

# **THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF HUMANITIES AND SOCIAL SCIENCES**

**DEPARTMENT OF ECONOMICS**

## **IMPACT OF REMITTANCES ON POVERTY:**

### **THE ZAMBIAN EXPERIENCE**

A dissertation submitted in partial fulfillment of the requirement for the  
award of the degree of Masters of Arts in Economics

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## **DEDICATION**

I dedicate my work to my family. A special feeling of gratitude goes to my loving husband Gilbert Matipa, whose words of encouragement have filled my heart with so much joy. To my sons who have never left my side and are very special.

I further dedicate this work and give special thanks to my wonderful daughter Mweene Annie Matipa who has been a constant source of love, concern, support and strength throughout my postgraduate degree program and has been my best cheerleader.

## ABSTRACT

This paper analysed the relationship between poverty and remittances in Zambia using data from the LCMS - CSO (2010). The FGT (1984) poverty index approach was applied. Seven income sources including income from employment, crops, livestock, investments, non-farm business, any other income and remittances were analysed using the Descriptive Analysis Stata Package 2.3 (2013) under Stata II.

The significance of this study rested on two reasons. Firstly, because poverty rates remain stubbornly high in Zambia, it was vital to investigate the relationship that exists between remittances and poverty. Secondly, although there has been a lot of literature on the impact of remittances on poverty, there are either fewer or no studies carried out in Zambia to investigate how these remittances impact on poverty and consumption income at the micro economic level.

To assess the impact of remittances on poverty and consumption income, we first used and analysed the original LCMS - CSO (2010) data to establish the (FGT) poverty rate. Secondly, we removed remittances completely from the income sources to see the impact of remittances on consumption income. Thirdly, we kept the other sources of income constant while increasing remittances by 5% and assessed the marginal change on poverty caused by the increase in remittances.

The first findings of the study indicate that the FGT index using the poverty headcount ( $\alpha=0$ ) is 0.572255. The second findings indicate the FGT index ( $\alpha=0$ ) at 0.596993 while the final FGT index ( $\alpha=0$ ) indicate a poverty reduction rate of 0.509132.

Consequently, remittances have a positive effect on poverty in Zambia. The 5% increase of remittances resulted into a 7% reduction of poverty. We therefore encourage the Government to produce and implement policies that would attract increased flow of remittances as one of the measures to reduce poverty.

The study had limitations including the use of the 2010 LCMS data that can be easily under or over reported. Further, the paper limited the analysis on poverty using the poverty head count which analyses only the population under the poverty line. Further research could use all the three poverty levels to analyse the impact of remittances on Poverty in Zambia.

**Key words:** remittances, poverty, income, consumption and Zambia.

**DECLARATION**

I, Harriet Mweene, declare that this dissertation is entirely my own work and has not been submitted for the degree at this or any other institution of higher education.

Signed.....

Date.....

## CERTIFICATION OF APPROVAL

This dissertation of **HARRIET MWEENE** has been approved as partial fulfillment of the requirements for the award of the Master of Arts degree in Economics by the University of Zambia.

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## LIST OF ACCRONMYS AND ABBREVIATIONS

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>BOZ</b>	Bank of Zambia
<b>CSO</b>	Central Statistics Office
<b>DASP</b>	Distributive Analysis Stata Package
<b>FDI</b>	Foreign Direct Investment
<b>FGT</b>	Foster, Green and Thorberck
<b>GDP</b>	Gross Domestic Product
<b>HDI</b>	Human Development Index
<b>HIV</b>	Human Immunodeficiency Virus
<b>ILO</b>	International Labour Organization
<b>IMF</b>	International Monetary Fund
<b>IOM</b>	International Organisation for Migration
<b>LAC</b>	Latin American and Caribbean
<b>LCMS</b>	Living Conditions Monitoring Survey
<b>MAL</b>	Ministry of Agriculture and Livestock
<b>NAIP</b>	National Agriculture Investment Plan
<b>NAP</b>	National Agriculture Policy
<b>PRSP</b>	Poverty Reduction Strategy Paper
<b>SAP</b>	Structural Adjustment Programme
<b>SNDP</b>	Sixth National Development Plan
<b>ZIC</b>	Zambia Investment Centre
<b>ZPA</b>	Zambia Privatisation Agency

# CHAPTER ONE

## 1.0 Introduction

This chapter presents the background to the study including the problem statement, significance of the study, objectives and hypothesis of the study on which the study is based. It also provides the definitions of remittances and poverty linking them to the Zambian experience, the role remittances play in fighting poverty, the types of remittances and the effects remittances have induced on macro and micro economic levels of different economies.

## 1.1 Background of Study

Remittances have been identified as an important part of the consumption income that is used in household consumption expenditure and private investment by their recipients. These transfers, both financial and in-kind goods, have been empirically studied to impact positively on poverty in many economies. Adovor, (2011) argues that migrant remittances have become a major source of financing for developing countries and are particularly important in Sub-Saharan Africa. The increasing role of remittances, especially their ability to remain resilient during periods of economic and financial crises, has spurred an interest in development practitioners who wish to understand the nature, potential development impact, and policy implications of remittance inflows.<sup>1</sup>

Apart from being identified as income that can help alleviate poverty at micro-economic level, remittances have positive effects on some macro-economic indicators. In some developing countries, remittances constitute the second largest capital inflow after direct foreign investments. Remittances are also an important source of foreign exchange earnings and savings that enhance credit and induce national investment. Given a well-functioning financial system, remittances can lead to increased saving and availability of credit.

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<sup>1</sup> International Organization for Migration, 2006 Journal on remittances

Poverty described as a deprivation of a long healthy life, educational opportunities, access to resources for a decent standard of living such as lack of freedom to exercise choices and participate in society and inefficient income for consumption to provide for housing, food, health, clean water and sanitation. “From the Zambian context, it should be noted that only thirty five percent of the rural population have access to safe water. Hence, sixty five percent of the rural population are water poor. Fifty nine percent of the children are stunted. They are nutrition poor. Twenty seven percent of the population have not had any schooling at all. They are knowledge poor”.<sup>2</sup>

Although the impact of remittances on poverty and consumption income has been heavily investigated in most economies particularly in Asia and Latin America, there has been little attention given to analyse the same influence in Zambia. Against this background, this study will undertake an impact analysis of remittances on poverty and consumption income in Zambia using data from the LCMS – CSO (2010). The paper examines the poverty changes (if any) that are brought as a result of these receipts of remittances. Therefore, the main research question that arises behind this study is “is there a relationship between remittances and poverty in Zambia?”

## **1.2 Problem Statement**

The high levels of poverty are therefore, a problem both economically and socially. The gravity of high levels of poverty is such that more and more lives are lost due to starvation, illness and disease associated with high rates of illiteracy and lack of food, shelter and clothing that bring humiliation. Poverty is therefore demeaning and a pain to humanity, hence the need to find strategies, processes and resources that eliminates it.

## **1.3 Significance of the study**

While remittances gain momentum as a source of income for consumption for most developing economies, there has been a debate on the extent of their impact on

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<sup>2</sup> Central Statistics Office of Zambia, LCMS 2010  
Zambia Poverty Reduction Strategy Paper, (2004), [www.sarpn.org](http://www.sarpn.org)

poverty in certain economies. There are several studies that have investigated the relationships between remittances and poverty. For example, Adams and Page (2005) found a strongly positive correlation between international remittances and poverty reduction in developing countries. Other similar relationships were also found in some studies including (Lopez, 2005; Taylor et.al, 2005; Owiafe, 2008 and Acosta et. al, 2007).

Consequently, the significance of this study rests on two reasons. Firstly, because poverty rates remain stubbornly high in Zambia, it is vital to investigate the relationship that exists between remittances and poverty. Secondly, although there has been a lot of literature on the impact of remittances on poverty, there are either fewer or no studies carried out in Zambia to investigate how these remittances impact on poverty and consumption income at the micro economic level. Therefore, the analysis can be very useful for policy and decision makers to aid in the execution of programmes that service in combating poverty using the inflow remittances.

## **CHAPTER TWO**

### **REMITTANCES AND POVERTY**

#### **2.0 Introduction**

This chapter analyzes the patterns of remittances and poverty levels of Zambia indicating the levels and relationships the two have. In Zambia, Remittance inflows have been increasing and continue to upswing while poverty rates remain high and decreasing at a marginal rate in the past recent years. Despite remittances being identified as a good source of consumption income and private investment that can help alleviate poverty, Zambia has been struggling with high levels of poverty including cases of extreme poverty. Mostly prominent in rural Zambia, the country's poverty rates are too high with at least sixty percent of the population living under poverty.

#### **2.1 Remittance patterns for Zambia**

International remittances consist of goods or financial instruments transferred by migrants living and working abroad to residents of the home economies of the migrants while internal remittances are transferred within the country. The World Bank argue that International migration, which is the movement of people across international boundaries, has enormous implications for economic growth and poverty alleviation in both originating and destination countries. The Bank states that remittances generally lessen the level and severity of poverty, typically leading to higher human capital accumulation, greater health and education expenditures, better access to information and communication technologies, improved access to formal financial sector services, enhanced small business investment, more entrepreneurship, better preparedness for adverse shocks such as droughts, earthquakes, and cyclones, and reduced child labor. The Bank further indicates that remittance flows to developing countries are estimated to have totaled United States dollars four hundred and one billion in 2012, an increase of 5.3 percent over the previous year. Global remittance flows, including those to high-income countries, were estimated at United States dollars five hundred and twenty nine billion in

2012. These remittances sent home by migrants to developing countries are equivalent to more than three times the size of official development assistance in some countries.<sup>3</sup>

In Zambia, remittances are steadily rising. The value of Personal remittances, received in Zambia increased from United States dollars thirty six million (\$36 million) in 2003 to United States dollars forty six million (\$46 million) in 2011. Over this eight years period, this indicator reached a maximum value of United States dollars sixty eight million (\$68 million) in 2008 and a minimum value of United States dollars thirty six (\$36 million) in 2003.<sup>4</sup>

The percentage expenditure shares of remittances (share of remittances used in expenditure) in Zambia are very low. They declined from 5.6 percent in 2006 to 0.6 percent in 2010. The urban areas of Zambia spend a larger share of these remittances compared to the rural areas. The rural Zambia which has the highest poverty rate indicated a lower percentage expenditure share of remittance at 3.7 percent in 2006 and 0.5 percent in 2010. At provincial level, the top most remittance expenditure share of the nine provinces of Zambia is taken from the southern province at 7.2 percent in 2006 and 0.9 percent in 2010. The western Zambia indicated the lowest expenditure share of remittances at 2.2 percent in 2006 and 0.3 percent in 2010. However, policies and strategies to encourage and exploit remittance flows have been suggested in Zambia including, the dual citizenship act, low tax charges on remittances and effective and cheap transfer costs.<sup>5</sup>

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<sup>3</sup> The world Bank Report on Migrants, (April 2013) [www.worldbank.org](http://www.worldbank.org)

<sup>4</sup>International Monetary Fund (1999) Report on Migrants and Remittances.

<sup>5</sup> Central Statistics Office of Zambia LCMS report (2006 and 2010) [www.zamstat.gov.zm](http://www.zamstat.gov.zm)

**Table 1. Percentage expenditure share of remittances by province - 2006 and 2010**

<b>LOCATION</b>	<b>2006 expenditure share</b>	<b>2010 expenditure share</b>
Zambia	5.6	0.6
Rural Zambia	3.7	0.5
Urban Zambia	6.7	0.7
<b>PROVINCE</b>		
Central	5.8	0.7
Copper belt	6.2	0.8
Eastern	4.9	0.4
Luapula	4.8	0.5
Lusaka	6.3	0.4
Northern	2.8	0.7
Northwestern	2.2	0.6
Southern	7.2	0.9
Western	2.2	0.3

Source: CSO Zambia, LCMS 2010.

## **2.2 The distribution and poverty levels in Zambia**

Poverty has been a battle that majority of the Zambian people have been struggling with since the 1970s. This was after the Zambian economy experienced a huge National budget deficit that came as a result of high world oil prices that coincided with low copper prices on the world market. Because Zambia heavily depended on revenue from copper exports to finance the National budget, the reduced revenue from copper exports led to the Zambian Government to neglect some major parts of the social sectors including education, agriculture support, infrastructure development and health. Poverty surfaced and it spread quickly thereafter. A prosperous country at post-independence in 1964, Zambia is now reported to be among the poorest countries of the world. Poverty rates range from seventy percent (70%) of the Zambian population in 1991 to at least

sixty percent (60%) in 2010. Further, cases of extreme poverty have also been reported at more than forty percent (40%) and the non-poor population lying below forty percent.<sup>6</sup>

A person is considered poor if his or her income level falls below some minimum level necessary to meet basic needs. This minimum level is usually called the "poverty line". Therefore, poverty lines vary in time and place, and each country uses lines which are appropriate to its levels of development, social norms and values. The cost of the food basket for a Zambian family of six was valued at old currency K146, 009 in 2010. Therefore, the 2010 absolute poverty line correspond to the cost of the food basket and this line has been designated by CSO as the Extreme poverty line.

Although the level of human development in Zambia is still low, there has been a positive and sustained change between the years 2000 and 2010, compared to the situation between 1990 and 2000. In the later periods of 2000 and 2010, the country witnessed a sustained decline in poverty. Since then, improvements have been observed in all key dimensions of the human development index including health, education and material wealth. At 0.395 in 2010, Zambia's HDI ranking was above the average of 0.389 for Sub-Saharan Africa and also slightly above the average of 0.393 for low HDI countries. However Poverty reduction has slowed considerably since the mid-2000s. Further the recent changes in the national poverty rates have become increasingly ambiguous, and the future of the poverty profile remains in doubt.<sup>7</sup>

The Zambian economy has recorded at least six percent GDP growth in the recent past years. Despite the strong macro-economic indicators that are displaying such as the recent economic growth and the low inflation rates, the country has experience poverty reduction at a marginal rate of two percent between 2006 and 2010. Poverty levels have remained alarmingly high in the country. For instance, Luapula province recorded a 6.6 percent increase in poverty which led to 80.5 percent of this province's population living

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<sup>6</sup> Ministry of Agriculture and livestock (2013), National Agriculture Policy.

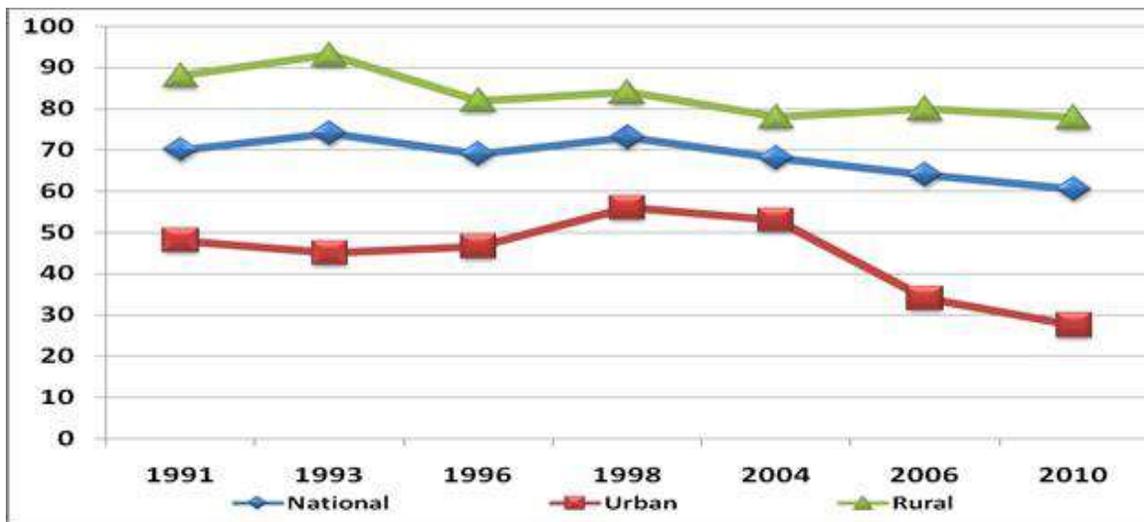
<sup>7</sup>The Zambia poverty assessment report, (2012)

World Bank report on Zambia's economy, (2010) [www.worldbank.org](http://www.worldbank.org)

Central Statistics Office of Zambia, LCMS report (2006 and 2010) [www.zamstat.gov.zm](http://www.zamstat.gov.zm)

in poverty in 2010. The Western province of Zambia is the second poorest province with a poverty rate of 80.4 percent in 2010. The Lusaka province which also hosts the capital of Zambia recorded the lowest poverty rate of 24.4 percent in 2010 and the central province of Zambia recorded the highest poverty reduction rate of 9.8 in 2010 making a population of 60.9 living under poverty.<sup>8</sup>

**Table 2. Percentage change of poverty groups between 1991 and 2010**



Source: Ministry of Agriculture and livestock (2013), National Agriculture Policy

Poverty in Zambia is more pronounced in the rural parts of the country. The level of rural poverty is more than twice that obtained in urban areas. In 2006 rural poverty was estimated at 80.3 percent compared to urban levels of 29.7 percent. Both rural and urban poverty declined roughly by 2 percentage points between 2006 and 2010.<sup>9</sup>

However, the Zambian Government has come up policies and strategies to alleviate poverty. Among the policies and strategies that have been put in place to reduce poverty include the vision 2030 which is reflecting the aspiration and determination of the Zambian people to be a middle income nation, the National Development Plans to accelerate infrastructure development, economic growth/diversification, rural investment

<sup>8</sup> Central Statistics Office of Zambia, LCMS report (2006 and 2010) [www.zamstat.gov.zm](http://www.zamstat.gov.zm)

<sup>9</sup> Ministry of Agriculture and livestock, National Agriculture Investment Plan 2014-2018

and poverty reduction and the National Agricultural policy (NAP) to provide a policy framework for guiding the development of the agriculture sector.

**Table 3. Percentage change of poverty by province between 2006 and 2010**

<b>LOCATION</b>	<b>2006 poverty rate</b>	<b>2010 poverty rate</b>	<b>% change</b>
Zambia	62.8	60.5	-2.3
Rural Zambia	80.3	77.9	-2.4
Urban Zambia	29.7	27.5	-2.2
<b>PROVINCE</b>			
Central	70.7	60.9	-9.8
Copper belt	37.3	34.3	-3
Eastern	78.5	77.9	-0.6
Luapula	73.9	80.5	6.6
Lusaka	24.7	24.4	-0.3
Northern	78.5	75	-3.5
Northwestern	70.7	67	-3.7
Southern	73	67.9	-5.1
Western	83.3	80.4	-2.9

Source: CSO Zambia, LCMS 2010.

The agriculture sector of Zambia is vital in the poverty reduction process as it generates between eighteen to twenty percent of the GDP. The sector absorbs about sixty seven percent of the labour force and remains the main source of income for rural women who constitute sixty five percent of the total rural population.<sup>10</sup>

### **2.3 Research objectives**

- To analyse the impact of remittances on poverty in Zambia.
- To analyze the impact of remittances on household income in Zambia.

### **2.4 Research Hypothesis**

- The principle hypothesis to be tested in this study is that remittances significantly reduce poverty in Zambia.

<sup>10</sup> Ministry of Agriculture and livestock, National Agriculture Investment Plan 2014-2018

## **CHAPTER THREE**

### **REVIEW OF THE LITERATURE**

#### **3.0 Introduction**

The first chapter looked at the background to the study including the problem statement, objectives and hypothesis on which the study is based. Further, the background of the study provided the definitions of remittances and poverty linking them to the Zambian experience, the role remittances play in fighting poverty, the types of remittances and the effects remittances have induced on macro and micro economic levels of different economies. This chapter analyzes the theoretical and empirical literature on remittances and their impact on poverty that have been investigated in other economies. It consists of two main sections with section one focusing on the theoretical reviews available including the determinants of remittance flows, concepts and theories behind remitting. Section two contains the general empirical review on the impact analysis of remittances on poverty studied in other countries.

#### **3.1 Determinants of remittance inflows, concept and theories.**

##### **3.1.1 Determinants of Remittances**

According to Englama, (2009) propensity to remit is based on the real wage differentials between country of origin and home country, employment conditions and cost of living in the host country. They further argue that other determinants of remittance inflow are the channels used, costs and speed of transmitting the remittances, opportunities of integration and settlement and possibility of inclusion of the immigrants in the politics and society of the country of origin.

In addition, Piana, (2007) argues that remittances in many countries are higher than foreign direct investment and development assistance. The total amount of remittances is positively linked to the number of immigrants abroad, income of the immigrants, the savings that immigrants can afford, balancing income with living expenditure, and the willingness to send money home, influenced by emotional links as well as by rational perspectives. they further state that the income of the immigrants is

higher when the countries in which they are concentrated are rich, their jobs are remunerated with high wages, which requires a favourable legal setting, a non-discriminatory labour market, a rising level of personal and social competences and a high level of employment of immigrants.

The literature on remittances has come up with several theories and concepts to explain the motives behind migrants' decisions to send funds to their relations back home. Basically, there are a number of concepts and theories of the motives for immigrants to remit back home. However, this paper analyses only one type of a concept of remittances and poverty and two types of the motives including the theory of pure altruism and Self- Interest Motive.<sup>11</sup>

### **3.1.2 Concept – Poverty and Remittances.**

The concepts of remittances have been linked to poverty in many theories. Piana, (2007) indicates that people remit due to poverty. The definitions of remittances are related to their motives, uses and outcomes. The conceptual framework in figure one (1) analyses the relationships of poverty and remittances indicating the two theories of the motives to remit mentioned briefly in this paper under the literature review. The two theories include the theory of pure altruism and the theory of Self- Interest Motive.

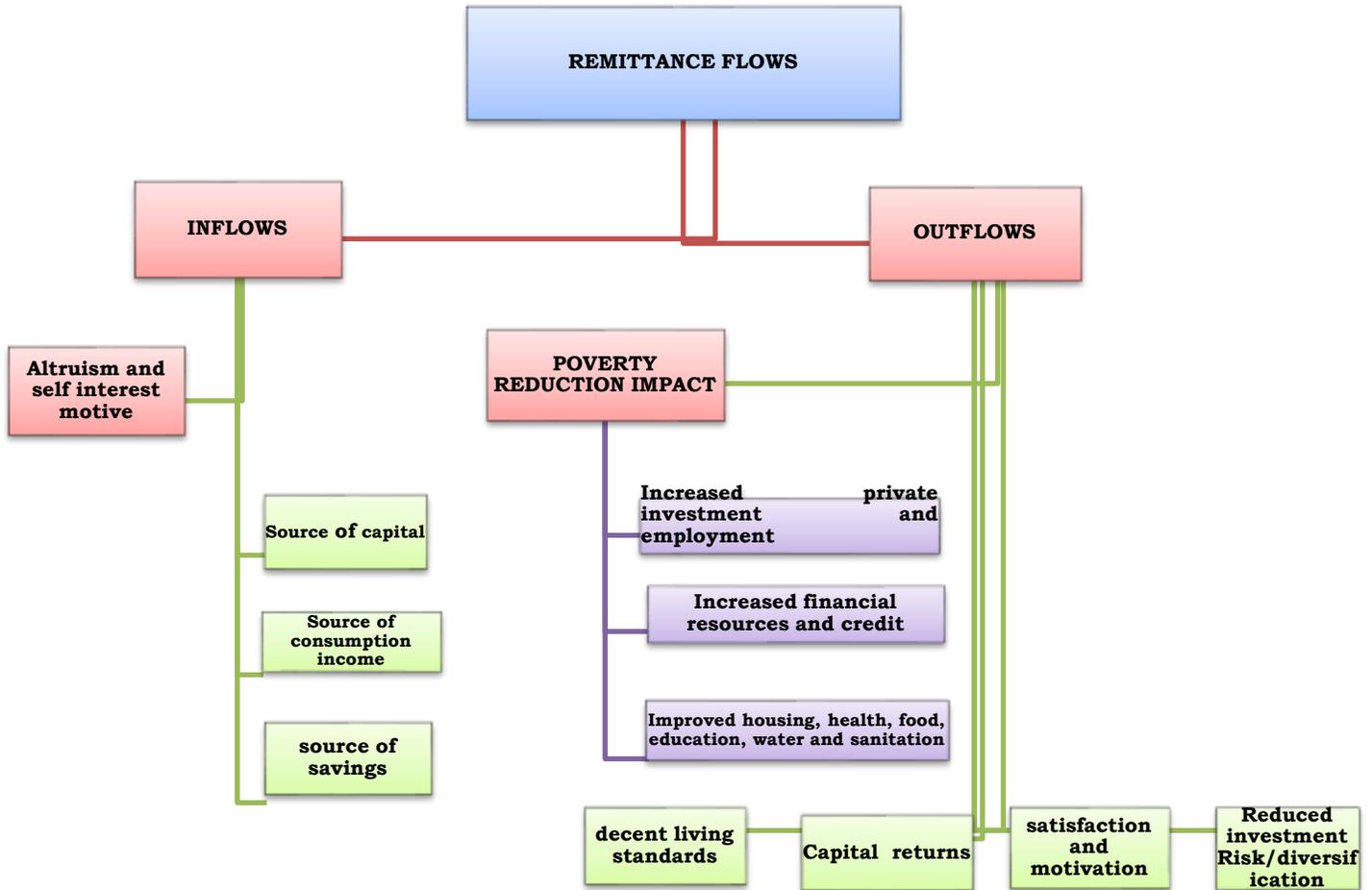
In the concept the usage of remittances include the day to day maintenance of the recipient household to cover for food, housing, clothing, health care and other basic needs known as consumption. The other expenditures from remittances include education expenses, establishing small businesses, building and improving houses under private investments and the accumulation of savings. Henceforward, the practice effects into the improvement of the welfare of the migrant's family through increased consumption income and capital returns thereby alleviating poverty. Theoretically remittances have been labelled to bring positive results towards the fight against poverty

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<sup>11</sup> Tun Min Sander (2011) A study of factors influencing remittances of Myanmar migrants

**Figure 1: Conceptual framework–Poverty and Remittances.**

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### 3.1.3 Self Interest Motive

It is a motivation to assume that the migrant is mainly moved by an economic and financial self-interest, when sending remittances to the home country. The argument behind this theory is that, at every point in time, the successful migrant in a foreign country saves. Then, the need arises on how and where to accumulate wealth. An obvious place to invest, at least part of his assets, is in the home country by buying property, land, financial assets, and so on. These assets may earn a higher rate of return than assets in the host country although their risk profile can also be greater. In turn, the family can

<sup>12</sup> Adopted from Joy M Kiiru, Remittances and poverty in Kenya, university of Nairobi, (2010)

administer, during the emigration period, those assets for the migrant, thus acting as a trusted agent.<sup>13</sup>

### **3.1.4 Theory of pure altruism**

According to the empathy-altruism hypothesis, empathic concern is associated with an affective focus on the person who is suffering rather than on oneself, therefore promotes truly selfless motivation to provide aid. The altruism or livelihoods school of thought considers remitting to be an obligation to the household. Remittances are sent out of affection and responsibility towards the family. It has also been argued in the poverty literature that the major reason why people migrate to other countries is due to poverty. According to the altruistic model, sending remittances yields a satisfaction to the migrant out of a concern for the welfare of his family.<sup>14</sup>

### **3.2 Empirical Literature**

There are many sources of literature related to the effects of remittances on poverty. Empirical evidence of previous studies on the impact of workers' remittances on economic growth as well as poverty reduction is mixed. While some studies find positive relationships between remittances and poverty, others found negative and/or no impact, respectively.

According to Englama, (2009) and Shroff, (2009), the definitions and theories of remittances have created two different schools of thoughts namely the optimistic view and the pessimistic view in analysing the impact of remittances on poverty. According to the optimistic thought, a remittance is positive to the receiving country. It can alleviate poverty and promote economic development easing the pressure on governments faced with large external deficits to engage in difficult structural reforms. On the other hand the pessimists argue that remittances should not be encouraged because they are detrimental to the growth and development of receiving countries, responsible for excess

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<sup>13</sup>Tun Min Sander (2011) A study of factors influencing remittances of Myanmar migrants

<sup>14</sup>Tun Min Sander (2011) A study of factors influencing remittances of Myanmar migrants

consumption, import dependency or unproductive investment in housing and land. It exacerbates the dependency of receiving communities.

Adam and Page, (2003) using data from 74 low and middle-income developing countries found that international migration has a strong statistical impact on reducing poverty; on average, a 10% increase in the share of international migrants in a country's population led to a 1.9% decline in the share of people living in poverty. Thus, international remittances strongly affect poverty and they tend to minimize the negative effects of economic shocks in an economy.

Owiafe, (2008) estimated a poverty model for Ghana, incorporating remittances as a key determining factor. In addition, growth, investment and human capital coefficients were estimated to examine the impacts of remittances on these variables. At the outset, it was revealed that, remittances have indirect impact on economic growth through human capital development and the ease of capital constraints, albeit its direct impact is nil. However where poverty is concerned, remittances seem to have a direct impact through the direct increase in the incomes of the poor, thus smoothening household consumption and easing capital constraints. These results suggest that remittances can alleviate credit constraint and positively affect private investment.

Jongwanich, (2007) using a poverty equation found that an increase in remittances directly led to poverty reduction. Other things being equal, an increase in remittances by one percent resulted to a reduction in the poverty incidence by 2.8 per cent. This result shows that remittances can directly increase income of poor people, smooth household consumption and ease capital constraints. The study also found remittances to have an indirect effect on poverty reduction since they affected economic growth and human capital both of which are key determinants of poverty. However, there is concern that remittances could induce income inequality. This is because the international migration can be an expensive venture so that it is going to be the better-off households who will be more capable of producing migration and sending remittances. While poor households

would not get the benefit from such remittance flows, they tend to generate inequality so that poverty could eventually increase.

In South Africa, Mduduzi, (2012) show that the poverty rate calculated from observed income without remittances was significantly higher compared to poverty observed income with remittances. More specifically, poverty rate without remittance incomes was sixty seven percent, while poverty rate with remittance incomes stood at forty seven percent.

Acosta et.al, (2006) show that at least remittances do not have a significant inequality-reducing effect, but they do appear to reduce poverty headcounts significantly. The magnitude of the later effects are such that for each percentage point increase in the share of remittances to GDP, the fraction of the population leaving in poverty is reduced by about 0.4 per cent. The results indicated that remittances tend to be good for growth (i.e. a higher remittances to GDP ratio tends to be associated with higher growth) both at the global level and in Latin America. Remittances seem to lead to higher income inequality at the global level but leaves inequality unchanged in Latin America.

According to Cuong, (2010) on the impact of remittances on welfare, the receiving of international remittances increased per capita expenditures of the recipients. International remittances also had positive and statistically significant impacts on expenditures on non-food consumption (excluding healthcare and education spending). However, the effects of the receipts of international remittances on per capita expenditures on food, education and healthcare were not statistically significant. The impact of international remittances on income was much higher than the impact on expenditures. It indicates that international remittances helped the recipients increase saving and production investment.

Anyunwu and Erhijakpor, (2010) used a data set on international remittances, inequality, and poverty from 33 African countries to examine the impact of international remittances on poverty in Africa. Some key findings were that international remittances

have a strong, statistically significant impact on reducing poverty in Africa. After instrumenting for the possible endogeneity of international remittances, a 10 percent increase in official international remittances as a percentage of GDP led, on average, to a 2.9 percent decline in the share of people living in poverty. Indeed, the results provided strong, robust evidence of the poverty-reducing impact of international remittances to Africa. Per capita GDP strongly reduces all measures of poverty in Africa and income inequality appears to be the strongest factor fuelling all three measures of poverty in the continent.

Alowa et al, (2013) compared non remittance households and households receiving remittances in Nigeria. The impact of remittances on poverty was positive though it was found that on average, compared to non-remittance households, households receiving remittances had older household heads, smaller family size and the households receiving no remittances have more household size, less educated heads, highest share of food expenditure with low average expenditure, and hence they are relatively poorer. Conversely, the households receiving remittances from abroad are comparatively richer.

Anjum et al, (2011) found a positive and highly significant relationship between workers' remittances, real GDP, private investment and total consumption implying that higher remittances are associated with higher economic growth which leads to poverty reduction.

However, there are some concerns that remittances would not benefit the poor. Jongwanich, (2007) argues that because the international migration can be an expensive venture, it is the better-off households who are more capable of producing migration and sending remittances. While poor households would not get the benefit from such remittance flows, they tend to generate inequality so that poverty tends to eventually increase.

Yaseen, (2010) brings out both positive and negative impacts of remittances on poverty, it is argued that remittances, in some beneficiary countries or families, can

stimulate members of the family who profit from these incomes to be satisfied living with this “manna falling from heaven” without working or by withdrawing from the local labor market. He also observed scenarios in which these recipients use remittances while launching themselves in showy consumptions or of luxury goods often imported from abroad, certain expenditure in projects not very relevant or in badly studied investments can lead to the wasting of these funds. The study observed the impacts of remittances on economic growth, using panel data sets of Algeria, Egypt, Jordan, Libya, Morocco, Oman, Syria, Lebanon and Tunisia

The impact of remittances on poverty has been heavily studied among academicians and policy makers in many parts of the world as some of them have been mentioned above. Although this area of research has been explored extensively and widely outside Zambia, there is little information on the analysis of poverty and remittances in Zambia. This research will therefore focus on the Zambian experience on analysing the impact of remittances on poverty. This will fill the gap that has been existing on how remittances impact on poverty in Zambia.

## **CHAPTER FOUR**

### **METHODOLOGY**

#### **4.0 Introduction**

In the last chapter, the literature review was given consisting of the conceptual framework, the theoretical and empirical literature on remittances and their impact on poverty that have been investigated in other economies. After the analysis of the reviews available including the determinants of remittance inflows of a country, concepts and theories behind remitting, the methodology adopted for this study is discussed in this chapter. The chapter is divided into two sections including the data type to be used, the sources of the data and the tools of analysis and statistical model.

#### **4.1 Data type and Sources**

The data used in this study was taken from the LCMS (2010) conducted by the CSO of which one of the objectives of the surveys is to monitor and assess the poverty levels and its distribution in Zambia. This set of data is used as it is the latest publications that cover the entire country. The LCMS - CSO (2010) was also comprehensive covering important and detailed information on a wide range of topics, including consumption expenditure and income, education, health, nutrition, financial assets on households and enterprises.

The study used the household per capita income as a measure of welfare. Household income plays a vital role in the analysis of living conditions of households. Income is used as a measure of welfare because the expenditure and consumption of goods and services is dependent on the sum of income available to a household at any given time. In the LCMS – CSO (2010) data, Household Consumption income figures comprises of cash used for purchases, value of own produce consumption and value of consumable gifts.

The consumption income used in this study comprises of the seven variables from the different sources of consumption income categorized as income from employment

(wages), income from interest gained from investments, income from crops, income from livestock, income from non-farm business, income from any other source and income received as remittances. Remittances are a combination of both local and international inflows.

## **4.2 Methodology**

Some of the possible causes of poverty in Zambia include high unemployment rates, low productivity, lack of investment, poor infrastructure development and poor agriculture planning and performances. Generally, the determinants of poverty are not theoretically clear as poverty is multidimensional. Therefore, this paper focused on the consumption income from the seven sources of income obtained from the LCMS - CSO (2010) data as one of the determinants of poverty in Zambia. <sup>15</sup>

This paper adopted the approach of the FGT, (1984) poverty index which has been widely used in empirical work to analyse the impact of remittances on poverty. The FGT poverty index is used to analyse the impact of a small percentage change in income on poverty. The index satisfies the axioms of monotonicity, distributional sensitivity and transfer. The monotonicity axiom states that *ceteris paribus*, a decrease in the income of poor person should increase the FGT index. The transfer axiom states that *ceteris paribus*, a transfer of income from a lower income poor person to a higher income poor person increases the poverty index. Therefore, the poverty index increases whenever there is a reduction in a poor person's income, holding other incomes constant.

Although the FGT poverty index has been widely used, it had its drawbacks including calculations based on sample households that carry a margin of error in representing the population. In this study, the headcount poverty index is used to calculate poverty which is insensitive to the degree of poverty and the distribution of income among the poor.

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<sup>15</sup> Poverty Reduction Strategy Paper, (2004), [www.sarpn.org](http://www.sarpn.org)

Using the seven (7) income variables categorised as income from employment, crops, livestock, non-farm business, interest, local and international remittances and any other income, the poverty index is defined as follows <sup>16</sup>

$$(1) \quad FGT_{\alpha} = \frac{1}{N} \sum_{i=1}^H \left( \frac{z - y_i}{z} \right)^{\alpha}$$

In equation one (1) above, (*FGT*) represents the poverty rate,  $y_i$  represent per capita household income from different sources of income that are below the poverty line,  $N$  is the total number of households considered in the study and  $H$  is the number of households classified as poor. Further  $Z$  represents the poverty line and  $\alpha$  is the type of poverty measure including the poverty headcount, poverty gap and the squared poverty gap of the three. Although this study has only analyzed poverty using the poverty headcount, ( $\alpha=0$ ) these different poverty measures are;

- The first measure is the **poverty headcount**, ( $\alpha=0$ ) which shows the percent of the population living beneath the poverty line. However, this headcount index ignores the amount by which the average income of the poor falls short of the poverty line.
- Hence a second measure, which is the **poverty gap**, ( $\alpha=1$ ) is useful. This index measures in percentage terms on how far the average income of the poor fall short of the national poverty line.
- The third poverty measure called the **squared poverty gap** ( $\alpha=2$ ) shows the “severity of poverty.” The squared poverty gap index possesses useful analytical properties, because it is sensitive to changes in the distribution among the poor.

The FGT poverty index consists of the seven (7) income sources, represented as  $y_i$  in equation two (2) below. The  $K$  sources categorised as a set of  $x_i$  include the consumption

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<sup>16</sup>Measurement of poverty: (2012) *some fundamental issues*, Asian Development Bank  
Kersi Shroff, (2009) *Impact of Remittances on Poverty in Mexico*.

income from employment, crops, livestock, interest, non-farm business, local and international remittances and any other income represented in equation 2 as follow

(2)

$$y_i = \sum_{k=1}^K x_{ik}$$

To assess the extent to which remittances have an impact on poverty and consumption income, we followed the Reardon and Taylor (1996) approach and decomposed the FGT index by income source with respect to remittances (ir) and evaluated the impact at current levels of poverty for a marginal change in remittances as in equation (3) below.

(3)

$$\frac{\partial FGT_{\alpha}}{\partial \epsilon_r} = \frac{1}{N} \frac{\sum_{i=1}^{H_0} \alpha (z - y_i)^{\alpha-1} x_{ir} - \sum_{H-} (z - y_i) \epsilon_{ir}^{\alpha} + \sum_{H+} (z - y_i) \epsilon_{ir}^{\alpha}}{z^{\alpha}}$$

Let  $x_{ir}$  be income from remittances and the marginal change be  $\epsilon_{ir}$  such that for each household  $i$ , with income from remittances equal to  $x_{ir}$ . Applying the equation from the remittance recipient's point of view,  $H_0$  denotes the number of households in poverty both before and after the change in consumption income.  $(H-)$  and  $(H+)$  indicates the number of households that leave and enter poverty as a result of the remittance change respectively. For a positive change in an income source, such as an increase in remittances, the last term in the above equation drops out, and the poverty effect is negative or zero.<sup>17</sup>

Using a detailed descriptive analytical approach, this study used Stata 11 and the Distributive Analysis Stata Package (DASP) 2.3 by Araar and Duclos (2013). Using the FGT index with decomposition by income sources known as  $dFGT$ , per capital incomes from the seven sources of income were used to examine and analyze the impact of remittances on consumption income and poverty. The  $dFGT$  follows the approach of the FGT (1984) explained above. In the analysis, the seven income sources ( $y_i$ ) are

<sup>17</sup> Kersi Shroff, (2009) *Impact of Remittances on Poverty in Mexico*.  
Foster J., Greer J and Thorbeck E. (1984), *A Class of Decomposable Poverty Measures*,

originated from the consumption income of the LCMS - CSO (2010) data , the poverty line is also based on the 2010 national poverty line (**Z**) for Zambia that is indicated at old currency K146,009 and the total number of households (**N**) is 19, 397.

To assess this marginal impact of remittances on poverty and the impact of remittances on consumption income, we first removed remittances completely from the K sources to see the impact of remittances on consumption income. Secondly we kept the other sources of income constant while increasing remittances by 5% and assessed the marginal change on poverty caused by the increase in remittances under the FGT index described above.

Generally, poverty decreases as remittances go up. This is obvious as a result of the nature of the experiment with the axioms of monotonicity and transfer applying. However, the impact of remittances on poverty is mixed. While some studies find positive relationships between remittances and poverty, others found negative and/or no impact, respectively.

## CHAPTER FIVE

### EMPIRICAL RESULTS, ANALYSIS AND DISCUSSION

#### 5.0 Introduction

To present the empirical findings of the research, the methodology used was discussed in the previous chapter including the data source and type. Cross sectional data from the LCMS – CSO (2010) was used to analysis the impact of remittances on poverty using seven sources of income. Therefore, this chapter analyses and discusses the results of the study. The analysis presents the estimates of the parameters using the approach of the FGT (1984) by Stata 11 and Distributive Analysis Stata Package (DASP 2.3) using decomposition by income sources to examine and analyze the impact of the marginal changes caused by remittances on poverty and consumption income at the microeconomic or household level.

#### 5.1 Descriptive Statistics

Table four (4) below shows the statistics used to describe the data used in the study. This is the summary of statistics from the total income of the seven sources of income used in the analysis from the LCM S – CSO (2010) data. The income sources are a combination of both urban and rural households without any other specification such as gender or education.

The mean which is the average income indicates a high figure of K3, 978,684 with particularly susceptible to the influence of outliers. The standard deviation at K37. 9 million is the measure of how spreads out the incomes in a distribution are. It indicates how much, on average, each of the incomes in the distribution deviates from the mean of the distribution. It is calculated by taking the square root of the variance. On the other hand, the skewness which is a measure of asymmetry indicates that the tail of the distribution is more stretched on the positive side of the mean at 74.01.

**Table 4: Descriptive Statistics of the data used in the analysis**

Description	Statistics
1. Mean	3,978,684
2. Stand. deviation	3.79e+07
3. no. of observations	19, 397
4. Standard error	272,145.7
5. Variance	1.44e+15
6. Skewness	74.01
7. kurtosis	7,188.433

## 5.2 Empirical Results

The decomposition of the FGT poverty index (*dFGT*) by income sources from the seven sources include income from employment, crops, livestock, non-farm business, interest, local and international remittances and any other income give the following FGT indexes in tables five (5), six (6) and seven (7).

**Table 5: FGT Poverty rate using the original LCMS 2010 data at 0.572255**

SOURCES OF INCOME	INCOME SHARE	ABSOLUTE CONTRIBUTION	RELATIVE CONTRIBUTION
1. Any other source	0.094953	-0.035988	0.084134
2. Non-farm income	0.232599	-0.112800	0.263708
3. Interest gained	0.029309	-0.003051	0.007132
4. Wages	0.539925	-0.222348	0.519813
5. Crop income	0.043470	-0.020798	0.048623
6. Remittances	0.037478	-0.024401	0.057045
7. Livestock income	0.022265	-0.008361	0.019546
Total	1.000000	-0.427745	1.000000

### 5.2.1. FGT Poverty rate using the original LCMS 2010 data

With Alpha: 0, Poverty line: K146, 009, per capita income at household level and the FGT index: **0.572255**, table 5 above shows the FGT index with the original data given by the LCMS-CSO (2010) indicating a rate of 57 % of the population as being poor. However, this figure is slightly different from the 2010 official National poverty rate generated by the CSO which stands at 60.5% poor as this study used income sources and not expenditure aggregates used by the CSO when calculating the national poverty rate of 2010.

**Table 6: FGT Poverty rate using original LCMS 2010 data without Remittances at 0.596993**

SOURCES OF INCOME	INCOME SHARE	ABSOLUTE CONTRIBUTION	RELATIVE CONTRIBUTION
1. Any other source	0.098650	-0.035445	0.087950
2.Non-farm income	0.241656	-0.112044	0.278020
3.Interest gained	0.030451	-0.003098	0.007688
4.Wages	0.560948	-0.223903	0.555579
5.Crop income	0.045163	-0.020165	0.050037
6.Livestock income	0.023132	-0.008353	0.020725
7. Remittances	0.000000	0.000000	0.000000
Total	1.000000	-0.403007	1.000000

### 5.2.2. FGT Poverty rate using the original LCMS 2010 data without Remittances

With Alpha: 0, Poverty line: K146, 009, Per capita Income at household level and FGT index: **0.596993**, Table 6 above shows the change in the FGT index caused by the complete removal of remittances from the sources of income indicating a rate of 59% of the population as being poor. This analysis is used to show the impact of remittances on consumption income. Therefore, the removal of remittances from consumption income indicates an increase in poverty by 2% from the original 57% to 59%.

**Table 7: FGT Poverty rate using original LCMS 2010 data with a 5% increase in Remittances at 0.509132**

SOURCES OF INCOME	INCOME SHARE	ABSOLUTE CONTRIBUTION	RELATIVE CONTRIBUTION
1.Other sources	0.080919	-0.033145	0.067524
2.Non-farm income	0.198222	-0.107975	0.219967
3.Interest gained	0.024978	-0.002795	0.005693
4.Wages	0.460126	-0.213340	0.434619
5.Crop income	0.037046	-0.019527	0.039781
6.Livestock income	0.018975	-0.007737	0.015762
7.Remittances	0.179734	-0.106349	0.216654
Total	1.000000	-0.490868	1.000000

### 5.2.3. FGT rate using LCMS 2010 data with a 5% increase in Remittances

With Alpha: 0, Poverty line: K146, 009, Per capita Income at household level and FGT index: **0.509132**, table 7 above shows the change in poverty caused by a 5% increase in Remittances. The increase of remittances by 5% indicates a poverty rate of 50% of the population as being poor. The 5% increase in remittances resulted in the reduction of poverty from the original 57% to 50%

### 5.3 Analysis and Discussions

The 2% poverty increase that has been caused by the removal of remittances from the sources of consumption income is a good indication that remittances have a positive impact on poverty. Further, the 7% reduction in poverty caused by a 5% increase in remittances is also a good indication that with an increase in remittance inflows, the rate of poverty will reduce. However, the changes on poverty that have been effected due to the removal of remittance inflows are marginal. This is as a result of the remittance share to consumption income or expenditure. The percentage expenditure shares of remittances

(share of remittances used in expenditure) in Zambia are very low. They declined from 5.6 percent in 2006 to 0.6 percent in 2010.<sup>18</sup>

Given that remittance inflows increase and attract a bigger share of consumption and investment income, we should be able to see a fair reduction of poverty in Zambia. A rise in remittances would result into a high poverty reduction rate. Generally, poverty decreases as remittances go up. This is obvious as a result of the nature of the experiment with the axioms of monotonicity and transfer applying. *Ceteris paribus*, a decrease in the income of poor person should increase the FGT index. While a transfer of income from a lower income poor person to a higher income poor person increases the poverty index. Therefore, the poverty index increases whenever there is a reduction in a poor person's income, holding other incomes constant. However, the impact of remittances on poverty reduction is mixed. While some studies find positive relationships between remittances and poverty, others found negative and/or no impact respectively.

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<sup>18</sup>Central Statistics Office of Zambia, LCMS report (2006 and 2010) [www.zamstat.gov.zm](http://www.zamstat.gov.zm)  
Measurement of poverty: some fundamental issues, Asian Development Bank [www.adbi.org](http://www.adbi.org)

## CHAPTER SIX

### CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH, LIMITATIONS AND POLICY IMPLICATIONS

#### 6.1 Conclusion and suggestions for further research.

This paper has analyzed the impact of remittances on poverty without separating internal and external remittances. Although the remittance inflows have been low, the findings of the paper indicate that remittances have a positive impact on poverty in Zambia. An assessment made has shown that when the original LCMS 2010 data increased remittances by 5%, poverty reduced by 7% from 57% to 50% and when remittances were removed totally from the seven income sources, poverty increased by 2% from 57% to 59%. This is an indication that as remittance inflows are increased into the economy, the impact on poverty reduction will increase as well.

The paper further analyzed the impact of remittances on poverty, while keeping all other factors constant. In reality this is unlikely to be the case. The impact of remittances heavily depends on the amount of remittances inflow. Although a 5% increase of remittances has shown a positive result of 7% poverty reduction in Zambia, a lower percentage increase of remittances might show a minimal or no impact at all.

The methodology of this study has been used by other researchers including Shroff, (2009) and Mduduzi, (2012). Both Shroff, (2009) and Mduduzi, (2012) show some consistency with this paper as both indicate that remittances have a positive impact on poverty with the increase of remittances and total removal of remittances from income sources respectively. According to Shroff (2009), both internal remittances and external remittances were increased by 1% and assessed the percent difference in poverty for the three FGT measures. On the other hand, Mduduzi, (2012) indicated that little work has been done to measure the effects of remittances on poverty in South Africa. Using newly available data set compiled by the University of Cape Town's Southern Africa Labour and Development Research Group, found that if remittances were excluded from actual

incomes, then the percentage of people living in absolute poverty was 67%. Once remittances were included, only 47% of people lived below the line.

Although all the three levels of poverty including the poverty headcount, poverty gap and the squared poverty gap have been discussed in this study, this paper limited the analysis on poverty using the poverty head count which analyses only the population under the poverty line. Further research could use all the three poverty levels to analyse the impact of remittances on Poverty in Zambia.

Further, The LCMS - CSO, (2010) data does not separate the financial remittances and in-kind remittances which are obtained from the domestic and international communities. Therefore the variable of remittances consists of both local and international flows. Further work could also separate internal and external remittances so that an analysis can be done on the impact of internal and external remittances on poverty separately.

## **6.2 Recommendations**

Majority of the Zambian population is struggling with high levels of poverty including cases of extreme poverty. Mostly prominent in rural Zambia, the country's poverty rates are obstinately high with at least sixty percent of the population living under poverty. LCMS - CSO, (2010). On the other hand, remittances have been gaining momentum as a source of income for most developing economies including Zambia.

Remittances have been identified as an important part of the consumption income that is used in household consumption expenditure and private investment by their recipients. The increasing role of remittances, especially their ability to remain resilient during periods of economic and financial crises, has spurred an interest in development practitioners who wish to understand the nature, potential development impact, and policy implications of remittance inflows. In Zambia, Remittance inflows have been increasing and continue to upswing while poverty rates remain high and decreasing at a marginal rate.

Following the finding of this study that indicate a positive impact of remittance on poverty, and consumption income, we recommend that the Government of Zambia creates an environment that will encourage and increase remittance inflows into the Country. This can be done by creating and implementing policies that favors increase in remittance inflows including low taxation charged on remittances and effective and low cost of transfers of these resources. Further, Government can formulate and implement the dual citizenship system to encourage Zambians in the diaspora to maintain double citizenship and remit back home.

### **6.3 Limitations of the study**

The research is limited to data, as the data is obtained only from the Living Conditions Monitoring Surveys of 2010. The choice of the study period is dependent on data availability on remittance inflows and consumption income of households in the survey. Due to data limitations, the study is narrowed on the receipt of remittance inflows by the household rather than the type of person receiving the remittances. Further, the data obtained from CSO does not separate Internal and International remittances. The figure of remittances contains both local and international remittances.

This study uses cross sectional data which does not capture the effect of seasonality in consumption trends. Further, the 2010 poverty estimates are based on the national basket. The national basket reflects prices at national level rather than prices that communities face in their localities.

Remittances include both financial remittances and in-kind remittances which are obtained from the domestic and international communities. (The inclusion of in-kind remittances is important because it leads to a more accurate measure of the actual flow of remittances to households in Zambia). The CSO - LCMS (2010) does not separate the financial remittances and in-kind remittances which are obtained from the domestic and international communities. Therefore the variable of remittances consists of both local and international flows.

Although all the three levels of poverty including the poverty headcount, poverty gap and the squared poverty gap have been discussed in this study, this paper limited the analysis on poverty using only the poverty head count with analyses only the population under the poverty line. Further, the study analysed the impact of remittances on poverty using only one measurement of increasing remittances by 5%. No comparison of using a lower or higher percentage of remittances was used to analyse how poverty would be impacted in Zambia.

Further, the study used income data from the 2010 survey, as a measure of welfare which may be under reported or over reported.

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## APPENDIX

Stata data used in the analysis

```
// harriet

clear

version 11

set more off

set mem 500m

cap log close

cd "C:\Users\User\Documents\projectma"

log using remit, replace text

*****

use "C:\Users\User\Documents\New
folder\HH_CROP_INCOME_REC_clean.dta", clear

egen hhcropinc = total( s06aq02), by(hhid)

gen hhcropinc2 = hhcropinc/12

duplicates drop hhid, force

sort hhid

save cropinc1.dta, replace

use "C:\Users\User\Documents\New folder\hh_livestock_income_rec_clean.dta",
clear

egen hhlivstok = total( s06bq03), by(hhid)

gen hhlivstok2 = hhlivstok/12
```

```

duplicates drop hhid, force

sort hhid

save livstokinc1.dta, replace

use "C:\Users\User\Documents\New folder\PERS RECORD.DTA", clear

egen wages = rsum( s06q27 s06q28 s06q29 s06q30)

egen hhwages = total(wages), by(hhid)

egen hhremittance = total(s06q33), by(hhid)

egen interest = rsum(s06q37 s06q38)

egen hhinterest = total(interest), by(hhid)

egen nonfarm = rsum(s06q25 s06q26)

egen hhnonfarm = total(nonfarm), by(hhid)

egen othersource =rsum(s06q31 s06q32 s06q34 s06q39)

egen hhothersource = total(othersource), by(hhid)

drop if PID_02 != 1 | hhid=="."

duplicates drop hhid, force

sort hhid

merge 1:1 hhid using livstokinc1.dta

drop _merge

sort hhid

merge 1:1 hhid using cropinc1.dta

replace hhcropinc2 = hhcropinc2/hhsize

```

```
replace hhlivstok2 = hhlivstok2/hhsize

gen hhwages2 = hhwages/hhsize

gen hhinterest2 = hhinterest/hhsize

gen hhremittance2 = hhremittance/hhsize

gen hhnonfarm2 = hhnonfarm/hhsize

gen hhothersource2 = hhothersource/hhsize

egen tot_inc1 = rsum(hhlivstok hhcropinc hhwages hhremittance hhinterest
hhnonfarm hhothersource)

save remmittancedata.dta, replac

log close

exit
```