

UNDERSTANDING CHILD WORK AND CHILD LABOR IN THE 21ST CENTURY:

A FOCUS ON MALAWI AND TANZANIA

A Thesis  
Submitted to the Graduate Faculty  
of the  
North Dakota State University  
of Agriculture and Applied Science

By

Courage Chikomborero Mudzongo

In Partial Fulfillment  
for the Degree of  
MASTER OF SCIENCE

Major Department:  
Sociology

October 2012

Fargo, North Dakota

North Dakota State University  
Graduate School

---

**Title**

UNDERSTANDING CHILD WORK AND CHILD LABOR IN THE 21ST CENTURY:

---

A FOCUS ON MALAWI AND TANZANIA

---

**By**

---

COURAGE CHIKOMBORERO MUDZONGO

---

The Supervisory Committee certifies that this *disquisition* complies with North Dakota State University's regulations and meets the accepted standards for the degree of

**MASTER OF SCIENCE**

---

SUPERVISORY COMMITTEE:

---

Dr. Christopher Whitsel

Chair

---

Dr. Gary Goreham

---

Dr. Richard Rathge

---

Dr. Tracey Barrett

---

Approved:

---

11/8/12

Date

---

Dr. Gary Goreham

Department Chair

## **ABSTRACT**

Child labor is on the increase and this is exacerbating an already desperate situation in Africa. Past research has focused on which levels of determinants are most effective in influencing the decision on children's activities. Using the Malawi Integrated Household Survey and the Tanzania National Panel Survey, this research seeks to unearth the factors that influence the number of hours that child workers and laborers work. I can conclude that the greatest degrees of change are at the individual level as child's enrollment status is significant for child workers from Malawi and Tanzania and laborers from Tanzania. At the community level, the rural residence factor is associated with child workers and laborers from both countries. More resources need to be invested in developing interventions at the individual and community levels to overcome the child labor problem. Evidently, there seems to be greater divergence between children in Malawi and Tanzania.

## ACKNOWLEDGEMENTS

There are many individuals who deserve to be thanked for supporting my educational career. First I would like to thank Dr. Gary Goreham for working with me during my initial application process and warmly welcoming me when I arrived at North Dakota State University. Second, I would like to express my thanks to my committee members, Dr. Richard Rathge; for his support and encouraging line of questioning that made learning a pleasure; and Dr. Tracy Barrett who so readily accepted the invitation to serve on my committee. I would like to express my most sincere gratitude to my advisor, Dr. Christopher Whitsel for his enthusiasm, expertise, patience and motivation throughout my graduate education. I would like to also express my appreciation to him for exposing me to the field of comparative and international studies that led to me finding my niche and thus settling on my topic. Under his mentorship, he supplied me with the experience and support invaluable to my education and my future. Dr. Whitsel is a great professor, advisor and individual for whom to work. Next I would like to thank my parents, Mr. and Mrs. Luke Mudzongo, who blessed me with life and sacrificed so much for me to be what I am today; my family and friends for their love, encouragement and prayers that helped supply me with the drive to continue throughout my educational endeavors. There are many individuals that have played a role in my success, too many to mention however I salute you all. To finish, I would like to thank my wonderful wife, partner and friend, Itai. Without her love, tasty dishes and her understanding of the life of a graduate student, I would not have made it this far. Thank you.

## TABLE OF CONTENTS

ABSTRACT.....	iii
ACKNOWLEDGEMENTS.....	iv
LIST OF TABLES.....	vii
LIST OF FIGURES.....	ix
CHAPTER I. INTRODUCTION.....	10
Purpose of Study.....	13
CHAPTER II. REVIEW OF LITERATURE.....	16
Definition of Child Labor.....	16
Definition of Child Work.....	18
Literature on the History of Child Labor.....	19
Theoretical Framework.....	22
Factors that Determine Children’s Labor Activities.....	25
The Context and Background of Malawi and Tanzania.....	33
Research Question and Hypotheses.....	37
CHAPTER III. RESEARCH METHODS .....	39
The Data Set.....	39

Challenges Using the Malawi IHS3 and the Tanzania National Panel Survey (TZNPS)....	41
Measures.....	41
Methods.....	49
<b>CHAPTER IV. RESULTS.....</b>	<b>51</b>
Mean Hours Worked by Child Workers in Malawi and Tanzania .....	51
Mean Hours Worked by Child Laborers in Malawi and Tanzania.....	56
Correlation Calculations for Child Work.....	60
Correlation Calculations for Child Labor.....	65
Multiple Regression Analyses.....	69
Model 1: The Influence of Individual Factors.....	70
Model 2: The Influence of Household Factors .....	73
Model 3: The Influence of Community Factors.....	74
<b>CHAPTER V. DISCUSSION.....</b>	<b>77</b>
Summary of Findings.....	77
Future Research.....	79
Policy Implications.....	81
Closing Thoughts.....	82

REFERENCES.....83

## LIST OF TABLES

<u>Table</u>	<u>Page</u>
1. Summary statistics for variables used in analysis, Malawi.....	47
2. Summary statistics for variables used in analysis, Tanzania.....	48
3. Mean hours worked by child workers in Malawi and Tanzania aged 5-14 (less than 24 hours).....	52
4. Mean hours worked by child laborers in Malawi and Tanzania aged 5-14 (more than 24 hours).....	58
5. Correlation calculations at the individual level for child work.....	61
6. Correlation calculations at the household level for child work.....	63
7. Correlation calculations at the community level for child work.....	64
8. Correlation calculations at the individual level for child labor.....	66
9. Correlation calculations at the household level for child labor.....	67
10. Correlation calculations at the community level for child labor.....	69
11. Coefficients of multiple linear regression analyses explaining variation in child workers aged 5-14 on the basis of individual, household and community variables in Malawi and Tanzania.....	71
12. Coefficients of multiple linear regression analyses explaining variation in child laborers aged 5-14 on the basis of individual, household and community variables in Malawi and Tanzania.....	72



## LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1. Determinants of child work and child labor.....	24
2. Map of Malawi.....	33
3. Map of Tanzania.....	35

## CHAPTER I. INTRODUCTION

There is a growing consensus that child labor is an undesirable form of work and greater investments should be made in developing children's human capital (World Bank, 2002). There is however wide disagreement on how to tackle it. Child labor also referred to as "harmful child work" is the focus of attention by governments, as well as international and national civic society organizations. This current situation faced by millions of children is deplorable and requires urgent international action. The latest report by the International Labor Organization (ILO) (2010) states that for over a decade starting from 1996 when governments made fresh calls to end harmful child work, it has been recognized as a key human rights issue. This research is an exploration of the nature of children's work in an effort to end child labor in two Sub Saharan African countries.

The literature has noted that there has been a shift in emphasis from mere quantification of child labor to an econometric analysis of its determinants (Basu & Tsanatos, 2003). This has coincided with a widespread realization that simply banning child labor is unlikely to eradicate these phenomena and may even be counterproductive (Ray, 2000). It is clear that child labor deserves attention because it has potential ill-effects on the health, education, moral well-being and social development of the child, with lifetime implications.

Many children working long hours or unsafe jobs are in danger of injury and even death. Beyond compassion, it is important to consider who today's children will become in the future (ILO, 2004). The vast majority of new workers in the next 20 years, citizens and new consumers whose skills and needs will build the world's economy and society, will come from developing countries (ILO, 2010). Unless this phenomenon is abolished, many will have had to engage in

detrimental work activities at an early age, damaging their health or hampering their education and thus diluting their potential contribution.

Despite the large social reform movement that has been generated around this issue, more than 200 million children worldwide are still trapped in child labor and a staggering 115 million at least, are subject to its worst forms (ILO, 2010; Basu & Tsannatos, 2003). These are the children with whom this research is concerned. They are being denied their universal human rights that include being in school; being loved and cared for; being protected from exploitation; and the right to just be children safe from the harms of child labor (UNICEF, 1991).

To improve this situation, it is important to gain a better understanding of the factors that lead to child labor. This research analyzes this issue from multiple levels because they all work in concert to constitute one's habitus – how people are what they are (Bourdieu, 1977). Bourdieu says that the way children think and the process of “becoming” is influenced greatly by systems of dispositions incorporated by agents. A child's habitus is a set of durable, unconscious schemes which form the foundation of someone's thinking, perceiving and acting. Essentially the child's background plays a major role in it. On a primary level, the habitus is influenced by family, parents, friends, etc. On a secondary level the habitus is influenced by education, jobs, etc. (Bourdieu, 1977). This research analyzes these aspects to explain the portent of this type of child work.

Most research on child labor focused on predictors at a single level; either the family level (Buchman, 2000; Patrinos & Psacharopoulos, 1997) or the national level (e.g. Kis-Katos & Schultze, 2006). It is important to highlight that the determinants of child labor are multi-dimensional. In order to get in-depth theoretical underpinnings of why children engage in this

practice, greater and more current information on the individual, household and contextual factors is required (Whitsel, 2010). It is my hope to contribute to the body of knowledge.

The model of this research explains how various determinants work to influence children's activities and more specifically, the hours worked. To my knowledge most research on child labor starts off on the premise of child laborers without explaining how child labor is measured. Fewer studies have conducted research specifically on child work or what influences the hours children work. There is simultaneous use of the term "child labor" and "child work" and yet they are different. Decisions regarding children's activities are influenced by individual, household and community characteristics and upon these levels hypothesis are formulated.

To understand these influences, a human capital approach is often used (Becker 1964; Edmonds 2008). Parents and caregivers who often decide what their children do are assumed to weigh the current benefits from their children working against the current costs and the perceived future returns of other activities such as schooling (Basu & Van 1998). This decision is influenced by the situation of the household and community characteristics.

This study is intended to aid research in this area by highlighting the key issues to be considered. The first level includes the individual factors such as the child's age and sex. Household factors are the second level of determinants and examples here include the parent's education. The last level includes the community factors for example the availability of markets which provide work opportunities for children. These variables affect and influence outcome on the use of the child's time and provide ample explanatory power to test the hypothesis.

The focus is on Sub Saharan Africa, a region flagged as having the highest participation by children in the worst forms of child work (ILO, 2010). Malawi and Tanzania make excellent

case studies for three reasons. The first is because they have been highlighted to have high rates of child labor (ILO, 2004; 2008; 2010 & 2012). The second reason is simply because the data are available. The third reason is that they are a good reflection of Sub Saharan Africa. They have unique socio-economic characteristics that can be fertile ground for children engaging in work. Both Malawi and Tanzania have agro-based economies – the sector that provides the most employment for children; Tanzania also has mining (Bhalotra & Tzannatos, 2003).

Studying Malawi and Tanzania will highlight key issues around child work and labor in the region and provide suggestions for policy amendments that could lead to the reduction and elimination of child labor in other countries that still grapple with this problem such as Zimbabwe, Sierra Leon and the Democratic Republic of Congo (ILO, 2010). In Sub Saharan Africa, economic development is slow and stagnated and so many families turn to earnings and benefits brought by their working children. A comparison of the situation of working children in these two countries will provide a platform to understand these key determinants.

There are four broad audiences targeted with information and results of this study. First are policy makers and senior government officials. Second are international organizations that are at the forefront of protecting and upholding child rights such as the ILO, UNICEF and the World Bank. Third are the academics whose interest on this topic is steadily increasing. Finally, the general public has a keen interest on how to participate and end this phenomenon.

### **Purpose of the Study**

There is a growing urgency to tackle child labor and having outlined the determinants and stating that they are not restricted to only one level of analysis, a more encompassing model is necessary. The outcome of parental decisions regarding the children's activities depends not only on characteristics of those parents and their households, but also on the presence of work

opportunities for children at the local labor market and on the characteristics of the available educational facilities. Hence, to gain an encompassing understanding of the ancestries of child work and labor, the relevant factors at the different levels must be considered.

The purpose of this research is to 1) advance our understanding of individual determinants of child work and labor in two Sub-Saharan African countries namely Malawi and Tanzania; 2) to advance our understanding of household determinants of this phenomenon and 3) to investigate the effect of community characteristics in determining the number of hours children work. The analysis will utilize the Tanzania National Panel Survey (TNPS) (2008- 2009) and the Integrated Household Survey of Malawi (2010-2011). These datasets contain information of 21,756 children aged 5-14 years. The knowledge gained is expected to assist in the improvement of policy and policy implementation around child work and child labor issues. No child should be trapped in child labor at the expense of other investments on their human capital or general welfare for any reason.

The study seeks to reveal the cardinal factors in explaining variation in child work and labor and their level of aggregation. This research will apply quantitative methods, regression models that make it possible to estimate effects of factors at individual, household and the community levels. The major research question is: what are the factors that lead to children working more hours in Malawi and Tanzania? The unit of analysis utilized in this research is the number of hours worked by children in a week.

In the next section, the theoretical model and the hypotheses are presented and a discussion about the way in which individual, household and community characteristics may affect the hours that children work is formulated. Thereafter the data and methods are presented. In the results section the descriptive statistics are presented followed by the correlations of the

variables. Next will be the results of the three multiple regression models for child work and three regression models for child labor. The thesis ends with a concluding section in which the major findings and their implications are discussed.

## **CHAPTER II. REVIEW OF LITERATURE**

### **Definition of Child Labor**

Child labor refers to the employment of children in any work that deprives them of their childhood, interferes with their ability to attend school, and anything that is mentally, physically, socially or morally dangerous and harmful (ILO, 2010 & 2012). In its most extreme forms, child labor involves children being enslaved, separated from their families, exposed to hazards and illnesses and/or left to fend for themselves often at a very early age. Whether or not particular forms of “work” can be called “child labor” depends on the child’s age, the type of work and the number of hours worked (ILO, 2010 & UNICEF, 1991). The specifics of the definition can vary from country to country, as well as among sectors within countries (Schmitz et al., 2004).

Work such as soldiering, prostitution, mining in old, closed down mines and excessive unpaid farm work is unsafe for children. It hampers their physical and psychological development and infringes on their rights. Some in the literature define child work as that which is not harmful, and child labor as harmful work (ILO, 2010; Basu & Van, 1998). An important question to ask is who is a child laborer? The first step in that definition is to understand who a child is. According to UNICEF (1991), a child is anyone who is 18 years old or younger. We now turn to the internationally accepted definitions of child laborer.

The ILO’s Convention No. 138 specifies 15 years as the age above which normal circumstances a person may participate in economic activity (ILO, 2004). The ILO’S Convention 138 has been used by most countries as a blue print for individual and specific national policy and practice with relation to child labor (Basu & Van, 1998). The translation of international law into national legislation varies. In another definition it says that a child laborer is one who is economically active (Ashgarie, 1993). In this definition, governments and international



organizations usually treat a person as economically active or gainfully employed if the person does work on a regular basis for which he or she is remunerated, regardless of how old they are.

In yet another definition of child labor, it is considered as work performed by children under 15 years of age which is exploitative, hazardous or inappropriate for their age, and which is detrimental to their schooling, or social, mental, spiritual and moral development (UNICEF, 1991). Thus by working under these conditions children unduly reduce their present economic welfare or/and their future incoming earning capabilities. Child labor shrinks their opportunities for development. It may require them to assume the multiple burdens of schooling and or work at home or other places or a combination of these activities.

It can be easy to confuse the terms “child labor” with “child work” because there is a fine line between the two concepts and they are often used simultaneously. This is problematic and hence the need to differentiate between these two, for example see Webbink et al. (2008). They used “engagement in paid labor” as their definition of child labor but there was interchangeable use with the term “child work” also. The problem is that not all paid labor is harmful; if paid labor is carried out under safe premises and or is contributing to the human capital of the child through building experience or life skills then it is child work.

From that point of view, labor engagement in agricultural and family businesses may be considered as education by the parents and not typically child labor (e.g., Cigno & Rosati, 2005). A more specific quantification of “child labor” is required to ensure there is a more encompassing measure of “work” that is not harmful and what becomes child labor. If a child is working many hours on a family farm and not attending school, for example, then that is child labor. In this study, child labor is operationalized as working more than 24 hours in a week.

## **Definition of Child Work**

Child work often refers to certain types of light work undertaken by children, such as helping parents care for the home and family for short periods in the day, or children working for a few hours before or after school or during holidays (ILO & The Ministry of Labor, Youth Development and Sports in Tanzania, 2001). This is not considered to be harmful or child labor but is part of the growing up process for boys and girls, a means of acquiring basic survival and practical skills. Some have claimed that all non-school; non leisure activities of children constitute child labor (ILO, 1996; Bhalotra, & Heady, 2001).

Not all work done by children however should be classified as child labor that is to be targeted for elimination. Children's participation in work that does not affect their health and personal development or interfere with other useful and beneficial activities such as schooling is generally regarded as being something positive (ILO, 2010). For example, housekeeping chores carried out in the family within reasonably secure surroundings may be suitable for children. It is important to mention that when children are trapped doing housework for long periods of time in a way that interferes with other investments of their development and wellbeing, then that becomes child labor (ILO, 2010).

Malawi and Tanzania have translated the international conventions of child labor into their national laws. In a joint ILO and Government of Tanzania survey on child labor (2001), Tanzania included the several delineating pointers to distinguish work (not harmful) from child labor. There are three main indicators that have been outlined in Tanzania's legislation. Firstly, Tanzanian law stipulates that the minimum age of work is 14 although there are categories of some light work that can be permitted at age 12. (This is in line with the international statute that

the child must be below 15 years (ILO, 2004)). In addition, children who prefer to work at the expense of schooling, for example, due to economic reasons, are in child labor.

Secondly, Tanzanian legislation specifies that status in employment can be categorized into paid employee; unpaid family worker in family farms or business; and worker in own farm/enterprise with or without employees; and apprentices. The third and final point is that children working for more than 4 hours in a day (at least 24 hours in a 6 day working week) would be considered to be in child labor (ILO / IPEC, 2001). The cardinal point for this research and main unit of analysis is the number of hours worked.

It is important to understand the nature of child work to understand child labor. Child labor can begin as child work and as such interventions to curb this crisis must be implemented at several levels especially at the early stages so as to prevent child labor in the first place. The three indicators mentioned for Tanzania are the same in the Malawian legislature (The Constitution of the Republic of Malawi, 1999 and the Employment Act, No. 6 of 2000). Age 14 is the cutoff point as the minimum age at which a child can be in full time work. In line with these parameters, this research will also utilize age 14 and below as the cutoff point for children who work. The minimum age of a child worker is 5 years and this is because data for younger children are not available. In addition most children are expected to commence school as from age 5.

### **Literature on the History of Child Labor**

Research on child labor has a long history that can be traced back to the Industrial Revolution where it was reported that children as young as 5 were employed and working in production factories with dangerous, and often fatal, working conditions (Shahrokhi, 1996). In Shahrokhi's account child labor appeared in earlier ages in agricultural societies, but during the

Industrial Revolution of the 18th century in Great Britain it was especially conspicuous and began to be opposed. It was a great scandal of the 19<sup>th</sup> century, spreading to other countries such as Japan and Belgium as they industrialized.

With the Industrial Revolution machinery took over many functions formerly performed by hand and was centralized in large factories. Children often tended these machines in ever-increasing numbers especially in the textile industry. Social reformers began to condemn this type of work because of its detrimental effect on the health and welfare of children. Among those helping to incite public opinion against it were Charles Dickens, who worked at a factory himself at age twelve (Shahrokhi, 1996). Dickens later became an effective and vehement opposer of child labor and his novel *Oliver Twist*, was widely read in Britain and the United States (Dickens, 1838).

Other opposers included Karl Marx who conducted research that helped to explain some of the causes of child labor (*Capital Volume 1*, chap. 15, sec., 3). He noted how new machinery gave factory owners the need to employ children whose bodies were not yet fully developed and whose limbs were supple (Marx, 1867). Marx noted the long term debilitating consequences of child labor. Other child labor theorists such as Bourdieu and Becker were all influenced by Marx in some way. The British Parliamentary Committee commissioned an investigation around child labor issues in England in 1832 demonstrating a sense of urgency to stop the practice (British Parliamentary Papers, 1968).

The studies arose because there was growing concern about the increased use of children in British factories. Interviews with the child laborers were instituted and Peter Smart was one of the interviewees. Peter had worked since the age five and was interviewed about his daily routine which typically started at 5 o'clock in the morning with strenuous, continuous hard work till 10

pm at the local mill. The interviewer asked him how he kept up with such a heavy and demanding schedule and Peter responded by saying that he and many others often fell asleep to be woken up with beatings (British Parliamentary Papers, 1968). This case study is central to this research because it demonstrates the many hours that children worked under strenuous conditions and that is blatant physical abuse of children.

Interestingly during Peter's time, a child working in industry was viewed as good because it was thought to promote early independence, build self-esteem and create self-sufficiency. Because of this assertion it is necessary to study the nature of child work in order to get at child labor. There are theorists today who agree with the perspective that safe child work (not child labor) as being beneficial (Bhalotra & Heady, 2001). Back then, it was hoped that children would be habituated to a strong work ethic from their early years (British Parliamentary Papers, 1968). This asserts the fact that child work is what leads to child labor and hence it is investigated in this research. In this instance where child work is viewed as beneficial, it is seen as very beneficial as it inculcates strong social values and responsibility. The excesses of child work in the UK however increased through the early nineteenth century; opposition to child labor also mounted (Basu, 1999).

In the industrialized nations engaging in child labor was on the decline during the late nineteenth century but it was exported to the colonies and hence its increase in some developing countries over the years especially the mid twentieth century. Systematic use of child labor was commonplace in the colonies of European powers between 1650 and 1950 (Lord, 2011). In Africa, colonial administrators encouraged traditional kin-ordered modes of production; that is, hiring a household for work, not just the adults. Sophisticated schemes were promulgated where

children in these colonies between the ages of 5-14 were hired as apprentices without pay in exchange for learning a craft (Wells, 2008).

Other schemes included 'earn-and-learn' programs where children would work and thereby learn. Beyond colonial laws, new taxes were imposed on colonies. One of these taxes was the Head Tax in British and French colonial empires (Guyer, 1980). In this account, the tax was imposed on everyone older than 8 years, in some colonies. To pay these taxes and cover living expenses, children in colonial households had to work. Millions of children worked in colonial agricultural plantations, mines and domestic service industries. This type of child work was excessive and exploitative and therefore child labor stirred strong opposition in the later part of that century (ILO, 1996 & Hindman, 2009).

### **Theoretical Framework**

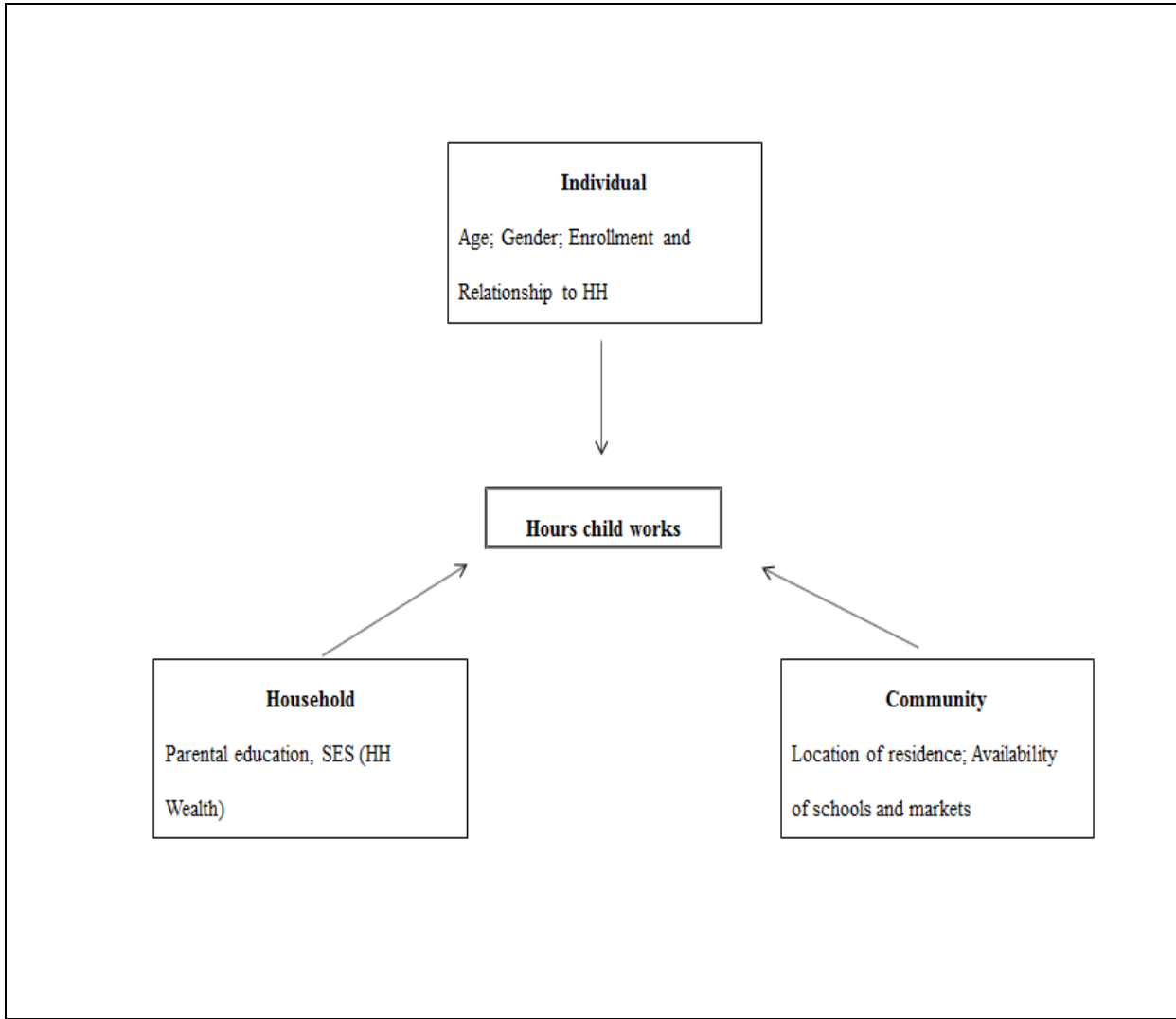
Having defined child work and child labor attention is now turned to the theoretical underpinnings. Contemporary discussion about addressing harmful child work activities focuses on the three outlined levels of determinants (individual, household and community) (Ainsworth, 1996 & Basu, 1999). Solutions can only come from a more enlightened understanding of these factors and the ways in which they perpetuate the practice. It would be interesting to understand how children's work is influenced by these factors.

Because this research focusses on the reasons why the number of hours children work increase, it is best to align this research with the human capital model (Becker, 1964). Becker's approach was fundamental in arguing for the augmentability of human capital. When his research was first introduced it was considered very controversial as some considered it debasing. However, he was able to convince many that individuals make choices of investing in human capital based on rational benefits and cost that include a return on investment as well as a

cultural aspect. Examples of investments on children include education and the skills gained through work experience. The majority of child labor researchers have used Becker as the theoretical foundation (Basu & Tzannatos, 2003).

Becker (1964) explored the different rates of return for different people and the resulting macroeconomic implications. He also distinguished between general and specific education and its influence on job-lock and promotions to understand what influences children's activities. Likewise parents of children in developing countries make decisions about their child's participation in the labor market based on investment in their human capital (education) on the tradeoff between the current benefits from child work against the current costs and the perceived future returns of activities such as schooling (Basu & Van, 1998; Becker, 1964). The situation and characteristics of the household influences what children do. The focus of this project is on Sub Saharan Africa, a region flagged as having the highest participation by children in the worst forms of child work (ILO, 2010). The model to be tested in Figure 1 below illustrates in the simplest form the levels of determinants.

Figure 1 specifies the categorization of the variables. These are illustrated in the theoretical review that follows. This model demonstrates that child work and labor are not as a result of just one variable but several. Only the factors to be tested in this research have been included in this model. Investigation of the major determinants and how they work to influence children's activities in different ways will prove more fruitful to finding lasting solutions to this crisis. The model outlined here is therefore appropriate because it outlines and illustrates the nature, characteristics of these variables. Becker's theory helps to understand how decisions about children's activities are made and to determine the number of hours that children work in a week.



*Figure 1.* Determinants of child work and child labor.

The children under study live in a home and the household is influenced by community factors. For instance, the availability of a school influences whether parents will send their children to school or to work in a community market nearby (Dostie & Jayaraman, 2000). An absence of both could mean the children stay at home and possibly be idle (Bhalotra & Tzannatos, 2003).



Bourdieu's Structuration Theory argues that the complexity of people's activities is simultaneously shaping and being shaped by the social world (Bourdieu, 1977). Structures frame, limit, control and influence social life. The central issue in Bourdieu's theory of practice, concerns the social construction of the objective structures and the construction of the agents' own social world by understanding and living within and according to these objective structures (Bourdieu, 1977). In this theory elements such as habitus, field and capital play a central role.

The habitus not only structures, but is also a structure itself. It gives not only direction to concrete actions (praxis), but is also an objective translation from the objective structure (structured structure) in an agent. So the habitus is essentially influenced; an agent develops a habitus given by its past (deterministic) and so an agent creates their own lifestyle. Children's habitus is influenced by their families, parents, friends etc. (Bourdieu, 1977). These characteristics are captured in this model. The manner in which this structuration translates into the lives of children is explained. Attention is now turned to the analysis of the independent variables. This explanation sets into motion the next step of the 'something to be done' about child labor (Gordon, 2008).

### **Factors that Determine Children's Labor Activities**

#### **Individual Factors**

In the literature, it is found that there is no uniformity on the results but there are a considerable number of studies on child labor that tested the significance of the individual and household factors (World Bank, 2002; Basu & Tsanatos, 2003). Of the three levels of determinants, individual and household are central because they lie at the heart of the individuals concerned – the children. Parents influence their children and they in turn will pass on these values to them. Therefore the children's behavior is socially constrained (Bourdieu, 1977).

Individuals may exercise agency but within existing social conventions, values and sanctions. The human capital approach helps us to see how decisions about the use of the children's time are made.

There are four determinants at the individual level and the first is age in years. The definition of the child according to UNICEF (1991) is anyone below the age of 18. For child labor studies this definition is a person over 6 years and under 15 years (Bhalotra & Tzannatos, 2003). The lower threshold is usually determined by availability of data or a lack thereof. The datasets utilized in this study have information for children 5 years and above. These age parameters vary according to the different cultural norms and values of different communities and their knowledge of when children start to make their own decisions and/or to live independently of the parental home.

For some countries the age when children are allowed to exit the school system is 14 and hence it is used in this study as both Malawi and Tanzania operate under these parameters. Previous studies that tested the age variable included a linear term in age, which has been either positive or insignificant (Bhalotra & Tzannatos, 2003). Cockburn and Dostie (2007) find that older children work more hours if there are younger children in the household. In this view the younger children are viewed as a burden to the family. In line with this literature, the variable age shall be tested using the following hypothesis:

Hypothesis one: Older children work more hours than younger children.

The second variable in this level is gender. There are significant differences in the effects of individual factors by gender and a lesson from this is that further analysis of child labor should be done by gender disaggregation (Jensen & Nielsen, 1997; Bhalotra, 2000a). It is noted that girls generally participate in more child work than boys (Basu & Tzannatos, 2003). There

are several reasons for this and part of the explanation is that it is culturally expected that girls do the housework whilst boys go away from the homestead and receive greater investments (Dostie & Jayaraman, 2000). The dynamics of culture come into play and Bourdieu's Habitus helps to illuminate that communities have different values and these affect children (Bourdieu, 1977). Gender is significant and hence governments and their partners agree that educating girls is a specific priority expected to yield large social returns. For the gender variable the following hypothesis shall be tested:

Hypothesis two: Female children work more hours than male children.

The third factor is the school enrollment of the children. Solutions from the human capital perspective call for greater investments into the skills set of children (Becker 1964). Knowing their school enrollment brings out an important dynamic on the hours worked. Education is not the sole solution, but when it is free, full time, compulsory and of quality, it is a vital part (ILO, 2010). A major development in recent years is the global consensus in support of Education for All but little is known of its impact to date especially in a child labor context in fast changing global contexts. Huisman and Smits (2009a) find that children of poor families who are not enrolled in school tend to work more. In line with this finding, the hypothesis to be tested for the children's enrollment status factor is as follows:

Hypothesis three: Enrolled children work fewer hours than non-enrolled children.

The final variable on the individual level is the relationship of the children to the household head. This variable is important because of the structure of the African family and how this changes the crescendos of the African home and the outcome for the children's time use. Households in developing countries are large and complex and often contain not just vertical

but also horizontal extensions (Bhalotra & Tzannatos, 2003). As a result, nephews, nieces and relatives may be counted amongst children along with sons and daughters of the household head.

In Sub-Saharan Africa, there is, further, a high prevalence of child fostering and orphans. Studies have been conducted to understand the influence of the family dynamics. Children may, for example be sent away to live with relatives to be able to go to school or they might meet a demand for labor in the hosting family (Webbink et al., 2012). There is little empirical information on child labor by foster children. However, it is assumed that being direct children of the head is the basis for parental altruism and non –nuclear related children may, therefore, be more involved in (domestic) child labor (Ainsworth, 1996; Beegle, Filmer, Stokes, & Tierrerova, 2010).

In another study, Bhalotra and Heady (2000) find that children of the head are more likely to be in work in rural Pakistan and that, in Ghana, sons are less likely to be in work but there is no effect in the case of girls. The majority of the evidence in this literature however points to the fact that a direct children of the head work less (Bhalotra & Tzannatos, 2003). Considering Cockburn (2000) who investigates the relationship variable with regression analysis testing for work and school in Ethiopia, he finds that children of the household head are more likely to attend school thus work less. Evidence from Kenya suggests that children who have both parents present in the household work less (Heyneman, 1976). In view of this evidence reflecting results of the relationship to head; the hypothesis to be tested is as follows:

Hypothesis four: Direct child of the household head work fewer hours than non-nuclear related children.

## **Household Factors**

There are two household factors to be tested in this research. The first is parental education. The literature demonstrates that the education level of parents is critically important (Buchmann, 2000). If parents are poorly educated, they are likely to engage in low skill labor i.e. agricultural labor. The likelihood that their children will do the same is high (Kieland & Maurizia, 2006; Basu & Tsanatos, 2003). Explanation of Bourdieu's Structuration theory provided above puts this into perspective (Bourdieu, 1977).

Data from Cote d'Ivoire, Colombia and the Philippines are analyzed in Grootaert and Patrinos (1999) providing comparable results and they indicate a negative effect of parent's education on child labor. Canagarajah and Coulombe (1997) also find a negative effect on child work participation of fathers' secondary level education and no effect of mother's education in Ghana, using data combined for boys and girls in rural and urban areas (Bhalotra & Tzannatos, 2003).

This research expects to find an effect of the education of both parents through the comparison of the situation of children in two countries in Sub Saharan Africa – Malawi and Tanzania. The dynastic trap of child labor has received considerable attention. Social theory stipulates that this is how working class families reproduce their class structure (Bourdieu 1977). In a study by Webbink et al. (2012), they test the parental education factor and expect that parents who are schooled know the value of education and hence would invest more in their children's education also. They find that mother's education is insignificant in Africa and that the effect of father's education is counterintuitive hence this variation in results across studies warrants further analysis of this variable. The hypothesis to be tested for this variable is as follows:

Hypothesis five: Children with parents who went to school work fewer hours than children with parents who never went to school.

The second factor is the household wealth variable. The household wealth is measured through the family assets such as household assets and livestock as a measure of household socio-economic status as a socio economic measure (Skoufias & Parker, 2001). In a similar study conducted by Patrinos and Psacharopoulos (1997) in Peru they find that income is insignificant. In a study by Bhalotra and Heady (2000) the household wealth variable is tested for boys and girls in households that owned or operated farm land in rural Ghana and Pakistan. They find that there is no significant effect of income on work for boys in Ghana or for Girls in Pakistan. Bhalotra and Tzannatos (2003) however state that the evidence for this variable is inconsistent. In view of this, comparisons are made between the poorest twentieth percentiles and the others and as such the hypothesis to be tested is as follows:

Hypothesis six: Children who belong to a household in the poorest wealth group work more hours than children in a higher wealth group.

### **Community Factors**

It has been noted previously that the decision making process by families concerning the labor engagement of their children depends significantly on the context in which the family lives (Huisman & Smits, 2009a; Webbink, Smits, & Jong, 2008). Child labor is expected to be lower in urban areas. As for regional effects or residence of the children it has been noted that within countries, rural areas support a higher incidence of child labor than do urban areas. Reasons for a higher rural incidence include; the fact that relatively weak school infrastructure and lower rates of technical change in rural areas may discourage other activities such as school attendance. Children may be more easily absorbed into the informal economies of rural areas. This is on

account of the prevalence of self - employment, relatively low skill requirements in agricultural work supporting the need to investigate this variable (ILO, 2010).

Previous research indicates that the outcome of parental decisions regarding labor engagement and educational participation of their children depends on the context in which the family lives (e.g., Huisman & Smits, 2009a; Webbink, et.al. 2008). The effects of urbanization on child labor have been ambiguous (Bhalotra & Tzannatos, 2003). Webbink et al. (2012) find that children are less involved in hidden child labor if they live in more developed and more highly educated areas. In a study done in Ghana for this variable, it is found that living in a rural area, has a highly significant impact on child labor and hence the hypothesis to be tested here is;

Hypothesis seven: Children who live in rural areas work more hours than children who live in urban areas.

Several of the surveyed studies in the World Bank Review (2002) include indicators of community infrastructure. The second and third variables are the presence of a primary and secondary school. Since schooling and working decisions can sometimes be trade-off outcomes, it is important to also include an indicator of the local educational facilities in the model. It has been shown that the availability of a primary and secondary school plays a role in school enrollment and employment of children (Bascieri & Falkingham 2007; Ersado 2005 and Huisman & Smits 2009).

Colclough et al. (2000) concludes that schools are mostly visited by children living in the neighborhood. They find that in Ethiopia children live on average one kilometer and in Guinea two kilometers from school. However, in both countries schools serve a much larger area, suggesting that children who live further away are less likely to be in school. Huisman and Smits (2009a) find that the primary school enrollment of children is influenced by the availability of a

primary school in the community and the characteristics of the facility. Webbink et al., (2008) find that good educational facilities and the influx of modern ideas regarding children's roles and the importance of education might pull children out of child labor. In line with this literature the hypotheses to be tested at this level are;

Hypothesis eight: Children with access to a primary school work fewer hours than children who have no access.

Hypothesis nine: Children with access to a secondary school work fewer hours than children who have no access.

The fourth variable at this level is the presence of a market. Where a market exists, the probability that child labor exists is higher. Taking Blantyre, Malawi as a case study, it has been noted that there is higher incidence of child labor in this area as children work in the markets (Eldrig, 2003). The children either help their parents (child work) or are outright child laborers (extended hours often under hazardous conditions with no school enrollment). There is a dearth of theory on the effect of the presence of markets in communities in direct relation to children's work.

The studies have generally focused on the impact of agricultural work opportunities on children's school enrollment (Canagarajah & Coulombe, 1997; Nielsen, 1998; Binder 1999; Whitsel, 2010 and Bhalotra & Tsannatoz, 2003). It is strikingly evident that there are differences across countries in the nature and extent of this type of child work and more research needs to be done to truly uncover the nature of the relationship between child work, child labor and hours worked. Therefore the hypothesis to be tested for this variable is as follows:

Hypothesis ten: Children with access to a market work more hours than children who have no access.



## The Context and Background of Malawi and Tanzania

### Child Work and Child Labor in Malawi



*Figure 2.* Map of Malawi.

Malawi was established in 1891 and gained its independence from the British in 1964. This is a landlocked country south of the equator in Sub-Saharan Africa. It shares its borders with Mozambique, Zambia and Tanzania. Malawi has a total area of 118,484 square kilometers of which 94,276 square kilometers are land. The 2012 population estimate stands at 16,323,044. It is estimated that there are 82.7% Christians and 13% Muslims (2008 census). The life expectancy is 52.31 years and literacy rate is 74.8%.

Malawi realized some significant economic improvement in the last decade. Population growth, increasing pressure on agricultural lands, corruption, and the spread of HIV and AIDS are the major impediments for Malawi's growth and development. Malawi's economy is

predominantly agro-based. The agricultural sector accounted for 36.1 of the Gross Domestic Product (GDP) in the 2007 estimates and was about 34.7% in 2010 estimates.

The economy of Malawi has suffered a number of internal as well as external shocks during this period. Inflation, though decelerating, has been above the one digit level. The country Gross Domestic Product per Capita (GDP per Capita) was about \$133 during the survey period. Gross domestic product based on purchasing-power-parity (PPP) per capita GDP for 2005 was \$605.55 signaling a decline of 15 % (CIA World Factbook).

Results from the Malawi National Child Labor Survey (2002) indicate that 23.3 % of all children aged 5-14 work. Malawi has a high incidence of child labor (children working well and beyond 24 hours a week) and is certainly one of the highest in Sub Saharan Africa. It was estimated that 45% of the child laborers to be between ages 10-14 and 55% between 7-9 years old. It is believed however that the actual numbers could be much higher.

In a damning article, transnational tobacco companies were exposed for using “child labor projects” to enhance corporate reputations and distract public attention from how they profit from low wages and cheap tobacco (Ortanez et al., 2006). The projects include building schools. Malawi finds itself in a very precarious situation because about 70% of their foreign earnings are from this crop and the multinationals such as Phillip Morris have grown too powerful for Governments such as Malawi (Collier, 2007). The tobacco tenancy system in this country is a major driver of unsafe child work and poor working conditions. Landlords prefer to hire an entire household at the price of one farmer. Despite the fact that Malawi is a signatory to the international statutes against child exploitation, there is been no meaningful enforcement of these provisions and it is feared that child work is on the increase there (Ortanez et. al., 2006).

## Tanzania and Child Labor

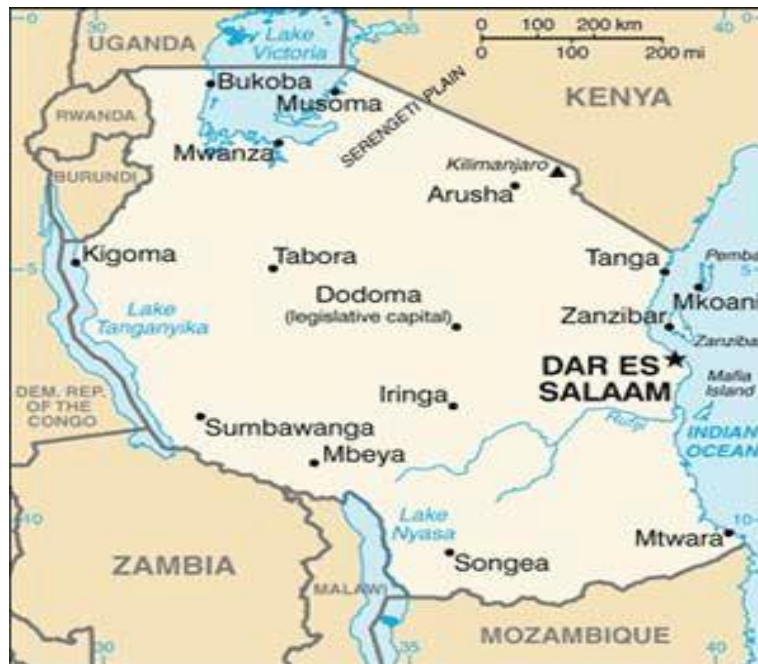


Figure 3. Map of Tanzania.

According to the CIA World Fact Book, shortly after achieving independence from Britain in the early 1960s, Tanganyika and Zanzibar merged to form the nation of Tanzania in 1964. Located in Eastern Africa and it shares its borders with Kenya and Mozambique. The total landmass is 947,300 sq km. The population estimate for 2012 stands at 46,912,768. The life expectancy is 53.14 and the literacy rate is 69.4% (CIA World Factbook). Christian and Muslim groups are approximately equal in size, each accounting for 30 to 40 percent of the population.

Tanzania is one of the world's poorest economies in terms of per capita income; however, its average 7% GDP growth per year between 2000 and 2008 stands on strong gold production and tourism. The economy depends heavily on agriculture, which accounts for more than one-quarter of GDP, provides 85% of exports, and employs about 80% of the work force. The World

Bank, the IMF, and bilateral donors have provided funds to rehabilitate Tanzania's aging economic infrastructure, including rail and port infrastructure that are important trade links for inland countries (World Bank, 2002).

It is estimated that at the time there were 11,965,146 children aged 5-17 years, accounting for 36.7% of the projected national population of 32.6 million. 39.6% is reported to have worked in economic activities, while 47.8% are engaged in housekeeping activities. A majority of the children 79.9% are engaged in the agricultural/forestry / fishing sector, followed by personal services 17.4%. A similar pattern was illustrated by sex, where three quarter of the girls were engaged in child work the agricultural sector compared to boys at 84.3%.

In 1955 the Government passed the Employment Ordinance Cap.366 which prohibits the employment of children. The minimum age of work in this country is 15 years. The Labor Department is allowed by law to enter and inspect any work or private property believed to host or employ children. This Government has put in place both national and sectoral policies to promote the welfare, enhanced education opportunities, and to protect the rights of children. These policies include the Employment Ordinance; the Education and Training Policy (1995); the National Employment Policy (1997); and recently the Child Development Policy (1996).

In 1990, the Government requested assistance from the ILO to develop a strategy for tackling child labor. Tanzania's efforts to combat child labor started with the introduction of the IPEC programmes following the signing of the Memorandum of understanding between the Government and the ILO in 1994. Tanzania has ratified 8 ILO conventions pertaining to children and young persons. However despite these steps and the fact the IPCEC has worked in Tanzania since 1995, hours that children work are on the increase in Tanzania in the early part of the 21<sup>st</sup> century (ILO & Government of Tanzania, 2001).

## **Research Question and Hypotheses**

Child labor is a major deterrent to child welfare and leads to the gross violation of children's rights. The region worst affected by this phenomenon apart from highly populated Asia is Sub-Saharan Africa (ILO, 2010). Research above addressing determinants of child work and child labor points to varying roles played by individual, household and community variables on children's activities (Whitsel 2010). This research seeks to unearth the determinants of child work (less than 24 hours in a week) and child labor (more than 24 hours in a week). The research question is: what are the factors that influence the number of hours that children work in a week in Malawi and Tanzania for child workers and child laborers?

Hypotheses are formulated on the three levels of determinants as noted in the literature review and these are; individual, household and community factors in line with the study's goal;

### **Individual Level**

1. Hypothesis one: Older children work more hours than younger children.
2. Hypothesis two: Female children work more hours than male children.
3. Hypothesis three: School enrolled children work fewer hours than non-enrolled children.
4. Hypothesis four: Direct children of the household head work fewer hours than non-nuclear related children.

### **Household Level**

5. Hypothesis five: Children with parents (mother and father) who went to school work fewer hours than children with parents who never went to school.
6. Hypothesis six: Children who belong to a household in the poorest wealth group work more hours than children who are in a higher wealth group.

## **Community Level**

7. Hypothesis seven: Children who live in rural areas work more hours than children who live urban areas.
8. Hypothesis eight: Children with access to a primary school work fewer hours than children who have no access.
9. Hypothesis nine: Children with access to a secondary school work fewer hours than children who have no access.
10. Hypothesis ten: Children with access to a market work more hours than children who have no access.

## **CHAPTER III. RESEARCH METHODS**

### **The Data Set**

#### **Malawi Integrated Household Survey**

The data used in this study is the third Integrated Household Survey (IHS3) drawn from a nationally representative household survey. It is implemented by the Government of Malawi through the National Statistical Office (NSO) to monitor and evaluate the changing conditions of Malawian households in the period of March 2010 - March 2011. A sub-sample of IHS3 sample enumeration areas (EAs) were randomly selected prior to the start of the field work. Technical assistance was provided by the International Food Policy Research Institute (IFPRI) and the World Bank (WB) to provide a complete and integrated data set to better understand target groups of households affected by poverty (Malawi NSO & World Bank, 2011).

The Malawi IHS contains individual data for each member of the household as well as household and community-level information. Individual level data include age, sex, and permanent residence in rural/urban areas, highest educational level completed and current enrollment status for school aged children and most importantly data on child work participation. Household data include household wealth and the household head's educational attainment. Community-level data include the availability of primary and secondary schools and markets.

The sampling frame is based on the listing information and cartography from the 2008 Malawi Population and Housing Census (PHC); includes the three major regions of Malawi, namely North, Center and South; and is stratified into rural and urban strata. The urban strata include the four major urban areas: Lilongwe City, Blantyre City, Mzuzu City, and the Municipality of Zomba. All other areas are considered as rural areas, and each of the 27 districts are considered as a separate sub-stratum as part of the main rural stratum.

It was decided to exclude the island district of Likoma from the IHS3 sampling frame, since it only represents about 0.1% of the population of Malawi, and the corresponding cost of enumeration would be relatively high. The sampling frame further excludes the population living in institutions, such as hospitals, prisons and military barracks. Hence, the IHS3 strata are composed of 31 districts in Malawi. The total sample was 12,271 households (768 EAs with 16 households sampled per EA). There is a total of 17 116 children between the ages of 5 – 14.

### **Tanzania National Panel Survey (TZNPS)**

The second data set is the Tanzania National Panel Survey (TZNPS). It is the first in a series of nationally representative household panel surveys that assembles information on a wide range of topics including agricultural production, non-farm income generating activities, consumption expenditures, and a wealth of other socio-economic characteristics (National Bureau of Statistics in Tanzania, 2009). The first year of the survey was conducted over twelve months from October 2008 to October 2009. National Bureau of Statistics received management and technical support from the LSMS Team of the World Bank.

The sample size is calculated to be sufficient to produce national estimates of poverty, agricultural production and other key indicators. There are 7 of these zones in total on the mainland: North, Central, Eastern, South, Southern Highlands, West and Lake. The sample is constructed based on the National Master Sample frame which is a list of all populated enumeration areas in the country developed from the 2002 Population and Housing Census. Sample design was done in spring of 2008. In total, the target sample is 3,280 households in 410 Enumeration Areas (2,064 households in rural areas and 1,216 urban areas). There are a total of 4640 children between 5 – 14 years and there is adequate information on children's activities for all of them.



## **Challenges Using the Malawi IHS3 and the Tanzania National Panel Survey (TZNPS)**

Several challenges arise from utilizing secondary data. First, these data are collected by the respective governments and the World Bank for the specific purpose of collecting information indicators on poverty, health and development. It is not collected solely to understand child work and child labor. The format utilized here is not ideally suited for this type of research. For example, there are separate modules on individual, household and community data.

This study will run analysis for all three categories. A related problem is that variables are defined and or categorized differently: for instance, in both datasets there is no quintile measure for wealth and these needed to be created separately. Secondly, the process of cleaning the data and combining separate data files was complex.

### **Measures**

#### **Dependent Variable**

The dependent variable used in this research is a continuous scale variable that measures the number of hours children worked in the previous 7 days prior to the survey. In the original datasets, there is a separate variable that had data on the hours children spent doing household chores – nonagricultural and agricultural. A different variable captures the hours children spend doing paid labor. Another variable captured community unpaid work as is common in this region. Malawi calls it “Ganyu”.

In addition, the time it takes to collect firewood and water is captured in two different variables. Both minutes and hours are used simultaneously to capture this data. To prepare for the creation of a new a variable for the total number of hours worked, first the minutes into hours of the collected water and firewood variables are converted into one measure - hours. The next

step is to compute a new variable that combined these different variables into a single measure. It is recoded as “total hours worked in the last 7 days”. Household chore variables are combined with paid work to ensure that the total number of hours worked is captured. Children who engage in house hold chores for excessive hours and don’t attend school are in child labor.

The sample is divided based on the number of hours worked into “child workers,” those who worked less than 24 hours in the past week and “child laborers” those who worked 24 hours or more in the past week.

### **Independent Variables**

For this analysis, dummy variables will be required. An explanation of what a dummy variable is and how it is created follows next. Firstly, it is important to note that there are several categorical variables in this study such as biological relationship of child to the household head. A dummy variable is an artificial variable created to represent an attribute such as ‘relationship’ with two or more distinct categories/levels (Field, 2005). In addition, a dummy variable can be defined as a qualitatively representative variable incorporated into a regression, such that it assumes the value (1) whenever the category it represents occurs, and (0) otherwise. Dummy variables are used as devices to sort data into mutually exclusive categories.

The reason why dummy coding is important is because regression analysis treats all independent variables in the analysis as numerical. Numerical variables are interval or ratio scale variables whose values are directly comparable, e.g. “2 is twice as much as 1”. When utilizing nominal scale variables such as parents education and there are 7 categories; it becomes difficult to compute them. Dummy variables act as “proxy” variables or numeric stand-ins for qualitative facts in a regression model.

For example, parents who did not go to school (group 1) cannot be subtracted from parents who have some primary education (group 3). Group 1 minus group 3 abstractly is meaningless. The numbers here are used to indicate or identify the levels of “parent’s education” and do not have intrinsic meaning of their own. Dummy variables are created in this situation to “trick” the regression algorithm into correctly analyzing attribute variables. Dummy variables assign the numbers ‘0’ and ‘1’ to indicate membership in any mutually exclusive and exhaustive category (Field, 2005). For others who utilize dummy coding please see Webbink et al., (2008 & 2012) and Whitsel (2010 & 2012).

### **Individual Level**

As for the independent variables, the first one is age and this variable is a continuous scale one that indicates age in years. The only modification to this variable is selecting cases between 5 – 14 years. The rest of the independent variables are tested using dummy variables that are specifically created according to the order outlined in the model.

The second variable is gender of the children; females are recoded as (1) and males as (0). As explained earlier households in developing countries are large and complex and often contain not just vertical but also horizontal extensions. In view of this the relationship of children with the household head this is measured with a dummy variable; (1) is direct children of the head and (0) represents a non-nuclear relationship (grandparents, aunts, uncles and relatives are all recoded to (0). It so happens that the majority of the children are direct children of the household head and recoding into a dummy variable in this way ensures that the majority of the sample for both countries is captured by the new variable.

The third variable is enrollment status of the children and is measured by a variable that is available in the dataset and so there is no need to create a dummy variable to test for school

enrollment. The only modification here is to recode (2) not enrolled to (0). The code (1) yes enrolled remains as is.

### **Household Level**

At the household level, there are two variables. The first is the parental education. There are two original variables; one for mother and the other for father in the dataset and both had six categories; (1) did not go to school, (2) has some primary, (3) completed primary, (4) has some secondary, (5) completed secondary, (6) diploma and tertiary. The new dummy variable first recodes the old variable into two groups; those who did not go to school are coded as (0) and those who ever went to school at primary school level and upwards (1). In essence (2); (3); (4); (5) and (6) are combined to come up with (1) went to school. This was done for both mother and father and two separate dummy variables are created.

The decision to split it into two categories: went to school and never went to school is because the majority of mothers and fathers fall in the 'did not go to school' category. For Malawi, 80.2% of fathers and 91.1% of mothers did not attend any school. In Tanzania 74.6% of fathers and 82.5% of mother never went to school. Another challenge with these two variables in general is the fact that they have a very low response rate (Malawi Father's education N= 5759 & Mother's education N=3283 and for Tanzania: father's education N= 1445 & mother's education N= 1043).The missing data for both countries is about 73% each and this poses as a great limitation in how they can be categorized to be able to run meaningful statistics.

Because income is lacking in most of the surveys as is common in third world settings, household wealth is used as an alternative. The household wealth variable is not available in the datasets and needed to be created. Household wealth is measured by an index constructed on the basis of household assets (such as radios, animal drawn carts, and telephones). Following in the

traditions of Filmer and Pritchett (1999) and the Food and Agriculture Organization (FAO, 2008), all households within a country are ranked on the basis of their assets and divided into wealth index quintiles. In the original data sets for Malawi and Tanzania, a separate file contained the goods owned by the household and these items are what are used to create the new variable.

In order to create the new wealth variable the first step is to recode the elements. A set of household goods common to both countries are selected. Ownership of these assets is split into individual dummy coded variables; for example, yes to the ownership of a television set is coded (1) and a no response is coded as (0). All the variables that have a yes response are aggregated into a total score for each household. Using SPSS, the procedure then standardizes the scores by obtaining z-scores (FAO, 2008). The factorial analysis procedure is then used to create an index for each household Filmer and Pritchett (1999).

These new indexes are merged with the individual data. The next step is to split the individuals into 5 quintiles using a syntax command with (1) representing the lowest 20%, (2) 20-40%, (3) 40 – 60%, (4) 60 – 80% and (5) 80 – 100%. The final step in creating the household wealth variable is to split these into three variables. The first dummy variable is; Below average wealth group – containing the lowest 20% and coded as (1) and those above lowest 20% (0), the second variable is; Average household wealth – those between 20-80% (1) and the richest and lowest 40% (0). The third variable; Above average wealth - the upper 20% (1) and the lowest 80% (0). For the analysis, only the first variable is utilized (lowest 20<sup>th</sup> percentile and the others).

### **Community Level**

To measure community variables, urbanization is a variable available in both Malawi and Tanzania community datasets. The original datasets had (1) rural and (2) urban. A dummy

variable is created and recoded; children living in a rural area (1) and urban as (0). As for availability of primary and secondary schools, there is no direct code to indicate for yes/no available in the community. Malawi has (0) yes available in the community (1) x meters away, (2) x kilometers away, (3) x miles away. For Malawi; (0) yes available yielded a very small number that did not make sense and so the new variable that is created calculates the distance in kilometers and a range of 0 to 2km is used to indicate “available in community.” and coded (1) Anything 3 kilometers away or more is coded as (0) “not available in the community”. Two kilometers is used because it is a moderate estimate of the radius of an African village. The average is anything up to 10 km (FAO, 2008).

For these same variables, Tanzania is slightly different and the original dataset has (1) for yes available in community, (2) no, not available in street/village, (3) available x kilometers away and (4) available x miles away. In the new variable, (1) is maintained as “yes available in community”. Codes (2), (3) and (4) is recoded as (0) not available (many of them have no response).

These two procedures for each country are repeated to create dummy variables to indicate the availability of a market (1) representing yes available and (0) not available. The market variable is created by merging the daily and weekly markets together to indicate if at least 1 market is available. This is done to prevent multicollinearity. Those that have (0) not available are maintained as (0) with the new dummy variable. The monthly market is excluded because the unit of analysis for this research is the number of hours worked in a week. The summary tables of variables used in the analysis are found in Tables 1 and 2 below

Table 1

*Summary statistics for variables used in analysis, Malawi N = 17 116*

<b>Variable</b>		<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>
<i>Dependent Variable</i>						
Hours Worked Last 7d		13496	0	97	2.70	6.98
<i>Independent variables</i>						
<b>Individual Level</b>						
Age	Year	17116	5	14	9.11	2.86
Female	1 = Female	17116	0	1	0.51	0.50
Relationship to HH	1 = Direct child of HH	17116	0	1	0.94	0.24
Child's Enrolment Status	1 = Enrolled	14325	0	1	0.98	0.14
<b>Household Level</b>						
Father's education	1 = Went to school	5759	0	1	0.26	0.44
Mother's education	1 = Went to school	3283	0	1	0.16	0.37
<i>Household wealth</i>						
< Average HH Wealth	1 = Below average wealth	17116	0	1	0.12	0.32
Average HH Wealth	1 = Average wealth	17116	0	1	0.64	0.48
> Average HH Wealth	1 = Above average wealth	17116	0	1	0.24	0.43
<b>Community Level</b>						
Rural	1 = Rural	17116	0	1	0.93	0.25
<i>Schools</i>						
Primary	1 = Yes Available	16499	0	1	0.73	0.45
Secondary	1 = Yes Available	16333	0	1	0.09	0.29
Market	1 = Yes Available	17116	0	1	0.47	0.50

Table 2

*Summary statistics for variables used in analysis, Tanzania N = 4640*

<b>Variable</b>		<b>N</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Std. Dev</b>
<b>Dependent Variable</b>						
Hours Worked Last 7d		4552	0	156	9.74	13.73
<b>Independent variables</b>						
<b>Individual Level</b>						
Age	Year	4640	5	14	9.37	2.88
Female	1 = Female	4640	0	1	0.50	0.50
Relationship to HH	1 = Direct child of HH	4640	0	1	0.72	0.45
Child's Enrolment Status	1 = Enrolled	3550	0	1	0.96	0.20
<b>Household Level</b>						
Father's education	1 = Went to school	1445	0	1	0.81	0.39
Mother's education	1 = Went to school	1043	0	1	0.78	0.42
<i>Household wealth</i>						
< Average HH Wealth	1 = Below average wealth	4638	0	1	0.14	0.34
Average HH Wealth	1 = Average wealth	4638	0	1	0.66	0.47
>Average HH Wealth	1 = Above average wealth	4638	0	1	0.20	0.40
<b>Community Level</b>						
Rural	1 = Rural	4640	0	1	0.82	0.38
<i>Schools</i>						
Primary	1 = Yes Available	4640	0	1	0.85	0.36
Secondary	1 = Yes Available	4640	0	1	0.36	0.48
Market	1 = Yes Available	4640	0	1	0.32	0.47



## Methods

This research essentially has two steps to better understand how individual, household, community level factors influence the hours children work. First, descriptive statistics are utilized to measure differences of the number of hours worked between children of various individual, household, and community characteristics. These statistics show differences in the hours worked by children from the Malawi and Tanzania samples. In these two steps, comparison is made between children who work less than 24 hours (child workers) and children who work more than 24 hours (child laborers).

The second stage of the analysis is to estimate three separate multiple regression models using the SPSS software. In the first model, individual variables are run to estimate the number of hours children will work. The main regression equations estimated in this research looks like:

$$Y_i = b_0 + b_1(\text{age}) + b_2(\text{gender}) + b_3(\text{child's school enrollment}) + b_4(\text{relationship to hh}) + e$$

This equation contains a measure of the child's age, gender, enrollment status and the relationship of the children to the household head. The results of the estimation represent the effects of individual variables on the number of hours worked by children.

The second model estimates the household factors on participation. The independent variables included in the regression equation here are; parents (father's education and mother's) education. The last variable here is the household wealth which is split into three separate variables. Only "below average" children living in the poorest wealth group is used. This will allow for a comparison between the two groups. The equation estimated in this model looks like:

$$Y_i = b_0 + b_1(\text{father's education}) + b_2(\text{mother's education}) + b_3(\text{household wealth}) + e$$

The third model estimates the influence of community characteristics on the number of hours worked. The differences in the effects of individual and household characteristics on hours

worked is estimated in a regression equation that has the following variables; rural or urban residence of children in the communities, with or without a primary school, with or without a secondary school and with or without a market.

$$Y_i = b_0 + b_1(\text{child's residence}) + b_2(\text{primary school}) + b_3(\text{secondary school}) + b_4(\text{market}) + e$$

The models are tested to see whether the observed differences in the influence of the different levels of factors on number of hours worked by child workers and laborers are in fact significant at least at the  $p < 0.05$  level.

## CHAPTER IV. RESULTS

### Mean Hours for Child Workers in Malawi and Tanzania

Table 3 below displays the differences in the number of hours worked by various characteristics for the sampled children in Tanzania and Malawi that worked less than 24 hours. There are several noticeable trends that appear. Children in the Tanzania sample are working 10.08 hours, a figure twice the number of hours that children are working in Malawi (4.87 hours). The results from this study give us a picture of what is happening in both countries.

In separate analysis (not reported), it is found that in the Malawi sample, 40.4% of all children indicate that they did some work in the past week and 37.5% of these children have worked for 23 hours or less. In the Tanzania sample, 37.9% of these children indicate that they worked in the previous week. Of these children, 50.5% worked less than 24 hours in the past week.

Concerning differences by age, five year old children in the Tanzania sample work on average 7.79 hours and this figure increases uniformly to 12.02 hours for the 14 year old children. There is a 4.23 hour difference between 5 to 14 year old children. Malawi does not have a clear nor consistent pattern of age differences in work for child workers when compared to Tanzania. Five year old children reportedly work 4.07 hours and this varies for children up to age 10 between 2.95 and 4.07 hours. Children aged 11-14 work more hours (between 5.22 and 6.26), but again the rates vary by age. The highest number of hours worked in Malawi is by 14 year old children who work 6.26 hours. There is a 3.31 hour difference between 5 and 14 year old children.

Table 3

*Mean hours worked by child workers in Malawi and Tanzania aged 5 – 14 (less than 24 hours a week)*

<b>Variable</b>		<b>Malawi</b>	<b>Tanzania</b>
Hours Worked Last 7d		4.87	10.08
<b>Individual Level</b>			
Age	5	4.07	7.79
	6	3.63	7.31
	7	2.95	8.46
	8	3.38	9.09
	9	4.07	9.84
	10	3.85	10.5
	11	5.72	10.27
	12	5.63	11.04
	13	5.22	11.12
	14	6.26	12.02
Female		4.46	11.33
Male		5.93	9.94
Direct child of HH		4.88	10.68
Non-Nuclear relationship		4.82	10.63
Enrolled in school		4.69	10.60
Not enrolled in school		9.67	11.50
<b>Household Level</b>			
Father went to school		3.93	10.52
Father did not go to school		5.40	11.43
Mother went to school		3.36	10.44
Mother did not go to school		5.14	11.55
<i>Household wealth</i>			
< Average HH Wealth		5.75	10.89
Average HH Wealth		4.76	10.12
> Average HH Wealth		4.73	9.87
<b>Community Level</b>			
Rural Location		4.99	10.84
Urban Location		3.27	9.86
Primary school available		5.19	10.70
Primary school not available		3.82	10.27
Secondary school available		5.64	10.84
Secondary school not available		4.78	10.50
Market available		4.61	10.46
Market not available		5.11	10.74

Other trends to note are the number of hours that males and females in the child worker sample are working. In separate analysis, it is revealed that Malawian females in this study constitute 50.8% and they work fewer hours than males. Their average is 4.46 hours which is 1.33 hours less than males who work 5.93 hours. Tanzanian females account for 50.5% of the sample and they work an average of 11.33 hours which is 1.39 hours more than males who work 9.94 hours. This is also in line with expectations. Cultural differences between these countries could be the reason for the difference in results.

Attention is now turned to the relationship with the household head. For a country that has a high death rate from HIV and AIDS (Eldrig, 2003 ; ILO, 2010 & World Bank, 2002), which usually means that households contain relatives' children, it is interesting to note that this study indicates that 94.1% of the children in the Malawi sample are direct children of the head (not reported). Child workers who are children of the head work 4.88 hours and the non-nuclear related children work 4.82 hours or .6 hours less. For the Tanzanian sample, 72 % of the children are child workers who are direct children of the head and work 10.68 hours Non-nuclear related children work 10.63 hours or .5 hours less. The results for both Malawi and Tanzania demonstrate little difference and this is not in line with expectations.

There is literature that states that school enrollment can potentially pull children out of child labor (Basu & Tzannatos, 2003). The enrollment rate of children in the Malawian sample is 97.9%. Enrolled child workers work 4.69 hours and non-enrolled child workers work 9.67 hours or 4.77 hours more. Children in the Tanzanian sample who attend school constitute 95.9%. Enrolled Tanzanian child workers work 10.6 hours and non-enrolled child workers work 11.5 hours or .9 hours more. The results for both Malawi and Tanzania are in line with expectations. This difference is not surprising as the literature reveals that children can engage in four different

types of activities; attend school only, work only and not attend school, mix school and working, or stay at home and be idle and those in school work less (Basu & Tzanantos, 2003).

As for the household variables, for father's education, separate analysis shows that 74% of the Malawian children's fathers never went to school and this is not in tandem with the national literacy rate which is lower at 69% (CIA Fact book). Child workers with fathers who went to school work 3.93 hours and those who did not go to school work 5.40 hours or 1.47 hours more. Tanzanian child workers in this sample whose fathers went to school work 10.52 hours and those whose fathers did not go to school work 11.43 hours or .91 hours more in line with expectations. Child workers with mothers who went to school in Tanzania work 10.44 hours and those who did not work 11.55 hours or 1.11 hours more. In the Malawian sample, child workers with mothers who went to school work 3.36 hours and those who did not work 5.14 hours or 1.78 hours more. In Tanzania the results are similar to those of Malawi with 10.44 and 11.55 respectively with a difference of 1.11 hours in line with expectations.

Child workers in the Malawi sample who live in households that have less than average wealth work the most with 5.75 hours, 4.76 hours for those in the average group and 4.73 hours in the highest wealth group. The difference between the highest and the lowest is 1.02 hours as expected. The Tanzania sample shows that child workers in the lowest wealth group also work the highest with 10.89 hours, the average group works 10.12 and the highest group works the least with 9.87 hours. The difference between the highest and the lowest is 1.02 hours as expected.

At the community level differences by residence of the children indicate that 93.2% in Malawi live in rural areas. Rural Malawian child workers work 4.99 hours and those from urban

areas work 3.27 hours or 1.72 hours less. Rural based child workers in the Tanzania sample work 10.84 and those from urban areas work 9.86 hours or .98 hours less. These results for both countries are in line with expectations. Concerning differences by access to a primary school, 72.7% of the children in Malawi have access and those who have access work 5.19 hours. Child workers without access work 3.82 hours or 1.37 hours less. This result comes as a surprise.

In the Tanzania sample, 84.7% have access to a primary school and child workers with access work 10.7 hours and those who do not have access work 10.27 hours or .43 hours less. These results are not in line with expectations. It is possible that the reports in Ortanez et al. (2006) stating that tobacco companies in Malawi build schools to make it seem as if they are fighting child labor could be true. To explain the results here, it can be assumed that children go to the schools on the farms they are actually employed on and spend more time in the fields than in school. However this will need verification for both countries.

The average hours at the secondary school variable are not uniform. Only 8.6% of the children have access to a secondary school in the Malawi sample and child workers with access work 5.64 hours. Those without access work 4.78 hours or .86 hours less. Thirty-six percent of children in the Tanzania sample have access to a secondary school which is more than Malawi. Child workers with access in the Tanzania sample work 10.84 hours and those without access who work 10.50 hours or .34 hours less. Whilst the differences are small these results are not in line with expectations.

Forty seven percent of the Malawian children have access to a market and child workers with access work 4.61 hours. Those without access work 5.11 hours or .5 hours more. Thirty-two percent of children in the Tanzania sample have access to a market and child workers work 10.46

hours. Those without access work 10.74 hours or .28 hours more. These results for both Malawi and Tanzania are not in line with expectations, however the differences are small.

### **Mean Hours Worked by Child Laborers in Malawi and Tanzania**

There are 2.9% Malawian children in the current study who reported that they work 24 or more hours (not reported). The 2004 child labor survey conducted by the ILO and the Government of Malawi reveals that child labor is at 26% and many of these children are reported to be working often without attending school. A reported figure of 2.9% from the current study seems low. Comparisons however cannot be made with previous child labor studies because they used different samples nonetheless the statistics provide a platform for discussion.

Turning to Tanzania, in a Joint ILO and Government of Tanzania child labor survey (2001), 31.3% are child laborers working long hours and often under hazardous conditions. In a separate 2006 study conducted by UNICEF, that percentage drops to 27.7%. Again comparisons cannot be made here because different samples are used; however the average hours reported in this study indicate that there are 11.6% child laborers (not reported). The situation has turned and unlike what is reported in the ILO (2010) report, Tanzania child labor statistics now surpass those found in the Malawi sample.

Generally the child labor problem now seems to be of greater concern to Tanzania than Malawi according to this study. Malawi is the country that is flagged to have higher incidence of child labor when compared with Tanzania (ILO, 2010). It is difficult to know what to attribute lower child labor rates. There are several options to consider. For one; the samples for this study can be very different than the ones used in previous studies. Additionally, efforts to curb child labor have been strong in Malawi in the last decade and it is possible that these efforts have made the difference. Tanzania has not had the same attention as Malawi. The time difference in years



when the surveys were done is different and this poses as a limiting factor. However these data provide an important platform to analyze a very old problem.

The fact that these datasets contain information about children in households only is problematic. The most vulnerable children most likely to be trapped in child labor do not live in households but often alone or in the streets (ILO, 2010 & 2012). It cannot be ruled out that there could be underreporting of child labor practices especially in Malawi as the majority of children have an adult answer for them. It is no longer fashionable to declare child labor. Parents possibly report fewer hours than what their children actually work. Clearly there appears to be greater divergence between working children in the Malawi and Tanzania samples. To gain more insight into these underlying processes, attention is now turned to the results of the correlation calculations.

The results from the descriptive statistics for child laborers are very different from the results of child workers (children working for 23 hours or less). The results can be found in Table 4, below. The average for Malawi is 38.35 hours and for Tanzania, the mean is 40.07 hours. This is a much smaller difference than in the sample of child workers. There is not a clear relationship between age and hours worked for child laborers. There are small differences between hours reported by the age of children in Tanzania. The highest in Tanzania is by 13 year old children with 45.94 hours and the lowest being by 12 year olds with 33.43 hours. The highest mean reported for Malawian children is 45.44 hours by 11 year olds and the lowest is 33.30 hours by 10 year old children.

Table 4

*Mean hours worked by child laborers in Malawi and Tanzania aged 5 – 14 (more than 24 hours)*

Variable	Malawi	Tanzania
Hours Worked Last 7d	38.35	40.07
<b>Individual Level</b>		
Age		
	5	
	6	
	7	39.50
	8	37.38
	9	41.25
	10	39.50
	11	37.50
	12	33.30
	13	36.67
	14	45.44
Female	37.20	36.20
Male	35.05	36.20
Direct child of HH	37.71	33.43
Non-Nuclear relationship	39.32	45.94
Enrolled in school	39.32	38.16
Not enrolled in school	39.02	40.46
<b>Household Level</b>		
Father went to school	38.95	37.38
Father did not go to school	39.09	35.25
Mother went to school	38.60	39.17
Mother did not go to school	38.38	37.67
<i>Household wealth</i>		
< Average HH Wealth	44.64	42.29
Average HH Wealth	33.64	38.35
> Average HH Wealth	39.83	42.60
<b>Community Level</b>		
Rural Location	30.00	39.04
Urban Location	39.74	37.27
Primary school available	41.11	41.78
Primary school not available	37.37	38.01
Secondary school available	40.54	39.13
Secondary school not available	38.89	38.93
Market available	40.67	35.00
Market not available	39.15	38.78
	38.13	37.67
	37.19	38.45
	39.32	38.80
	39.73	44.91
	38.26	35.18

In Tanzania, the sample shows that females work 40.46 hours compared to males who work 37.38 or 3.08 hours less. This is in line with expectations. In Malawi there is a small difference. Females work 39.09 hours and males work 38.95 hours or 1.05 hours less. Child laborers who are direct children of the head in Tanzania work 35.25 hours and non-nuclear related children work 39.17 hours or 3.92 hours more in line with expectations. In Malawi, child laborers in this category work 39.09 hours and non-nuclear related child laborers work 38.60 hours or 0.49 hours less. Enrolled child laborers in Malawi work 38.38 hours. Non enrolled child laborers work 44.64 or 6.26 hours more. This is a high between group difference for Malawi. In Tanzania enrolled child laborers work 37.67 hours and those who are non-enrolled work 42.62 hours or 4.62 hours more. These results for both countries are in line with expectations.

For the household category, child laborers in Malawi whose fathers went to school work 33.94 hours and those whose fathers never went to school work 39.83 or 6.19 hours more. For Malawian children whose mothers went to school work 30 hours and those whose mothers never with to school work 39.74 hours or 9.74 hours more in line with expectations. This is one of the greatest between group differences for Malawi. In Tanzania children whose fathers went to school work 38.35 hours and those with fathers who never went to school work 42.60 or 4.25 hours more in line with expectations. Tanzanian child laborers whose mothers went to school work 39.04 hours and those with mothers who never went to school work 37.27 hours or 1.77 hours less.

As for the household wealth variable, child laborers in Malawi with average household wealth work the least with 37.27 hours. Child laborers from the richest households work 40.54 hours and the poorest work the most with 41.11 hours in line with expectations. For Tanzanian

child laborers in the poorest households; they work the most with 41.78 hours in line with expectations. The average group works 38.01 hours and the richest works 39.13 hours.

At the community level urban or rural residence differences are considered first. In Tanzania, rural based child workers work 38.93 hours and those from urban areas work 35 hours or 3.93 hours less. This result is in line with expectations. Surprisingly, rural based child workers in Malawi work 38.89 hours and those from urban areas work 40.67 hours or 1.78 hours more. Child laborers with access to a primary school work 39.15 hours and those without access work 38.13 hours or 1.02 hours less. In Tanzania child laborers with access to a primary school work 38.78 hours and those without access work 37.67 hours or 1.11 less. These results are not in line with expectations.

Child laborers with access to a secondary school work 37.19 hours and those without access work 39.32 hours or 2.11 hours more in line with expectations. In Tanzania child laborers with access to a secondary school work 38.45 hours and those without access work 38.8 hours or .45 hours more also in line with expectations. Finally, the market variable; in line with expectations, child laborers in the Malawi sample work 39.73 hours and those without access work 38.26 hours or 1.47 hours less. In Tanzania children with access work 44.91 hours and those without access work 35.18 hours or 9.73 hours less in line with expectations. This is one of the greatest between group differences for Tanzania.

### **Correlation Calculations for Child Work**

The correlation calculations of the sampled children in Malawi and Tanzania can be found in Tables 5 - 10 below. The findings generally confirm the descriptive findings described above. Table 5 below reveals that there is a positive and significant relationship between age and

Table 5

*Correlation calculations at the individual level for child work*

		<b>Malawi</b>	<b>Tanzania</b>
	Pearson Correlation	1	1
Hours Worked Last 7d	Sig. (2-tailed)		
	N	6891	2298
	Pearson Correlation	.148**	.220**
Age	Sig. (2-tailed)	.000	.000
	N	6891	2298
	Pearson Correlation	-.075**	.072**
Female	Sig. (2-tailed)	.000	.001
	N	6891	2298
	Pearson Correlation	.020	.006
Relationship to HH	Sig. (2-tailed)	.104	.776
	N	6891	2298
	Pearson Correlation	.069**	-.067**
Child's enrollment status	Sig. (2-tailed)	.000	.003
	N	6153	1987

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

the hours worked for child workers. The correlation coefficients for Malawi and Tanzania are .148 and .220 respectively. The older children get, the more hours they work.

There is a positive and significant relationship between gender and hours worked for child workers in the Tanzania sample and the correlation coefficient is .072. There is a negative

and significant relationship in the Malawi sample for child workers and the correlation coefficient is  $-.075$ . The descriptive results for Malawi show that females work more than males in line with expectations but females work less than males in Tanzania. As for the relationship to household head variable and the number of hours worked, it is insignificant for both Malawi and Tanzania and the correlation coefficients are  $.020$  and  $.006$  respectively. Finally at the individual level, the enrollment variable is negatively and significantly related to hours worked for both samples as children who are enrolled work fewer hours in line with expectations. The correlation coefficients are  $-.069$  and  $.067$  respectively.

The correlation calculations of the household level are found in Table 6 below. The relationship of the education of the father variable and the hours worked by child workers is negative and significant for Malawi in line with expectations but insignificant in Tanzania. These two variables' correlation coefficients for father are  $-.068$  and  $-.048$  respectively. The mother's education variable is negative and significant for Malawi; correlation coefficient  $.053$  and insignificant in Tanzania; correlation coefficient;  $.013$ . Because of these moderately weak associations between mother's and father's education with hours worked for child workers across both samples, there is no multicollinearity.

The effect of the household wealth variable on hours worked by child workers is positive and significant for the Malawi sample only. The correlation coefficients for the Malawian and Tanzanian samples with the hours worked is  $.038$  and  $.005$  respectively demonstrating that these variables are also not highly correlated.

Table 6

*Correlation calculations at the household level for child work*

		Malawi	Tanzania
Hours Worked Last 7d	Pearson Correlation	1	1
	Sig. (2-tailed)		
	N	6891	770
Father's education	Pearson Correlation	.068**	-.048
	Sig. (2-tailed)	.001	.185
	N	2448	770
Mother's education	Pearson Correlation	-.053*	.013
	Sig. (2-tailed)	.042	.755
	N	1458	558
<Average HH Wealth	Pearson Correlation	.038**	.005
	Sig. (2-tailed)	.002	.796
	N	6891	2298

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

The results of the community variables are shown in Table 7 below. Rural / urban residence is positively and significantly related with hours worked for child workers for both Malawi and Tanzania. The correlation coefficients are .059 and .081 respectively and this is in line with expectations. The availability of a primary school has a positive and significant relationship with hours worked for the Malawi sample which is surprising and unexpected. The

Table 7

*Correlation calculations at the community level for child work*

		Malawi	Tanzania
Hours Worked Last 7d	Pearson Correlation	1	1
	Sig. (2-tailed)		
	N	6891	2298
Rural	Pearson Correlation	.059**	.081**
	Sig. (2-tailed)	.000	.000
	N	6891	2298
Primary school	Pearson Correlation	.034**	.024
	Sig. (2-tailed)	.006	.247
	N	6663	2298
Secondary school	Pearson Correlation	-.020	.007
	Sig. (2-tailed)	.111	.736
	N	6525	2298
Market	Pearson Correlation	.018	.048*
	Sig. (2-tailed)	.145	.022
	N	6891	2298

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

correlation coefficient is .034. Usually the presence of a primary school is associated with fewer hours worked (Bhalotra & Tzannatos, 2003). The relationship for the Tanzania sample is not significant. The correlation coefficient is .024.



The presence of a secondary school has insignificant relationships with the number of hours worked for child workers in both samples. The correlation coefficients are  $-.020$  and  $.007$  respectively. Even though the direction is consistent with expectations for Malawi, insignificance comes as a surprise for both countries. Some of the literature states that the availability of a secondary school plays a role in school enrollment and employment of children (Bascieri & Falkingham 2007; Ersado 2005 & Huisman & Smits 2009).

The performance of the availability of a market variable with the number of hours worked for child workers performs as expected for Tanzania with a significant and positive correlation coefficient of  $.048$ . It did not perform as expected for the Malawi sample although the direction is positive and the correlation coefficient is  $.018$ . The expectations are that these children with access to a market will work more because there is greater chance of employment (Canagarajah & Coulombe, 1997; Nielsen, 1998; Whitsel, 2010 and Bhalotra & Tsannatoz, 2003).

### **Correlation Calculations for Child Labor**

The results at the individual level can be found can be found in Table 8 below. At this level, few variables are statistically significant. Age is negative and not significant for Malawi with a correlation coefficient of  $-.096$ . The correlation coefficient for Tanzania is  $.052$  and is also insignificant. These results are not in line with expectations but this variable has no effect when children work for 24 or more hours. As for the gender variable; in Malawi it is negative and insignificant and the correlation coefficient is  $-.001$ . In Tanzania a positive coefficient of  $.043$  is also insignificant.

Finally, the relationship of the household head variable with hours worked is positive and insignificant for both country samples. The correlation coefficients are  $.000$  and  $.014$

Table 8

*Correlation calculations at the individual level for child labor*

		<b>Malawi</b>	<b>Tanzania</b>
Hours Worked Last 7d	Pearson Correlation	1	1
	Sig. (2-tailed)		
	N	325	529
Age	Pearson Correlation	-.096	.052
	Sig. (2-tailed)	.083	.233
	N	325	529
Female	Pearson Correlation	-.001	.043
	Sig. (2-tailed)	.980	.321
	N	325	529
Relationship to HH	Pearson Correlation	.000	.014
	Sig. (2-tailed)	.994	.751
	N	325	529
Child's enrollment status	Pearson Correlation	-.020	-.213**
	Sig. (2-tailed)	.727	.000
	N	298	451

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

respectively. The child's school enrollment status variable in Tanzania is negative and significant at -.213 hours in line with expectations and in Malawi it is negative and insignificant with a correlation coefficient of -.020.

At the household level, the results are shown in Table 9 below. The father's education for child laborers is negative and significant for both country samples in line with expectations; the correlations coefficients are -.220 and -.154 respectively. The average household wealth variable is positive and significant in Tanzania with a correlation coefficient of .213 in line with expectations. Malawi's correlation coefficient of .059 is insignificant. Finally at this level is the

Table 9

*Correlation calculations at the household level for child labor*

		<b>Malawi</b>	<b>Tanzania</b>
Hours Worked Last 7d	Pearson Correlation	1	1
	Sig. (2-tailed)		
	N	325	529
Father's education	Pearson Correlation	-.220*	-.154*
	Sig. (2-tailed)	.014	.037
	N	.124	185
Mother's education	Pearson Correlation	-.102	.029
	Sig. (2-tailed)	.414	.744
	N	66	126
<Average HH Wealth	Pearson Correlation	.059	.213**
	Sig. (2-tailed)	.290	.000
	N	325	529

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

mother's education variable and it is negative and insignificant for Malawi with a correlation coefficient of  $-.102$  and a coefficient of  $.029$  for Tanzania.

At the final level, community level factors are considered and the results are shown in Table 10 below. Correlation calculations reveal that the rural residence variable is negative and significantly related to hours worked for child laborers in Malawi with a correlation coefficient of  $-.129$ . In Tanzania it is positive and insignificant with a correlation coefficient of  $.072$ . The market variable in Malawi is positive and significant; correlation coefficient is  $.137$  and in Tanzania it is insignificant with a coefficient of  $.072$ . The primary school variable is positive and insignificant in Malawi and has a coefficient of  $.034$ . Tanzania is negative and insignificant with a correlation coefficient of  $-.052$ . The secondary school presence variable is surprisingly insignificant for both countries. The Malawi coefficient is  $.076$  and for Tanzania it is  $-.071$ .

Overall it is interesting to note that the variables become largely insignificant at the individual level when making correlation calculations for child laborers. Only the children's enrollment status variable is significant for Malawi. At the household level, the father's education variable is negative and significant for both countries and household wealth variable is positive and significant only for Tanzania. At the community level, the rural / urban residence variable is significant for both countries and the market variable is significant for Malawi only.

The differences highlighted by the child work and child labor correlations are important, because they show how the nature of children's work varies among households and districts with different characteristics between child work and child labor. These correlations give no insight into the relative importance of the various characteristics in explaining child labor, and hence learn us little about the underlying processes. To gain more insight into these underlying processes, attention is now turned to the regression analyses results.

Table 10

*Correlation calculations at the community level for child labor*

		<b>Malawi</b>	<b>Tanzania</b>
Hours Worked Last 7d	Pearson Correlation	1	1
	Sig. (2-tailed)		
	N	325	529
Rural	Pearson Correlation	-.129*	.072
	Sig. (2-tailed)	.020	.099
	N	325	529
Primary school	Pearson Correlation	.034	-.052
	Sig. (2-tailed)	.543	.231
	N	322	529
Secondary school	Pearson Correlation	.076	-.071
	Sig. (2-tailed)	.175	.101
	N	321	529
Market	Pearson Correlation	.137*	.072
	Sig. (2-tailed)	.013	.096
	N	325	529

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

### **Multiple Regression Analyses**

Table 11 below displays the estimates of the number of hours that 5 – 14 year old child workers in Malawi and Tanzania will work. Table 12 below displays the estimates of the number of hours that 5 – 14 year old child laborers will work. Model 1 tests only the influence of

individual factors on the dependent variable. Model 2 tests the effects of household factors. The third model tests the effect of community factors.

### **Model 1: The Influence of Individual Factors**

#### Hypothesis one: Older children work more hours than younger children.

Estimates from the linear regression for child workers indicate that, as age increases, children work more hours. The results are shown in Table 11 below. According to the coefficients of Malawi, an age increase of 1 year is associated with an increase of 0.443 hours. The effect of age in Tanzania is positive as a 1 year increase is associated with a .452 hour increase in the total number of hours worked for child workers. In both countries the relationship is significant ( $p < .01$ ).

The regression analysis for child laborers shown in Table 12 above demonstrates that there is no association with the age variable and the number of hours worked. Therefore there is enough evidence to say that older only child workers will work more hours in both Malawi and Tanzania.

#### Hypothesis two: Female children work more hours than male children.

In Malawi being female is associated with an increase of 1.226 hours in the total number of hours worked ( $p < .01$ ) in line with expectations. In Tanzania however, this variable is significant but negative as it is associated with a decrease in the number of hours worked by -1.405 ( $p < .01$ ) for child workers. This is not in line with expectations. Therefore there is enough evidence to say that Tanzanian female children will work more than male children and Malawian female children will work less than male children.

The regression analysis reveals that there are no associations between the gender variable and hours worked for child laborers in both countries.

Table 11

*Coefficients of multiple linear regression analyses explaining variation in child workers aged 5-14 on the basis of individual, household and community variables in Malawi and Tanzania*

	Malawi Model 1	Tanzania Model 1	Malawi Model 2	Tanzania Model 2	Malawi Model 3	Tanzania Model 3
<b>Individual Level</b>						
Age	.443** (.044)	.452** (.055)				
Female	-1.405** (.231)	1.226** (.260)				
Child's enrollment status	-2.919** (.703)	-1.676* (.821)				
Direct child of HH	.957 (.502)	.105 (.289)				
<b>Household Level</b>						
Father's education			-1.735 (.642)	-.659 (.970)		
Mother's education			-.262 (.768)	-.6480 (.854)		
< Average HH Wealth			.434 (.712)	.023 (.891)		
<b>Community Level</b>						
Rural					2.190** (.429)	1.363** (.341)
Primary school					.659* (.269)	-.115 (.379)
Secondary school					-.784 (.417)	-.167 (.267)
Market					.498 (.242)	.710 (.269)
<b>Pseudo r2</b>	.027	.046	.009	.005	.006	.010
<b>Observations</b>	6153	1987	1316	373	6312	2298

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

Table 12

*Coefficients of multiple linear regression analyses explaining variation in child laborers aged 5-14 on the basis of individual, household and community variables in Malawi and Tanzania*

	Malawi Model 1	Tanzania Model 1	Malawi Model 2	Tanzania Model 2	Malawi Model 3	Tanzania Model 3
<b>Individual Level</b>						
Age	-.364 (.262)	.234 (.334)				
Female	.174 (1.313)	1.443 (1.437)				
Child's enrollment status	-2.105 (2.913)	-9.459** (2.167)				
Direct child of HH	-.921 (3.636)	-.847 (1.622)				
<b>Household Level</b>						
Father's education			-4.541 (3.658)	-7.631 (5.714)		
Mother's education			-7.829 (4.263)	.902 (4.807)		
< Average HH Wealth			2.362 (3.078)	5.733 (-.09)		
<b>Community Level</b>						
Rural					-5.555* (2.706)	6.701* (3.013)
Primary school					.328 (1.648)	3.203 (2.418)
Secondary school					1.888 (2.321)	-2.183 (1.495)
Market					2.574* (1.308)	2.191 (1.396)
<b>Pseudo r2</b>	.007	.049	.125	.024	.032	.02
<b>Observations</b>	298	451	57	77	318	529

Notes: Robust standard errors in parentheses.

\*significant at 5%; \*\*significant at 1%.

Hypothesis three: Enrolled children work fewer hours than non-enrolled children.

Being enrolled in school is associated with a decrease in the number of hours worked by 2.919 ( $p < .01$ ) and 1.676 ( $p < .05$ ) for Malawian and Tanzanian child workers respectively.



School enrollment is also associated with a decrease in the number of hours worked by 9.459 for Tanzanian child laborers ( $p < .01$ ). Therefore there is enough evidence to say that enrolled child workers in both countries and enrolled child laborers only in Tanzania will work fewer hours than non-enrolled children.

Hypothesis four: Direct children of the head will work fewer hours than non-nuclear related children.

There is no association with the relationship of the children to the head for child workers and child laborers in both Malawi and Tanzania ( $p > .05$ ). Therefore there is insufficient evidence to say that direct children of the head will work fewer hours.

### **Model 2: The Influence of Household Factors**

Hypothesis five: Children with parents who went to school work fewer hours than children with parents who never went to school.

Model 2 also displayed in Tables 11 and 12 above shows the results of the regression analysis of household factors for child workers and child laborers. There are no associations with any of the variables at the household level; mother and father's education have no effects on the hours worked by child workers or child laborers in both Malawi and Tanzania ( $p > .05$ ). Therefore there is insufficient evidence to say that children with educated parents will work less.

Hypothesis six: Children who are in a household in the lowest wealth group work more hours than children who are in a household in a higher wealth group.

There is no significant relationship between the wealth variable and the hours worked by child workers or child laborers in both Malawi and Tanzania ( $p > .05$ ). The results here are similar to those found in an empirical study of Ghana, Canagarajah and Nielsen (1999) which concludes that there is not much evidence in favor of the view that poverty is a very important

cause of child labor. In her survey of field studies of child labor in India, Bhatta (1998) also concludes that there is no clear association between poverty and child labor. Similarly no clear association can be made between poverty and the hours worked here. Therefore there is insufficient evidence to say that children in the poorest households will work more.

### **Model 3: The Influence of Community Factors**

#### Hypothesis seven: Children in rural areas work more than children in urban areas.

About 93.2% of the children in the sample from Malawi and 83.2% in the sample from Tanzania live in rural areas. It was expected that child workers in rural areas work more than those from urban areas. Estimates from Model 3 indicate that living in rural areas is associated with an increase in the number of hours worked for child workers by 2.190 and 1.363 for Malawi and Tanzania respectively ( $p < .01$ ).

As for Tanzanian child laborers, this variable is associated with an increase in the number of hours worked by 6.701 ( $p < .05$ ), in line with expectations. For Malawian child laborers; this variable is associated with a decrease in the number of hours worked by 5.555 ( $p < .05$ ), although the direction is not in line with expectations. Second to the child enrollment variable, the rural / urban location has a great influence on the hours worked for child workers and laborers.

A possible explanation for a surprise result for Malawian child laborers is that children in urban areas are possibly drawn into labor activities in the markets as the practice is feigned upon in rural areas because of all the attention that child labor has received in the past few years. Where there was a higher rural incidence for child workers include in both countries and child laborers in Tanzania as expected, is probably because of relatively weak school infrastructure and lower rates of technical change in rural areas may discourage other activities such as school attendance (Bhalotra & Tzannatos, 2003; Whitsel, 2010)). In view of this higher incidence of

child labor, it is not surprising to note the considerable interest that has been shown in geographic targeting and interest in context effects is growing (Baker & Grosh, 1994). Therefore there is enough evidence to say that rural based child workers from both countries and rural based child laborers only in Tanzania will work more. Child laborers in Malawi will work less.

Hypothesis eight: Children with access to a primary school work fewer hours than children with no access.

Access to a primary school for the Malawian sample of child workers is surprisingly associated with an increase and not a decrease in the number of hours worked by .659 ( $p < .05$ ). There is no significant relationship between access to primary school and hours worked in Tanzania however, the coefficient is negative ( $p > .05$ ). The result for Malawi is surprising as it is expected that the presence of a primary school reduces the number of hours worked.

There is no significant relationship between access to primary school and hours worked for child laborers in Malawi and Tanzania ( $p > .05$ ). Therefore there is enough evidence to say that child workers with access to a primary school in Malawi will work not fewer but more.

As explicated earlier, Ortanez (2006) elucidated that primary schools are built as a cover up to child labor practices in Malawi by multi-national companies in the agricultural sector. In this case where the presence of a primary school leads to a slight increase in hours worked, this could imply that these companies built the schools to make it seem like they were contributing to end child labor hence the hours worked increase.

Hypothesis nine: Child with access to a secondary school work fewer hours than children with no access.

There is no significant relationship between a having access to a secondary school and the number of hours worked by child workers or child laborers in both Malawi and Tanzania ( $p >$

.01). Therefore there is insufficient evidence to say that children with access to a secondary school will work fewer hours in both Malawi and Tanzania.

Hypothesis ten: Children with access to a market work more hours than children with no access.

Having access to a market in Malawi is associated with an increase in the number of hours worked by 2.574 for child laborers ( $p < .05$ ), in line with expectations. There is no significant relationship between this variable and the number of hours worked by child workers in both Malawi and Tanzania nor child laborers in Tanzania ( $p > .01$ ) Therefore there is sufficient evidence to say that child laborers with access to a market in Malawi will work more. This result can be further confirmed by the results of the rural / urban residence of the child. Most markets are available to children in urban areas.

## CHAPTER V. DISCUSSION

### Summary of Findings

This study explored the factors that lead to an increase in the number of hours worked by children aged between 5 – 14 years in Malawi and Tanzania, Africa. The 2010 – 2011 Malawi Integrated Household Survey (IHS) and the 2008 Tanzania National Panel Survey (NPS) are utilized to study what factors are significant to determine how a child's time is utilized. This study is able to determine which factors are most potent through regression analysis.

To unravel the factors that lead to child labor it is necessary to understand the nature of children's work and compare the results of analysis of children who worked for less than 24 hours (child workers) and children who worked 24 hours or more (child laborers). From the findings it can be concluded that factors at the individual and community levels have greatest influence in determining the number of hours that children work in these two countries. The degree of influence of these variables is different for child workers and child laborers.

In line with expectations, at the individual level, it is found that age is positively associated with hours worked for child workers in both countries but is insignificant for the child laborers. Gender is a significant factor for child workers in both Malawi and Tanzania but insignificant for child laborers from both countries. The enrollment of children in school is significant for child workers. The result from the child workers' regression is in line with the ILO (2010) declaration that states that the provision of sufficient good quality education drastically reduces child labor. In line with the human capital theory, it advocates for the investment in children of Sub Saharan Africa. Investing in children's capital through safe work

experience and the provision of adequate and high quality education adds value to their human capital and can pull children out of unsafe child work

In Model 3 for the community factors for child workers and child laborers reveal that the residence of children is associated with child work in Malawi and Tanzania. It is found that the rural residence of children is associated with child workers but not for laborers. This variable has the second greatest degree of influence on child work across both samples for child workers after the child school enrollment factor for both categories of children. Interestingly the significance of the rural / urban residence factor for the Malawian child laborers is negative. It maybe that children in rural areas in Malawi work less now after heavy campaigning against child labor over the years and child labor maybe shifting to urban areas. All the same the two governments can consider urbanization as a strategy for ensuring that children are not ensnared into child labor and strengthen child labor laws in urban areas.

What came as a surprise is for the presence of a primary school variable for child workers in the Malawi sample; it is positively associated with hours worked. Reports from the literature state that multinational corporations such as Philip Morris in Malawi put in place small projects to hide child labor practices in this country (Ortanez et al., 2006). These small projects include satellite schools on the farms where the children are employed. Ortanez et al, (2006), state that the schools there are of poor quality with inadequate and under qualified teachers such that they do not meaningfully benefit the children. In addition children who go to school are expected to continue participating in labor activities.

It is also possible that children attend the schools but do more work than learning or studying. The schools are built on the farms and so the children are reported to go to school for short periods under the guise that they are learning, but really they are child workers (Eldrig,

2003 & Ortanez et al., 2006). More investigation is required in this area to verify if these practices still persist. Markets are an area that need not be ignored. For child laborers in Malawi, there is a positive association with the hours worked. Policy makers need to ensure that there are adequate monitoring mechanisms and policies to ensure that children in this sector are not being abused.

Overall I find that there are positive associations between variables at the individual and community levels with hours worked for both child workers and child laborers in both samples. Modeling for children who are in child labor and children who work illustrates the nature of children's work more fully. The greatest degrees of change are at the individual level with child's enrollment status followed by the community level factors especially the rural residence factor. I can conclude that more resources need to be invested in developing interventions at the individual and community levels to overcome the child labor problem. There is wide variation with the variables in how they influence the number of hours that children work and as such there seems to be greater divergence between the sampled children from Malawi and Tanzania.

### **Future Research**

More complex and fully interactive regression models are required to explain variation in the number of hours children work. Whilst complexity has its advantages, researchers need to be mindful to ensure that the models and their results are not ambiguous. There are international and national organizations that are working on the ground to ensure that the rights of children are not violated. To assist the efforts of all stakeholders, understanding how to control the hours that children are working is of pivotal and fundamental importance. More research to understand child work, specifically hours worked, will assist to unravel this paradox.

Future studies of child labor must include macro-level factors such as policies and socio-economic and political factors to account for other variables that determine the number of hours worked. Data collection that captures this information would prove most useful. Policy research is required to understand how they are being implemented to protect children. Very few studies have conducted longitudinal research to track children over time to see what effects child labor has on them later on in their lives. This is an area that will take time and resources but one that will provide invaluable insight about working children and child labor. Qualitative studies are not common around child labor issues but these will provide intricate details from the children themselves as to what happens in their lives and the nature of the work they do and how it affects or benefits them.

More studies on child labor and exploitation by sector are urgently required. Growing problems now are human trafficking, child prostitution and child soldiering. Greater effort needs to be put in these areas. In this day in age, these practices are unacceptable. Many of the trafficked children are coming to developed countries such as the United States (ILO, 2012). Research into these practices is required and the perpetrators must be brought to justice. Additionally, it is imperative to invest in the rehabilitation of abused children such as former child soldiers or prostitutes in order to break the cycles.

Situations vary from country to country and hence solutions for Malawi and Tanzania will also vary. Greater investment to experiment with different measures will also assist. In Latin America and other places, they have successfully implemented the household financial subsidies of earnings from child labor, or conditional cash transfers (Edmonds, 2002 & ILO, 2010). In addition, when children go to school they are provided with a nutritious meal to ensure that they stay and have sufficient energy to do well. This takes great resources that many developing



countries do not have or divert them elsewhere. There are other interventions that have been successful in other areas that could very well work in Tanzania and Malawi. Tanzania is celebrated as a model country that is drastically reducing its child labor problem and the strategies need to be scaled up and exported to other countries that are still struggling. Interventions such as these and knowledge generation efforts will go a long way to complement this study.

### **Policy Implications**

It was noted earlier that there has been a distance between theory and applied work on child labor. A similar distance seems to exist between most applied work and the designing of national policies (Webbink et al., 2012). A major problem with Sub Saharan Africa is not a dearth of policies to improve the welfare of children but ensuring that these policies are properly implemented and that there is provision of adequate monitoring and evaluation.

As empirical research develops and becomes both more pointed in its objectives and more robust in its findings, it will offer insights that policymakers and implementation agencies can find easier to draw upon (Webbink et al., 2008 & 2012). An important aspect of applied research is to identify interesting questions and then to find ways in which they can be addressed with the data or resources available. The challenge now with child labor in view of the global economic crisis is maintaining the gains made over the years. Greater effort needs to be made to ensure that the investment in the human capital of children made so far does not corrode and that the momentum of this fight does not wane (ILO, 2010).

Education remains a priority to end child labor and more importantly as a means to add value to the human capital of children. This point cannot be over emphasized. Policies aimed at increasing school participation, like investments in infrastructure and monetary transfers

conditional on children's school attendance have been found to be highly effective in increasing educational participation in developing countries (ILO, 2010 & Webbink et al. 2012). If anything, this research has provided policy makers with information of what variables are important when developing solutions together with information of their significance.

### **Closing Thoughts**

No child should be involved in harmful child work as this hampers their well-being and development. A good balance of the number of hours that children work at home or in commercial activities helping their parents together with sufficient investments in their human capital is necessary. The availability of high quality education will go a long way in improving the situation. Continuous improvement of interventions at the individual, household and community levels are required. We must never lose sight of millions of children still trapped in the worst forms of child labor and continue to work tirelessly to end all forms of child labor. Finally, the gains that have been made to manage this crisis to date must be jealously guarded and continuously improved upon.

## REFERENCES

- Ainsworth, M. (1996). Economic aspects of child fostering in Cote d'Ivoire. *Research in Population Economics*, 8(1), 25-62.
- Ashagrie, K. (1993). Statistics on child labor. *Bul Labor, Statist.*, 3. International Labor Organization.
- Baker, J.L. & Grosh, M.E. (1994). Poverty reduction through geographic targeting: How well does it work? *World Development*, 22(4). HD 82.W6.
- Baschieri, A. & Falkingham, J. (2006). Staying in school: assessing the role of access, availability and opportunity cost. S3RI Applications & Policy Working Papers.
- Basu, K. (1999). Child labor: Cause, consequence and cure. With remarks on International Labor Standards. *Journal of Economic Literature*, 37(3).
- Basu, K. & Van, P. (1998). The economics of child labor. *American Economic Review*, 88(3), 412-427.
- Basu, K. & Tzannatos, Z. (2003). The global child labor problem: What do we know and what can we do? *World Bank Economic Review*
- Becker, G. S. (1964, 1993, 3rd ed.). *Human Capital: A theoretical and empirical analysis, with special reference to education*. Chicago, University of Chicago Press
- Beegle, K., Dehejia, R., & Gatti, R. (2004). *Why should we care about child labor? The education, labor market, and health consequences of child labor*. NBER Working paper 10980. Cambridge, MA: National Bureau of Economic Research.
- Bhalotra, S. (2000a). *Is child work necessary?* Cambridge University Press

Bhalotra, S. & Heady, C. (2001). *Child activities in South Asia and Sub-Saharan Africa*. London: Macmillan.

Bhatty, K. (1998). Educational deprivation in India: A survey of field investigations. *Economic and Political Weekly*, 33(27), 1731-40 and 33(28), 1858-1869.

Binder, M. (1999a). Community effects and desired schooling of parents and children in Mexico. *Economics of Education Review*, 18, 311-325.

British Parliamentary Papers. (1968). Report from Select Committee (1831-32) on the bill to regulate the labor of children in the mills and factories of the United Kingdom. *Industrial Revolution: Children's Employment, 2*. Shannon: Irish U. Press

Bourdieu, P. (1977). *Outline of a theory of practice*. Cambridge: Cambridge University Press

Retrieved from <http://www.cambridge.org/catalogue/catalogue.asp?isbn=9780521291644>

Buchmann, C. (2000). Family structure, parental perceptions, and child labor in Kenya:

What factors determine who is enrolled in school? *Social Forces*, 78 (4), 1349–1378.

Canagarajah, S. & Coulombe, H. (1997). Child labor and schooling in Ghana. Policy Research

Working Paper N. 1844, World Bank, Washington, D.C.

CIA World Fact book

Retrieved from: <https://www.cia.gov/library/publications/the-world-factbook/fields/2004.html>

Cockburn, J. (2000). Child labor versus education: Poverty constraints or income

- opportunities? Paper presented at a Conference on Opportunities in Africa: Micro evidence on firms and households, April.
- Cockburn, J. & Dostie, B. (2007). Child work and schooling: The role of household asset profiles and poverty in rural Ethiopia. *Journal of African Economies*, 16(4), 519–563.
- Colclough, C., Rose, P., & Tembon, M. (2000). Gender inequalities in primary schooling: The roles of poverty and adverse cultural practice. *International Journal of Educational Development*, 20, 5-27.
- Collier, P. (2007). *The Bottom Billion: Why the poorest countries are failing and what can be done about it*. Oxford: Oxford University Press
- Dickens, C. (1839). *The adventures of Oliver Twist* (Monthly serial in Bentley's Miscellany, February 1837 to April 1839).
- Dostie, B. & Jayaraman, R. (2000). Determinants of school enrollment in Indian Villages. *Economic Development and Cultural Change*, 54 (2), 405-421
- Edmonds, E. (2002). *Is Child labor efficient? Evidence from large cash transfer*. Dartmouth College: mimeo.
- Edmonds, E.V. (2008). *Child labor*. In *handbook of development economics*, 4 Edited by T. Paul Schultz and John Strauss. Amsterdam: Elsevier.
- Eldrig, L. (2003). *Child labor in the tea sector in Malawi: A pilot study*. Fafo
- Ersado, L. (2004). *Child labor and schooling decisions in urban and rural areas: comparative evidence from Nepal, Peru, and Zimbabwe and Rural Areas: USA*
- Field, A. (2005). *Discovering statistics using SPSS. Second Edition*. Sage Publications
- Filmer, D. & Pritchett, L. (1999). The effect of household wealth on educational attainment: evidence from 35 countries. *Population and Development Review* 25(1), 85–120.

- Food and Agriculture Organization (FAO). (2008). *Wealth index mapping in the horn of Africa*. United Nations, Rome.
- Grootaert, C. (1998). *Child labor in Cote d'Ivoire: Incidence and determinants*. Discussion Paper, Social Development Department, The World Bank, Washington D.C.
- Gordon, A. F. (2008). *Ghostly matters*. University of Minnesota Press
- Guyer, J. (1980). Head tax, social structure and rural incomes in Cameroun, 1922-1937. *Cahiers d'Etudes africaines* 20 (79), 305–329.
- Heyneman, S.P. (1976). Influences on academic achievement: a comparison of results from Uganda and more industrialized societies. *Sociology of Education*, 49, 200–211.
- Hindman, H.D. (2009). *The world of child labor: An historical and regional survey*. M.E. Sharpe
- Huisman, J. & Smits, J. (2009a). Effects of household and district-level factors on primary school enrollment in 30 developing countries. *World Development*, 37 (1), 179-193.
- ILO/IPEC. (1998). *IPEC – SIMPOC activities*. International Labor Office, Geneva.
- ILO/IPEC. (2004). *Child labor: a textbook for university students*. Geneva: ILO/IPEC.
- ILO. (2006). *The end of child labor: Within reach. Global report under the follow-up to the ILO Declaration on fundamental principles and rights at work*. Geneva: ILO/IPEC.
- ILO. (2010). *Accelerating action against child labor: Global report under the follow-up to the ILO Declaration on fundamental principles and rights at work 2010*. Geneva: /IPEC.
- ILO. (2012). *Tackling child labor: From commitment to action / International Labor Organization, International Programme on the Elimination of Child Labor (IPEC)*. Geneva: ILO, 2012 (1).
- Jensen, P. & Nielsen, P. (1997). Child labor or school attendance? Evidence from Zambia.

- Journal of Population Economics*, 10, 407-424.
- Kielland, A. & Maurizia, C. (2006). *Children at work: Child labor practices in Africa*. Lynne Rienner
- Kis-Katos, K. & Schulze, G. (2006). Where child labor supply finds its demand? University of Freiburg, Institute for Economic Research, Working Paper.
- Lord, J. (2011). Child labor in the Gold Coast: the economics of work, education and the family in late-colonial Africa, c.1940-57. *The Journal of the History of Childhood and Youth* 4 (1), 88–115.
- Government of Malawi & ILO. (2004). *Malawi child labor survey 2002: Report of analysis*. Lilongwe, Malawi
- Marx, K. (1867). *Das Kapital: Kritik der Politischen Oekonomie*, 3d ed. translated by S. Moore and E. Aveling (1983). New York: International Publishers.
- National Bureau of Statistics Republic of Tanzania. (2009). *Basic Information Document National Panel Survey (NPS 2008-2009)*. Dar es Salam, Tanzania.
- National Statistical Office of Malawi. (2011). *Malawi Second Integrated Household Survey (IHS2) 2010-2011 Basic Information Document*. Lilongwe, Malawi
- Otañez, M.G., Muggli, E., Hurt, R. D., & Glantz, S.A. (2002). Eliminating child labor in Malawi: a British American Tobacco corporate responsibility project to sidestep tobacco labor exploitation. *Tobacco Control*, 15, (3), 224-230
- Patrinos, H. A. & Psacharopoulos, G. (1997). Family size, schooling and child labor in Peru- An empirical analysis. *Journal of Population Economics*, 10 (4), 387-405.
- Ray, R. (2000). Child labor, child schooling, and their interaction with adult

- labor: Empirical Evidence for Peru and Pakistan. *The World Bank Economic Review*, 14 (2), 347-367.
- Schmitz, C., Traver, E. & Larson, D. (2004). *Child labor: A global view*. Greenwood Publishing Group.
- Shahrokhi, L. (1996). History of child labor. Retrieved from:  
<http://legacy.earlham.edu/~pols/globalprobs/children/Laila.html>
- Skoufias, E. & Parker, S. (2001). *Conditional cash transfers and their impact on child work and schooling: evidence from the PROGRESA Program in Mexico*. Manuscript, International Food Policy Research Institute, Washington, DC.
- Tzannatos, Z. (2003). Child labor and school enrolment in Thailand in the 1990s. *Economics of Education Review*, 22(5), 523-536
- UNICEF. (1991). *The State of the world's children 1991*. Oxford: Oxford University Press.
- UNICEF & National Statistical Office of Malawi. (2006). Multiple Cluster Survey (MICS) of Malawi. Zomba, Malawi
- US Department of Labor. (2000). *By the sweat and toil of children (Vol. VI): An economic consideration of child labor*. U.S. DOL, Bureau of International Labor Affairs, Washington, DC.
- Webbink, E., Smits, J. & Jong, E. (2008) 'Household and context determinants of child labor in 156 districts of 11 developing countries' Nijmegen Center for Economics (NiCE). Working Paper 08-114
- Webbink, E., Smits, J., & Jong, E. (2012). Hidden child labor: determinants of housework and family business: Work of Children in 16 Developing Countries. *World Development*, 40 (3), 631–642



- Wells, K. (2008). "Invisible hands: child labor and the state in colonial Zimbabwe by Beverly Grier (a review)". *The Journal of the History of Childhood and Youth*, 1(3), 481–483
- World Bank. (2002). *Poverty reduction strategy paper. education chapter*. Geneva: World Bank.
- Whitsel, C. M. & Mehran, W. (2010). School, work and community-level differences in Afghanistan and Tajikistan: divergence in secondary school enrolment. *Central Asian Survey*, 29(4), 501 — 51