country's capital.

What makes this study different from Donkor and Amikuzuno (2011) is that, this study comprises variables such as fosterage, income of the household and the occupation of the household head. This study also uses more recent data that provides a better picture on the effects of socioeconomic and demographic changes on the household education expenditure. Again, a tobit model to measure the magnitude of the effect the variables have on children's education expenditure.

In terms of the specific objective, this study attempts to observe the effect of fostering on education expenditure in Ghana. As indicated above and to the best knowledge of the author, there has been no empirical evidence in this context leaving a gap in the area of research.

2.6 Child Fostering and Education in Ghana

One of the major motivating influences for the practice of fosterage in West Africa is the desire of parents to provide the best of formal education to their wards (Fiawoo, 1978). Especially in circumstances where parents do not have the stability in their various homes and the opportunity to provide quality education for their children. Parents therefore, send out their children to households with respectable economic and social status who relief them of factors that may be preventing their kids from achieving their educational goals (Serra, 2009). Children are sent to

kins, friends and acquaintances of their natural parents who live especially in the urban areas where the best of educational facilities are situated. They may be sent to non-relatives when relatives are not willing to offer their assistance or where few of them live close to schools that is due to proximity of educational facilities (Isiugo- Abanihe, 1985). However, many families rely on others because of financial assistance. This motivation for the practice is mostly regarded as educational fostering (Pilon, 2003).

The relationship between child fostering and education has been described by Pilon (2003) as one that is ambivalent. Pilon (2003) continues to explain that on one breath, some children leave their households of origin to foster homes for educational purposes and on another breath, some children are sent for socializational reasons which keep them out of school. Another senario that can be interpreted is how some children with foster care may have access to better education than what would have been possible with their biological parents' care. On the other hand, some fostered children are prevented from schooling due to labour demands in the receiving households. Similar conclusion is shared by Rolleston (2011) in her study of fosterage and access to schooling in Savelugu- Nanton, Ghana. Rolleston's (2011) assertion is that the effect of fosterage on schooling is not straightforward and are indeed highly contigent. She attributes this statement to tradition and cultural dynamics.

Furthermore, Lloyd and Desai (1992) emphasize that the practice of fostering interacts with child education and training. Therefore, the practice of child fostering influences the amount and the type of investment made in children's human capital, with long term consequences for their

welfare and that of parents and relatives. In Ghana, the practice of fostering is seen to be traditional which is connected to customary child training (Goody, 1982). This can be linked to the contention by Rolleston (2011). It is revealed in Dagbon, a town in the Northern Region of Ghana among the Dagombas that there is a low level of educational access among fostered children due to differences that may exist between the expections of fostered and biological children in terms of work. In the community of Dagbon, parents sometimes wish to send their children to school but are prevented from doing so by the family head. This also happens because of fear of displeasing the chief (Rolleston, 2011). It is believed amongst them that families need to practice child fosterage to strengthen unity.

According to Oppong as cited in Rolleston (2011), purposes of better access to formal schooling is not a dominant reason for child fosterage. Oppong contends that, fosterage for the purpose of access to schooling was notable in the early years of state education because of the long distances to school until relatively recent years where many schools can be located around. Adding on, he suggests kinship obligations connected with labour needs along with crisis fostering may be considered more convincing explanations, particularly given the historically low levels of participation in schooling among the Dagombas. However, the practice of child fostering has much to do with tradition where children are sent away to learn trades. Canagarajah and Coulombe (1997) also finds that child labour is not independent of schooling decisions because the high costs of schooling increase children's probability of working to enable them afford school. In their view, children are made to work as a means of raising income to support their education expenditure

Gage (2005) asserts that the level of income of the household is not necessarily a determining factor of school attendance of a child. Per Gage's (2005) analysis, that assumption; the greater the level of household income or expenditure the more likely a child attends school is met only among children of primary school age. Secondly, among fostered children, Gage (2005) finds that fostered girls aged twelve (12) to seventeen (17) years are significantly less likely to be schooling than those who live with at least one biological parent. This finding is as a result of using a probit model to identify the interrelationship between fosterage and schooling and how children's opportunities are shaped by family resources, gender and age in Ghana. Gage (2005) concludes that, the practice of fosterage and schooling are jointly determined. Her findings of the study suggest that the importance of fosterage as process whereby children from disadvantaged social origins may improve their likelihood of school attendance may be overrated. On a broader note, Gage (2005) sees the benefits of the practice of child fostering accruing more to parents than children involved, hence the lack of a significant true effect of fosterage on children's education.

2.7 Definition of Key Variables

2.7.1 Household

Generally, a household may consist of a man, wife, children and some relatives or non-relatives who may be living with the nuclear family. Per the GLSS 6 Report, household in Ghana is defined as a person or group of related or unrelated individuals well thought out as one unit living together in the same housing unit, sharing the same housekeeping and cooking arrangements and acknowledge an adult male or female as the head of the household. Associates of a household are not certainly related by blood or marriage. However, not all related persons living in the same house or compound are necessarily classified as members of the same household. A house or compound may consist of separate households.

By the definition stated, the practice of child fostering is truly accepted in Ghanaian culture. The structure of households in Ghana recognizes the presence of an adult to provide better access to resource and care to children in various households.

2.7.2 Household Size

In Ghana, the estimated number of households is 6.6 million with a national mean household size of four(4) persons. However, the household size varies among regions. Regions such as Northern, Upper East and Upper West record higher than the national average household sizes. Northern region records 5.4, Upper West records 5.5 and 4.5 in the Upper East region (Ghana Statistical Service, 2014).

2.7.3 Living Arrangements of Children in Ghana

According to the GLSS 6 report, 57.5% of children live with their mother and father, 20.4% live with their mother only as compared to 4.4% living with their father only. 17.7% of the children live with neither of their parents. Out of the children fostered, 19.9% are females and 15.5% are males.

2.7.4 Fostering Status

This study considers fostered and non-fostered children. Using the GLSS (6), fostered children variable satisfies four conditions. First, a child who is a member of a household under the care of an adult. Second, a child of 3 years to 15 years. Thirdly, a child who resides in a household where both biological parents are not members of that particular household and lastly a child who does not earn an income as a result of the work done in the household. On the other hand, non-fostered children are the ones who are members of the household and have at least one of their parents present in the household.

2.7.5 Fostering Status of Children by Age and by Region

The practice of child fostering increases with the age of the child. Households prefer to foster in an older child (see Table 2.1 below). This confirms the study of McDaniel and Zulu (1996) which suggests that, as children grow the willingness to foster them widens in the case where they are needed as labour resources. In relation to this, the number of non-fostered children in the households decreases with age.

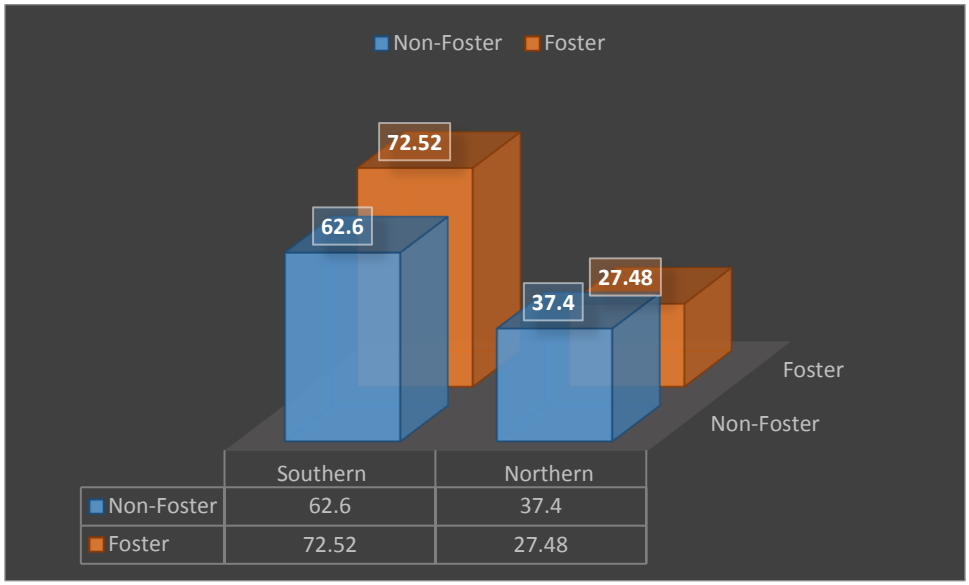
Table 2.1: Fostering Status by Age (Percent)

Age	Fostered	Non-fostered
0-3	6.73	93.27
4-7	11.27	88.73
8-10	16.49	83.51
11-15	18.78	81.22

Source: Author's Computation from GLSS 6 (2012/2013)

In terms of region, children are seen to be fostered out to the Southern part of Ghana relative to the Northern sector by Figure 2.1 below. This can be attributed to better opportunities in the southern sector.

Figure 2.1: Fostering Status by Region (Percent)

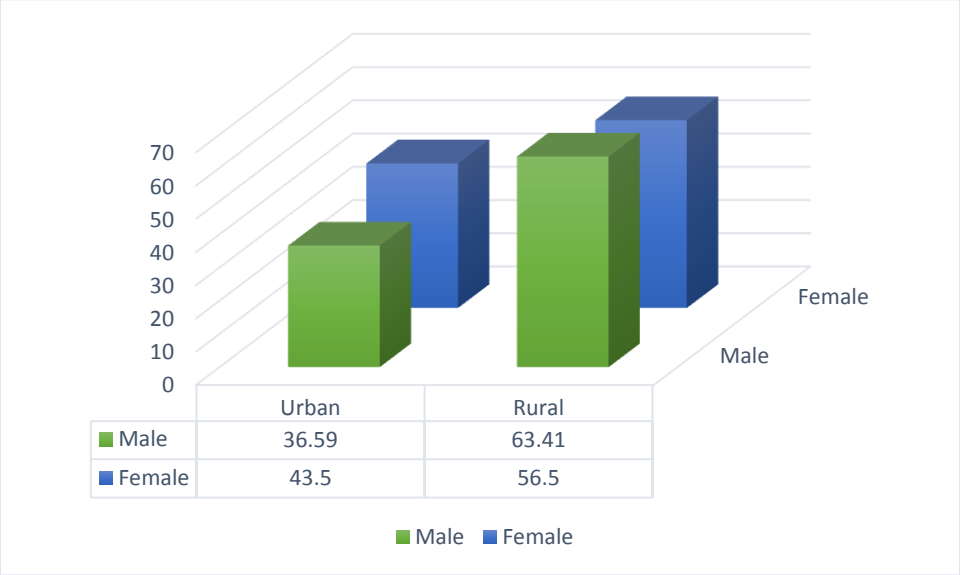


Source: Author's Computation from GLSS 6 (2012/2013)

2.7.6: Distribution of Fostered Children

Considering the gender and location of fostered children give a fair knowledge of the possible motive and welfare outcomes of the practice of child fostering.

Figure 2.2: Distribution of Fostered Children by Location and Gender (Percent)



Source: Author's Computation from GLSS 6 (2012/2013)

Computations based on the GLSS 6 suggest that there are more fostered children located in the rural areas 59.63% than in the urban areas 40.37%. This is no different from the initial claim by Isiugo-Abanihe (1985) that mothers in the urban areas foster out children than rural areas due to a possible reason of higher cost of living and related urban problems. Among the children located in the urban areas, females are dominated than the males. On the contrary, males are dominated in the rural areas considering the practice of fostering. The rural areas are known for their agricultural activities and by implication, children may be fostered out to the rural areas to provide cheap source of farm labour. Urban households may as well foster in children as a

substitute for adult time input for home production. Children can also be fostered to urban areas to enable them to attend better schools.

2.7.7: Education Expenditures among Fostered and Non-Fostered Children

The table below indicates the mean of household education expenditure among fostered and non-fostered children based on GLSS 6. As expected, the average household expenditure on biological child's education is higher than that of a fostered child. These expenditures are based on the previous year prior to the survey and are reported for children of at least three (3) years to fifteen (15) years.

Table 2.2: Mean of Household Expenditures on Children's Education (Cedis)

Education Expenditures	Fostered	Non-Fostered
School and Registration Fees	37.911	64.916
Contributions to PTA	5.937	5.961
Uniforms and Sports Clothes	15.279	16.241
Books and School Supplies	19.208	20.864
Transportation to and from School	6.653	13.636
Food, Board and Lodging	84.756	90.633
Expenses on Extra Classes	14.367	15.948
In-Kind Expenses	2.057	3.515

Source: Author's Computation from GLSS 6 (2012/2013)

All the components which make up education expenditure by a household on an average shows a higher amount is spent on a biological child as compared to a fostered one. As justified by Cisse

(2016), heads of households are committed in seeing to invest in the education of their biological children than that of the fostered children.

2.8 Chapter Summary

Chapter two of the study highlighted some of the determinants in fosterage practice. These were essentially based on available empirical literature. Some of the motives reviewed included, polygamous families are likely to send out children to other households for their up bring (Beck et al, 2014; Rolleston, 2011; Isiugo-Abanihe, 1985). Zimmerman (2003) measures that, the practice of child fostering increases school enrollment whereas Bledsoe (1988) and Marazyan (2015) assess otherwise.

There was a brief discussion on the education system in Ghana. The chapter also observed studies on expenditure determinants of education. Glick and Sahn (2000), Qian and Smyth (2008) and Quang (2012) identify that income and educational levels of parents are the major determinants of education expenditure on children across location and countries.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

Chapter three discusses the methodology used in achieving the objectives of the study. This section of the study is divided into two main parts. First, chapter three discusses the theoretical framework employed for the study. Secondly, econometric specifications involving the formulation and estimation of models are employed to empirically measure the education expenditure of children in Ghana as well as the data used.

3.1 Theoretical Analysis

3.1.1 Human Capital Theory

The study applies the theory of human capital in outlining the theoretical analysis that determines which factors influence household head expenditure on children's education. Olaniyan and Okemakinde (2008) see human capital stock as a means of economic prosperity and functioning of a nation and it generally characterizes the investment individuals make in themselves that boost their economic productivity. The theory of human capital employed in this study is Mincer's (1974) model of schooling decisions in partial equilibrium. The model is applied for the analysis of human capital investments as well as the analysis of returns to schooling. First of all, the model adopts an infinite planning horizon of the individual at $T = \infty$ and a positive flow rate of death, "v" so that individuals have a finite expected lives who discount the future at ρ which is also positive.

The objective function of the individual time t = 0 is given as;

$\int_0^T \exp(-1(\rho + v)t)\, u\big(c(t)\big)dt$ …… *(Eqn 3.1)*

Secondly, the model assumes some level of human capital of h, $h(0) \geq 0$ the period when the individual is born where the human capital changes overtime.

$h(t) = G(t, h(t), s(t))$ …… *(Eqn 3.2)*

Where $(t) \in [0, 1]$ is the fraction of time the individual spends for investing in schooling and $G: R^2 + \times [0, 1] \rightarrow R+$ controls how human capital evolves as a function of time, the individual human capital stock and schooling decisions. An additional constraint is imposed on schooling decisions such that;

$S(t) \in S(t)$ …… *(Eqn 3.3)*

Where $S(t) \subset [0, 1]$ and may be useful to model restrictions of the form, $s(t) \in \{0, 1\}$, which would correspond to the constraint that schooling must be full time.

$h(S) = \eta(S)$ …… *(Eqn 3.4)*

Where $\eta(.)$ is an increasing, continuously differentiable and concave function. *For* $t \in [S, \infty]$, human capital accumulates overtime according to the differential equation:

$h(t) = ghh(t)$ ……..... *(Eqn 3.5)*

For some $gh \geq 0$

Supposing wages grow exponentially;

$w(t) = gww(t)$ …….. *(Eqn 3.6)*

Where *gh* and *gw* are the growth rates of human capital and wages overtime.

According to the model, the optimal schooling decision solves a maximization problem such that:

$max_S \int_S^{\infty} \exp(-(r+v)t)\, w(t)h(t)dt$ …… *(Eqn 3.7)*

Equation (4.7) can be rewritten as;

$max_S \frac{\eta(S)w(0)\exp(-(r+v-gw)S)}{r+v-gh-gw}$ …… *(Eqn 3.8)*

Hence the unique solution is characterized by the first order condition as specified as;

$\frac{\eta(S^*)}{\eta(S^*)} = gw - r - v$ …… (Eqn 3.9)

Equation (3.9) exhibits that greater values of growth of wages *(gw)* overtime raises the value of human capital and consequently encouraging investment whiles interest rate *(r)* and the flow rate of death *(v)* have negative relationships with human capital investments.

3.2 Model Formulation and Estimation Specification

The empirical analysis of this study comprises the formulation and estimation of a model of education that links education expenditure with explanatory variables.

Empirical Model

From equation (3.9) human capital investments depend on growth of wages *(gw)*, interest rate *(r)* and the flow of death *(v)* overtime. Therefore;

$H = f(gw, r, v)$ …… *(Eqn 3.10)*

For the purpose of this study, human capital investment is substituted with household education expenditure on children *(EE)*, household income replaces growth of wages whereas interest rate and flow of death are ignored as data on them are lacking. The model is now expanded to include a set of explanatory variables *(X)* which are the realities in Ghana. Education expenditure function comprises of a group of household and individual characteristics classified to be the set of explanatory variables such as the household income, household head's educational and some other factors that may influence household education expenditure decisions. Becker (1962) regards education as an investment that raises children's lifetime earnings. Household heads or parents decide to educate their children based on the expected net benefit of investment in children's education to the cost incurred and human capital theory relates investments in children's education to a set of determinants (Rizk & Abou-Ali, 2016).

Using the household production model with emphasis on the interaction between quantity and quality of children, Becker and Lewis (1973) postulate that when the shadow price of children with respect to their number is greater, the higher the quality and vice versa. This means that, an increase in child quality is more expensive if there are more children because the increase has to be applied to more units. Similarly, Hanushek (1992) finds that the size of a family has a relationship with the educational attainment of children. As the family size increases, children's educational attainment declines and expenditure per child reduces in case of budget constraints and the reverse is true.

Hashimoto & Heath (1995) argue that the income of household is an essential influence in determining household expenditure on education. Besides, Leibowitz (1974) concludes the casual relationship between parental educational level and the children's educational expenditure. He assesses that parents with high educational level are more likely to capitalize in their children's education than those with low level of education. Becker & Tomes (1986) also finds that there is a positive relationship between investing in the human capital of children and parental socioeconomic background such as income and personal characteristics.

From the above, an equation is specified as follows;

$$EE = f(X) \qquad \text{(Eqn 3.11)}$$

Where EE refers to the household educational expenditure on children and X consists of a group of independent variables that influence expenditure on education of a particular household.

In analyzing the determinants of education expenditure, there are various estimation methods used across studies. For instance, Qian & Smyth (2008) and Quang (2012) applied Tobit model in their estimation as education expenditure is censored at zero. However Tilak (2002) and Rizk & Abou-Ali (2016) used Ordinary Least Squares because the expenditure on the education of children is always positive and continuous.

To estimate education expenditure, the study applies a Tobit model. The intuition behind is that, there is a large number of households or many poor families are characterized by zero education expenditure and therefore households with no education expenditure are censored (Y^*), ignoring this left censoring in the data will bias results. An Ordinary Least Squares model is also applied to check for robustness in the estimates.

$$Y^* = X'\beta + \mu \qquad \textit{(Eqn 3.12)}$$

Where Y^* is a vector of values representing the dependent variable; X representing a vector of explanatory variables (fostering status, household and individual characteristics) that influence educational expenditure; β is a vector of parameters of control variables and μ is the stochastic error term. The observed Y (education expenditure) is defined as $Y = 0$ if $Y^* = 0$ and $Y = Y^*$ if $Y^* > 0$.

The average relationship between the explanatory variables and the dependent variable is the conditional expectation of the dependent variable given the explanatory variables.

$$E(Y_i | X_{1i} = x_1, X_{2i} = x_2, \ldots X_{ni} = x_n) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_n X_n \qquad \textit{(Eqn 3.13)}$$

The coefficients (β) are the effects on the dependent variable of a unit change in the explanatory variables. A linear function form is as follows;

$$Log\ EE = \beta_0 + \beta_i X_i + \mu \qquad (Eqn\ 3.14)$$

Where Log EE is the logarithm of annual household education expenditure on children. To decrease heteroscedasticity, the logarithmic transformation of education expenditure is employed as the dependent variable in the model. However, a value of one is apportioned in the place of zero for education expenditure since there are a large number of households with zero expenditure on education. β_0 is the constant term, β_i is the set of regression coefficients to be estimated that measures the level to which various explanatory variables X_i influence the household educational expenditure on children.

$$ln\ EE = \beta_0 + FS\beta_1 + CC\beta_2 + HHC\beta_3 + DC\beta_4 + EC\beta_5 + \mu \qquad (Eqn\ 3.15)$$

ln EE denotes the dependent variable: educational expenditure; FS represents explanatory variable for fostering status; CC shows child characteristics which comprises of age and gender; HHC represents the characteristics of the household heads: age, gender and educational attainment; DC shows demographic characteristics which deals with the household size, location and region and economic characteristics which includes the income of the household. Therefore, Mincer's (1974) human capital theory informed the model formulation that is equation 3.15.

3.3 Description of Variables

3.3.1 Dependent Variable

In terms of **education expenditure**, this study considers school/registration fees, contributions to parent/teacher association, expenses on extra classes, books and school supplies for school age children. The variable is chosen based on the available literature and information supplied in the GLSS 6 data set. Education expenditure is the expenditure for children's education in 2012/2013.

3.3.2 Independent Variables

Table 3.1: ***Summary definition of the explanatory variables***

Variable	Description
Fostering Status	Dummy Variable; 1 if child is fostered and 0 if child is not fostered
Child Characteristics	
Age of child	Number of years
Age of child squared	The square of the age of child
Gender	Dummy; 1=Male, 0=Female
Household Head Characteristics	
Age	Continuous
Gender	Dummy; 1=Male, 0=Female
Educational Attainment Level of education for all respondents	Educational level of household head; 1 = lower education, 0 = otherwise Educational level of household head; 1 = middle education, 0 = otherwise Educational level of household head; 1 = higher education 0 = otherwise
Occupation Profession of household's head	Cadres; binary dummy variable where 1= a household's head is cadres, 0= otherwise

	Informal; binary dummy variable where 1= a household's head is informal professional, 0= otherwise Semi-Skilled; dummy variable where 1= a household's head is semi-skilled professional, 0= otherwise High; dummy variable where 1= a household's head is high professional, 0= otherwise Other; dummy variable where 1= a household's head is other professional, 0= otherwise
Demograhic Characteristics	
Region	Dummy Variable; 1 if household lives in the north and 0 if household lives in the south
Location	Dummy Variable; Urban=1, Rural=0
Household Size	Number of household members
Household Size Square	Square of the number of household members
Number of school age children	The number of children aged three to fifteen living in the household
Economic Characteristics	
Income	Total disposable income of the household
Land ownership	Dummy Variable; 1 if a member of household owns a land and 0 if no member owns a land

3.3.3 Justification for Selected Variables

Variables are selected based on theoretical and empirical literature on the determining factors of household educational expenses of children

Fostering Status

The second objective of the study is on child fostering and therefore it is very necessary to identify children who are ***Fostered*** or ***Not fostered.*** Using the GLSS (6), fostered children variable satisfies four conditions. First, a child who is a member of a household under the care of

an adult. Second, a child of 3 years to 15 years. Thirdly, a child who resides in a household where both biological parents are not members of that particular household and lastly a child who does not earn an income as a result of the work done in the household. It is a dummy variable with ***Not fostered*** as the reference category for the analysis.

Age of the child is a continuous variable included to account for the difference that may arise between younger and young children in terms of their education expenditure. ***Age square*** captures the non-linear relationship between age and education expenditure.

Gender of the child is a dummy variable which considers the sex of the child; ***Female or Male***. This variable captures the sex effect on education expenditure. Female serves as the reference category for the analysis.

Age of the household head is a continuous variable that accounts for the difference which may arise with an increase in age.

Gender of the household head is a dummy variable that takes into consideration, the sex of the household head that may influence the education expenditure of the child. It is characterized into ***Female*** *or* ***Male*** and female is used as the reference point.

Educational Attainment represents the educational level of the household head. It is assumed that educated parents do as much as possible to educate their children and therefore finance the education of their children. The variable captures the effect of household head educational attainment on children's education expenditure. For the purpose of this study, head of household educational attainment variable is categorized into ***No education***, ***Lower*** *(Preschool but uncompleted primary school, Completed primary school but less than complete lower secondary school and Completed lower secondary school but less than complete upper secondary school),* ***Middle*** *(Completed upper secondary school and postsecondary technical school) and* ***Higher*** *(University and higher, Formal adult education and literacy program and others)* ***education***. No education is the reference point for the analysis.

Region is a variable that categorizes all the regions in Ghana into two; ***Southern*** *and* ***Northern***. Given the idea of relative deprivation of schools in the north, it is expected that more would be spent on children's education located in the southern regions. Southern Region comprises of the *(Ashanti, Brong Ahafo, Central, Eastern, Greater Accra, Volta and Western)* Regions. Northern Region considers *(Northern, Upper East and Upper West)* Regions. The study considers Northern and Southern dichotomy for easy explanation and evaluation. Southern is the reference category for the analysis.

Location is measured as a dummy variable; ***Rural*** *and* ***Urban*** *areas*. The variable captures the effect of residence on the household expenditure of the child's education. Location variable is considered given that better schools are situated in the urban areas. It is expected that household

heads in the urban areas spend more on their children's education. *Rural* is the reference category.

Occupation measures the profession of the household's head based on the International Standard Classification of Occupation. It is categorized into four; ***Cadres*** *(Trained professionals such as the armed force, police etc*), ***Informal*** *(Profession which do not require certificate),* ***Semi-Skilled***, ***High*** *(Occupation that requires mental skills)* and ***Other*** *(Religious profession).* Informal profession is the reference category for the analysis.

Household Size shows the number of members of the household. It is assumed that the higher the number of members in the household, the more income needed for children's education. ***Household Size Square*** is the non-linear relationship between household size and education expenditure.

Number of School Age Children is the number of children aged three (3) to fifteen (15) years living in the household. This measures the effect of the number of school age children in the household on children's education expenditure.

Income captures the total household income. It is predicated that, to invest in the education of children, income becomes a major contributing factor. It is expected that households with higher income are to make higher investments in the education of their children.

Land Ownership is the ownership of land by a member of the household. It is measured as a dummy variable as ***Yes*** where a household owns a land and ***No,*** if otherwise. Land ownership variable is considered because, like any other durable assets, land is wealth which can serve as a relief for a household to increase its members' education. It measures the effect of owning a land on children's education expenditure. Consequently, it is expected that households which own lands to spend more on its children. No is the reference category.

3.4 Source of Data

Analysis for this study is based on data for children aged 3 to 15 years from the Ghana Living Standards Survey Round 6 (GLSS 6) conducted by Ghana Statistical Service in 2012/13 from households including their demographic characteristics, education, health, employment and time use, housing conditions and many others. The data provides us with a current nationwide household survey designed to produce valuable information and key socio-economic unit on living conditions in the country. The survey covered a nationally representative sample of 18000 households in 1200 enumeration areas and out of the 18000 households, 16772 were successfully enumerated leading to a response rate of 93.2% (GLSS 6 Report).

3.5 Descriptive Statistics

Table 3.2 displays that on average, observed households spend GH₵159.429 on children's education annually. Also, it is evident that the average household size with fostered children is seven (7) at an average age of nine (9) years and 15.3 percent out of the observed children are fostered.

Table 3.2: ***Descriptive Statistics of Variables***

Variable	Obs	Mean	Std. Dev.	Min	Max
Education Expenditure	25504	159.429	331.809	0	10695
Male Child	25504	0.515	0.500	0	1
Female Child	25504	0.485	0.500	0	1
Age of Child	25504	9.286	3.722	3	15
Age of Household Head	25504	49.220	13.669	15	98
Age Squared of Child	25504	100.076	68.821	9	225
Income	25504	17719.70	50140.19	21.9	2184471
Non-Foster	25504	0.847	0.360	0	1
Foster	25504	0.153	0.360	0	1
Female Household Head	25504	0.196	0.397	0	1
Male Household Head	25504	0.804	0.397	0	1
Informal Professional	25504	0.867	0.339	0	1
Semi-Skilled Professional	25504	0.082	0.275	0	1
High Professional	25504	0.043	0.202	0	1
Cadres	25504	0.0062	0.078	0	1
Other	25504	0.002	0.044	0	1
Rural	25504	0.702	0.457	0	1
Urban	25504	0.298	0.457	0	1
Household Size	25504	6.794	3.239	2	29
Household Size Square	25504	56.649	63.916	4	841
Number of school age children	25504	3.352	2.172	1	21
No Education	25504	0.3775	0.4845	0	1
Lower Educational Level	25504	0.462	0.499	0	1
Middle Educational Level	25504	0.080	0.271	0	1
Higher Educational Level	25504	0.081	0.273	0	1
Southern	25504	0.752	0.432	0	1
Northern	25504	0.248	0.432	0	1
No Land Ownership	25504	0.458	0.498	0	1
Land Ownership	25504	0.542	0.498	0	1

Source: Constructed from GLSS 6 (2012/2013)

CHAPTER FOUR

EMPIRICAL ANALYSIS

4.0 Introduction

Chapter four concentrates on the empirical findings, analysis and the results of the subject under study. This chapter is sub divided into two main parts. Firstly, the study will see the analysis and discussion using tobit model. Secondly, this study discusses analysis based on ordinary least squares model as a robust check.

4.1 Empirical Analysis and Discussions

The empirical results of the expenditure on children's education reports the coefficients just like it is for an Ordinary Least Squares model. The marginal effects of the explanatory variables on the dependent variable are simply the corresponding coefficients because E(y| x) is linear in x. The estimations of the model were carried out using Stata 13 software package.

4.1.1 Econometric Analysis

To analyze the effect of being a fostered child on education expenditure and the socioeconomic and demographic determinants of education expenditure on children, the data is subjected to a tobit regression analysis and an ordinary least squares regression analysis to check for robustness in the estimates.

4.2 Empirical Analysis and Discussions Based on Tobit Regression Model

Shown in Table 4.1 are the estimation results of tobit explaining the effect of being a fostered child on education expenditure together with the determinants of household expenditure on children's education. Virtually all of the variables are statistically significant at the 1 percent level.

Table 4.1: Tobit Estimation Results for Household Education Expenditure

Dependent Variable: Logarithm of Education Expenditure

Explanatory Variables	Coefficients	Standard Error	t
Fostering Status			
Non-Foster (Reference Category)			
Foster	-0.188***	0.0543	-3.47
Child Characteristic			
Age	0.643***	0.0284	22.59
Age Squared	-0.0284***	0.00152	-18.64
Gender			
Female (Reference Category)			
Male	0.0259	0.0370	0.70
Household Head Characteristics			
Age	8.02e-05	0.00158	0.05
Gender			
Female (Reference Category)			
Male	-0.343***	0.0503	-6.82
Educational Attainment			
No Education (Reference Category)			
Lower	1.176***	0.0449	26.18
Middle	1.448***	0.0767	18.89
Higher	0.965***	0.0737	13.09

Occupation			
Informal Professionals (Reference Category)			
Semi-Skilled Professionals	0.614***	0.0682	9.00
High Professionals	0.328***	0.0945	3.47
Cadres	0.806***	0.229	3.52
Other	0.451	0.404	1.12
Demographic Characteristics			
Location			
Rural (Reference Category)			
Urban	1.280***	0.0446	28.69
Region			
Southern (Reference Category)			
Northern	-1.650***	0.0493	-33.43
Household Size	-0.149***	0.0213	-7.01
Household Size Square	0.00421***	0.001	4.41
Number of School Age Children	-0.0434***	0.0154	-2.81
Economic Characteristics			
Land Ownership			
No (Reference Category)			
Yes	-0.122	0.0402	-3.03
Log Household Income	0.278***	0.0157	17.65
Constant	-2.558***	0.200	12.81
Observation	25504		
Log Likelihood	-50204.876		
LR chi2 (20)	7661.20		
Prob> chi2	0.0000		
Pseudo R2	0.0709		

***Significant at 1% **Significant at 5% *Significant at 10%

The performance of the estimated model is determined by the statistical significance of Likelihood Ratio $\chi 2$ (LR chi2) and Pseudo R2 in terms of its predictive power. LR $\chi 2$ confirms the overall significance of the model. Pseudo R2 also shows a considerably good fit of the model since its maximum is less than 1. Therefore, the dependent variable can considerably be justified by the explanatory variables.

4.3 Socioeconomic and Demographic Determinants of Household Expenditure on Children's Education Using Tobit Regression Model

Age of the child has a positive and significant effect on the expenditure of education which shows that education expenditure increases with age of the child at younger levels. As age goes up, a child is expected move to a higher level of education. All things being equal, education expenditure increases. However, overtime as the child grows older, education expenditure diminishes as this is shown by the negative coefficient of *Age Square*.

In terms of the *gender* of the child, it has no statistical significance on education expenditure. Household head seems to spend more on the male child than the female child. This can be associated to some factors reported by UNICEF (2011). First of all, boys are usually given the precedence when a choice has to be made between sending a boy or girl to school possibly because of lower rate of failure for males than females. Again, traditional division always disadvantages girls than boys especially when girls have higher likelihood to work in the home and care for siblings. In terms of attitudes and cultural practices, early marriages in some parts of the country, low status of women often result in lower priority of girls' education. The stated

reason confirms the studies of Buchmann (2000) and Csapo (1981). They contribute that, families perceive greater returns in the long run to extended educational investments in sons than in daughter because it is believed that girls are valued only for roles as wives and mothers where marriage practices take girls away from their natal families whilst sons stay with their parents. This is no different in terms of fostered children as Pilon (2003) suggests urban households foster in boys to enroll them in school but their strong preference to host girls gives rise to the problem of the need of labour especially for domestic purposes.

The total disposable income of the household shows a significant influence on education expenditure as *income* has a positive coefficient and is statistically significant at 1 percent level. As income of the household rises, household heads increase the amount spent on their children's education. This can be justified by Bayar & Yanik Ilhan (2016) which reports that, higher household income levels lead to higher education expenditures. From the estimation results, a unit increase in household income increases the expenditure on children's education by 27.8 percent. Similar to the results from this study, Glewwe & Patrinos (1999) and Quang (2012) conclude that, the willingness to spend on the education of children increases with an increase in the income of the household.

Findings indicate that household head's educational attainment has positive and significant effect on children's education expenditure. At 1 percent significant level, their effects on children's education expenditure increase by 117.6 percent, 144.8 percent and 96.5 percent for household heads with *lower*, *middle* and *higher* educational level respectively as opposed to those with no

education. This contradicts findings of Quang (2012) and Rizk & Owusu-Afriyie (2014) which indicate that the level of household head's education has an increasingly positive and significant effect on education expenditure. Household head with lower education spend 117.6 percent more compared to those with no formal education, those with middle education spend 27.2 percent more than those with lower education and those with higher education spend 48.3 percent less than those with middle education accordingly. A positive relationship between educational level of household head is very much expected and this indicates that, an educated household head is willing to educate a child to similar heights.

The *occupation* of the household head indicates that there are positive impacts of semi-skilled, high, cadres and other professionals on children's education expenditure. As opposed to the informal professionals, the semi-skilled professionals spend 61.4 percent more. The high professionals spend 28.6 percent less compared to the semi-skilled professionals but 32.8 percent more than the informal professionals. The cadres also spend 80.6 percent and 19.2 percent more than the informal and the semi-skilled professionals respectively. Other professionals spend 45.1 percent more on their children's education than the informal professionals. The findings show that the class of occupation of household head does not necessarily justify the expenditure on their children's education since semi-skilled professionals spend more on the children's education than the high professionals.

The tobit results specify that the household head's *age* has 0.00802 percent effect on children's education expenditure. A year change in the age of the household head increases the rate to spend on children's education by 0.00802 percent.

The *gender* of the household head surprisingly shows that male household heads spend less on the education of their children than their female counterparts and may suggest that female household heads are more concerned in spending on education of their children. It is statistically significant at 1 percent but has a negative relationship with education expenditure. Female household heads spend 34.3 percent more than the male headed households. The findings however contradict the work of Rizk & Owusu-Afriyie (2014) who conclude that in Egypt, households headed by males spend more on the children's education compared to the households headed by females, associating it to job disparities among males and females as well as the wage differentials.

As predicted, the *size of the household* has a negative effect on the children's education expenditure. An addition to the number of people in the household reduces the amount spent on the education of children by 14.9 percent. This addition compels the household to spread its resources to cater for all members. However as the number doubles overtime, education expenditure on children increases as indicated by the coefficient of the *household size squared*.

The *number of school going age children* shows an expected result. The result reveals that, an additional school age child in the household reduces the finance to be invested on the education

of children. As found by Rizk & Owusu-Afriyie (2014) and Quang (2012), education expenditure of a household for a child reduces with increasing number of school going age children within the household. The assertion is related to the cause that, as the number of school age children increases in the household, it puts pressure on the resources of the household. As a result, the household experiences a lower investment in human capital.

The *Northern* variable which consists of the three northern regions of Ghana has an inverse relationship with the education expenditure of children. As compared to the Southern parts of the country, Northern households spend less on their children's education. Specifically, households in the Northern regions spend 165 percent less on the education of their children than those in the Southern sector. This is consistent with the study of Rizk & Abou-Ali (2016) in Sudan where Southerners spend more on educating their children than that of the Northerners. This can be justified with the reason that, Northerners reside in less developed areas with low resources as opposed to the Southerners who are relatively wealthy and have what it takes or the resources in investing in the education of their children.

The *location* of the household specifies that, household in the urban areas has positive impact on children's education expenditure and significant at 1 percent. Household in the urban areas spend 128 percent higher than those found in the rural areas. This is not surprising at all since better schools are situated in the urban areas.

Household with a member who owns a land has a negative effect on children's education as compared to those who have no *land ownership*. A household with a member who owns a land spends 12.2 percent less on the education of children than those who do not own any. It is surprising in this study that, land ownership is a negative determinant of household education expenditure especially where household's expenditure is not only a function of income but also wealth. Yet, this result confirms a study by Cinnirella and Hornung (2016). This result can be attributed to the fact that heads of households do not have the passion to spend or invest in the education of their children.

4.4 Effect of Fostering on Education Expenditure Using Tobit Regression Model

Fostering is significant at one (1) percent level but has an inverse relationship with education expenditure. This can be attributed to one of the many reasons for the practice of fostering by Bledsoe et al (1988). According to Bledsoe et al (1988), household heads especially working parents may foster in children to take care of their babies or young children in their absences. By implication, fostering reduces the extra cost incurred by the parents to keep their children in school for long hours. A possible reason could be the fact that because children are needed for domestic purposes in various households as established by Ainsworth (1996), these children are not enrolled in schools at all and therefore there is no investment made.

Another reason to be associated with the result, is the fact that when a child is fostered into a household, the number of children in that particular household automatically increases and this puts pressure on the household's resources and the need to share them accordingly. Again, a

remarkable explanation can be that the parents of fostered children or the sending household remit to the receiving households and as a result reduce the host household education expenditure on children.

Cisse (2016) also institutes that parents do invest in children's education only if it offers them higher utility. In the case of fostered children, it is believed that host parents might invest in fostered children only to see them leave to their natal households before recouping the returns to their investment and therefore host parents simply have the interest in investing in their biological children.

4.5 Empirical Analysis and Discussions Based on Ordinary Least Squares Regression Model

Shown in Table 4.2 are the estimation results of ordinary least squares regression explaining the effect of being a fostered child on education expenditure together with the determinants of household expenditure on children's education. Practically all of the variables are statistically significant at a level of one (1) percent.

Table 4.2: Ordinary Least Squares Estimation Results for Household Education Expenditure

Dependent Variable: Logarithm of Education Expenditure

Explanatory Variables	Coefficients	Standard Error	t
Fostering Status			
Non-Foster (Reference Category)			
Foster	-0.176***	0.038	-4.62
Child Characteristic			
Age	0.398***	0.020	19.82
Age Squared	-0.0171***	0.001	-15.78
Gender			
Female (Reference Category)			
Male	0.024	0.026	0.92
Household Head Characteristics			
Age	-0.0005	0.001	-0.45
Gender			
Female (Reference Category)			
Male	-0.265***	0.036	-7.36
Educational Attainment			
No Education (Reference Category)			
Lower	0.832***	0.031	26.86

Middle	1.064***	0.058	18.20
Higher	0.665***	0.052	12.89
Occupation			
Informal Professionals (Reference Category)			
Semi-Skilled Professionals	0.475***	0.050	9.43
High Professionals	0.316***	0.079	3.99
Cadres	0.654***	0.185	3.54
Other	0.434	0.313	1.39
Demographic Characteristics			
Location			
Rural (Reference Category)			
Urban	1.090***	0.033	32.59
Region			
Southern (Reference Category)			
Northern	-1.124***	0.032	-35.32
Household Size	-0.112***	0.015	-7.49
Household Size Square	0.003***	0.0006	4.51
Number of School Age Children	-0.024**	0.012	-2.25
Economic Characteristics			
Land Ownership			
No (Reference Category)			
Yes	-0.097	0.029	-3.34
Log Household Income	0.219***	0.012	18.85
Constant	-0.459***	0.141	-3.26
Observation	25504		
F(20, 25483)	577.96		
R- squared	0.2880		
Prob> F	0.0000		
Root MSE	2.0555		

***Significant at 1% **Significant at 5% *Significant at 10%

The performance of the estimated model is determined by the statistical significance of R-squared in terms of its predictive power. R- squared confirms the overall significance of the model. Root MSE also shows a considerably good fit of the model since its maximum is more than 1. Therefore, the dependent variable can considerably be justified by the explanatory variables.

4.6 Socioeconomic and Demographic Determinants of Household Expenditure on Children's Education Based on Ordinary Least Squares Regression Model

Just as in the tobit regression model, *age* of the child has a positive and significant effect on the expenditure of education which shows that education expenditure increases with age of the child at younger levels. As age goes up, a child is expected to move to a higher level of education. All things being equal, education expenditure increases. However, overtime as the child grows older, education expenditure diminishes as this is shown by the negative coefficient of *Age Square*. The magnitudes of the effects are greater with the tobit analysis than that of the ordinary least squares'.

In terms of the *gender* of the child, it has no statistical significance on education expenditure. Again, household head seems to spend more on the male child than the female child just as in the case of the tobit regression model. This can be associated to same factors seen above in the tobit analysis. For instance, UNICEF (2011) report on how boys are usually given the precedence when a choice has to be made between sending a boy or girl to school possibly because of lower rate of failure for males than females and the traditional division which continually serves as

drawbacks for girls than for boys especially when girls have higher likelihood to work in the home and care for siblings. With confirmations from studies of Buchmann (2000) and Csapo (1981), we see that, families perceive greater returns in the long run to extended educational investments in sons than in daughter because it is believed that girls are valued only for roles as wives and mothers where marriage practices take girls away from their natal families whilst sons stay with their parents. This result has also shown that, regardless of your status as a child, be it fostered or not, girls are disadvantaged in term of education based on Pilon (2003) suggestion of urban households fostering in boys to enroll them in school but their strong preference to host girls gives rise to the problem of the need of labour especially for domestic purposes.

The total disposable income of the household shows a significant influence on education expenditure as *income* has a positive coefficient and is statistically significant at 1 percent level. Similar to the results from the tobit analysis, as income of the household rises, household heads increase the amount spent on their children's education. With the same justification from Bayar & Yanik Ilhan (2016) which reports that, higher household income levels lead to higher education expenditures. From the estimation results, a unit increase in household income increases the expenditure on children's education by 21.9 percent as opposed to tobit analysis of 27.8 percent increase. Gage (2005) does not wholly agree to this assertion and believes that the assumption of positive relationship between income and household expenditure only works among children of primary school age.

Findings indicate that household head's educational attainment has positive and significant effect on children's education expenditure. At 1 percent significant level, their effects on children's education expenditure increase by 83.2 percent, 106.4 percent and 66.5 percent for household heads with *lower*, *middle* and *higher* educational level respectively as opposed to those with no education. This contradicts findings of Quang (2012) and Rizk & Owusu-Afriyie (2014) which indicate that the level of household head's education has an increasingly positive and significant effect on education expenditure. Household head with lower education spend 83.2 percent more compared to those with no formal education, those with middle education spend 23.2 percent more than those with lower education and those with higher education spend 39.9 percent less than those with middle education accordingly. A positive relationship between educational level of household head is very much expected and this indicates that, an educated household head is willing to educate a child to similar heights.

The *occupation* of the household head indicates that there are positive impacts of semi-skilled, high, cadres and other professionals on children's education expenditure. As opposed to the informal professionals, the semi-skilled professionals spend 47.5 percent more. The high professionals spend 15.9 percent less compared to the semi-skilled professionals but 31.6 percent more than the informal professionals. The cadres also spend 65.4 percent and 19.2 percent more than the informal and the semi-skilled professionals respectively. Other professionals spend 43.4 percent more on their children's education than the informal professionals. The findings show that the class of occupation of household head does not necessarily justify the expenditure on their children's education since semi-skilled professionals spend more on the children's education than the high professionals.

The results of the ordinary least squares shows a negative effect of the age of household head on education expenditure of about 0.0479 percent whereas the tobit results specify that the household head's *age* has a positive effect of 0.00802 percent on children's education expenditure. A year change in the age of the household head increases the rate to spend on children's education by 0.00802 percent in the case of tobit model analysis and in terms of the ordinary least squares model analysis, a year change in the age of the household head results to a decrease in the expenditure on a child's education of 0.0479 percent.

The results of the ordinary least squares are similar to that of the tobit's in terms of the *gender* of the household head as well. Male household heads spend less on the education of their children than their female counterparts and may suggest that female household heads are more concerned in spending on education of their children. It is statistically significant at 1 percent but has a negative relationship with education expenditure. Male household heads spend 26.5 percent lesser than the female headed households. The findings however contradict the work of Rizk & Owusu-Afriyie (2014) who conclude that in Egypt, households headed by males spend more on the children's education compared to the households headed by females, associating it to job disparities among males and females as well as the wage differentials

As predicted, the *size of the household* has a negative effect on the children's education expenditure. An addition to the number of people in the household reduces the amount spent on the education of children by 11.2 percent. This addition compels the household to spread its

resources to cater for all members. However as the number doubles overtime, education expenditure on children increases as indicated by the coefficient of the *household size squared*.

The *number of school going age children* shows an expected result. The result reveals that, an additional school age child in the household reduces the finance to be invested on the education of children by 2.4 percent. As found by Rizk & Owusu-Afriyie (2014) and Quang (2012), education expenditure of a household for a child reduces with increasing number of school going age children within the household. The assertion is related to the cause that, as the number of school age children increases in the household, it puts pressure on the resources of the household. As a result, the household experiences a lower investment in human capital.

The *Northern* variable which consists of the three northern regions of Ghana has an inverse relationship with the education expenditure of children just as seen in the tobit regression analysis. As compared to the Southern regions of the country, Northern households spend less on their children's education. Specifically, households in the Northern regions spend 112.4 percent less on the education of their children than those in the Southern regions. This is consistent with the study of Rizk & Abou-Ali (2016) in Sudan where Southerners spend more on educating their children than that of the Northerners. This can be justified with the reason that, Northerners reside in less developed areas with low resources as opposed to the Southerners who are relatively wealthy and have what it takes or the resources in investing in the education of their children.

The *location* of the household specifies that, household in the urban areas has positive impact on children's education expenditure and significant at 1 percent. Household in the urban areas spend 109 percent higher than those found in the rural areas. This is not surprising at all since better schools are situated in the urban areas.

Household with a member who owns a land has a negative effect on children's education as compared to those who have no *land ownership*. A household with a member who owns a land spends 9.7 percent less on the education of children than those who do not own any. It is surprising in this study that, land ownership is a negative determinant of household education expenditure especially where household's expenditure is not only a function of income but also wealth. Yet, this result confirms a study by Cinnirella and Hornung (2016). This result can be attributed to the fact that heads of households do not have the zeal to spend or invest in the education of their children.

4.7 Effect of Fostering on Education Expenditure Using Ordinary Least Squares Regression Model

The results of the tobit regression model correspond with results of the ordinary least squares regression model. Fostering is significant at one (1) percent level but has an inverse relationship with education expenditure. This can be attributed the many reasons as explained in the tobit analysis. Firstly, Bledsoe et al (1988) explanation of working parents fostering in children to take care of their babies or young children in their absences. By implication, fostering reduces the extra cost incurred by the parents to keep their children in school for long hours. Secondly, the

fact that when a child is fostered into a household, the number of children in that particular household automatically increases and this puts pressure on the household's resources and the need to share them accordingly.

A remarkable explanation contributed earlier in this study suggests that the parents of fostered children or the sending household remit to the receiving households and as a result reduce the host household education expenditure on children. Another factor shared is Cisse (2016) instituting that parents do invest in children's education only if it offers them higher utility. In the case of fostered children, it is believed that host parents might invest in fostered children only to see them leave to their natal households before recouping the returns to their investment and therefore host parents simply have the interest in investing in their biological children.

4.8 Chapter Conclusion

The chapter has presented the methodology and the empirical findings of the study based on tobit and ordinary least squares regression model. Both results shows same implications only that the tobit regression model gives a greater effect as compared to that of the ordinary least squares regression model. It is revealed in the study that household heads' educational attainments and the household's geographical location have a bigger part to play in the determining the amount invested in children's education. The other key determinants of education expenditure in Ghana are income, age of the child, gender of the head of the household and the size of the household.

Children fostered out also suffer the consequences as a result of their status. Their statuses reduce the expenditure of their education.

CHAPTER FIVE

CONCLUSION AND POLICY RECOMMENDATION

5.0 Introduction

The chapter delivers a summary of the research conclusion based on the findings and make valuable contribution for future studies. It also highlights the critical lessons drawn from this study and makes recommendations for the Ministries, Departments and Agencies (MDAs) and other stakeholders.

5.1 Summary of findings

The study set out to analyze Ghana's practice of child fostering and education expenditure. Explicitly, the study pursued to account for the effect of fostering on education expenditure in Ghana. It also explored the socioeconomic and demographic determinants of education expenditure among school going age children of three (3) and fifteen (15) years in Ghana.

This study developed a model of education expenditure within the framework of a tobit model on the basis that the expenditure on education was censored at zero. Ordinary least squares model is also used as a robust check. The results and signs of the estimation were both analyzed with their coefficients because their marginal effects yielded same results. Logarithm of education expenditure served as the dependent variable to reduce heteroskedasticity. The regression included independent variables like fostering status, child characteristics, household head characteristics, demographic and economic characteristics. To satisfy the objectives of the study, findings from the analysis have been discussed.

5.1.1 Socioeconomic and Demographic Determinants of Education Expenditure of Children in Ghana

The first objective is to explore the factors that influence expenditure on children's education in Ghana. In meeting this objective, the factors were classified into child characteristics, household head characteristics, demographic and economic characteristics. Key determinants found to be significant are age of the child, gender of the household head, educational level of the household head, geographical location of the household, occupation of household head and income.

As found in literature, this study finds that educational attainment of the household heads, gender of the household head, income, household size and the geographical location of the households are empirically seen to be determining factors of children's education expenditure as expected.

On the other hand, the age of the household head do not play any significant role in determining the expenditure on children's education in Ghana as it only has 0.00802 percent effect on educational expenditure using the tobit model and 0.0479 percent based on the ordinary least squares model.

5.1.2 The Effect of Fostering on Education Expenditure in Ghana

The study's second objective is to account for the effect of fostering on education expenditure and the major findings reveal that fostering status is statistically significant and has an inverse relationship with education expenditure in Ghana.

The study finds that Bledsoe et al (1988) and Ainsworth's (1996) assertions on the motive for the practice of child fostering is true since children are only fostered into another household for the purposes of domestic activities and when sent to school, they are not properly taken care of. Household heads do not factor in education when fostering in children and therefore do not consider investing much in their education.

Again, fostering in a child increases the number of children within the household and consequently puts pressure on their resources. Parents have the interest in building the human capital of their biological children because they believe they invest in fostered children's education only to see them leave to their natal homes.

With the effect of the fostering status on education expenditure, fostered children do face a disadvantage as education expenditure serves as a proxy for human capital and economic growth (Al-Yousif, 2008).

One positive reason out of the negative effect between fostering status and education expenditure could be the fact that the host households may receive remittances from the sending households.

5.2 Policy Implications and Recommendations

Social Welfare Departments need to be provided with the needed logistics and resources. This can enable them to adequately provide for children under their care. Once they have the resources to invest in fostered and vulnerable children, their education will greatly be improved.

In the earlier submission, it is realized that due to the unavailability of educational structures in their localities, parents send their wards to different households which are closer to these structures. Although, they are sent to stay with other households their biological parents still cater for all their educational expenses. To resolve this, more educational structures should be provided for most communities so that children can stay with their natal parents to spend directly on their children.

In relation to fostered children, household heads do not feel obliged as it is with adoption procedures and thus these children are disadvantaged because out-of-pocket school expenditures present a considerable barrier to the human capital accumulation of fostered children. Wide-ranging measures that can reduce the cost burden of education such as school feeding programme and free compulsory basic education need to be effectively reinforced to be beneficial to both vulnerable households and children.

It is also recommended in this study that, the Government of Ghana (GoG) through the Ministry of Local Government and Rural Development and the Ministry of Roads and Highways bridge the gap between the Northern and Southern parts of Ghana as well as rural and urban areas. With

well-endowed educational facilities in such areas will motivate parents to increase the investment in the education of their children.

The study finds that the household head's educational attainment has significant and positive impact on expenditure on the education of children. Furthermore, spending on children's education significantly increases as income of the household also improves. Based on these, the study recommends strongly that scholarship and educational subsidy should be awarded to children from households which are not financially sound and with less human capital. Finally, parents should be encouraged and educated by the Ministry of Gender and Social Protection to engage in activities that would provide them extra income in addition to the income from their permanent jobs. This in turns affects positively the amount that would be spent on children's education.

5.3 Limitations and Areas for Further Research

Even though GLSS is a major information provider on household level demographic and economic characteristics, it does not unequivocally capture information on the residential status of children and thus makes it very difficult to extract the fostering status of children in various households. As a result of the absence of information on the fostering status of children, the dataset does not provide a generalized definition for the practice of child fostering and therefore the study had to rely on clues of definitions in other studies.

Furthermore, it is difficult to identify who or the households that bear the cost of nurture of fostered children in the study. This is necessary because in terms of proximity as a motivation for fostering, it is likely the natal household may bear the cost. The study had to express the hosting household heads of fostered children to be the sole bearers of the cost of their up bring because the study could not link it in the dataset.

The study again could not relate to free education at the basic level of Ghanaian educational system in the dataset as they could have been beneficial for this study.

Regardless of the above limitations, the study aids as a starting point for a more demanding research into the expenditures that come with child fostering as well as the determinants of education expenditure among children in Ghana. It also contributes to the body of fairly scarce literature on education expenditures on children in Ghana in development economics studies.

APPENDIX: Estimation Results

Table 1 Average Marginal Effects Results Based on Tobit Model Estimations

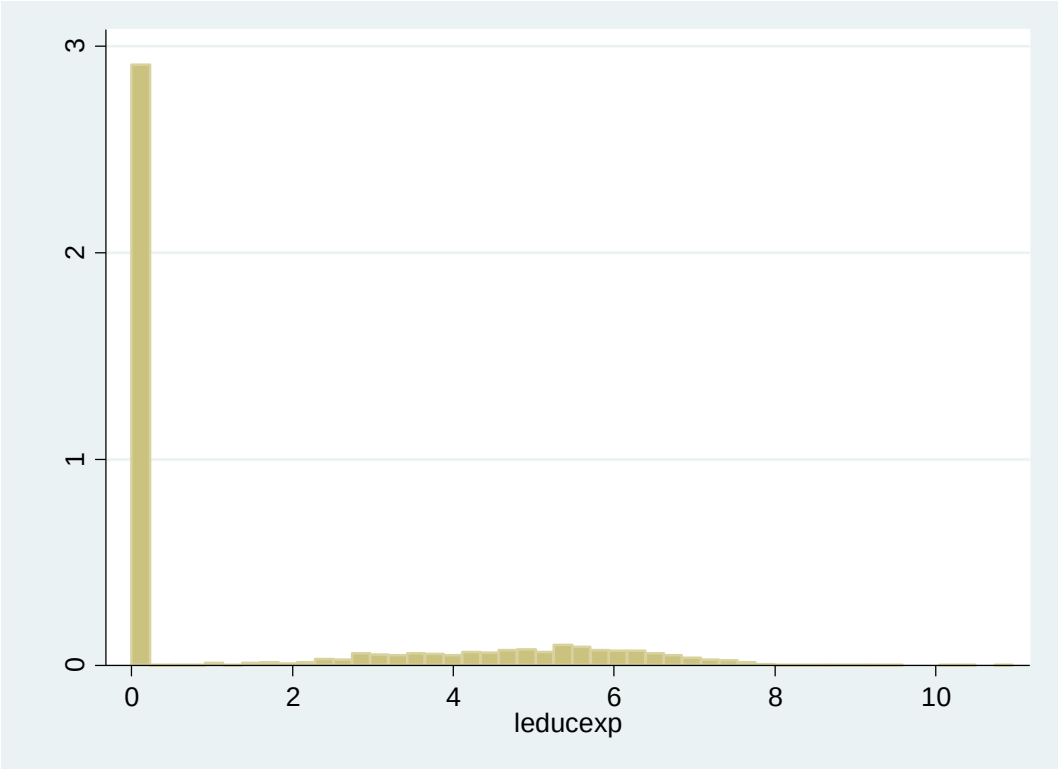
Dependent Variable: Log Education Expenditure

	Delta-Method					
	dy/dx	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Age of child	0.6426008	0.0284444	22.59	0.000	0.5868508	0.6983509
Age square	-0.0284297	0.0015248	-18.64	0.000	-0.0314183	-0.0254411
Age of household head	0.0000802	0.0015778	0.05	0.959	-0.0030123	0.0031727
Log of income	0.277608	0.01574	17.65	0.000	0.2467777	0.3084383
foster	-0.1884752	0.0542622	-3.47	0.001	-0.2948272	-0.0821233
Household head male	-0.3428391	0.0502646	-6.82	0.000	-0.441356	-0.2443223
Household size	-0.1490062	0.0212706	-7.01	0.000	-0.1906959	-0.1073165
Household size square	0.0042079	0.000954	4.41	0.000	0.0023381	0.0060778
Lower educational attainment of household head	1.175937	0.449233	26.18	0.000	1.087889	1.263985
Middle educational attainment of household head	1.447878	0.0766539	18.89	0.000	1.297639	1.598117
Higher educational attainment of household head	0.9648022	0.0736942	13.09	0.000	0.8203642	1.10924
Northern Region	-1.649552	0.0493474	-33.43	0.000	-1.746271	-1.552833
Urban locality	1.280107	0.044614	28.69	0.000	1.192665	1.367548
Male Child	0.0258512	0.0369763	0.70	0.484	-0.046621	0.0983235
Cadres profession	0.806441	0.2290705	3.52	0.000	0.3574711	1.255411
Medium	0.6135772	0.068155	9.00	0.000	0.4799958	0.7471586

profession						
High profession	0.3283163	0.0945125	3.47	0.001	0.1430752	0.5135574
Other profession	0.4511424	0.4035776	1.12	0.264	-0.3398551	1.24214
land ownership	-0.1216652	0.0401551	-3.03	0.002	-0.2003678	-0.0429627
Number of school age children	-0.043407	0.0154267	-2.81	0.005	-0.0736428	-0.0131712

Source: Computed by author from GLSS 6, 2012/2013

Graph 1 Censored Education Expenditure



Source: Computed by author from GLSS 6, 2012/2013

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