PRO-POOR GROWTH IN MALAWI: A MULTIDIMENSIONAL PERSPECTIVE

MASTER OF ARTS (ECONOMICS) THESIS

By

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DECLARATION

I, the undersigned hereby declare that this thesis is my original work and that it has never been submitted for similar purposes to this or any other university or institution of higher learning. Acknowledgements have been duly made where other people's work has been used. I am solely responsible for all errors contained herein.

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CERTIFICATE OF APPROVAL

I the undersigned, declare that this thesis is the student's own work and acknowledgements have been made where the work of other people has been used. This thesis is submitted with my approval.

Signature _____Date:_____
Jacob Mazalale, PhD (Senior Lecturer)
Supervisor

DEDICATION

To My Wife Elizabeth

This is for you Elizabeth for what you have made me become, from a boy to a man. You are so much for me. For all the sleepless and hubbyless nights you spent, and enduring the early morning alarm alerts, this one is for you!!!

To My Daughter Joyce, sons Xavier and Simeon Vinnie, the 2nd

You guys are always one of the reasons I work hard, so that you enjoy this life. I dedicate this one to my small team of the Three Wise kids from Ntcheu! I love you guys

To My Late Mum Enily and Brother Alinafe

While you are up there watching me work hard and toil, I know you are smiling from the stars up there, proud of the good story you left on earth for me to tell!! See you later!

To My Daddy Simeon, Senior

Doc, this is for all the faith you have had in me, for all that you have done for my life. You deserved to see something from your only son. The heights you set are too high but I will make sure I don't shame you. I love you Bigman!!!!!

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ABSTRACT

The study analyses pro-poor growth (economic growth that is particularly beneficial to be poor) in Malawi from a multidimensional perspective. The study was premised on the background that most of the measurements of pro-poor growth in Malawi have been done from the monetary (consumption) side. This thesis presents a departure from this thinking and measures pro-poor growth from the non-monetary perspective using non-monetary welfare indicators. The study used data from the Second (2004) and the Third Integrated (2010) Household Survey (IHS).Specifically, the study had four objectives; firstly to measure pro-poor growth from monetary perspective using consumption, secondly to measure pro-poor growth from non-monetary perspective using education (maximum and average schooling years) and to measure pro-poor growth the non-monetary perspective using health (stunting and productive days lost due to illness). The study found that there was pro-poor growth in the weak absolute sense but not in the relative and strong absolute sense on income (consumption per capita). In addition, there was no pro-poor growth in all areas in the health sector and only pro-poor in the unconditional sense on education implying that the income-poor experienced growth that was not pro-poor. The findings have policy implications in that they indicate that there is need to have policies that specifically address the income-poor households if pro-poor growth is to be achieved and not just implementing blanket policies because the income-rich have more access to social services unlike the income-poor.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immuno Deficiency Syndrome
CHIM	Change in Mean
CWI	Composite Welfare Index
DfID	Department for International Development
FISP	Farm Input Subsidy Programme
GDP	Gross Domestic Product
GIC	Growth Incidence Curve
GRIM	Growth Rate in Mean
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
HPI	Human Poverty Index
HIS	Integrated Household Survey
MDG	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy
MPRS	Malawi Poverty Reduction Strategy
NER	Net Enrolment Rate
NESP	National Education Sector Plan
NIGIC	Non-Income Growth Incidences
NSO	National Statistics Office
PAP	Poverty Alleviation Program
PEGR	Poverty-Equivalent Growth Rate
PPAG	Pro-poor Agricultural Growth
PPCH	Pro-poor Change
PPGR	Pro-poor Growth Rate
PSLCE	Primary School Leaving Certificate of Education
SADC	Southern Africa Development Community
UN	United Nations
UNDP	United Nations Development Program

CHAPTER ONE

INTRODUCTION

1.1 Background

Pro-poor growth as a subject matter has taken centre stage in recent research in as far as development economists are concerned (Bourguignon, 2004, Dollar and Kraay,2002, Eastwood and Lipton, 2001, Ravallion and Datt, 2001, and Dittmaar, 2008). This is due to its importance to development and focus on the poor masses in most developing countries. Kakwani & Pernia (2000) define pro-poor growth as, 'growth that enables the poor to actively participate in and significantly benefit from economic activities'. In other definitions, it is defined as growth that benefits the poor and provides them with opportunities to improve their economic situation, as often cited by international agencies (UN, 2000 & OECD, 2006).

There is a triangle relationship between poverty, growth and inequality. Firstly, the rapid elimination of absolute poverty, under all forms, is a meaningful goal for development. Second, to achieve the goal of rapidly reducing absolute poverty requires strong, country-specific combinations of growth and distribution policies (Bourguignon, 2004). There has been a lot of attention on poverty reduction, especially in the last decade, and a lot of development policies have been towards the achievement of poverty reduction. This can be seen through the focus of the Millennium Development Goals (MDGs) up to 2015, then the refocus to the

Sustainable Development Goals (SDGs) thereafter. In Malawi, this has been reflected in the policies and strategies that have been adopted, including the Framework for Poverty Alleviation Programme (PAP) of 1994; the Malawi Poverty Reduction Strategy (MPRS) of 2002; the Malawi Growth and Development Strategy (MGDS) of 2006, and its successor, the Malawi Growth and Development Strategy II (MGDS II) of 2015 (Malawi Government, 2015). Consensus, generally, has been that growth alone is not an effective means to achieving reduction of poverty (Dagdeviren et al., 2002) but rather focus should be on improvement of welfare of the poor masses.

Dagdeviren et al., 2002 further note that to reduce poverty, there is more to it than just growth, nor is it enough to reduce poverty with redistribution. There is need for players in the economy to have policies that incorporate equity as a fore-thought, rather than an after-thought, by shifting the ideological debate so that the costs and limits of growth are viewed as doubtfully as the costs and limits of redistribution.

Back to pro-poor growth; while the definition is self-explanatory, it provides little information as it does not explain how to measure or how to implement pro-poor growth. There is still need to get to the bottom of the concept and specify, first, if economic growth benefits the poor and secondly, if yes then to what extent (Fengler, 2010).

DFID policy note (2004) definition for pro-poor growth was "economic growth that is good for the poor", while Son, (2004), uses the definition that says focuses on national policies that stimulate economic growth for the benefit of poor people (primarily in the economic sense of poverty).

A valid example is through Klasen (2005, p. 421) where he provides more explicit requirements that a definition of pro-poor growth needs to satisfy if its full meaning is to be exploited. First, he indicates that the measure should be able to differentiate between growth that benefits the poor and other forms of economic growth. Second, is the measure should show that the poor have benefitted disproportionally relative to the non-poor. Third, that the assessment is sensitive to the distribution of incomes among the poor. Fourth, the measure allows an overall judgement of economic growth and not focuses only on the gains of the poor.

This was observed as early as the 1990s, by the United Nation's Human Development Report, that human development is the end, while economic development is the means. It was noted that there had not been any automatic link between economic development and human development (UNDP, 1996). Malawi, just like many developing countries, has not been left aside in as far as debate on growth and poverty reduction is concerned. As such, poverty reduction is one of the major areas of development trepidations to the Malawi Government. There is need that developing countries should have policies that reduce poverty while having specific attention to the poor, hence pro-poor focus growth.

In large cases, failure to have economic growth and equality in the distribution of income and assets is related to poor growth performance that has made it difficult to reduce absolute poverty (Greenes & Strazds, 2014). Further, the growth that most poor countries have been experiencing has had little impact on poverty. Moreover, rising inequality in many developing countries is further reducing the impact of growth on poverty (Klasen, 2007, Grimm, et. al, 2007 and Tungodden et. al, 2004).

These issues make the need to further study the trends and patterns in economic growth and development.

In the context of Malawi, the period of study (thus, between 2004/5 and 2010/11) is an interesting economic period for Malawi as there were indications that the economic inequality (measured by consumption) worsened between 2004/5-2010/1 (Mussa & Masanjala, 2015). By 2004/5 the richest 10% of the population accounted for 46% of the total consumption, while the bottom 40% accounted for only 15% of the total consumption. However, by 2010/1 the picture worsened as the richest 10% were now controlling 53% of the total consumption while the bottom 10% were now controlling only 13% of the total consumption. (World Bank, 2010). This is despite implementation of policies that were thought to be pro-poor in their own right, meaning that the pro-poorness in the policies was not pro-poor enough to improve the welfare of the poor.

1.2 Problem Statement and Significance of the Study

There have been a number of studies that have been conducted in Malawi on poverty and inequality (Mussa, 2010, Bibi et. al,2012) but most of them have been from a unidimensional perspective. Mussa (2010, p.2) studied multidimensional poverty in Malawi and considered only three dimensions of poverty and inequality discussed these parameters separately; household per capita consumption, education and health. In his paper, Mussa (2010) looked at the three variables independently without taking into account possible correlations existing between the dimensions of poverty. Further, the study did not look at pro-poorness per se, but rather just at multidimensionality of it.

Other related studies that have been done in Malawi on poverty concentrated on the unidimensional and univariate perspective (Murkherjee & Benson, 2003, Bokosi, 2006 and Phangaphanga, 2000). Currently, there are no studies in Malawi that have been done on the measurement of pro-poor growth from a multidimensional perspective. However, most studies that have been done in Malawi on pro-poor growth approaches have been from a univariate perspective like Chirwa (2004) and Bokosi (2006).

There are various proposals for approaches of the measurement of pro-poor growth but the shortcoming is that most of them concentrate on the monetary dimension and ignore non-monetary side of it. The most manifest shortcoming of all attempts to define and measure pro-poor growth is that most studies rely exclusively on one single indicator (univariate), which is from the monetary angle. Thus, the measurement has been focussed separately on the monetary side of measurement and leaves out the non-monetary perspective and not in combination. In this context, Kakwani & Pernia (2000) note that it would be "futile" if one operationalizes poverty reduction via pro-poor growth using just one single indicator because poverty is a multidimensional phenomenon, and thus pro-poor growth is also multidimensional. That is the more reason why non-monetary dimensions are also included in the SDGs separately, for instance education and health. Until recently within the last decade, the problem on the studies that have focussed on pro-poor growth is not only for Malawi, but world over (Booth, 2001). The study seeks to answer whether economic growth reached the poor as much as the non-poor. The problem is that in the absence of multidimensionality on the approaches to the measurement of pro-poor growth,

measurement of the same and the extent to which policymakers aim at achieving economic growth of the poor has been limited to the monetary side.

It should be noted that the initial motivation for non-monetary pro-poor growth measurement was inspired by Sen (1989) and has since then been improved by various economists. As Sen (1976) urges, poverty measurements should go beyond monetary and look at other non-monetary dimensions of well-being such as health, education, empowerment, freedom of association, and so on. It should be observed that while non-monetary indicators and multidimensionality of poverty have recently received a lot of attention, little has been studied on the approaches of measurement of pro-poor growth from that perspective. This study has followed through the developments and has mostly used the 2008 studies by Grosse et al (2008), which was itself an extension of Growth Incidence Curves (GICs) by Ravallion & Chen, 2003. The study on GICs by Ravallion and Chen, revealed that there is more to measuring poverty than the monetary side of it. There is a non-monetary dimension to the concept, which is also key to measuring pro-poor growth but for long has been ignored. The various approaches to measure pro-poor growth have allowed a much more detailed assessment of progress on reducing poverty as they explicitly examine growth along the entire monetary and non-monetary distribution process. In Malawi there has been recently a study by Pauw et. al (2014) which found significant declines in non-monetary poverty, which has further inspired this study.

This study attempts to contribute to the literature on the measurement of pro-poor growth in Malawi from a multidimensional perspective from a non-monetary perspective using non-monetary (welfare) indicators.

1.3 Objectives of the Study

The main objective of the study is to assess whether economic growth in Malawi has been pro-poor from a multidimensional perspective.

The specific objectives are:

i. To assess whether economic growth has been pro-poor from the monetary perspective using consumption per capita

ii. To measure whether economic growth has been pro-poor using maximum and average education years as non-monetary variables

iii. To quantify whether economic growth has been pro-poor using stunting as a non-monetary variables

iv. To quantify whether economic growth has been pro-poor using loss of productive days due to sickness as a non-monetary variables

1.4 Research Hypothesis

The hypotheses for the study are;

i. Economic growth has *not* been pro-poor from the monetary perspective using consumption per capita

ii. Economic growth has *not* been pro-poor using maximum and average education years as non-monetary variables.

iii. Economic growth has *not* been pro-poor using stunting as a non-monetary variable

iv. Economic growth has *not* been pro-poor using productive days lost due to sickness as a non-monetary variable

1.5 Organisation of the Thesis

This thesis is organized into six chapters. The rest of the paper has been organised in that Chapter Two provides an overview of the trends in the Malawian economic performance including economic growth and policies that Malawi has implemented on poverty reduction since independence, and also gives a glimpse of issues in the health and education sectors that have had an impact on the economy. Chapter Three outlines the literature review and this comprises of the theoretical and empirical literature on pro-poor growth. Chapter Four discusses the research methodology that this study was based on. Chapter Five discusses results and interpretation of key findings; and finally Chapter Six, gives the conclusion, recommendations and policy implications.

CHAPTER TWO

OVERVIEW OF ECONOMIC TRENDS, POVERTY AND DEVELOPMENTS IN THE EDUCATION AND HEALTH SECTORS IN MALAWI

2.1 Introduction

This chapter presents some information on trends in the economy in Malawi. It describes the progress that Malawi has made in terms of poverty reduction since independence. The policies that are related to poverty reduction that Malawi has used so far and future policy direction on poverty reduction are also discussed. These have a bearing on the pro-poorness of the policies and efforts towards making strides in making poverty reduction polices being pro-poor. The chapter also takes a look at issues in the education and health sectors in Malawi in relation to poverty reduction and their impact on the Malawian economy.

2.2 Economic Growth and Development in Malawi

***Figure 1**: Malawi GDP Annual Growth Rate*

Malawi is a small open economy in Sub-Saharan Africa with a per capita GNI of just US$320 in 2016, one of the lowest in the world. Considered as one of the poorest countries in the world due to its economic and development indicators, Malawi has a per capita income that has grown at an average of little more than 1.5 percent per annum between 1995 and 2014. (World Bank Report, 2017). Malawi has a per capita growth that is so low and as of 2016, it was below the average of 2.8 percent for non-resource-rich African economies *(Refer to Figure 1)*. Malawi remains an outlier even compared to other countries that have similar geographical and demographical characteristics, and that were at a similar stage of development in 1995 (World Bank Report, 2017).

Statistics show that the Malawi economy grew at an average annual rate of 6.2 percent between 2004 and 2007, and surged further to an average growth of 7.5 percent between 2008 and 2011 (NSO 2012). This trend speaks volumes of the level of growth and the pattern that Malawi's development drive has taken over the years. It is worthwhile to note that Malawi's economy is agro-based, with the agricultural sector accounting for about 30 percent of GDP over the period 2004-2011. In the period, the agriculture sector was Malawi's most significant contributor to economic growth, with a contribution of 34.2% to overall GDP growth (NSO, 2012). Given that Malawi's economic growth was primarily driven by growth in the agriculture sector, and considering that about 90% of Malawians live in farm households one would expect that this impressive growth would lead to significant reductions in poverty and reduction in inequality as well (Benin et al., 2012).

Despite these high economic growth rates, there has been marginal poverty reduction for Malawians. However, Mussa (2017) brings a different angle in as far as the

distributional changes in poverty analysis. Mussa (2017)'s study noted that existing poverty studies ignore that changes in the correlates of poverty may not only affect the average level of consumption, but also affect the distribution of consumption. Mussa's study suggests that ignoring these distribution effects leads to mismeasurement both quantitatively and qualitatively of policy interventions on poverty.

All in all, there have been underachievement on targets on poverty reduction for Malawi in the last decade and some of the reasons include; the narrow economic base since Malawi's economy does not pivot on secondary development of resources (manufacturing), the underdeveloped domestic market, poor infrastructure coupled with high transportation costs, unreliable power supply which hinders investment in manufacturing, political presence in business sector and government intervention in key markets coupled with a weak management capacity in the public and private sector. Malawi remains in poverty and there are still strides that are required if Malawi is to achieve any meaningful direction in poverty reduction, let alone eradication (Mukherjee et. al, 2003).

Over past decades, the country's development progress has been negatively affected by shocks (natural, economic and social) leaving the country in a cycle of vulnerability in the period between 2011 and 2016 (World Bank Country Report, 2017).

Human capital is one important determinant in the process of development and economic growth. On the other hand, human development requires resources; such as

funding, which comes from economic growth. In other words, there is a two-way relationship between human development and economic performance.

2.3 Poverty Reduction Strategies in Malawi

Over the years, Malawi has launched a number of poverty reduction strategies aiming to fill the development gap that has been created by the various shocks that have hit the country, to reduce and eventually eradicate extreme poverty. While the efforts applied have been a lot in terms of policy and action, there has been minimal movement to move Malawi from poverty to prosperity. The major poverty reduction efforts that Malawi has undertaken have been through the following; the Poverty Alleviation Program (PAP) (1994); the Malawi Poverty Reduction Strategy (MPRS) (2002–2005) whose main goal was to achieve "sustainable poverty reduction through empowerment of the poor" over the three year period; and, more recently, the Malawi Growth and Development Strategy (MGDS) I (2006–2011) and the Malawi Growth and Development Strategy (MGDS) II (2011–2016); which was reformulated from the MPRS and remains Malawi's overarching policy framework to date (Malawi Government, 2016).

Malawi as a country formulates its policy and strategic direction in line international protocols. In the period between 2000 and 2015, Malawi was party to the Millennium Development Goals (MDGs) and from September, 2015 a new set of goals were formulated in the name of the Sustainable Development Goals (SDGs). Thus, most policies and strategies are formulated with these international protocols in mind hence conforming to international direction of development.

Despite these policies implemented towards the reduction, and ultimately eradication of poverty, Malawi has not made much progress in terms of moving away from extreme poverty.

Malawi, being an agro-based economy, even most of its policies that are pro-poor have been coined from the angle of agriculture. Dorward (2004) noted that there is substantial evidence that agricultural growth has played a critical role in poverty reduction and economic growth around the world. From around 2000, most developing countries (including Malawi) adopted what they called pro-poor agricultural growth (PPAG). This was a policy that deliberately tackled development issues from the angle of agriculture since most of the developing countries' economies were based on the agricultural sector.

Nallari et. al, (2011) note that pro-poor policies can be tackled from two angles, namely, the general angle where there will be pro-poor policies such as good macro-economic policies, rural development policies, creation of an enabling environment for investment and the private sector. These are pro-poor policies that are implemented as blanket policies; government believing that the benefits will trickle down to the poor. This approach assumes that if good macro policies are implemented, the good results from this implementation, at higher level will filter to the poor masses. Thus, Malawi has policies that are targeted, for instance; safety nets, scholarships, targeted subsidies like the Farm Input Subsidy Program (FISP)[1].

[1] The goal of the Farm Input Subsidy Program is to enhance food self-sufficiency by increasing smallholder farmers' access to and use of improved agricultural inputs, thereby increasing the incomes of resource-poor farmers. (IFPRI, 2011)

These target the poor directly and aim at implementing policy that directly tackle the issues that are affecting the poor.

For the case of Malawi, just like most developing countries, most of the pro-poor policies that have been implemented have been from the agricultural angle. One of the most recent targeted pro-poor policy is the FISP. As noted, there was significant growth in the agricultural sector between 2005 and 2015 and government attributes this growth to the implementation of the FISP (World Bank, 2017). The sector contributes one third of the gross domestic product and significantly contributes to employment, economic growth, export earnings, food security, poverty reduction and nutrition. Malawi has paid a lot of attention on the sector in recent years and has made policy changes aimed at making the sector robust enough to bring a turnaround on the sector. These changes have been brought about by policy changes through the Agriculture Sector Wide Approach Support Project (ASWAp-SP), supported by the International Development Association (IDA), the World Bank's fund for the poorest countries, and other donors (World Bank, 2017).

The over-dependency on FISP and other safety nets programmes has led to the heated debate over desirability, sustainability and overall impact of input subsidy programme in Malawi and in most African countries (for example, Chirwa & Dorward, 2013, Jayne et al., 2013, Lunduka et al., 2013). The issue has been as to whether this growth, brought about by such targeted pro-poor policies like FISP has led to reduction in poverty or not. There have been concerns that, possibly, the estimates of the contribution of FISP to economic growth have been overstated (Jayne et al., 2008, Chirwa & Dorward, 2013). There have also been other arguments that the growth has

not trickled down to the rural poor, or has resulted in the decline in poverty (Dollar et al., 2010). Chirwa & Dorward (2010) and Dorwad & Chirwa (2013) in their attempt to undertake a benefit-cost ratio of the FISP over the preceding years found and concluded that the programme provided a positive return on investment. The ratios were consistently above 1 except for 2008/9 season when fertiliser prices were high all over the world markets.

Agricultural development is a must for the economic development of a country. Even developed countries lay emphasis on agricultural development. According to Muir (2014), "Agricultural progress is essential to provide food for growing non-agricultural labour force, raw materials for industrial production and saving and tax revenue to support development of the rest of the economy, to earn foreign exchange and to provide a growing market for domestic manufactures."

2.3.1 Progress in the Education Sector

In the last decade, Malawi has seen some progress in non-monetary indicators of human development, however there have been persistent challenges with respect to progress in reducing poverty in monetary terms. As a result of the progress accomplished in some health and education aspects, and due to large flows of Official Development Aid (ODA), Malawi partially or fully achieved 4 of 8 of the Millennium Development Goals (MDGs), the set of 2015 targets to address poverty in its many dimensions (World Bank, 2017).

Table 1: Education statistics in Malawi

Description	2011/12	2012/13
Classroom Ratio	105:1	124:1
Pupil to Qualified Teacher ratio	92:1	95:1

Source: *Global Partnership for Education*

The Malawi education sector has seen great strides in recent years, with primary school enrolment increasing by 16 percent between 2008 and 2013, at an average annual growth rate of 4 percent (Global Partnership for Education, 2016). Despite this growth, the sector is faced with multidimensional challenges including low learning achievement and huge capacity gaps in school inspection and supervision, poor infrastructure development, high teacher-pupils ratios amongst the many challenges. *Table 1* above, gives a picture of some of the key statistics in education

Some highlights in the data include the increase in classroom ratio (due to an increase in enrolment), from 105:1 in 2011/12 to 124 in 2012/13, the pupil qualified teacher ratio worsened from 92:1 in 2011/12 to 95:1 in 2012/13, and a decline in pass rates for Primary School Leaving Certificate of Education (PSLCE) from 74 percent in 2006 and declining each year to 69 percent in 2011/12 (Global Partnership for Education, 2016).

The education sector has seen various policy changes, with the main one being the implementation of the 2008-2017 National Education Sector Plan (NESP), which has five sub-sectors namely; basic education, secondary education, primary and secondary teacher training, technical and vocational education and higher education. (Malawi

Government, 2016). NESP also recognises special needs, school health and nutrition and gender as cross cutting issues in the sector.

2.3.2 Progress in the Health Sector

The health sector in Malawi has also seen progress in recent years as attention has been on the sector considering that a health nation is a catalyst for economic development. There is a strong correlation between the level of health status and economic development, as a healthy population will be able to contribute to economic development positively.

Research examining the link between health and economic outcomes, at either the individual or national level, has generally examined two types of health measures: inputs into health and health outcomes. Inputs into health are the physical factors that influence an individual's health. These include nutrition at various points in life (e.g. in childhood, and in adulthood), exposure to pathogens, and the availability of medical care. Health outcomes are characteristics that are determined both by an individual's health inputs and by his genetic endowment. Examples include life expectancy, height, the ability to work hard, and cognitive functioning. There are two critical issues relating to human capital—the extent of education and level of health (Weil, 2007).

Further, the report of the WHO's Commission on Macroeconomics and Health [2001] states;

> Improving the health and longevity of the poor is an end in itself, a fundamental of economic development. But it is also a *means* to

> achieving the other development goals relating to poverty reduction. The linkages of health to poverty reduction and to long-term economic growth are powerful, much stronger than is generally understood. The burden of disease in some low income regions, especially sub-Saharan Africa, stands as a stark barrier to economic growth and therefore must be addressed frontally and centrally in any comprehensive development strategy.

The World Bank notes that the country continues to experience rapid population growth which negatively affects provision of various services such as health and education. There has been high population growth rates which tend to exert pressure on the existing infrastructure including housing, roads as well as environment. Malawi population has almost doubled in the past two decades having grown from 9.9 million in 1998 to 17.3 million in 2017 since it had had an annual growth rate of 2.8%. Based on this growth rate, the population is projected to reach 45 million by 2050. This is very high growth and clearly not sustainable (World Bank Report, 2017).

2.4 Conclusion

In conclusion, the trends in poverty reduction, education and health show that there are inter-links between the three concepts in relation to economic growth. It can, therefore, be concluded that non-monetary aspects of the economy will have an effect in the direction that the economy takes. In this case, education and health as non-monetary aspects of the economy will have an effect in whether growth is pro-poor or anti-poor, hence considered for use in this study.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

This chapter gives the theoretical background and the conceptual framework on which the study is based. The study reviewed various papers and works that have been done within the concept of pro-poor growth. The section reviews studies and papers on pro-poor growth and its measurement and compares different schools of thoughts on the subject matter.

3.2 Theoretical Literature Review

3.2.1Various definitions for pro-poor measurement

Bearing in mind that pro-poor growth has been defined differently by different scholars, there is need to operationalize the perspective from which we study pro-poor growth in this thesis. This study adopts the definitions that were used by Klasen (2008) and define pro-poor growth from three angles, thus; weak absolute pro-poor growth, relative pro-poor growth, and strong absolute pro-poor growth (Klasen, 2008, p.422)

The weak absolute definition considers that growth is pro-poor if it reduces poverty. Under this measure, it does not matter the size of growth that the poor achieve. Even if the poor receive a very small proportion of the benefits of growth such that inequality increases, in as far as it has been seen that poverty declines, then the process of growth in this case is considered pro-poor. We may consider the definition

by Ravallion & Chen (2003) to fall in this category of measurement of pro-poor growth.

The strong absolute definition considers that growth is pro-poor only in the case where inequality declines in the course of growth. This measure considers both relative and absolute decline in inequality. By implication, it considers that the growth rate of income of the poor should be higher than that of the non-poor. Further to this, McCulloch & Baulch (2000); Kakwani & Pernia (2000) and Son (2003) suggest a measure of pro-poor growth that takes into account reduction in poverty and decrease in inequality. The relative definition considers that growth is pro-poor when economic growth benefits the poor proportionally more than the non-poor. What the definition looks at is growth that should result in reduction of relative inequality along with poverty reduction.

Table 2 illustrates the strength of the respective arguments (see also World Bank, 2005 for a related discussion). This example shows a country where, in the initial situation, the poor earned $100 and the rich $500 on a per capita basis. The illustration shows year 1, in which the incomes of the poor grow by 3% while those of the non-poor grow by 2%. This is an example of pro-poor growth in the relative, and the weak absolute sense. In year 2, it is observed that the incomes of the poor grow by 1%, while that of the non-poor by 10%. Only under the weak absolute definition would this be called pro-poor growth, which agreeably illustrates the weakness of this definition in that hardly any of the benefits of growth have trickled down to the poor. On the other hand, in year 3, the incomes of the poor grow by 6% and those of the rich (non-poor) by 9%.

A comparison between year 1 and year 3 in this respect, shows the advantages of the weak absolute definition. In year 3, the poor have higher income growth than in year 1, yet only the weak absolute definition would call this situation ‘‘pro-poor.’’ Instead, it would be called ‘‘anti-poor’’ if explained from the relative definition angle (while lower growth in year 1 had been called pro-poor using that definition). In year 4, not only do the poor enjoy the relative income gains, but also their absolute gains exceed those of the non–poor (20 against 12). This would be a situation of relative, weak, and strong absolute pro-poor growth, as the poor gain absolutely more than the rich. Given that this situation requires an income growth rate of the poor of 18% (compared to 2% for the non-poor), it illustrates how difficult it is to achieve pro-poor growth using the strong absolute definition, as will be further observed in the study. To end with year 5, it is noted that incomes are going down, but proportionately (and thus absolutely) more for the rich than the poor. This situation cannot be called pro-poor growth in the weak absolute sense, while in the relative sense (or even the strong absolute sense) one can call this pro-poor growth, or better, a pro-poor contraction (see, e.g., Son, 2004).

Table 2: Different versions of pro-poor growth; some illustrations

Year	Growth (%)	Non-poor	Growth (%)	Pro-poor?
0		500		
1	3	510	2	Relative, weak bsolute
2	1	561	10	Weak absolute
3	6	611	9	Weak absolute
4	18	623	2	Relative, weak absolute, strong absolute
5	-1	592	-5	Relative, strong absolute

Source: Klasen, 2008

As Klasen (2008, p.423) explains; this situation illustrates that the relative definition in its own right does not invariably imply the weak absolute definition. In due course, the advantages of the different definitions revolve around three pivotal questions. The first is whether we only consider absolute incomes of the poor or inequality per se. If the latter is the case, then the weak absolute definition of pro-poor growth makes little sense. While this is ultimately a normative question, a range of welfare theories as well as increasing evidence from the experimental and subjective well-being literature suggest that inequality affects welfare, regardless of its impact on absolute income levels of the poor.

The literature further goes on to look at the second question; which considers which type of growth delivers faster poverty reduction in comparison. Even if it was just about absolute incomes of the poor, it could still be the case that the relative definition has merits, depending on the impact changes in inequality have on the absolute incomes of the poor. While reduction in income inequality, ceteris paribus, accelerates poverty reduction, this might be counteracted by any reduction in growth that accompanied this inequality reduction, Klasen (2008, p.422) further notes. Having considered the illustration above, the study explores the various means of measuring pro-poor growth to extend the illustration above.

3.2.2 Various ways of measuring pro-poor growth

In the last decade, pro-poor growth as a concept has taken centre stage and different researchers have used various ways for measuring the same. There have been various suggestions on the measurement of economic growth and checking pro-poor growth. This study takes a look into just four of the many approaches for measuring pro-poor growth.

The partial approach classifies under what conditions growth can be said to be pro-poor without specifying neither a poverty line nor a poverty measure. The Growth Incidence Curve (GIC) proposed by Ravallion & Chen (2003) falls under this classification in the sense that pro-poor growth is defined based on first order dominance conditions (Son, 2007), and this is the approach that this study uses.

In addition, Son's (2004) measure is partial in that a growth process is primarily determined to be pro-poor using stochastic dominance curves (Son, 2007). The advantage of this approach is that it is valid for all poverty lines and poverty measures. However, the approach is restricted in that if the dominance conditions are not chanced, one cannot deduce whether a growth process is pro-poor or not, hence the term partial. In addition, the approach does not establish the degree of growth, that is, it does not tell to what extent one growth process is more pro-poor than another.

The full approach on the other hand requires specification of poverty lines and measures. The Pro-Poor Growth Index (PPGI) proposed by Kakwani and Pernia (2000) and the Poverty Equivalent Growth Rate (PEGR) proposed by Son and Kakwani (2004) fall under this classification. The advantage of this approach is that it always provides conclusive results as to whether growth is pro-poor or not. Further, the approach gives a complete ranking of growth processes because pro-poorness of growth is judged from a rate or an index. The disadvantage of this approach is that it demands value judgments in the choice of the poverty line and measure (Son, 2007).

3.2.2.1Foster, Greer & Thorbecke (FGT) Poverty Index

Being a poverty-related study, the Foster, Greer & Thorbecke (FGT) Poverty Index is a good point to start from. This is one of the earliest index for measuring poverty, and in part, is used as a basis in some recent measurements including some pro-poor growth measurements. It was proposed by Foster, Greer & Thorbecke (1984), and has become one of the most common and used index. FGT is defined by the following;

$$FGT = (1/n)\sum_{i=1}^{q}\left((z - x_i)/z\right)^{\alpha} \tag{3.1}$$

It can be observed that when α =0, the FGT index is equal to the headcount ratio since;

$$\sum_{i=1}^{q}(1/n)\left((z - x_i)/z\right)^{\alpha} = q \tag{3.2}$$

Similarly, when α =1, then it becomes;

$$\begin{aligned} FGT &= (1/n)\sum_{i=1}^{q}\left((z - x_i)/z\right) = (1/n)\left\{\sum_{i=1}^{q}(1) - \sum_{i=1}^{q}\left(x_{i/z}\right)\right\} \\ &= (1/n)\left\{q - \left(\left(q\bar{x}_p\right)/z\right)\right\} = (q/n)\left(1 - \left(\bar{x}_p/z\right)\right) = H(x,z)I(x,z) \end{aligned} \tag{3.3}$$

Where $\bar{x}_p$ refers to the average income of the poor. Finally when α =2, we may present it as follows;

$$\begin{aligned} FGT &= \left(1/n\sum_{i=1}^{q}\left((z - x_i)/z\right)^2\right) = (1/n)\left\{\sum_{i=1}^{q}\left[\left(\left(z - \bar{x}_p\right)/z\right) + \left(\left(\bar{x}_p - x_i\right)/z\right)\right]^2\right\} \\ &= \left(q/n\right)\left\{\left[(1-q)\sum_{i=1}^{q}\left(\left(z - \bar{x}_p\right)/z\right)^2\right] + \left[(1-q)\sum_{i=1}^{q}\left(\left(\bar{x}_p - x_i\right)/z\right)^2\right]\right\}\right) \end{aligned} \tag{3.4}$$

$$\text{Since } \sum_{i=1}^{q} 2\left(z - \bar{x}_p\right)\left(\bar{x}_p - x_i\right) = 2\left(z - \bar{x}_p\right)\sum_{i=1}^{q}\left(\bar{x}_p - x_i\right) = 0$$

From this, we end up with;

$$\begin{aligned} FGT &= H(x,z)\times\left\{\left[I(x,z)\right]^2 + \left[Var\left(x_{i,i\in poor}\right)/\, z^2\right]\right\} \\ &= H(x,z)\times\left\{\left[I(x,z)\right]^2 + \left[\left(Var\left(x_{i,i\in poor}\right)/\left(\bar{x}_p\right)^2\right)\right]\left[\left(\bar{x}_p/z\right)^2\right]\right\} \\ &= H(x,z)\times\left\{\left[I(x,z)\right]^2 + \left[Coef.Var\left(x_{i,i\in poor}\right)\right]\left[1-I(x,z)\right]^2\right\} \end{aligned} \quad (3.5)$$

Where $Var\left(x_{i,i\in poor}\right)$ and $Coef.Var\left(x_{i,i\in poor}\right)$ refer to the variance and the coefficient of variation of the incomes of the poor, respectively.

Clearly, it may be noted that when α =2, we find that the FGT index is a function of the headcount ratio (the incidence of poverty), the income-gap ratio (the intensity of poverty and the coefficient of variation of the income of the poor (thus, a measure of inequality among the poor)

3.2.2.2 The Baulch and McCulloch (2002) Approach

This approach premises on the background that an index of poverty can usually be expressed as a function of the mean of the distribution of the variable on the basis of which this index is computed and of the Lorenz curve corresponding to this distribution.

Baulch and McCulloch (2002) note that, it is generally possible to decompose a change in poverty (in the poverty index) into elements measuring respectively the impact of the growth rate of the mean income (consumption), that of the changes in

the distribution (variations in the degree of inequality of the distribution) and generally some interaction effect (see, for example, Datt and Ravallion, 1998). Then growth will be defined as "distribution neutral "(corresponding to a flat Growth Incidence Curve) if the redistribution component that was just mentioned is nil whereas it will be "pro-poor" if this redistribution component is negative. In other words Baulch and McCulloch (2002) derive their measure of pro-poor growth by comparing the actual distribution of income with the one that would have been observed, had there been no change in the distribution of incomes (that is, had growth been "distribution-neutral").

The Baulch and McCulloch approach was itself inspired by Kakwani (2000), who proposed a decomposition which does not include any interaction effect. Kakwani noted that it was difficult to interpret this interaction hence his proposed approach showed how to get rid of this interaction.

Let σ be a poverty measure that is fully characterized by the poverty line *z*, the mean income μ and the Lorenz curve *L(p)*, so that;

$$\sigma = \theta(z, \mu, L(p)) \tag{3.6}$$

The proportional change $(d\sigma / \theta)$ in poverty between times *t* and *t'* may then be expressed as;

$$(d\sigma / \theta) = Ln[\theta(z, \mu_t, L_t(p))] - Ln[\theta(z, \mu_t, L_t(p))] \tag{3.7}$$

Where the subscripts refer to the time period (*t* and *t').* This case assumes that there is no change over time in the poverty line *z*. Using the concept of Shapley

decomposition (Shorrocks, 1999 and Sastre & Trannoy, 2002 on decomposition), it can then be shown that the relative change in poverty $(d\sigma/\theta)$ may be expressed as the sum of two components, one, *Gr*, reflecting the impact of growth, inequality remaining constant, and the other, *ln*, measuring the effect of a change in inequality, the mean income staying constant, that is;

$$(d\sigma/\theta) = Gr + In \tag{3.8}$$

where

$$Gr = (1/2)\begin{Bmatrix}[Ln(\theta(z,\mu_{t'},L_t(p)))]-[Ln\theta((z,\mu_t,L_t(p)))] \\ +[Ln(\theta(z,\mu_{t'},L_{t'}(p)))]-[Ln(\theta(z,\mu_t,L_{t'}(p)))]\end{Bmatrix} \tag{3.9}$$

and

$$In = (1/2)\begin{Bmatrix}[Ln(\theta(z,\mu_t,L_{t'}(p)))]-[Ln\theta((z,\mu_t,L_t(p)))] \\ +[Ln(\theta(z,\mu_{t'},L_{t'}(p)))]-[Ln(\theta(z,\mu_{t'},L_t(p)))]\end{Bmatrix} \tag{3.10}$$

The concept of "poverty bias of growth (PBG)" defined by Baulch and McCulloch (2002) can also be expressed as

$$PBG = -In \tag{3.11}$$

Baulch and McCulloch (2002) in their analysis derive their measure of pro-poor growth by comparing the actual distribution of income with the one that would have been, had there been no change in the income distribution. This is also termed "distribution-neutral" situation.

3.2.2.3 The Kakwani and Pernia (2000) Approach

Kakwani and Pernia (2000), defines what they termed the total poverty elasticity of growth, which is defined as the percentage change in poverty when the growth in the mean income (consumption) is equal to 1%. The approach further defines a second elasticity which measures the percentage change in poverty that is observed when the growth in mean income (consumption) is equal to 1%. For Kakwani and Pernia (2000), the Pro-Poor Growth index (PPGI) is equal to the ratio of these two elasticities; it was concluded that growth is pro-poor if this PPGI ratio is greater than one. However, there are instances when there is negative growth, thus, growth will be defined as pro-poor in the relative terms if the relative loss in income from the negative growth is smaller for the poor than for the non-poor that is if the ratio PPGI is smaller than one.

Letting ∂ to be the total poverty elasticity of growth, that is, the percentage change in poverty $(d\sigma/\theta)$ when the growth in mean income (consumption) is equal to 1%. Similarly, let us call η the percentage change in poverty *(Gr)* that is observed when the growth in mean income (consumption) is equal to 1%, and there is no change over time in relative inequality. Then, it becomes that, the measure η is also called the relative growth elasticity of poverty and it is clearly always negative. Kakwani and Pernia (2000) describes this approach using the following;

$$PPGI = \frac{\partial}{\eta} \tag{3.12}$$

It comes to that; growth is pro-poor if PPGI is greater than one.

3.2.2.4 The Approach of Kakwani and Son (2002)

Kakwani and Son (2002) built on the approach above on PPGI by extending it. As well observed in the PPGI approach, it does not take into account the actual level of growth that is observed. That's why Kakwani and Son (2002) defined what they termed the "poverty equivalent growth rate" (PEGR). PEGR refers to the growth rate that would result in the same level of poverty reduction as the one actually observed, assuming there had been no change in inequality during the growth process. This is an improvement of the PPGI approach and added the inertia state.

The interpretation of this is thus; growth will be assumed to be pro-poor if the PEGR is higher than the actual growth rate. However, in a case where the PEGR is positive but smaller than the actual growth rate, it implies that growth is accompanied by an increase in inequality but a reduction in poverty is still observed. In such a case Kakwani et al. (2004) talk about a "trickle down" process where the poor receive proportionally less benefits from growth than the non-poor. Finally, if the PEGR is negative, we have the case where positive economic growth leads to an increase in poverty levels.

For a better understanding of this approach, Kakwani and Son (2002) will give a better picture. Assume γ is the actual growth rate (of the mean income) and γ^* the growth rate that would have been observed had there been no change in inequality. Under a distribution neutral growth scenario, the relative change in poverty would have been equal to $\eta\gamma^*$. The ultimate would be that this hypothetical relative change in poverty be equal to the one which was actually observed and is equal to $\partial\gamma$. It is then easy to conclude that if $\eta\gamma^* = \partial\gamma$, we must have;

$$PEGR = \gamma^{*} = \left(\frac{\partial}{\eta}\right)\gamma = (PPGI)\times\gamma \qquad (3.13)$$

The equation (3.13) above implies that growth is pro-poor if γ^{*} is greater than γ.

3.2.2.5 The Approach of Son (2004)

Son (2004) defined what was called a poverty growth curve (PGC), derived from the link which exists between movements in the generalized Lorenz curve and changes in poverty. This connection is a direct consequence of the correlation between stochastic dominance and poverty measurement that was put forth by Atkinson (1987).

Letting μ represent the mean income (consumption) in the population and letting $L(p)$ refer to the height of the Lorenz curve on the vertical axis, at the cumulative percentage *p* (horizontal axis). As is well known, the Generalized Lorenz Curve is defined as the plot of $\mu L(p)$ on the vertical axis against that of the cumulative percentages *p* on the horizontal axis.

Consider now a general class of additive poverty measure defined as;

$$\theta = \int_0^z P(z,x)f(x)dx \qquad (3.14)$$

Where *f(x)* is the density function of income *x* and *z* is the poverty line. In addition, let us assume that $(\partial P/\partial x) \prec 0, (\partial^2 P/\partial x^2) \succ 0, P(z,z) = 0$ and $P(z,x)$ is a homogenous function of degree zero in *z* and *x.*

It can, then be shown that on the basis of the Atkinson's theorems (1987), that if $\Delta(\mu L(p)) \geq 0$ for all *p,* then $\Delta\theta \leq 0$ for all poverty lines and the class of poverty

measure that has just been defined (poverty measures that are: non-decreasing, anonymous and obey the principle of transfer).

Son (2003) further stresses that it should be clear that if the generalized Lorenz curve shifts upward (downward), one can make the conclusion that poverty decreased (increased). The result is the basis for the derivation that was made by Son (2003) on the concept of the poverty growth curves.

If we express the height of the Lorenz curve $L(p)$ as;

$$L(p) = \frac{\mu_p p}{\mu} \tag{3.15}$$

where $L(p)$ refers to the share in total income (consumption) of the *p* percent poorest people in the population while μ_p is the mean income (consumption) of these *p* percent poorest individuals (μ, as before, represents the average income or consumption in the whole population).

If we take the logarithms on both sides of (3.15), then we would have derived the following;

$$Ln(\mu_p) = Ln(\mu L(p)) - Ln(p) \tag{3.16}$$

Taking the first difference in (3.16) will result in (see Son, 2003 and Deutsch & Silber, 2011)

$$g(p) = \Delta Ln(\mu L(p)) \tag{3.17}$$

Where $g(p) = \Delta Ln(\mu_p)$ is the growth rate of the mean income (consumption) of the bottom *p* percent of the population. If we plot $g(p)$ on the vertical axis against *p* on the horizontal axis we end up with what Son (2003) called a Poverty Growth Curve (PGC).

3.3 Empirical Literature Review

There have been a number of studies that have been conducted on pro-poor growth in some developing countries, but few have been done directly on Malawi. However, even the few that have been done have been mostly based on the income side of the economy.

In a study that measured pro-poor growth in Malawi using the approach by Kakwani and Pernia, Mkandawire (2014) revealed a number of findings. Using the methodologies proposed by Kakwani and Pernia (2000), Kakwani et al. (2004) and Ravallion and Chen (2003), his study undertook to analyse the pro-poorness of growth in Malawi from 2005 to 2009. The study found that growth in Malawi for the period was classifiable as a trickle-down growth episode. Mkandawire (2014) found growth to be more pro-poor for the urban sub-population than it was for the rural sub-population. The northern region presented the best case while the central region presented the worst case. The study also found that growth became less pro-poor the further below the poverty line an individual was. However, this approach cannot be the best fit to use for measuring pro-poor growth as it leaves out the welfare side of the pro-poor measurement.

An empirical assessment of pro-poor growth in Senegal over the period 1991-2004 using growth incidence curves indicated a number of interesting findings. The study found that growth was pro-poor for both rural and urban populations over the period. It was further noted that growth was equalising, as the very high percentiles of the income distribution witnessed a fall in income while the growth incidence curves were downward sloping over the whole range. Their findings further show that growth was pro-poor particularly in the period after the devaluation of the CFA franc in 1994, while growth in the pre-devaluation phase,1991-1994, was de-equalising. (Azam and Dia, 2004)

As proposed by Bibi et. al (2012), a multidimensional procedure for jointly assessing the absolute and relative pro-poorness of growth can be used to assess whether poverty comparisons can be made over classes of indices that incorporate both absolute and relative views of poverty. Besides being robust to whether pro-poor judgments should be absolute or relative, the procedure was also robust to choosing over a class of weights to aggregate the impact of growth on the poor as well as over ranges of absolute and relative poverty lines. The test is applied to distributional changes in five middle- and four lower-income African countries (Malawi included), countries that had witnessed different impacts of growth in the previous two decades.

Bibi (2012)'s findings suggested that the different performances in terms of poverty reduction are country-specific and can also depend on the covered period. For example, the poverty analysis conducted by the African Development Bank (2010) in Morocco over 1990–1998 shows that the country experienced an absolute anti-poor growth. The same analysis conducted in his study over 1998–2007 revealed that Morocco had experienced an absolute pro-poor growth. In his study, for example, Egypt had experienced a joint poverty increase up to certain coordinates on the axes, a

mix picture thereafter, and then a joint decrease. As another example, Tunisia had seen a reduction in absolute and relative poverty most strikingly among the less poor of the poor. This was different from the information provided by the graphs of CAR or Malawi. These latter clearly showed that extreme poverty had been more particularly reduced than in Egypt and Tunisia.

A study done by Kakwani and Pernia (2000) uses another approach called the Pro-Poor Growth Index (PPGI) to analyse the pro-poorness of growth in three countries. The countries were Lao People's Democratic Republic, Thailand and Korea for the period 1992-2000. Their findings show that growth in Lao PDR was only slightly pro-poor in spite of the significant economic growth that prevailed in the years before the Asian financial crisis in 1997, a result attributed to increasing inequality during the same period. Their study also found that the poorer among the poor received even lesser benefits from growth the urban poor were relatively worse off than the rural poor in terms of their proportional benefits from growth. Results for Thailand indicate that growth was generally anti-poor, a situation explained by increasing inequality and the Asian financial crisis. On the other hand, growth was generally pro-poor in Korea, a finding that is attributed to rapid economic growth.

Kakwani et al. (2004) did a study that used the Poverty Equivalent Growth Rate (PEGR) measure for Thailand and Korea. There results concurred with those of Kakwani and Pernia (2000). The measure was also used to assess the pro-poorness of growth in Vietnam results of which indicate that growth was pro-poor in Vietnam. It was further noted that the ultra-poor received even proportionately more of the benefits of growth. This was attributed to a series of reforms which were implemented

in the later part of the 1980's, which among other things were focused on dismantling collective farms and redistributing the land to peasant farmers through long term leases.

In a another study, Duclos and Chouchane (2010) analyze poverty, inequality and pro-poor changes in South Africa over the period 1995-2005 and in Mauritius over the period 2001-2006. The setup of the study took advantage of the fact that conditions are very different in these two countries i.e. South Africa is one of the least equal countries in the developing world while inequality in Mauritius is relatively low in comparison to other African countries.

They based their study on the methodologies proposed by Ravallion and Chen (2003), Kakwani and Pernia (2000) and Kakwani et. al (2003).Using household survey data and using a reference threshold of US$ 3 a day, they find that poverty headcount was initially around 42% in South Africa and 6% in Mauritius. In addition to these initial differences, the two countries have experienced very different pro-poor growth paths. Temporal differences reveal that inequalities increased significantly in South Africa over the period and that the poverty headcount in 2005 would have been around 10 percentage points lower without this strong adverse redistribution effect. South African growth therefore was anti-poor over the period relatively speaking. Conversely, growth was absolutely pro-poor in Mauritius over the period 2001-2006.

3.4 Conclusion

The literature indicate that there are many approaches through which pro-poor can be measured. The study opted to use GIC because the advantage of this approach is that it always provides conclusive results as to whether growth is pro-poor or not. Further, the approach gives a complete ranking of growth processes because pro-poorness of growth is judged from a rate or an index. The disadvantage of this approach is that it demands value judgments in the choice of the poverty line and measure (Son, 2007). As can be noted, even subjecting different approaches on the same data and same country may bring different results due to the conditions that the data is subjected to. Further, it has been noted that most of these methods only pays attention on the income (consumption) side and leaving out the non-income (welfare) side of the whole concept. The literature tackles pro-poor growth from both angles of monetary and non-monetary, and find that it is necessary to measure pro-poorness from both monetary and non-monetary (welfare) perspectives.

The next chapter covers the methodology that this study adopted considering the various measurement approaches discussed above. The chapter also coves the study design and the data usage and analysis that were adopted.

CHAPTER FOUR

METHODOLOGY AND STUDY DESIGN

4.1 Introduction

This chapter discusses the approach that this study used to measure pro-poorness of growth on the basis of the key issues raised in Chapter 1 and 2 of the thesis. This section also discusses the variables used in the study and the basis for choosing those variables for use in this study. Discussed in this chapter, also, is the data used and the reasons behind using such chosen data.

4.2 Measurement of Pro-Poor Growth

As indicated in Chapter 1, this study has been inspired and motivated by Grosse et al, (2008) and makes use of the growth incidence curves (GIC). A growth incidence curve shows the incidence of growth across the population distribution. This has the benefit of describing how the gains from growth were distributed during the growth process. Growth incidence curves for social attainment can be constructed to show the pure incidence of the measure across quintiles of the population (unconditional incidence curves) or can be conditioned against the distribution of growth (conditional incidence curves) (Grosse et al, 2008).

The methodology is based the study done by Ravallion and Chen (2003) for economic growth rates and subsequently applied for indicators or proxies of social welfare (like

education and health), an extension of which was done by Klasen in 2005. The use of growth incidence curves in these ways is increasingly important in current debate of "pro-poor growth" within the international development community, and mostly for developing countries. This cannot be overemphasized as there are numerous efforts towards growth and poverty reduction, but there is need to see if these efforts are being pro-poor enough (Ravallion and Chen, 2003).

The study looks at three dimensions of welfare namely; consumption on the income perspective and from the non-income perspective the study concentrates on two dimensions of welfare, namely; education and health. These two non-income dimensional parameters have been chosen since they are central outcomes of well-being, as noted by Sen (1988). Mussa (2011) in his study also used these two indicators as well-being indicators.

Grosse et al. (2008) focuses on a new measurement for pro-poor growth altogether by incorporating a multidimensional non-income approach. This research sought to add to the understanding of what constitutes pro-poor growth according to definitions indicated in the reviewed literature and contribute to the normative question of how pro-poor growth should be defined given the important weight being placed on this concept as a measure of progress in fighting global poverty.

4.2.1 Measuring Income Growth Distribution: Growth Incidence Curve

The study uses the Growth Incidence Curves (GICs) having noted that this approach is superior to other approaches as it brings to the measurement of pro-poor growth, a human face as it uses dimensions of welfare (Grosse et al., 2008).

Making use of the GIC, which shows the mean growth rate g_t in achievements (here consumption 'y') at each centile p of the distribution between two points in time, *t-1* and *t* (Ravallion and Chen, 2003); the GIC links the growth rates of different percentiles and is given by the following equation;

$$GIC = g_t(P) = \frac{y_{2010}(P)}{y_{2004}(P)} - 1 \qquad (4.1)$$

Where $g_t(P)$ is the growth rate and y_t is consumption.

By comparing the two periods, the GIC plots population centiles (from 1–100 ranked by consumption) on the horizontal axis against the annual per capita growth rate in consumption of the respective centile. The interpretation is that if the GIC is above 0 for all centiles ($g_t(P) > 0$ for all P), then it indicates weak absolute pro-poor growth. If the GIC is negatively sloped it indicates relative pro-poor growth. (Ravallion and Chen, 2003). This study adopted the approach and interpretations by Grosse et. al (2008) for GICs.

Ravallion and Chen (2003) define the pro-poor growth rate (PPGR) as the area under the GIC up to the headcount ratio H. When using the Watts Index, it is expressed by;

$$PPGR = g_t^p = \frac{1}{H_{2004}} \int_0^{H_t} g_t(P)dp \qquad (4.2)$$

which is equivalent to the mean of the growth rates of the poor up to the headcount. Adopted from Grosse et. al (2008, p.1022), as is in poverty assessment, the study compared the PPGR with the growth rate in mean (GRIM) so as to be able to

determine whether growth was pro poor or not based on the relative definition. GRIM is defined by;

$$GRIM = \gamma_t = \frac{\mu_{2010}}{\mu_{2004}} - 1 \qquad (4.3)$$

where μ is mean consumption. The interpretation is that if the PPGR exceeds the GRIM then growth is declared to be pro-poor in the relative sense. (Grosse et. al, 2008, p.1023).

The study also looked atat pro poor growth from the strong absolute side as well. To do this, the study looked at the absolute changes in consumption of the population centiles between the two study periods. This was done by defining absolute GIC, as;

$$GIC_{absolute} = c_t(p) = y_{2010}(p) - y_{2004}(p) \qquad (4.4)$$

The above equation shows the absolute changes for each centile. The basis for comparison between the two periods is that, if the absolute GIC is negatively sloped then there is strong absolute pro-poor growth.

Adopting from Grosse et al (2008, p.1023) to the study defines "pro-poor change" (PPCH) as the area under the absolute GIC up to the headcount H. The PPCH is formally expressed by;

$$PPCH = c^p_{2010} = \frac{1}{H_{2004}} \sum_1^{H_t} c_{2010}(p) \qquad (4.5)$$

which is equivalent to the mean of the changes of the poor up to the headcount. We compare the PPCH with the change in mean (CHIM) which is defined by;

$$CHIM = \partial_t = \mu_{2010} - \mu_{2004} \quad (4.6)$$

If the PPCH exceeds the CHIM growth is declared to be pro-poor in the strong absolute sense (Grosse et. al, 2008).

There is an alternative measure of pro-poor growth that can be used; poverty-equivalent growth rate (PEGR) which was proposed by Kakwani and Son (2006). PEGR is the growth rate that would have delivered the same poverty reduction if income distribution had remained unchanged. This can be calculated for all FGT poverty measures (headcount, depth and severity).. PEGR is calculated as;

$$PEGR = \frac{PEH}{GEH} \times GRIM \quad (4.7)$$

Where PEH is the total poverty elasticity of the poverty headcount *H* with respect to a particular growth episode and GEH is the 'pure' growth elasticity of poverty elasticity of poverty headcount *H* with respect to a particular growth episode (i.e. holding inequality constant), averaged over the two "time paths", multiplied by the annualized growth rate (GRIM). The interpretation of PEGR is that, if it is higher than the GRIM, then growth is pro-poor in the relative definition.

4.2.2 Specification of non-income indicators

The research then extended the same concepts used for growth consumption incidence curves (GIC) to calculate non-income growth incidences (NIGIC), which are a non-monetary version of the above calculations. Further, instead of consumption *(c)* we

applied equations (1) to (7) to welfare variables of education and health to measure pro-poor growth directly via outcome-based welfare indicators.

Following Grosse et. al (2008) and Klasen (2006) the study calculated the NIGICs from two angles; namely unconditional and conditional. Unconditional NIGIC orders population centiles from welfare poor (for instance, average number of years of education) to welfare rich. Thus, we ranked the individuals by each respective non-income variable, and create centiles based on this ranking. This approach made it possible for the study to examine incidence of growth of social attainment between the two survey periods. On the other hand, the conditional NIGIC aimed at ranking individuals by consumption, and combine the same with non-income indicators. Thus, the distinction between the NIGICs into conditional and unconditional is an important step in the analysis since the income-poor may not necessarily be also education-poor, hence this difference is important for this study.

According to Grosse, et al (2008, p.1025), both unconditional and conditional NIGIC calculations are important as they serve different purposes; thus, unconditional NIGIC will indicate the non-income distributional pattern of improvements of non-income dimensions of well-being. On the other hand, conditional NIGIC will allow us to assess income distributional pattern of improvements in non-income dimensions of well-being.

The study calculated unconditional and conditional NIGIC for the two welfare indicators namely; education and health. On the income side, this study will make use of real consumption per capita and not income since welfare achievement is

ultimately of interest and this is better approximated by consumption as opposed to income which is really welfare opportunity. Further, Grosse et al (2008) note that consumption fluctuates less than income and thus is more stable measure of welfare over time. In addition, survey respondents are more likely to reveal consumption behaviour than income; and finally it is particularly difficult to measure income for the labor force in developing countries given that so many are engaged in self-employment (Klasen, 2005).

On education, the study specifically used two different variables, namely; average years of schooling for households and maximum years of schooling for household members. This approach and choice of education variable was adopted from the study by Klasen (2007). While a welfare point of view, the education of all members of the household was taken to be relevant because from that angle, for economic opportunities of the household, the education of the best educated member in the household may be more relevant (Basu, et al, 1998).

It should be noted, however, that the reason for using these two different indicators is that, average schooling years as an indicator, has a potential problem of in-built inertia (Klasen, 2007). This is the case as most people do not accumulate more years of education once they reach age 25. There are two issues we can do little about when it comes to maximum education years in the house. Firstly, *a priori* it is not clear if one can treat years of education in the similarly cardinal way as income. An example would be if one attends a certain number of years in education but still remains illiterate. Secondly, we only measure schooling years quantity-wise but does not

imply quality. According to Klasen (2007), this last problem, in principle, can only be remedied by the quality of data being used.

On health, the study used the numbers of days that the respondents were absent from any activity of economic production due to illness. This approach was adopted from the study by Klasen (2008). This indicator was used in order to measure the health status of households, and check their overall contribution to the economy and to the household's economic activities.

Secondly on the health indicator, stunting/Height for Age (HAZ) was used as the variable of choice to measure stunting for children aged between 1 and 5years. Stunting was chosen amongst the various anthropometric measures since it is a long term indicator, as used by Klasen, 2008. The problematic thing with most of the anthropometric measures is that they might contain 'genetic noise', since some children may be short as a genetic issue and not necessarily as an undernourishment issue. This was countered by an additional health indicator, number of days lost to economic activities due to sickness. This was selected as one of the indicators of health status as it was also used as one of the major indicators for health for the IHS2 and IHS3. This indicator (called incidence of sickness in the IHSs) was used in this study as one of the indicators for health, and relating it to economic development and participation in economic activities, and/or lack thereof due to sickness. This was chosen to compliment findings on stunting as health indicator.

4.3 Data Sources and Analysis

The study used data from the second Integrated Household Survey (IHS2) and the third Integrated Household Survey (IHS3) that were conducted by the Malawi National Statistics Office (NSO) in 2004/2005 and 2010/2011 respectively. The IHSs provide updated information on various aspects of welfare and socio-economic status of the population of Malawi, which are presented at various levels such as national; urban-rural; region and districts as well as disaggregated by gender. Mussa (2011) also observed that the IHSs reports offer the right platform for data and information for such studies.

The sampling frame for the IHS-3 was based on the listing information and cartography from the 2008 Malawi Population and Housing Census. The target universe for the IHS-3 included individual households and persons living in those households within all the districts of Malawi except for Likoma. Also excluded from this survey was the population living in institutions, such as hospitals, prisons and military barracks (IHS-3, 2010). These surveys are relevant to this study because they provide an overall picture of the state of affairs in the country as they are detailed and more inclusive.

According to the IHS-3, a stratified two-stage sample design was used. IHS-3 indicates that the primary sampling units (PSUs) selected at the first stage were the census enumerations areas (EAs) defined for the 2008 Malawi Population and Housing Census.

IHS2 sampled 11,280 households while IHS3 sampled 12,271 households. The Integrated Household Survey is a detailed survey that collects consumption patterns of households both in terms of food and non-food over a one year period.

Specifically the surveys collected information from households and communities pertaining to their demographic characteristics; education; health; time use and labour; housing characteristics; food security; household expenditures; household enterprises; agriculture; social safety nets; shocks; credit; and child anthropometry among others. The study used gicurve command in STATA for the calculation of GICs as developed by Lokshin & Ravallion (2004).

4.4 Conclusion

This chapter expands the need for the study and the use of the suggested methods for the suggested calculations as proposed by various scholars reviewed in this study. The chapter explains the methodology that the study used to come up with the results and interpretations discussed in the following Chapter. The chapter explained step by step procedures followed in this study, and extends the steps on the data from IHS-2 and IHS-3.

CHAPTER FIVE

RESULTS AND INTERPRETATION

5.1 Introduction

This chapter provides a discussion of the results of the analysis based on the methodology discussed in Chapter 4. First, the Chapter presents descriptive statistics from the two study periods of IHS-2 and IHS-3 to give an overall picture of the study. Then, the Chapter discusses results from the analysis of the Growth Incidence Curves (GICs) and then followed with the Non-Income Growth Incidence Curves (NIGIC) for Malawi based on the calculations made from the IHS-2 and the IHS-3. Further to the two (GICs and NIGICs), it should be noted that the results for the NIGICs are also presented as conditional and unconditional NIGICs. As discussed earlier in Chapter 4, the categorization of the results into conditional and unconditional NIGICs is important because this distinction is one of the strengths why this study is different from other studies on pro-poorness that have been done in Malawi.

5.2 Descriptive Statistics

We begin presentation of the results with a discussion of a number of descriptive statistics. The results are presented in line with the four objectives of the study and describes the behaviour of indictors between the two study periods. From *Table 3* below, the study notes that mean consumption per capita was MK24,708.54 in 2004/5 while it was at MK64,948.44 in 2010/11. The standard deviation was MK27,685 and

MK86,925 respectively. The average years of education were at 3.29 years in 2005, and was at 4.04 years in 2010. The table also shows that the maximum schooling years per household were at 6.52 years in 2004/5 and improved to 7.43 years in 2010/11. Household members were not available for economic activities due to sickness 35% of the time in 2004/5 while they were not available 25% of the time in 2010/11. On stunting, the statistics indicate negative means for both periods but with standard deviations of 1.45 and 1.64 for 2004 and 2010 respectively. The summary statistics is presented in *Table 3* below;

Table 3: Summary of Descriptive Statistics

	IHS 2 (2004)		**IHS 3 (2010)**	
	Mean	Standard deviation	Mean	Standard deviation
Consumption	24,708.54	27,685.78	64,948.44	86,925.09
Average education	3.29	2.55	4.04	2.79
Maximum education	6.52	2.55	7.43	3.70
Days sick (health)	0.35	1.39	0.25	0.74
Stunting	-1.85	1.45	-1.55	1.64

5.3 Consumption Per Capita

The growth incidence curve (GIC) calculated for Malawi for the study period between the two Integrated Household Surveys (IHS 2&3) is presented in *Figure 2* below.

Figure 2 below indicates that in the relative sense, the study found that growth was not pro-poor as the Pro-poor Growth Rate (PPGR) was lower that Growth Rate in Mean (GRIM). PPGR for moderate poor was at 8.33 percent and PPGR for the ultra-poor was at 7.96 against a GRIM of 8.83 percent, the study found that that pro-poor growth in the relative sense was anti-poor. This implies that despite the growth rate for the poor being above 0 %, growth for the poor was still not pro-poor. This agrees with two studies done for developing countries, Senegal and Burkina Faso (Azam et. al, 2005), as such represents a picture as how the indicator behaved in relation to most developing country calculations.

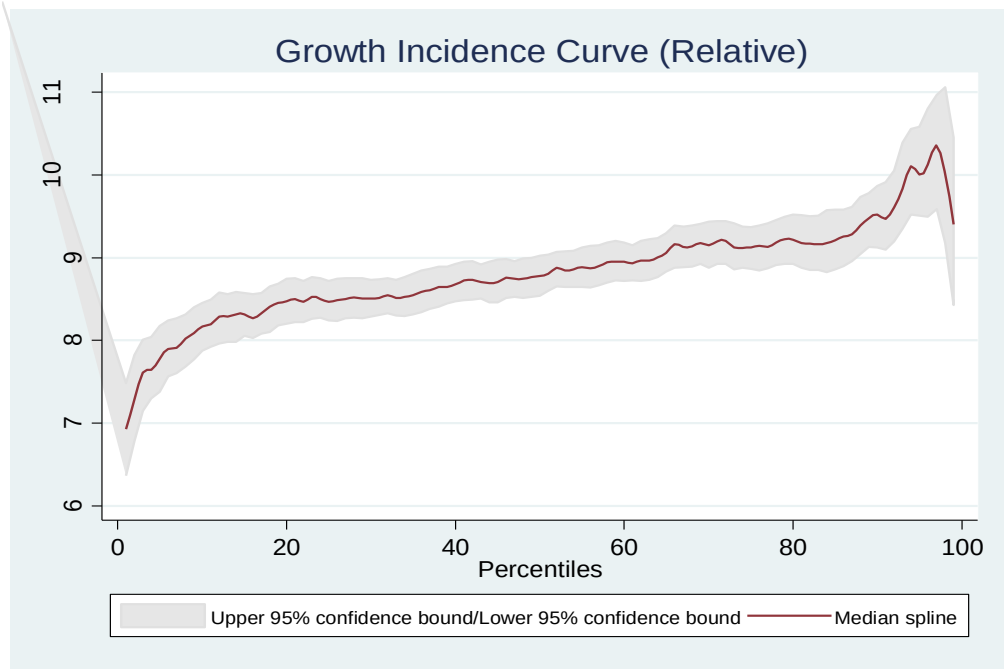

Figure 2: Growth Incidence Curve (Relative)

***Source**: Own calculations*

In addition to pro-poorness, while Malawi as a country remains a high poverty country, with poverty levels at 52% (IHS 3, 2010) an emphasis on growth and poverty reduction without regard to growing inequality is not a sustainable strategy as the poverty elasticity of growth will decrease over time. Further, as Birdsall (2004) cautions, the traditional focus on relative income inequality can often distract from growing absolute, or distance inequality, which is often what fuels the perceptions of growing disparities. This is a point that Ravallion (2003) also cites as a major factor in the acrimonious global debate on equality and poverty.

As can be observed from *Figure 3*, consumption growth was pro-poor in the weak absolute sense since growth was above 0 percent for all percentiles. *Table 4*, however, shows that growth in Malawi would not have been pro-poor if one were to adopt the strict Kakwani and Pernia (2000) definition in which growth rates for the poor must exceed those for the non-poor, which is not the case in these results.

The absolute GIC plots the absolute increases in real Kwachas for the period 2004/5 – 2010/1 for each percentile. Included are (also in all other calculations made in this study) the bootstrapped 95% confidence intervals and the moderate and extreme (ultra) poverty headcounts at 52.4% and 22.3% respectively.

The results indicate a trend that was also found in studies done from developing countries in other similar studies (See also; Duclos et.al (2010), Kakwani et al (2204) and Azam et al (2005)).

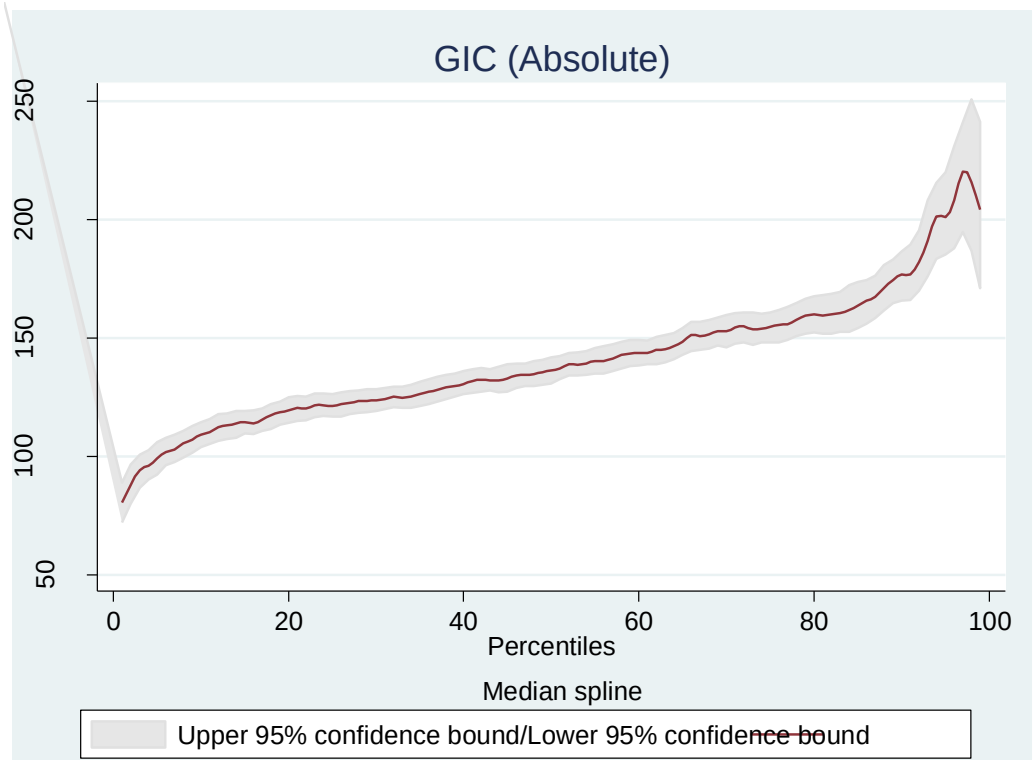

Figure 3: Growth Incidence Curve (Absolute)

***Source**: Own calculations*

The slope of the GIC, as expected, for the absolute GIC indicates that there was no strong absolute pro-poor growth. This is the case since the absolute GIC is positively sloped meaning that absolute increases in income were much higher for the non-poor than for the poor. Considering the economic growth levels that Malawi has attained over the study period, and the levels that Malawi as a country experienced in the period, these results do not come as a shock as they are a true reflection of status quo in the study period. Thus, there was pro-poor growth in the weak absolute, but not in the relative and in the strong absolute senses.

The study then goes on to calculate conditional and unconditional NIGICs for the two welfare indicators (education and health) using the same approach as in GICs above so as to bring a clearer picture of the levels of pro-poorness.

Table 4: Mean Growth Rates, Mean Absolute Changes, Pro-poor Growth Rates, and Absolute Pro-poor Changes for Malawi (2004/5-2010/1)

		Unconditional		**Conditional**			**Unconditional**		**Conditional**	
	GRIM	PPGR moderately poor	PPGR ultra poor	PPGR moderately poor	PPGR ultra poor	CHIM	PPCH moderately poor	PPCH ultra poor	PPCH moderately poor	PPCH ultra poor
Income	**8.83**	**8.33**	**7.97**	**8.33**	**7.97**	**162.86**	**119.07**	**106.47**	**119.07**	**106.47**
Education										
Average years of education in household	26.01	27.41	-6.2	-92.92	-92.92	22.48	41.17	50.06	-99.2	-98.63
Maximum years of schooling in household	10.04	18.93	25.56	-84.55	-90.11	14.11	30.94	39.61	-92.92	-92.92
Health										
Productive days lost due to illness	-66.69	NA	NA	-99.24	-98.65	-67.44	NA	NA	-99.24	-98.65
Stunting	-100	-99.26	-98.7	-99.26	-98.7	-15.96	-7.08	-2.42	-7.08	-2.42

Source: *Own calculation*

5.4 Education

The study then goes into calculating the unconditional and conditional NIGICs for the two variables under education. The results are summarized in *Table 4* above. The objective of an unconditional non-income growth incidence curve in this case was to capture the rate of growth in education attainment across quantiles of the Malawi population ordered from least to most educated.

In terms of relative pro-poor growth, the study found that unconditional pro-poor growth rates (PPGR) was more than GRIM only for the moderately poor as it was at 27.41 against a GRIM of 26.01, but it detoriated as it went to the ultra poor as it went down to a negative 6.20. This implies that there was relative inequality in terms of the average years of education for the ultra poor. It means that the non-poor had more education years than the poor. This result indicates that in all quantiles, the poor had education levels that were not pro-poor in their own right as they did not favour the poor but rather the non-poor. This agrees well with the statistics from the IHS-2 and IHS-3 as that indicate that the non-poor had more opportunities for education than the non-poor due to access to better education facilities and resources (National Statistics Office, 2011). It is further noted by Mussa and Masanjala (2016), at all levels of education, access to education, as measured by school enrolment, is regressive (unequally distributed to the disadvantage of the poor). This agrees well with the results that this study found, indicating that the rich had more access to education that the poor .

The story was different when the variable was conditioned to consumption per capita. Thus, the conditional NIGIC shows that the income-poor households were the most

affected in terms of the attainment of low average years of education. This makes sense and agrees with the expected results that due to low incomes, these households were not able to invest in the eductaion of household members. As noted from the results in *Table 4* above, the conditional PPGRs for both the moderately and ultra poor were in the negatives. This shows that the non-poor were not targeted for education (not pro-poor) and as such they ended up with low average education years.

For the absolute sense, the results show that in terms of average education of households, it was pro-poor in the weak absolute sense meaning that the growth rates for the poor grew positively in the period of the study. It was positive for all percentiles showing that growth rates of average years of eduction had a positive growth in the period. This is a good result, at least, as it indicates that the growth rates in the average education years of the poor were pro-poor as they grew positively in the period under study.

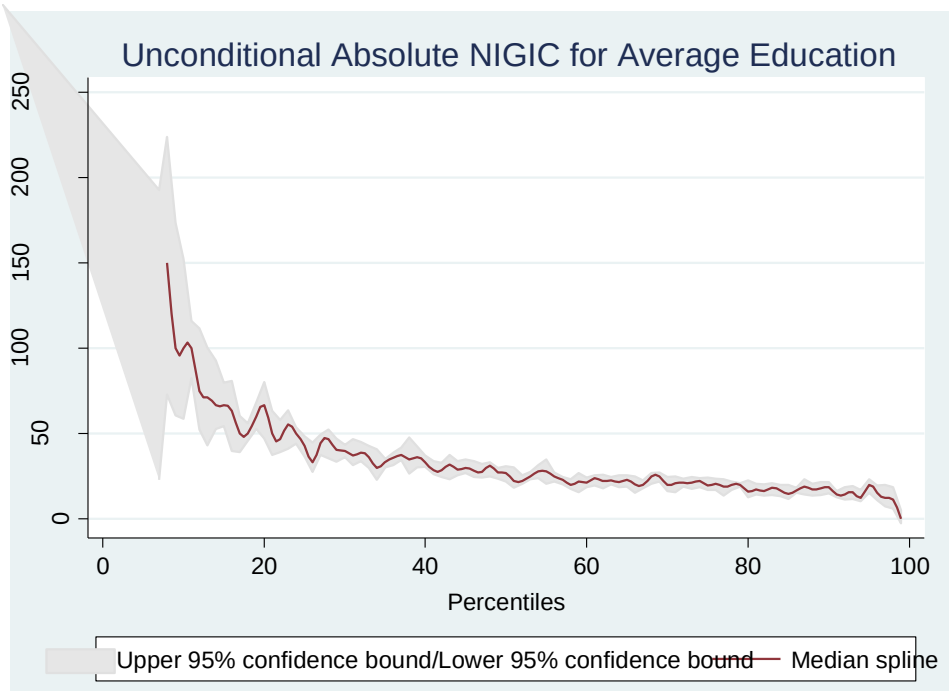

Figure 4: Unconditional Absolute NIGIC-Average Education

Source: *Own calculation*

The study finds strong absolute pro-poor growth for the moderate and ultra poor households when these are not conditioned to consumption. However, the study does not find absolute pro-poor growth in both instances when they are conditioned to consumption per capita. As noted from *Figure 4* above, it was only up to the second percentile when there was improvement but it was virtually flat for most of the percentiles implying that there was not much movement (improvement) in the education of the upper 50 percent in between the two study years.

For maximum years of schooling in the households, the study found that relatively, growth rates of the poor were above the average growth rates showing that growth was pro-poor in the relative sense. Thus, PPGR was more than GRIM (as can be noted from *Table 4* above). The implication of this is that in the period under study,

overall, maximum years of schooling for moderate and ultra-poor households had improved above the average in the relative sense. This is positive development as also reflected in the numbers from the IHS reports.

However, when this was conditioned to consumption per capita the observations were quite different. It was noted that the income-poor both at moderate and at ultra-level had growth that was not pro-poor in the relative hence implying increasing inequality between the poor and the non-poor in terms of maximum years of schooling achieved. In the absolute sense, it was noted that there were positive growth rates, thus the NIGICs were above zero implying weak absolute pro-poor growth. This was in agreement to the results from the IHS data from the two study periods as was noted that at least there was growth in terms of maximum years of schooling for both the poor and the non-poor.

The study did not find strong absolute pro-poor growth for the absolute unconditional NIGIC for maximum years of education for households. As noted in the slope for all percentiles in *Figure 5* below.

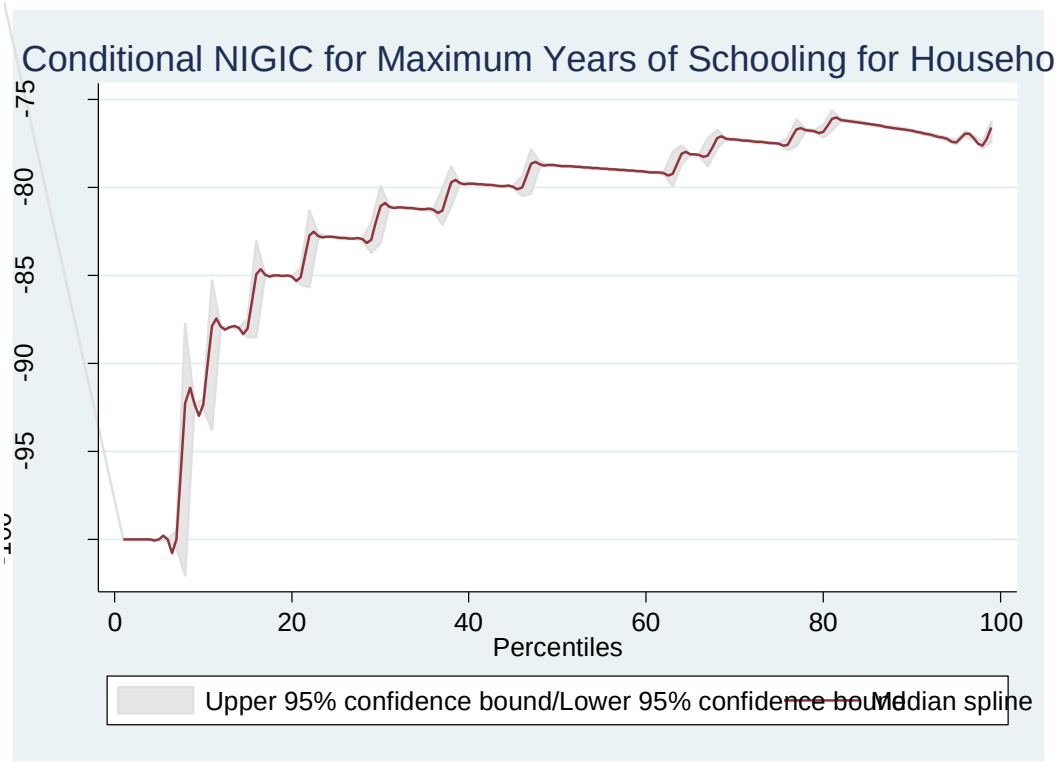

Figure 5: *Conditional NIGIC for Maximum Years of School*

Source: *Own calculation*

The study found that in absolute terms, growth was lower in the first four percentiles and it was going towards 1 in the last percentile. The implication is that in absolute terms, the income-poor's status in terms of maximum years of education did not improve in the period under study as it was lower than average and it was below zero (0) in absolute terms. Actually, growth was negative in terms of maximum schooling years for the income-poor.

5.5 Health

5.5.1 Loss of days in economic activities due to sickness

Figure 6 below shows the calculations for the first indicator in health, calculated using the number of days household members did not perform normal economic

activities due to illness in the past two weeks prior to the survey. This is a measure that the IHSs used as one of the measures for health status for households, and was adopted for this study. The study adopted this measure because it was noted that the contribution to economic development in Malawi is affected by the number of days lost due to sickness and hence absence from economic activities (National Statistics Office, 2011).

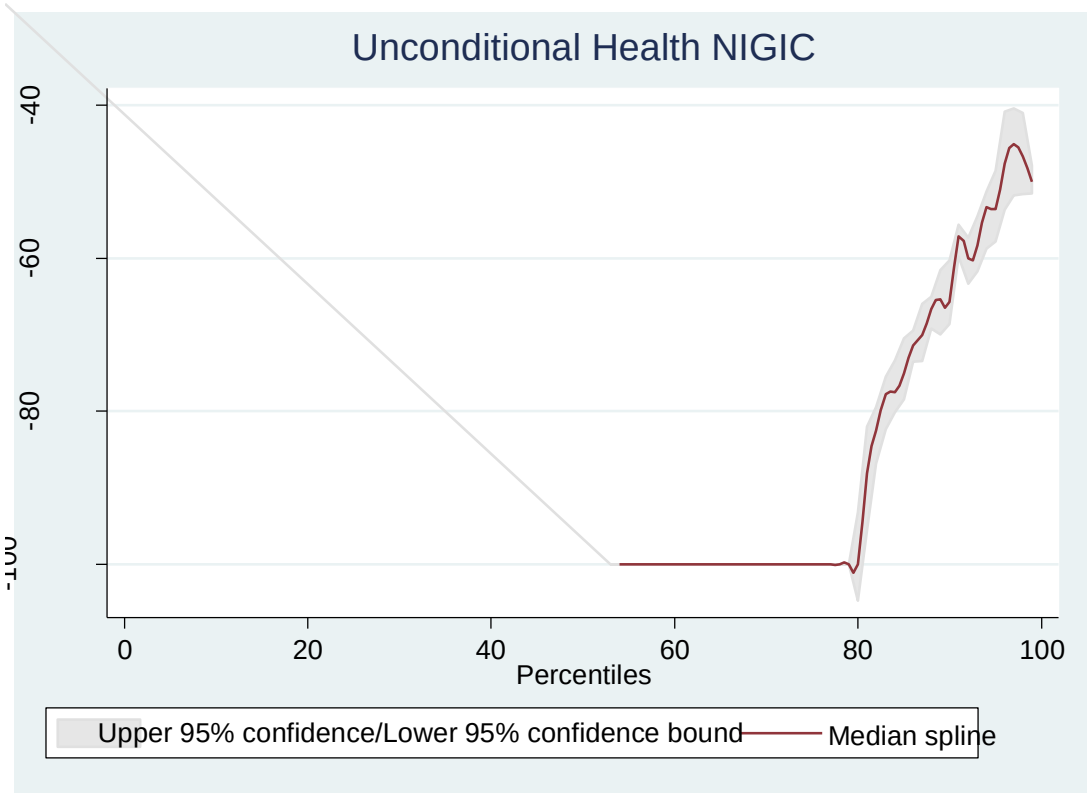

Figure 6: Unconditional Health (Loss of Days) NIGIC

Source*: *Own calculation

As noted from *Figure 6* above, growth rates for the poor were less than those of the non-poor in as far as their health measured in number of days lost in economic activities is concerned. It indicates that there was relative inequality between the poor and the non-poor between the survey periods. As noted, although negative in its own

right, GRIM was higher than PPGR implying high inequality levels between the poor and the non-poor, thus inequality rose in the period between the IHS-2 and IHS-2 between the two groups. This means that growth was not pro-poor in terms of health of households, measured by this indicator.

Further, in the absolute sense, growth was not pro-poor in the weak absolute sense since the growth rates were negative implying that growth rates were less than zero for the indicator in the period. As would be expected, a decrease in relative inequality is mostly accompanied by an increase in absolute inequality and that was also observed in this study. In both the unconditional and the conditional senses, there was no pro-poor growth in the strong absolute sense. This implies that PPCH was lower than CHIM between the two periods. In other words, there was a decrease in absolute inequality for the poor in both scenarios (conditional and unconditional). Whether it was assessed from the income side or unconditioned, the poor were at a disadvantage in as far as health is concerned. This agrees with the findings by Mussa & Masanjala (2016), where it was noted that health inequalities are huge in Malawi, where the richest are able to access high-quality private clinics that are out of reach for the poor. Primary health facilities in Malawi are free at the point of use, meaning they are not as regressive as in many African countries where fees are charged. However, persistent shortages of medicines and staff mean these facilities often provide a very poor quality service, despite the best efforts of their few heroic health workers. (Mussa, et. al, 2016).

5.5.2 Stunting

The study also measured height for age (HAZ) as another indicator for health for the under-fives. It was found that growth rates for the poor were lower than the average

growth rate in both the conditional and unconditional cases, meaning that relative inequality increased over the period. Consequently, there was an increase in the gap between the poor and the non-poor in terms of improvement in health using this indicator. It indicates that the non-poor were getting relatively better services than the poor. Likewise, the income-poor were the most negatively affected as they did not have enough income to be able to access private clinics for their children's health services hence the growth not being pro-poor. This was indicated by the fact that PPGR was lower than GRIM over the study period.

The calculations further indicated that the rate of growth between the two periods was lower than zero (negative) implying that there was no weak absolute pro-poor growth. As was noted and seen in *Table 4*, the growth was in the negative sense hence not good for economic growth and achievement of pro-poor growth. This was also observed by Gondwe, 2015, in his study where he also found that stunting problem was common in children Under-5 and had effects on economic development. His study further found that stunting was more prominent among the economically poor than the non-poor. On the conditional front, it indicates that there was no real pattern in the distribution suggesting that anthropometry changes were not related to income classes. All levels of income were affected by these issues, of course with differences along the respective percentiles.

In the strong absolute sense, the study revealed that there was no pro-poor growth since the absolute changes among the poor is lower than the average (thus, inequality did not fall). This was indicated by the fact that PPCH was lower than CHIM in all

periods of the study. The major negative changes were seen between the 80-100 percentile ranges and was mostly zero for most of the lower percentiles.

5.6 Conclusion

The results discussed above agree with literature reviewed that there is need to go beyond monetary measurements to determine the levels and extent of pro-poor growth measurements. This is the case because as noted, while a variable can be pro-poor in one instance, when not conditioned but the same variable cannot be pro-poor when conditioned. This applies to education which indicated pro-poorness in the relative sense when not conditioned to consumption per income but was not pro-poor when conditioned to consumption per capita. On the other hand, there was no pro-poor growth in all health variables that were tested in this study. As noted from literature, there was no pro-poor growth in the strong absolute sense for all variables in this study. The strong absolute definition considers that growth is pro-poor only in the case where inequality declines in the course of growth. This measure considers both relative and absolute decline in inequality (Grosse et.al, 2008). The results from the study agrees with literature that it is difficult to achieve pro-poor growth in the strong absolute sense as the conditions to achieve it are not easily achievable, especially in a developing country.

The last chapter, Chapter 6 covers conclusion and policy implications of the study and suggested areas for research in line with this study.

CHAPTER SIX

CONCLUSIONS AND POLICY IMPLICATIONS

6.1 Conclusions

The study was premised on four objectives, thus to assess whether Malawi has achieved pro-poor growth from multidimensional income and non-income perspectives. Specifically, it assessed pro-poor growth from the income side (using consumption per capita). It also measured pro-poor growth from the welfare variables; health and education.

Thus, the study aimed at assessing the incidence of economic growth and social attainment for the poor in Malawi between 2004/5 and 2010/11 from a multidimensional perspective. In regard to the first objective; the study found that on consumption per capita, there was weak absolute pro-poor growth implying that the growth rates of the poor were above zero (0) for all percentiles in absolute sense. However, it was noted that despite the average growth rates being above zero (0), there was no pro-poor growth in the relative sense since growth rates of the poor were lower than the country's average growth rates implying that inequality increased, and economic growth did not favour the poor. It was also noted that in the strong absolute sense, growth was not pro-poor since the absolute increases in the period were lower than the average implying that growth was not pro-poor in the absolute sense.

On the second objective on the level of pro-poor growth in education as a non-income parameter, the study revealed that there was pro-poor growth only in the relative sense but not in the absolute sense. The study revealed that on average years of education from the unconditional perspective, from the relative sense, growth was pro-poor for the moderately poor since it was higher than the average growth rate while it was not pro-poor for the ultra-poor as it was below the average growth rate. Further, growth was pro-poor in the weak absolute sense since it was above zero (0) for the moderately poor while it was not pro-poor among the ultra-poor since it was lower than zero (0). From the angle of strong absolute, it was noted that there was no pro-poor growth since the absolute increase was lower than the average implying that there was absolute inequality among the poor and the non-poor.

For the maximum years of schooling for the households, slightly similar results were observed as from the average years of schooling. From the unconditional perspective, from the relative side, it was observed that growth was pro-poor in the relative sense since growth rates of the poor were higher than the average growth rates showing that relative inequality fell between the poor and the non-poor in as far as maximum number of schooling years is concerned. This is in contrast to the average schooling years where it was not pro-poor in the relative sense for the ultra-poor. This could be attributed to higher averages between percentiles.

It was noted that growth was pro-poor in the weak absolute sense for both the moderate and the ultra-poor since their growth rates were above zero (0) for the entire period. From the unconditional angle, growth was pro-poor in the strong absolute sense since the growth rates of the poor were higher than the average in the absolute

sense. This is a good indication as it implies that there was equality between the poor and the non-poor in the absolute increases.

In terms of the health variable, which was measured by the number of productive days that were lost due to sickness of household members and height for age for the under-fives, it was noted that there was no pro-poor growth from all the three angles; relative, weak absolute and strong absolute. The implication of this is that there was high levels in inequality between the poor and the non-poor whether conditioned to income or not. For this indicator, it did not matter whether it was conditioned to income or not, there was no pro-poor growth. This speaks volumes of the high levels of poor access to good health services that the poor in Malawi faced in the period. This is both in the relative and the absolute senses.

When the anthropometric indicator for stunting, Height for Age was used to measure pro-poor growth, it was observed that there were high levels of inequality in as far as weak absolute, relative and strong absolute perspectives are concerned. All three indicators were not pro-poor indicating high levels of anti-pro poor growth. This speaks back to the fact that the non-poor have access to quality services for their children since they have money to pay for these services while the non-poor who do not have the financial muscle only access public services which are most of the time not efficient. However, as noted, in general the health indicators showed little improvement for both the poor and the non-poor in the period.

In line with the hypotheses that the study was premised on, it can be noted that the hypotheses that growth was not pro-poor from the income perspective as the GIC

show that growth was not pro-poor in the strict measure of the strong absolute was true hence we accept the hypotheses. Further, we accept the hypotheses that growth was not pro-poor from the non-income (welfare) side as indicated from the results of the study.

6.2 Policy Implications

The findings above have huge policy implications if Malawi is to move the masses from the poverty and below the poverty line. It should be noted that blanket policies and strategies that cover both the income-rich and the income-poor do not work for Malawi. As noted, while some variables were pro-poor as general indicators (when not conditioned), most of the variables were not pro-poor when conditioned to income (consumption per capita). This means that for Malawi to achieve growth that favours the poor masses, there is need to improve the level at which these services are provided. This implies that there is need to have deliberate policies that aim specifically at the poor and not blanket policies for all, as these may work for the income-rich but as noted do not always work for the income-poor. The results suggest that in order to have growth that is pro-poor, there is need to have targeted policies and strategies and especially in the area of health. As noted, there were some positive pro-poor growth from some angles on education but the picture was gloomy on the health side. While on the outside, some policies may be seen to be working but they do not work for the income-poor as noted from this study.

Overall, when coming up with policies, government should not only focus on the income side of pro-poor growth rather the policies should be from a multidimensional perspective, taking into account that non-income welfare indicators play a huge role

in the achievement of pro-poor growth. While this is being attempted at through such policies like FISP, but there are other issues like targeting and also external challenges like the impact of the HIV & AIDS epidemic that worsens the situation.

REFERENCES

Atkinson, A. (1987). On the Measurement of Poverty. *Econometrica*, 55(4), 749-764

Azam, J. P., Dia, M., Tsimpo and Wodon, Q. (2005). *Has Growth in Senegal after the 1994 Devaluation Been Pro-Poor?* Washington: World Bank.

Azam J. & Dia M. (2004). *Pro-Poor Growth in Senegal*. Senegal: University of Senegal.

Benin, S., Pratt, A.N, Wood, S. & Guo, Z. (2012). *Trends and Spatial Patterns in Agricultural Productivity in Africa, 1961-2010.* Washington, D.C.: International Food Policy Research Institute

Bibi, S. Duclos, J.& Vardier-Chouchane, A. (2012). Assessing absolute and relative pro-poor growth, with an application to selected African countries. *Economics - The Open-Access, Open-Assessment E-Journal,* 6(1), 1-43.

Bokosi, F. (2006). Household Poverty Dynamics in Malawi. *MPRA Paper No.1222*

Booth, D. (2001). PRSP Processes in Eight African Countries: Initial Impacts and Potential Institutionalisation. *WIDER Discussion Paper No. 2001/121*.

Bourguignon, F. (2003). The Growth Elasticity of Poverty Reduction: Explaining Heterogeneity across Countries and Time Periods. In T. Eicher and S. Turnovsky (Eds.), *Inequality and Growth*: *Theory and Policy Implications* (pp. 285-99). Cambridge: The MIT Press

Bourguignon, F. (2004). *The Poverty-Growth-Inequality Triangle*. New Delhi: Indian Council for Research on International Economic Relations.

Calder, K. and Min Y. (2004). Regionalism and Critical Junctures: Explaining the Organization Gap' in Northeast Asia. *Journal of East Asian Studies,* 4 (2), 191-226.

Chen, S. and Ravallion, M. (2004). How have the world's poorest fared since the early 1980s? *World Bank Research Observer,* 19(2), 141-69.

Christiaensen, L., Demery, L. and Kuhl, J. (2010). The (Evolving) Role of Agriculture in Poverty Reduction: An Empirical Perspective. *UN University-World Institute for Development Economic Research (UNU-WIDER), Working Paper No 2010/36*

Chirwa, E.W. and A.R. Dorward (2013). The Role of the Private Sector in the Farm Input Subsidy Programme in Malawi. *Future Agricultures Consortium Working Paper 064*

Chirwa E. (2004). *Access to Land, Growth and Poverty Reduction in Malawi*. Zomba: University of Malawi

Corcoran, M. (2005). *Rags to Rags: Poverty and Mobility in the United States*. Annual Review of Sociology. Vol. 21: 237-267

Datt, G. and Ravallion, M. (1998). Farm Productivity and Rural Poverty in India. *Journal of Development Studies,* 34(4), 62-86

Deininger, K. & Squire, L. (1998). New ways of looking at old issues: inequality and growth. *Journal of Development Economics,* 57(1), 259–287.

Devarajan, S., Miller, J. and Swanson, V. (2002). Goals for Development: Hist ory Prospects and Costs. World Bank.
Policy Research Working Paper 2819

DFID Policy Division (2004). *What is Pro-poor Growth and Why do We Need to Know?* London : Department for International Development.

Dittmaar, C. (2008). *The concept of 'chronic poverty: its value for poverty analysis and for pro-poor policy making*. Munich: GRIN Verlag.

Dollar, D. and Kraay, A. (2002). Growth Is Good for the Poor. *Journal of Economic Growth*, 7(3), 195-225.

Dollar, D. and Collier, P. (2001). Aid Allocation and Poverty Reduction. *World Bank Policy Research Working Paper No. 2041*.

Dorward, A. and Chirwa, E. (2013). *Impacts of the Farm Input Subsidy Programme in Malawi: Informal Rural Economy Modelling*. Brighton: Future Agricultures Consortium

Dorward, A., Chirwa, E. and Slater, R. (2010). *Evaluation of the 2008/9 Agricultural Input Subsidy Programme*. London: University of London.

Duclos, J. & Chouchane, A. (2010). *Analyzing Pro-Poor growth in Mauritius and South Africa.* Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Knowledge/Session%20I.1.1_1_Analyzing%20Pro-Poor%20Growth%20in%20Southern%20Africa.pdf

Dureval D. & Mussa R. (2010). *Employment Diagnostic analysis on Malawi*. Geneva: ILO

Eastwood, R. & Lipton, M. (2001). *Pro-Poor Growth and Pro-Growth Poverty Reduction: What Do they Mean? What Does the Evidence Mean? What Can Policymakers Do?* (No. 19). Manila: Asian Development Bank.

Fengler, W. and Homi, K. (Eds.) (2010). *Delivering Aid Differently— Lessons from the Field*. Washington, DC: Brookings Institution.

Foster, J., Greer, J. and Thorbecke, E. (1984). A Class of Decomposable Poverty Measures. *Econometrica*, 52(3), 761–66.

Grant, U. and Hulme, D. (2008). Service Delivery for the Poorest. *Chronic Poverty Research Centre Working Paper No. 128*. Manchester, UK: Chronic Poverty Research Centre (CPRC).

Green, M. and Hulme, D. (2005). From correlates and characteristics to causes: Thinking about poverty from a chronic poverty perspective. *World Development* 33(6), 867-79.

Grennes T. and Strazds, A. (2014). *Equal distribution: Equal opportunities vs equal results*. Washington DC.: EconoMonitor.

Grosse, M., Harttgen, K. & Klasen, S. (2008). *Measuring pro-poor growth in non-income dimensions*. Washington, D.C. : World Bank.

Grosse, M., Harttgen, K., & Klasen, S. (2008). Measuring pro-poor progress toward the non-income millennium development goals. *WIDER Research Paper (2006-38)*.

Global Education Partnership (2016). *Education in Malawi*. Retrieved from https://www.globalpartnership.org/country/malawi

Government of Malawi (2011). *Malawi Growth and Development Strategy II 2011–2016*. Lilongwe: Ministry of Economic Planning & Development.

Gondwe, A.S. (2011). *Spatial Comparisons of Multidimensional Poverty in Malawi (*Master's Thesis). University of Malawi, Zomba.

Gondwe, A.S. (2015). Asset index, child nutritional status and pro-poor growth analysis in Malawi. *Stellenbosch Economic Working Papers: 20/15*

Hulme, D. and Shepherd, A. (2003). Conceptualizing Chronic Poverty. *World Development*, 31 (3), 403-424.

Jayne, T.S. and Rashid, S. (2013). Input subsidy programs in sub-Saharan Africa: a synthesis of recent evidence. *Agric. Econ.*, 44(6), 647-658.

Jones, S. (2002). *Infrastructure and Pro-Poor Growth Implications of Recent Research*. London: Oxford Policy Management

Kakwani, N. and Pernia, E. (2000). What is Pro-poor Growth? *Asian Development Review*,18(1), 1-16.

Kakwani N. Khandker S. & Son H. (2004). Pro-Poor Growth: concepts and measures with Country Evidence. *UNDP Working Paper No: 1*

Klasen, S. (2004). In search of the holy grail: How to achieve pro poor growth. In B. Tungoden, N. Stern & I. Kolstad (Eds*), Toward pro-poor policies:Aid, illustrations, and globalization, Proceedings from the Annual World Bank conference on development economics Europe conference 200 (*pp.64-94*).* Washington, DC: The World Bank

Klasen, S. (2005). Economic Growth and Poverty Reduction: Measurement and Policy Issues. *OECD Working Paper No. 246*.

Klasen, S. (2007). Gender-Related Indicators of Well-Being. In M. McGillivray (Ed.), *Measuring Human Well-Being (pp. 321-38)*. London: Palgrave Macmillan

Kraay, A. (2006). When Is Growth Pro-Poor? Evidence from a Panel of Countries. *Journal of Development Economics*, 80 (1), 198–227

Litchfield, J. (1998). *Inequality: Methods and Tools*. Retrieved from http://www.worldbank.org/poverty/inequal/index.htm

Lokshin, M. and Ravallion, M. (2004). *Growth incidence curve*. Retrieved from http://econ.worldbank.org/external/default/main?theSitePK=477894&contentMDK=20292195&menuPK=546578&pagePK=64168182&piPK=64168060.

Lopez, H. (2004). *Pro-poor growth: A review of what we know (and what we don't)*. Washington, D.C: The World Bank.

Lopez, H. and Serven, L. (2004). *The mechanics of growth-poverty-inequality relationship (mimeo)*. Washington, D.C.: The World Bank.

Lunduka, R., Ricker-Gilbert, J. and Fischer, M. (2013). What are the farm-level impacts of Malawi's farm input subsidy programme?: A critical review. *Journal of the International Association of Agricultural Economists*, 93(1), 26-42

Malawi Government (1994). *Poverty Alleviation Paper*. Lilongwe, Ministry of Economic Planning and Development.

Malawi Government (2000). *Malawi Poverty Reduction Strategy (MPRS) (2002–2005).* Lilongwe: Ministry of Economic Planning and Development.

Mkandawire, P. (2014). *Has growth been pro-poor in Malawi*? Zomba, Malawi: University of Malawi

Muir, M. A. K. & Wei, L. (2014). *Financial Approaches- Exploring a Framework and Approaches to Support Implementation of the Sustainable Development Goals*. Washington D.C: World Bank

Mukherjee, S. and T. Benson. (2003). The Determinants of Poverty in Malawi 1998. *World Development*, 31(2), 339-358

Mussa, R. and Masanjala, R. (2015). *A Dangerous Divide: The State of Inequality in Malawi*. Lilongwe, Malawi: Oxfam.

Mussa, R. (2014). Food Price Heterogeneity and Income Inequality in Malawi: Is Inequality Underestimated*? MPRA Working Paper 56080*. University Library of Munich, Germany.

Mussa, R. (2010). The poverty-inequality relationship in Malawi: A multidimensional perspective. *MPRA Working Paper Number 23576*. University Library of Munich, Germany.

Mussa, R. (2010). Spatial comparisons of poverty and inequality in living standards in Malawi. *South African Journal of Economics*, 81(2), 192-210

Mussa, R. (2017). Poverty in Malawi: Policy Analysis with Distributional Changes. *MPRA Working Paper Number 76080*. University Library of Munich, Germany.

Nallari, R. and Griffith, B. (2011). *Understanding Growth and Poverty*. Washington DC: World Bank

National Statistical Office (2005). *Integrated Household Survey 2*. Zomba, Malawi: Author.

National Statistical Office (2011). *Integrated Household Survey 3*. Zomba, Malawi: Author

OECD (Organisation for Economic Co-operation and Development) (2006). *DAC in Dates: The History of the OECD's Development Assistance Committee*. Retrieved from http://www.oecd.org/dataoecd/3/38/18968 08.pdf.

Pauw, K., Beck, U. and Mussa, R. (2014). Did Rapid Smallholder-Led Agricultural Growth Fail to Reduce Rural Poverty? Making Sense of Malawi's Poverty Puzzle. *UNU-WIDER Working Paper no. 2014/123*.

Persson, T. and Tabellini, G. (1994). Is inequality harmful for growth? *American Economic Review,* 84(3), 600-621.

Ravallion, M. and Datt, G. (2001). Why has economic growth been more pro-poor in some states of India than others? *Journal of Development Economics,* 68 (2002), 381– 400

Ravallion, M. (2004). Pro-Poor Growth: A Primer. *World Bank Policy Research Working Paper No. 3242*.

Ravallion, M. (1997). Can high-inequality developing countries escape absolute poverty. *Economic Letters,* 56(1), 51-57.

Ravallion, M., and Chen, S. (2003). Measuring pro-poor growth. *Economic Letters, 78(1), 93–99*.

Ray, D. (1998). *Development economics*. Princeton: Princeton University Press.

Sen, A. (1976). *Poverty: An ordinal approach to measurement*. Econometrica, 44(2), 219-231

Sen, A. (1989). Development as Capability Expansion. *Journal of Development Planning*, 19(1), 41-58.

Son, H. (2007). Pro-Poor Growth: Concepts and Measures. *ERD Technical Note No: 22*

Son, H. (2003). *Pro-Poor Growth: Definitions and Measurements*. Washington D.C.: World Bank.

Son, H. and Kakwani, N. (2004). *Economic growth and poverty reduction: Initial conditions matter.* Brasilia: United Nations Development Programme

Stiglitz, J. (1969). Distribution of income and wealth among individuals, *Econometrica*, 37(3), 382-397.

Todaro, M. and Smith, S. (2006). *Economic Development (*9th ed.). London: Pearson Education Limited

Tungodden B. (2004). *Resolving distributional conflicts between generations*. USA: Pennsylvania State University

UNDP (2006). *Human development report*. New York: Palgrave-Macmillan.

Weil, D. N. (2007, June). Accounting for the Effect of Health on Economic Growth. *NBER Working Paper 11455*

World Health Organization (2001). *Macroeconomics and health: Investing in health for economic development*. Geneva: Author

World Bank, (2009). *Final Analysis to Constraints Analysis to Economic Growth. The Republic of Malawi*. Washington, D.C: Author

World Bank (2010). *The World Bank 2010 Annual Report*. Washington D.C: Author.