THE IMPACT OF REMITTANCES ON POVERTY IN BURKINA FASO.

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DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE BACHELOR OF SCIENCE HONOURS DEGREE IN ECONOMICS

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RELEASE FORM

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The undersigned certify that they have supervised, read and recommend to the Bindura University of Science Education for acceptance of a research project entitled:
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DEDICATIONS

I dedicate this dissertation: To my dearest parents, who brought me up and taught me the value of hard work and love, it is to them that I owe my very existence, To God the Almighty and his son Jesus Christ.
ABSTRACT

The study sought to investigate the impact of remittances on poverty in Burkina Faso. The researcher used secondary cross-sectional data for households in Burkina Faso to estimate a regression model. The binary Logit Method was applied in this research and data was obtained from FinScope Survey (2017). Variables used in the study are remittances, education, income, employment, gender and disability. The study on the first hand found out that remittances, education income level, living in rural areas and being disabled have impact on poverty in Burkina Faso. However, on the other hand employment and gender have no impact on alleviating poverty in Burkina Faso. As a result the researcher recommended the government to pursue an aggressive policy aimed at promoting the inflow of remittances in Burkina Faso. In addition, a policy shift should be adopted aim to relook the promotion of employment, remittances and income policy so that they match human needs to reduce poverty in Burkina Faso. The policy should be objective on educating the general public as a way to increase accessibility and usage of remittances, promote external relation with the outside world and promoting effective and efficient Labour Market aimed at increasing job creation and review of the income tax to increase disposables incomes.
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I would like to pass my heart-felt gratitude to my academic supervisor Dr Kairiza, for his patience in assisting and guiding me through this dissertation and to Bindura University of Science Education for according me an opportunity to study with their prestigious institution. I am sincerely grateful to all the lecturers, who imparted their knowledge in me and encouraged me to soldier on the degree programme.

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<td>APC</td>
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<td>CSO</td>
<td>Central Statistics Office</td>
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CHAPTER ONE

INTRODUCTION

1.0 Introduction


Remittances are an important part of the consumption income that is used in household consumption expenditure and private investment by their recipients. Adetotun (1978) argues that remittances have become a major source of financing for developing countries and are particularly important in as a way to reduce escalating poverty levels Burkina Faso.

The increasing role of remittances, especially their ability to compliment and cushion consumption expenditure and savings has enormous implications for economic growth and poverty alleviation in both originating and destination countries. In addition their 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 on poverty.

Thus the correlation between remittances and poverty has enthused debate among economists, policymakers and other interested parties as to what can and cannot be achieved by external income flows with regard to alleviating poverty (Lachaud 2013). Accordingly, it is against this background that this study sought to establish the impact of remittances on poverty in Burkina Faso.
1.1 **Background of Study**

According to National Accounts data, Burkina Faso has known relatively strong economic growth and good macroeconomic performance. Real GDP per capita began to rise after the devaluation of the CFA Franc in January 1994 and growth averaged at 2% per year since then. According to the IMF this good growth performance is, among other things, the result of the gains in competitiveness following the devaluation, the large public investment program (mainly externally financed), and the financial and structural policies (including price and trade liberalization) in the framework of stabilization and structural adjustment programs (SAP) aimed at consolidating the market orientation of the economy and maintaining macroeconomic stability (IMF, 2003).

However, despite this very good macro-economic performance the micro-economic evidence was so far rather disappointing. Official poverty estimates, including those of the Burkinabè Statistics Office and the World Bank which were all derived from household survey data in 1994, 1998 and 2003, suggested that over the whole period the poverty headcount index stagnated at a high level of roughly 53,4%.

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 come in two forms that are financial or in goods. Adetotun, (1978)argues that remittances have become a major source of financing for developing countries and are particularly important in Burkina Faso. 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.

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 Burkina Faso 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”.

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 petite attention given to analyse the same influence in Burkina Faso. Against this background, this study will undertake an impact analysis of remittances on poverty and consumption income in Burkina Faso. 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 Burkina Faso?”

In Burkina Faso, remittances are steadily rising. The value of Personal remittances, received in Burkina Faso 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.

The percentage expenditure shares of remittances (share of remittances used in expenditure) in Burkina Faso are very low. They declined from 5.6 percent in 2006 to 0.6 percent in 2010. The urban areas of Burkina Faso spend a larger share of these remittances compared to the rural areas. The rural Burkina Faso 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 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 Burkina Faso including, the dual citizenship act, low tax charges on remittances and effective and cheap transfer.
costs, provinces of Burkina Faso is taken from the southern province at 7.2 percent in 2006 and 0.9 percent in 2010. The western Burkina Faso indicated the lowest expenditure

**The distribution and poverty levels in Burkina Faso**

Poverty has been a battle that majority of the Burkina Faso’s people have been struggling with since the 1970s. This was after the Burkina Faso’s economy experienced a huge National budget deficit that came as a result of high world oil prices that coincided with low mineral prices on the world market. Because Burkina Faso heavily depended on revenue from exports to finance the National budget, the reduced revenue from exports led to the Burkina Faso’s 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, Burkina Faso is now reported to be among the poorest countries of the world. Poverty rates range from seventy percent (70%) of the Burkina Faso’s 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. 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 Burkina Faso’s family of six was valued at old currency F146, 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 Burkina Faso 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, Burkina Faso’s HDI ranking was
above the average of 0.389 for 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.

The Burkina Faso’s 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.

However, the Government of Burkina Faso has come up with 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 people of Burkina Faso to be a middle income nation, the National Development Plans to accelerate infrastructure development, economic growth and diversification, rural investment and poverty reduction and the National Agricultural policy (NAP) to provide a policy framework for guiding the development of the agriculture sector.

1.2 Problem Statement

The high levels of poverty despite different measures to alleviate it, is 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 Objectives of the study

The principal objective of this study was to investigate the impact of remittances on poverty in Burkina Faso. For this to be achieved, greater emphasis was put on the following subordinate objectives:
• To establish the rationale for the continued escalating poverty levels in Burkina Faso.
• To explore any other factors that have impact on poverty in Burkina Faso.
• To ascertain the possibility for improvement of the remittance policy with respect to poverty in Burkina Faso.

1.4 Research Questions

This study is enthused by the intellectual desire to provide answers to the following questions:

• What is the relationship between remittances and poverty in Burkina Faso?
• Are there any other factors that affect poverty in Burkina Faso?
• What are the possible improvements can be done to increase inflows of income in Burkina Faso?

1.5 Hypothesis

H₀: Remittances have no desired influence on poverty reduction in Burkina Faso

H₁: Remittances have desired influence on poverty reduction in Burkina Faso

1.6 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 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 et al, (2005). Consequently, the significance of this study rests on two reasons. Firstly, because poverty rates remain stubbornly high in Burkina Faso, 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 Burkina Faso 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.

1.7 Assumptions of the study

- The data collected is authentic, complete, relevant and reliable.
- The econometric model used is correctly specified and follows a normal distribution.

1.8 Delimitations of the study

The study provided an analysis of the impact of remittances on poverty in Burkina Faso. The rationale for analysing poverty was that it affects all spheres of life touching mainly the microeconomic welfare of people and macroeconomics. On the same token, the study considered remittances as a study area because of the possibility that they yield positive contribution to personal incomes which positively impact on consumption and later lead to reduce poverty levels.

1.9 Limitations of the study

- It is undeniable that data problems in terms of quality, consistency, accuracy and reliability are very acute in less developed countries such as Burkina Faso. In order to avert this, the study used secondary cross-sectional data from FinScope.
- Information confidentiality proved to be a major constraining factor with regard to accessing other equally important information for this study. Information was not being marshalled to everyone in order to protect and safeguard the data.

1.10 Definition of terms

Poverty is defined as a human condition characterised by sustained deprivation of resources, choices, capabilities, security and power necessary for adequate standard of living. Anyanwu and Erhijapor (2010).
**Remittances** defined as any form of money or goods received as assistance from other people outside or within the household. According to IMF (2013) remittances are defined as the monetary link between migrants and their families left behind in the country of origin.

### 1.11 Summary

The foregoing chapter focused on introducing the background of the study, statement of the problem, objectives of the study, research questions as well as the significance of the study. Delimitations and limitations of the study were also covered in this chapter. The primary objective of the chapter was to give an overview of what the study will be centered on. The next chapter is the review of literature that presents knowledge gathered by the scholar from previous relevant studies to bring denotation to the subject of study.
CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews both theoretical and empirical literature relating to the contribution of remittances to poverty reduction. This is done to provide a basis for building functional model of poverty in the best interest of Burkina Faso.

2.1 Theoretical Literature Review

This section dwells into the efforts of providing a theoretical framework to illustrate the impact of remittances on poverty emanated and exacerbated in the process of financial and economic development. In, as far as the demand side barriers are concerned, these fundamental factors deserve to be thoroughly looked into. Keeping this in mind, the review of theories that explain the process of financial exclusion was done as follows:

2.1.1 Migration, remittances and poverty: opposing theories

The impacts of remittances can have an impact upon the receiving economy in different ways. Glytsos (2001) describes the channels through which remittances can affect the receiving country. There is no consensus in the literature as to whether the remittance inflows give a positive or negative effect on poverty. In the current thinking on migration and development, two opposing perspectives can be seen: the Migrant syndrome perspective, and the Developmentalist perspective. The reality will probably lie in between the two extremes, and depend on the characteristics of the studied region. These issues will be further explained in this chapter. The impacts of migration and remittances on poverty are explained by two opposing theories: the Migrant syndrome perspective and the Developmentalist perspective.
2.1.2 The Migrant Syndrome perspective

The Migrant syndrome perspective, views migration as a drain on labour and capital resources of the migrant sending area. According to this perspective, migration may reduce income in migrant sending areas if the marginal product of a migrant’s labour is large prior to migration and or if migrants take productive capital (including human capital) with them when they leave. Migrants remittances may only partially compensate for the loss of labour and capital effects, and remittances may also lead to inflation and Dutch disease. From this pessimistic perspective, poverty may increase if migrants originate from poor households, or if the labour of poor farmers becomes less productive as a result of the lost labour and capital due to migration. For the migrant’s source country, migration can be viewed as labour export and remittances are the payment for that export.

In this way local production activities compete with migration for limited labour. The Dutch diseases effect on the economy can be noticed as production of tradable goods decreases. The households with migrants will benefit (otherwise they would not migrate) but the rural poor households may not be among the beneficiaries. If migration is costly and risky, migrants may come from the middle or upper segments of the income distribution, and not from the poorest households. If migration adversely affects local production, the income of the poor may fall, and poverty increases. Further, as production and income decrease, this may create negative multipliers and a downward spiral in local economic activity. The remittance receiving households may not spend their income on locally produced goods and services, which would limit migrations’ potential to alleviate poverty through a higher demand for local production. Families that receive remittances would in this case be able to buy imported goods, while the poor become poorer and income gaps increase.

2.1.3 The Developmentalist Perspective

The developmentalist perspective, which is associated with the New Economics of Labour Migration (NELM), presents a more optimistic view. It views migration
decisions as part of a household strategy to raise income obtain funds for investment, and insure against risk. Remittances or even the potential for remittances can offset production and investment constraints and start a development process in poor rural areas.

This perspective sees the potential for migration and remittances to reduce poverty, provided that the benefits of migration reach the poor. Remittances may contribute directly or indirectly to the income levels of the poor households that participate in migration. If migrants originate from poor households, remittances may directly reduce poverty by raising the income of the poor. Additionally if remittances are used to buy local products and services they can contribute to development through higher demand. In this case, other households in the economy can increase their income through a higher productivity (the multiplier effect) and income gaps can thereby decrease.

2.1.4 Remittance motives: Altruism and Self interest

Motivations to remit influence how remittances are used, and therefore it is important to consider the motives for remitting in order to understand the economic effects of remittances on the receiving economy. Oded Stark (1991) has studied motives for remitting in rural-urban migration. Theoretical considerations by Stark of the determinants of remittances present two extreme motives for remitting; altruism motive, which is the care the emigrated worker, has for the family left behind and self-interest motives that is a form of investment as insurance for future returns. The motives for remitting can be a mix of altruism and self-interest.

2.1.5 The Altruism and Self-interest theory

This theory explains the motives for remitting as an agreement between the migrant and the rest of the family aimed to benefit both parties. The agreement considers investment and risk. Remittances can be seen as a means of spreading the risk when the insurance and the capital markets are imperfect. A positive correlation between the amount of remittances and the migrant’s education level has been interpreted in the tempered altruism theory as repayment to the family for education investments. This does not mean that an educated migrant will send a higher fraction of the wage than a non-
educated migrant, but rather that in order for the family to be repaid for investments in
education for the migrant, remittances will have to rise with higher education. Since
higher education often correlates with a higher wage level it can be seen as an altruistic
motive by the educated to remit, and not a return of investment for the family.

Hence, in comparison, the motives for remitting should rather be seen in the context of
the fraction of wage remitted than the amount remitted. The altruism model also shows
a positive relation between remittances and wage, and therefore education. Whatever
motive is behind remittances, the income of the migrant affects the amount remitted.

What mainly separates pure altruism from tempered altruism is that the pure altruistic
motives for remitting are, in addition, affected by the income and the size of the
receiving household, where lower household income is compensated by higher
remittance income. The self-interest motives to remit are, on the other hand, determined
by potential inheritance, future possibility of returning home and business opportunities
and other investments in the home region that can be secured by family members left
behind. This has a positive bearing in circumventing poverty level in the receiving
family.

In summary, according to the altruistic theory, the amount of money remitted rises with
higher wage levels, household income and the size of the household. In tempered
altruism, remittances increase with higher education (and thereby wage level) and are
affected by changes in the insurance and capital markets. If the motives are self-interest,
remittances will increase with higher household income, future possibility of returning
home and return of investments

2.1.6 Theoretical Rationale behind Remittances: Optimistic and Pessimistic view

Consistent with Anyanwu and Erhijakpor (2010), the optimistic and pessimistic views
are the two theoretical rationales that explain the relationship between remittances and
poverty. According to Cattaneo (2005), the optimistic view argues that remittances are
a mechanism for economic growth and development whereas the pessimistic view says
that the economy is weakened by overreliance on remittances. Anyanwu and Erhijakpor
(2010) categorised the impact of remittances in the receiving countries into national,
community and household level perspectives. The household level perspective argues that household income and consumption go up and reduce poverty in response to increased international remittance inflows.

The community level perspective argues that increased remittance flow facilitates the start-up of more small scale enterprises, which facilitates job creation and the development of communities. The increase in household consumption inspired by remittance flow increases the demand for community-manufactured goods and services thereby promoting local development and employment creation. The national level perspective says that remittance inflow brings more foreign currency and this enables the labour exporting country to easily meet its international payment obligations. The remittance flow increases savings and investment, thus boosting economic growth in the labour exporting country. Remittances have a multiplier effect on the economy because they are most probably spent on the consumption of domestically produced goods, consistent with Anyanwu and Erhijakpor (2010) and Ratha (2003).

This section finds it relevant and fundamental to include the brief theoretical review of basic Keynesian Absolute Income Hypothesis along with the subsequent consumption hypotheses.

Keynes (1936) postulated the Keynes psychological law otherwise known as the Absolute Income Hypothesis (AIH). The law says that current consumption expenditures is a function of current disposable income and that as income increases, consumption expenditure increases but by less than proportionately. According to him, the marginal propensity to consume (MPC) is less than the average propensity to consume (APC) and that APC falls as income increases.

Based on these specifications, according to Keynes, if we consider the fact that a consumer considers her disposable income when deciding how much to consume, we actually consider her net income. Thus, the AIH states that the real consumption is a function of real income (real disposable income). In other words, what determines the real consumption level is the real income. Here, MPC was expected to be constant and close to 1, and the autonomous consumption, was expected to be small and positive (Fernandez-Corugedo, 2004).
The earlier studies, testing the validity of the theory have presented evidences supporting the AIH (Friedman, 1957). However, the first contradiction with Keynes’ AIH was presented in Kuznets’ (1946) paper, where he investigated consumption and savings by using a sample period of 1869-1936. In that study, Kuznets stated that even though there were substantial improvements in the GDP, APC was rather stable. These findings were in contradiction with the AIH stating that as income increased, APC was expected to be decreasing. Studies testing the validity of AIH, using household data and short term data, presented evidence in support of AIH. In some studies where household consumption is investigated, the researchers have presented evidence showing that households with more income had more consumption, which can be regarded as an evidence of MPC being positive as stated by AIH. Thus, the authors have concluded that Keynes’ AIH could be used in the estimation of consumer behaviour (Pehlivan and Utkulu, 2007). In another study, Davis (1952), using the US annual real consumption and real disposable income data over the 1929-1940 period has presented evidences not contradicting with AIH. However, in the following periods, more studies presented evidences showing that, when tested with long term annual data, the consumption function appeared to be misspecified, which is commonly called as “the consumption puzzle” (Mankiw, 1992).

The Relative Income Hypothesis (RIH) developed by Duesenberry (1948), based on psychological factors, states that consumption, in contradiction to AIH, is not only a function of real income, but also a function of highest past income level. According to Duesenberry, the consumption decisions of individuals are not independent of each other’s and thus consumption should be studied from a psychological and social point of view.

On the other hand, the Permanent Income Hypothesis (PIH) developed by Friedman (1957), assumes the consumers want to maximize not only their current but also life time utility, and focuses on the optimization of this issue. PIH separates consumption and current expenditure and also income and current receipts. According to PIH, the permanent component of consumption is a function of permanent component of income. According to Friedman, temporary income changes do not change temporary consumption; therefore consumers decide their level of consumption based on their
permanent income levels. And thus, since the temporary consumption in aggregate is zero, the observed consumption is equal to the permanent consumption.

The last hypothesis is the Life Cycle Hypothesis (Modigliani, 1966). LCH also considers consumers trying to maximize their life time utility, but also takes into account the evolution of household consumption and income. The most important difference from PIH is that LCH assumes finite life of households. According to LCH, when consumers decide how much to consume in the current period, they take into account their expectations regarding the future (Sachs and Larrain, 1993).

2.1.7 The Threshold Decision Making Theory

The Threshold Decision-making theory proposed by Hill and Kau (1973), Pindyck and Rubinfeld (1998a) and Greene (2003) molded the theoretical foundation of this study. The theory as it was used in this study notes that the decision taken by individuals to spend more on goods and services over and above the poverty threshold or not, is influenced by the reaction threshold inherent in them which is dependable on a set of factors. At a given level of stimulus above the threshold, individuals will be consuming goods and services considered to be not in poverty in the economy whereas at the critical threshold level the move to be consuming above the poverty threshold line is stimulated. This phenomenon is captured in a mathematical relationship as:

\[ Y_i = \beta X_i + \mu_i \]  

(1)

Where \( Y \) is equal to one (1) when an household consumption expenditure is above the poverty threshold (0) otherwise. This means that:

\( Y_i = 1 \) if \( X_i \) is greater than or equal to a critical value, \( X^* \) and

\( Y_i = 0 \) if \( X_i \) is less than a critical value \( X^* \).

Thus, \( X^* \) represents the combined effects of the independent variables (\( X_i \)) at the threshold level. Equation 1 represents a binary choice model involving the
estimation of the probability of a household consumption above the poverty line \((Y)\) given a set of factors \((X)\) which are exogenous to each household. Mathematically, this is represented as:

\[
Prob (Y=1) = F (\beta X_i)
\]

\[
Prob (Y=0) = 1 - F (\beta X_i)
\]

**Source: Greene (2003)**

Where: \(Y_i\) is the observed response for the \(i^{th}\) household either that consume above or below the poverty line in Burkina Faso. This means that \(Y_i =1\) for a household that has the consumption above the poverty threshold and \(Y_i=0\) for a household consumption below the poverty threshold line. \(X_i\) is a set of independent variables such as, remittance, gender, income, disability, location, employment and level of education among others, associated with the \(i^{th}\) individual, which determine the probability of a household to be not living with poverty \((P)\). The function, \(F\) may take the form of a normal, logistic or probability function.

Following the dictates of the other theories, however, the threshold decision making theory proposed by Hill and Kau (1973) help us to explain instances at which a household is said to living in poverty or not. The theory notes that the position or indicator for one to be classified living in poverty or not is influenced by the consumption reaction threshold which is dependable on a set of factors. At a given level of consumption stimulus below the threshold, the households are classified to be living in poverty. This phenomenon is captured in a mathematical relationship as:

\[
Y_i = \beta X_i + \epsilon
\]

(1)

Where \(Y\) is equal to one \((1)\) when an household consumption expenditure is above the poverty threshold \((0)\) otherwise. This means that:

\(Y_i = 1\) if \(X_i\) is greater than or equal to a critical value, \(X^*\) and
\( Y_i = 0 \) if \( X_i \) is less than a critical value \( X^* \).

Thus, \( X^* \) represents the combined effects of the independent variables (\( X_i \)) at the threshold level. Equation 1 represents a binary choice model involving the estimation of the probability of a household consumption above the poverty line (\( Y \)) given a set of factors (\( X \)) which are exogenous to each household. Mathematically, this is represented as:

\[
Prob (Y=1) = F (\beta X_i)
\]

\[
Prob (Y=0) = 1 - F (\beta X_i)
\]

**Source:** Greene (2003)

Where: \( Y_i \) is the observed response for the \( i^{th} \) household either that consume above or below the poverty line in Burkina Faso. This means that \( Y_i = 1 \) for a household that has the consumption level above the poverty threshold and \( Y_i = 0 \) for a household consumption below the poverty threshold line. \( X_i \) is a set of independent variables such as, remittance, gender, income, disability, location, employment, gender and level of education among others, associated with the \( i^{th} \) individual, which determine the probability of a household to be no it living with poverty (\( P \)). The function, \( F \) may take the form of a normal, logistic or probability function.

The theory implies that a set of independent variables exist such as the level of remittances education, income and employment among others that influence people’s consumption patterns. Therefore, receiving a certain level of remittances, education, and income enables households to consume goods and services that classify them to be living out poverty and failure to achieve that threshold level classifies households to be living in poverty.

Having laid down the postulations of different theories in as far as the impact of remittances on poverty is concerned, the study having said that however turned its attention to ground in writing the empirical literature to address the impact of remittances on poverty in Burkina Faso.
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presented the methodology followed when conducting the research. It involved the research design, theoretical and empirical models, estimation methods and the statistical package among other things required to carry out this study successfully.

3.1 Model Specification

3.1.1 Theoretical model

Keynes (1936) postulated the Keynes psychological law also known as the Absolute Income Hypothesis (AIH). The law says that current consumption expenditures is a function of current disposable income and that as income increases, consumption expenditure increases. In this study remittances are said to contribute directly or indirectly to the income levels of the poor households that participate in migration. Thus, resultantly the Absolute Income Hypothesis model was to style the theoretical foundation of the impact of poverty in Burkina Faso.

The Keynesian consumption function is written as

\[ C = a + cY \]

\[ a > 0 \quad 0 < c < 1 \]

Where \( a \) is the intercept, a constant which measures consumption at a zero level of disposal income, \( c \) is the marginal propensity to consume MPC and \( Y \) is the disposal income.
The above relation that consumption is a function of current disposable income whether linear or non-linear is called the absolute income hypothesis.

Based on these specifications, according to Keynes, if we consider the fact that a consumer considers her disposable income when deciding how much to consume, we actually consider her net income. Thus, the AIH states that the real consumption is a function of real income (real disposable income). In other words, what determines the real consumption level is the real income. Since remittances are said to contribute directly or indirectly to the income levels of the poor households that participate in migration. Thus, consumption is expected to increase with increase in remittances thereby causing a reduction in poverty level in households receiving remittances in Burkina Faso.

In addition the study also incorporated the decision making theory to compliment the Keynesian Consumption Function. The household decisions to used remittances for family or household consumption are dependable upon a set of factors. These factors therefore according to the researcher matters most in determining consumption level that stimulate a poverty reduction or not. Thus, below is the Threshold Decision-making theory

### 3.1.2 The Threshold Decision-making theory.

The Threshold Decision-making theory proposed by Hill and Kau (1973), Pindyck and Rubinfeld (1998a) and Greene (2003) moulded the theoretical foundation of this study. The theory as it was used in this study notes that the decision taken by individuals to spend more on goods and services over and above the poverty threshold or not, is influenced by the reaction threshold inherent in them which is dependable on a set of factors. At a given level of stimulus above the threshold, individuals will be consuming goods and services considered to be not in poverty in the economy whereas at the critical threshold level the move to be consuming above the poverty threshold line is stimulated. This phenomenon is captured in a mathematical relationship as:

\[ Yt = \beta Xt + \mu_t \]  
(1)
Where \( Y \) is equal to one (1) when an household consumption expenditure is above the poverty threshold (0) otherwise. This means that:

\[
Y_i = 1 \text{ if } X_i \text{ is greater than or equal to a critical value, } X^* \text{ and }
\]

\[
Y_i = 0 \text{ if } X_i \text{ is less than a critical value } X^*.
\]

Thus, \( X^* \) represents the combined effects of the independent variables \( (X_i) \) at the threshold level. Equation 1 represents a binary choice model involving the estimation of the probability of a household consumption above the poverty line \( (Y) \) given a set of factors \( (X) \) which are exogenous to each household. Mathematically, this is represented as:

\[
Prob (Y=1) = F(\beta X_i)
\]

\[
Prob (Y=0) = 1-F(\beta X_i)
\]

**Source: Greene (2003)**

Where: \( Y_i \) is the observed response for the \( i^{th} \) household either that consume above or below the poverty line in Burkina Faso. This means that \( Y_i =1 \) for a household that has the consumption above the poverty threshold and \( Y_i=0 \) for a household consumption below the poverty threshold line. \( X_i \) is a set of independent variables such as, remittances, gender, income, disability, location, employment, and level of education among others, associated with the \( i^{th} \) individual, which determine the probability of a household to be not living with poverty (P). The function, \( F \) may take the form of a normal, logistic or probability function.

### 3.1.3 Empirical Model Specification

To enhance this study, we then added some explanatory variables from the review of empirical literature so as to fully capture the variables that explain variability in household consumption expenditure in Burkina Faso. Following the studies by Anyanwu and Erhijakpor (2010), the functional form and the specification of the model include some of the following variables remittances,
gender, income, disability, location, education, employment. This is because of their nature as socio-economic factors that influence consumption expenditure in Burkina Faso. Hence, use of such variables from empirical review is under the assumption that they could be influence consumption in Burkina Faso. The econometric model for the logit estimation is specified as follows:

### 3.1.4 Econometric Model

\[
\ln \left( \frac{\Pr(Hsehld\ Cmp\ Exp)}{1-\Pr(Hsehld\ Cmp\ Exp)} \right) = \beta_0 + \beta_1 \text{Remit}_i + \beta_2 \text{Empl}_i + \beta_3 \text{Educ}_i + \beta_4 \text{Inco}_i + \beta_5 \text{Rura}_i \\
+ \beta_6 \text{Gend}_i + \beta_7 \text{Disab}_i + \varepsilon_i
\]

Where:

**Hsehld Cmp Exp** is Household Consumption Expenditure.

**Pr (Hsehld Cmp Exp)**, is the probability of consuming above the poverty threshold mark

\( \beta_0 \) is the intercept term

\( \beta_1 \) to \( \beta_7 \) are the coefficients estimated representing the slopes of the respective variables

**Remit** is remittance

**Educ** is education

**Empl** is employment

**Gend** is gender

**Inco** is income

**Disa** is Disability

**Loca** is location
$\varepsilon_i$ is the stochastic error term with mean zero and constant variance.

3.2 Definition and Justification of Variables.

3.2.1 Dependant Variable: Household Consumption Expenditure (Hsehld Cmp Exp)

Household consumption expenditure was defined as the level of goods and services a household can offer to buy and consume. Anyanwu (1995) and Frank and Bernanke (2001) defined consumption as the spending by households on goods and services such as clothing, food items, entertainment, health services and acquisition of assets among others. In this study, consumption is measured a dummy variable that takes the value of 1 if the household consume goods and service above the poverty threshold mark and 0 otherwise. This variable is used as a proxy to poverty as how much a household consume determines whether is categorised as in poverty or not. Theoretical and empirical studies such as the one done by Anyanwu and Erhijakpor (2010) also used household consumption as proxy to poverty. Hence, this study incorporated household consumption as a proxy in studying the impact of remittances on poverty in Burkina Faso.

3.2.2 Independent Variables

3.2.2.1 Remittances

Remittances are defined as any form money or goods received as assistance from other people outside the household. In the study, remittances is a dummy variable that takes the value of 1 when the individual receive such form of assistance (money or goods) and 0 otherwise. Remittances are growing fast and form the fastest way to alleviate poverty particularly in developing countries (IMF 2013). As a result, (Lachaud 2013) used remittances as an explanatory in determining the close remedies of poverty in Eastern African countries. The ability of remittances to easy poverty through boosting human consumption resulting in improved social welfare matters most in this study. Hence, the variable was included in this study. The study expects that households entitled to be recipient of remittances are likely not to be in poverty.
3.2.2.2 Employment

Employment status entails and describes the individual working status at the time the interview was carried out and is a categorical variable. In this study, employment is a dummy variable that takes the value of 1 when the individual is employed and 0 otherwise. However, retirement was not included in the model in order to prevent dummy variable trap, a situation of perfect multicollinearity among the variables Gujarati (2004). Sanroman and Santos (2014) also used these dummy variables. This study expected that the probability of consuming above the poverty line is lower for an individual who is informally employed than otherwise.

3.2.2.3 Education

The researcher, defined education as the total number of years spent by individuals receiving formal education. It was recorded through these categories: no education (0), primary level (2), Ordinary and Advanced Level (3), Diploma/Certificate after primary (4) and Diploma/Certificate after ordinary or advanced level (5). The assumption is that consumption above the poverty line is high among individuals with higher education; hence, the probability of being not in poverty is expected to increase as the number of years of education. Conferring to the integration approach, which advocates that unemployment from the labour market is the cause for poverty and can only, be reduced through the procedure of furnishing individuals with various abilities by means of education, to integrate them to go into the labour market? Tuesta et al. (2015), also used this variable when they investigated factors that determine poverty levels in Argentina using cross-sectional data.

3.2.2.4 Disability

Disability refers to a physical, mental, cognitive, or developmental condition that impairs, interferes with or limits a person’s ability to engage in certain tasks or participate in typical daily activities and interactions. Ratha, (2003). This variable is a dummy variable that take 1 when interviewee identified himself or herself with any form of disability and 0 otherwise. Individuals living with any form of disability are vulnerable to poverty as compared to those with able bodied Due to that the variable was included in study as it helps in explaining variations in poverty in disabled
individuals. Therefore, the variable was also used by Adetotun, (1978) when he investigated the impacts of living with disability on poverty in Zambia.

3.2.2.5 Income

Income is defined as the monthly average income/earnings that an individual receives from work, remittances or from any other source. It is a continuous variable measured in monthly average income/earnings that an individual receives from work, remittances or from any other source and is measured in US dollars. Households with higher incomes are likely to consume goods and services far above the poverty threshold consumption level whereas, those with low incomes are highly likely to consume below the threshold. According to the Law of demand the higher the income the high the demand for goods and services ceteris paribus. This is because high income signals the capability to demand more goods and services, repay debts, transact and save. The variable was incorporated in this study following the dictates of the Free Market Model and the Integrationist Approach to financial inclusion outlined under theoretical literature review. According to the theory low income cause individuals to be vulnerable to poverty as they cannot afford pay for a decent life. In addition Pehlivan and Utkulu (2007) used this variable in his study when they investigated key determinants influencing poverty in Africa.

3.2.2.6 Rural

This variable captures the location of the household when the interview was done. It is a dummy variable that take the value of 1 when one dwell in rural areas and 0 otherwise. It is believed and scientific proved that people living in rural parts of the country lack a lot of social and economic amenities. Resultantly, this increases the probability of living in the poverty. The study expect that people living in rural areas are likely to live in poverty that those than live in urban or peri urban areas.

3.2.2.7 Gender

In the study gender defines the biological sex of individual. That is whether one is a male or female. It is a socio-cultural phenomenon of the division of people into categories such as male and female. Hence, it explains reasons behind one to be in
poverty or not. Thus, it is a dummy variable that takes the value of 1 if the person is male and 0 otherwise. Musa et al. (2015) also considered this variable in their study. Therefore, the study expects that being a male household head increase the chances of being of not living in poverty that a female household head.

3.3 **Stochastic error term (ε)**

The error term is essential since it captures the effect of all regressors that are excluded in the model. This may be due to factors like unavailability and out-datedness of data, inaccuracy in estimation of the data and inconsistencies in both data and human behaviour. It is assumed to be normally distributed with mean zero and constant variance.

3.4 **Estimation procedure**

In statistics Maximum Likelihood Estimator (MLE) is a method of estimating the parameters of a statistical model given observations, by finding the parameter values that maximises the likelihood of making the observation given the parameters. MLE is a special case of the Maximum a Posteriori Estimation (MAP) that assumes a uniform prior distribution of the parameters. It is based on the likelihood function, given a statistical model. MLE selects the values of the model parameter that maximises the likelihood function. Among others it is based upon the assumptions:

- Disturbance term is stochastic
- Disturbance term in the logit model is heteroscedastic and it possesses a number of limiting properties:
- Consistency - that is, sequence of MLEs converges in probability to the value being estimated.
- Asymptotic normality - that is, as sample size increase the distribution of the MLE tends to the Gaussian matrix equal to the inverse of the Fishers information matrix.
- Efficiency - that is, it achieves a Cramer – Ractover bound when the sample size tends to infinity. This means that no consistent estimator has lower asymptotic mean squared error than the MLE (or the estimators attaining this bound).
3.5 Logit Model

When the dependent variable in a model is dichotomous, logit model is used; hence it was used in this study since the regressand is a dummy variable assuming 0 and 1. Logit estimates the probability of a categorical response basing with one or more regressors.

The Logit model is as below and

\[ Y = X\beta + \mu \]

\( Y \) - Binary outcome (HHCE)

\( X \) - Vector of independent variables

Logit models used for modelling binary outcomes are often expressed in terms of a latent variable specification. This assumes that there is some continuous variable \( y^* \) that determines household consumption expenditure. This latent variable is modelled by a linear regression function of demographic and socioeconomic characteristics represented by vector \( X \):

\[ y^* = X\beta + \mu \]

(5)

This latent variable is not observable \( y \) is the binary variable that can be observed that are household consumption above the poverty determined gauge or below. Thus the binary variable is defined by

\[ y^*_i = X\beta + \mu = 1 \ldots n \]

\[ y_i = 1 \quad \text{If } y^* > 0 \]

\[ y_i = 0 \quad \text{If } y^* \text{ is otherwise} \]
The probability of \( y = 1 \) given the \( X \) variables is

\[
P = (y_i = 1 \mid X_i) = P_y^+ \phi 0 \mid X_i)
\] (7)

Substituting equation (5) into equation (7) gives:

\[
P = (y_i = 1 \mid X_i) = P(Xi \beta + \mu i > 0 \mid X_i) = F(Xi \beta)
\] (8)

\( F \) becomes a cumulative distribution function for the Logit model by assuming that \( \epsilon \) follows a logistic distribution. To observe the partial effects of each explanatory variable on marginal effects are computed by taking the partial derivatives of equation (8) with respect to each explanatory variable \( x \) (Gujarati, 2004). To fit in the logit model the empirical model of household consumption expenditure was specified by the model below:

\[
\ln \left[ \frac{Pr(\text{Hsehlid Cmp Exp})}{1-Pr(\text{Hsehlid Cmp Exp})} \right] = \beta_0 + \beta_1 \text{Remit} + \beta_2 \text{Empl} + \beta_3 \text{Educa} + \beta_4 \text{Inco} + \beta_5 \text{Rura} + \beta_6 \text{Gend} + \beta_7 \text{Disab}
\] (9)

The above model shows the probability of household consumption expenditure given observed characteristics \( X \) which is given by a function \( F \). Therefore equation (9) is a Logit model.

3.6 Econometric package

To estimate the above equation Stata 13 was used as recommended by Gujarati (2004), because it delivers statistical summaries, provide for the existence and non-existence of relationships between variables and also runs probabilities of variables.

3.7 Diagnostic tests

The sufficiency of the model estimated above had to be assessed before using it for forecasting purposes. Hence the researcher had to do the following diagnostic tests:
3.8 Multicollinearity

Referring to Gujarati (2004), multicollinearity is the existence of a perfect or exact relationship among some or all the explanatory variables in a regression model. In cases of high multicollinearity large variances and covariance’s are experienced making precise estimation difficult. A covariance matrix is used to test for multicollinearity, a correlation greater than 0.8 shows that there is co-linearity thus, (Gujarati,2004; p359), states that if the variable has a value 0.8 and greater it should be dropped in order to mitigate the problem.

3.9 Normality test

Jarque–Bera (JB) is a goodness of fit test, which assesses whether sample data have the skewness and kurtosis matching a normal distribution. It is defined as where \( n \) is the number of observations (or degrees of freedom in general); \( S \) is the sample skewness, \( C \) is the sample kurtosis, and \( k \) is the number of regressors. The JB statistic asymptotically follows a chi-squared distribution with two degrees of freedom and can be used to test for hypothesis, to confirm if the data is modelled by normal distribution. Skewness should be zero and the excess kurtosis being zero as well under the null hypothesis. Samples which are from a normal distribution encompass an expected skewness of 0 and an expected excess kurtosis of 0 (which is the same as a kurtosis of 3) (Gujarati, 2004).

3.10 Pseudo R2 Test

McFadden’s \( R^2 \) is defined as

\[
R^2_{McF} = 1 - \ln(L_M / \ln(L_0))
\]

where \( \ln(.) \) is the natural logarithm. The rationale for this formula is that \( \ln (L_0) \) plays a role analogous to the residual sum of squares in linear regression. Consequently, this formula corresponds to a proportional reduction in “error variance”. It’s sometimes referred to as a “pseudo” \( R^2 \), and its value ranges between 0 and 1.
3.11 Model specification test and goodness of fit test

Model specification test and goodness-of-fit test are also crucial tests that were done in this study. They were done using the Hosmer-Lameshow test since Ramsey Regression Specification Test is not applicable to a logit model. It is important for a model to be correctly specified otherwise specification bias is incurred (Gujarati 2004).

3.12 Sampling and Sample size

FinScope did the sampling process in this study. The FinScope methodology is a credible and globally accepted process of collecting and analysing financial inclusion data. FinScope methodology uses a sampling procedure that ensures minimum acceptable levels for national, urban or rural and regional reliable estimates with acceptable margins of error. A multi-stage sampling methodology is applied which entails selection of enumeration areas (EAs) from recent census or population estimates using probability proportional to size followed by the selection of households as well as the selection of one adult in the selected household using a Kish Grid.

3.13 Data Analysis.

According to FinScope Survey methodology (2017) all FinScope datasets have a variable “Weighting = Weight Individual benchmarked” which should be used during analysis and reporting for consistency with what datasets were intended for. The results should be read as a percentage or number of adult population who have, use or possess a financial product or service or have a particular variable of interest.

3.14 Data validity and reliability

Validity refers to the integrity or trustworthiness of the research (Saunders et al., 2003). This could be in terms of the instruments or procedures that were used during the study. The current study used data from FinScope Survey. Reliability means the repeatability of findings. That is if the study should be carried out again it has to produce the same
results, thus this study holds reliability because the researcher actually used reliable data from a credible institution (FinScope).

3.15 Data

This research relied heavily on secondary data source. This is because secondary data has the following advantages:

- Secondary data is less expensive to get as compared to primary data, which requires huge Financial resources in survey taking.
- The data is based on nationally representative samples taken by responsible organizations.

However, weakness of secondary data cannot be underestimated because some of the information obtained from secondary sources does not meet the study’s specific needs and some will be out-dated given the dynamism typical of financial markets and hyper inflationary environments more so with the inconsistent monetary policy actions and reveals.

3.16 Chapter conclusion

This chapter has presented an overview of the methodology used. It also gives the justification, explanations and definitions of the variables used. The next chapter concentrates on the estimation, presentation and interpretation of results of this study, in order to provide answers to the research questions.
CHAPTER FOUR

PRESENTATION AND INTERPRETATION OF RESULTS

4.0 Introduction

This chapter focused on the presentation and interpretation of empirical results from the estimation of the Logit model. It presents descriptive statistics, diagnostics tests and regression results to provide answers to the research questions outlined in Chapter One. The computations were done using the statistical package STATA 13 software.

Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum Statistic</th>
<th>Maximum Statistic</th>
<th>Mean Statistic</th>
<th>Std. Error Statistic</th>
<th>Std. Deviation Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty</td>
<td>4132</td>
<td>0</td>
<td>1</td>
<td>.52</td>
<td>.008</td>
<td>.500</td>
</tr>
<tr>
<td>Remittances</td>
<td>4000</td>
<td>0</td>
<td>1</td>
<td>.58</td>
<td>.008</td>
<td>.494</td>
</tr>
<tr>
<td>Education</td>
<td>4000</td>
<td>0</td>
<td>7</td>
<td>2.24</td>
<td>.030</td>
<td>1.879</td>
</tr>
<tr>
<td>Employment</td>
<td>4000</td>
<td>0</td>
<td>1</td>
<td>.94</td>
<td>.004</td>
<td>.236</td>
</tr>
<tr>
<td>Income</td>
<td>3995</td>
<td>0</td>
<td>13</td>
<td>2.35</td>
<td>.057</td>
<td>3.594</td>
</tr>
<tr>
<td>Rural</td>
<td>4000</td>
<td>0</td>
<td>1</td>
<td>.03</td>
<td>.003</td>
<td>.179</td>
</tr>
<tr>
<td>Gender</td>
<td>4000</td>
<td>0</td>
<td>1</td>
<td>.05</td>
<td>.003</td>
<td>.210</td>
</tr>
<tr>
<td>Disability</td>
<td>3993</td>
<td>0</td>
<td>1</td>
<td>.51</td>
<td>.008</td>
<td>.500</td>
</tr>
<tr>
<td>Valid N (list wise)</td>
<td>3988</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The table above shows the maximum and minimum statistics. The statistics helps us to pinpoint show that there is the presence of outliers in our dataset. Thus the above tabulations report that there are no outliers. The table shows the dependant variable
poverty and independent variables remittances, education, employment, income, rural, gender and disability. The tabulations records also mean values of the variables. For example, consumption (the dependant variable) has mean value of 0.52, minimum values of 0, and maximum value of 1, this is because of the variability of a standard deviation of 0.5. The explanatory variables show variability with means, maximums, minimums and standard deviation which are also tabularised above.

4.1 Diagnostics Tests

4.1.1 Multicollinearity Test Results

The Multicollinearity test was done on all explanatory variables using STATA 13 and the results obtained are shown in Table.

Table 2: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>Remittances</th>
<th>Education</th>
<th>Employment</th>
<th>Income</th>
<th>Rural</th>
<th>Gender</th>
<th>Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remittances</td>
<td>1.0000</td>
<td>-0.0462</td>
<td>0.1481</td>
<td>0.0172</td>
<td>0.0315</td>
<td>0.0122</td>
<td>-0.4715</td>
</tr>
<tr>
<td>Education</td>
<td>1.0000</td>
<td>-0.0072</td>
<td>1.0000</td>
<td>-0.0557</td>
<td>-0.0629</td>
<td>0.0026</td>
<td>0.0004</td>
</tr>
<tr>
<td>Employment</td>
<td>0.0000</td>
<td>1.0000</td>
<td>-0.0072</td>
<td>1.0000</td>
<td>-0.0006</td>
<td>-0.0101</td>
<td>-0.0820</td>
</tr>
<tr>
<td>Income</td>
<td>1.0000</td>
<td>0.1562</td>
<td>-0.0557</td>
<td>1.0000</td>
<td>0.0262</td>
<td>0.0242</td>
<td>0.0123</td>
</tr>
<tr>
<td>Rural</td>
<td>-0.0315</td>
<td>-0.0629</td>
<td>1.0000</td>
<td>-0.0426</td>
<td>0.0262</td>
<td>0.0254</td>
<td>-0.0031</td>
</tr>
<tr>
<td>Gender</td>
<td>0.0122</td>
<td>0.0026</td>
<td>-0.0101</td>
<td>0.0242</td>
<td>0.0254</td>
<td>1.0000</td>
<td>0.0126</td>
</tr>
<tr>
<td>Disability</td>
<td>-0.4715</td>
<td>0.0004</td>
<td>-0.0820</td>
<td>0.0123</td>
<td>-0.0031</td>
<td>0.0126</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

The table shows that there is no Multicollinearity between all explanatory. That is, remittances, education, employment, income, rural, gender and disability. The pairwise or zero order correlation coefficient between two regressors is below 0.80. This means that there is no an exact relationship between the explanatory variables.
Table 3: Logit Regression results

| Poverty     | Coef.   | Std. Err. | z      | P>|z|   | [95% Conf. Interval] |
|-------------|---------|-----------|--------|-------|----------------------|
| Remittances | .2685199| .0738745  | 3.63   | 0.000 | .1237285             |
|             |         |           |        |       | .4133113             |
| Education   | .0327336| .0173025  | 1.89   | 0.054 | -.0011787            |
|             |         |           |        |       | .0666458             |
| Employment  | .1284896| .1367625  | 0.94   | 0.347 | -.1395599            |
|             |         |           |        |       | .3965391             |
| Income      | .0267373| .0090733  | 2.95   | 0.003 | .0089539             |
|             |         |           |        |       | .0445207             |
| Rural       | -.4357636| .1805162 | -2.41  | 0.009 | -.7895688            |
|             |         |           |        |       | -.0819585            |
| Gender      | -.0636668| .1517535 | -0.42  | 0.675 | -.3610983            |
|             |         |           |        |       | .2337647             |
| Disability  | -.1445496| .0723504 | -2.00  | 0.046 | -.2863538            |
|             |         |           |        |       | -.0027455            |
| _cons       | -.2313592| .1521416 | -1.52  | 0.128 | -.5295513            |
|             |         |           |        |       | .0668328             |

1 % level of significance (***) , 5 percent level of significance (**) 

LR chi2 (7) = 54.00 Prob > chi2 = 0.0000 Pseudo R2 = 0.0098 Log likelihood = -2733.3846

Table 4: Hosmer-Lemeshow Test

| Hosmer-Lemeshow chi2(8) = | 7.02 | Prob > chi2 = | 0.5347 |

The regression results shown in table above shows a Likelihood Ratio (LR) chi (7) with a p-value of 0.0000 which is statistically significant at 1 percent. This indicates that all the variables included in the model jointly influence the probability of household consumption expenditure in Burkina Faso. To sufficiently conclude that the model is a good-fit, is correctly specified and robust for estimation, the Hosmer-Lemeshow test was conducted and the results are shown in the Table below. The results of the Hosmer-Lemeshow Test in table above shows that the p-value of 0.5347 is greater than 5 percent, thus, we fail to reject the null hypothesis which states that the model is a good-
fit and correctly specified. Since the model is a good-fit and is correctly specified, it can be considered reliable and valid for interpretation.

4.2 Interpretation of the Results

The coefficients of remittances, education and income were found to be positive and statistically significant at 1 and 5 percent level of significance, respectively. Rural and disability had negative coefficient that is statistically significant at 1 and 5 percent level of significance respectively. The coefficients of employment and gender were insignificant at 1 and 5 percent level of significance. Since the individual coefficients of a Logit model are difficult to interpret as log odds, interpretation is therefore based on average marginal effects which were computed for all significant explanatory variables and the results are shown in table below.

Table 5: Average Marginal Effect.

<table>
<thead>
<tr>
<th></th>
<th>Delta-method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dy/dx</td>
</tr>
<tr>
<td>Remittances</td>
<td>.0660967</td>
</tr>
<tr>
<td>Education</td>
<td>.0080574</td>
</tr>
<tr>
<td>Income</td>
<td>.0065814</td>
</tr>
<tr>
<td>Rural</td>
<td>-.1072641</td>
</tr>
<tr>
<td>Disability</td>
<td>-.0355812</td>
</tr>
</tbody>
</table>

1 % level of significance (***) 5% level of significance (**)
4.3 Interpretation of the Average Marginal Effects.

The average marginal effects shown in the table above were estimated to establish the impact of a change in the respective significant explanatory variables on household consumption expenditure.

The average marginal effects of remittances entails that, on average, the probability of a household receiving remittances in form of goods or money is higher by 0.066 percent that households that do not receive remittances. This implies that households that receive goods and services as remittances in Burkina Faso are more likely to be out of poverty since they have consumption expenditure above the poverty datum line. Thus, poverty is reduced by a significant figure on households receiving remittances than households that do not receive any form of remittances. The result subscribes to the theoretical expectations of the New Economics of Labour Migration Developmentalist Perspective to Remittances. This perspective explains the potential for migration and remittances to reduce poverty, under the condition that the benefits of migration reach the poor. A similar result was obtained by Adams et al. (2008) when they investigated the impact of both internal and international remittances on poverty alleviation and inequality in Ghana. Their findings are found that the severity, level and depth of poverty in Ghana were reduced by both internal and international remittances inflows.

Average marginal effects of education entails that, on average, the probability that the literate household head will have consumption expenditure above poverty line is higher by 0.0080574 percent than those of the illiterate head. This implies that household heads that are literate are more likely to live a decent life out of poverty than their illiterate counterparts. Education enables an individual to secure a decent job and earn salary that will help in earning a better living. Salaries earned are used to send kids to school build a house or buy food to sustain those at home.

With respect to the average marginal effect of income it entails that, a dollar increase in income on average increase the probability of household consumption by 0.0065 percent. This unfolds that an increase in consumption expenditure will inversely reduce household poverty level. Thus, they existence a transmission mechanism (ceteris
paribus) that an increase in remittances will indirectly increase income that will reduce poverty. This is in line with the implication of the developmentalist perspective to remittances which postulates that remittances may contribute directly or indirectly to the income levels of the poor households that participate in migration. When Viet (2008) studied the impact of foreign remittances on inequality and poverty in Vietnam he found that Household income and consumption in Vietnam increased in direct response to the inflow of foreign remittances which subsequently reduce poverty levels in Vietnam.

Regarding living in rural areas, the average marginal effect means that on average, the probability of consumption expenditure of households living in rural parts of Burkina is lower by 0.1072 percent than that of households who live in urban parts of Burkina Faso. This means that households that live in rural areas in Burkina Faso are more likely to be living in poverty than those than live urban areas. Adams (2011) investigated the impact of international remittances on poverty, education, growth and labour supply in rural parts developing countries. The study revealed that international remittances significantly alleviated poverty and improved health levels in rural parts of developing countries.

Average marginal effects on disability entails that, on average, the probability of a disabled household head family consumption expenditure is lower by 0.0355 percent than an able bodied household head. This implies that household heads who are disabled their families are more likely to live in poverty than those with able bodies counterparts. This outcome is supported by World Bank findings that persons with disabilities on average as a group experience worse socioeconomic outcomes than persons without disabilities such as less education, worse health outcomes, less employment and higher poverty rates.

4.4 Chapter Conclusion

The chapter presented the results obtained from the Logit model using STATA 13 software. The researcher findings showed that remittances affect positively poverty level in Burkina Faso. The following variables education level, income, living in rural areas and disability were significant factors affecting poverty level in Burkina Faso.
whereas, gender and employment were found to have no impact on poverty in Burkina Faso. Based on these findings, the next chapter will give summary of the study, conclusion, policy recommendations and areas of further study.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

5.0 Introduction

The main objective of the study was to investigate the impact of remittances on poverty in Burkina Faso. The thrust was to measure the extent to which remittances can influence poverty in Burkina Faso. The chapter covered the summary of findings of this study together with the conclusions thereof. Attention was then shifted to focus on policy recommendations based on the results obtained in chapter four. The chapter went on to discuss some policy options that can be employed so as to alleviate escalating poverty levels that are rampant and outline the areas of further study.

5.1 Summary of Findings

The major aim of the study was to determine the influence of remittances on poverty in Burkina Faso. The study found that remittances matters most in reducing poverty levels in Burkina Faso. The study went on to reveal that other factors such as education and income level positively influence poverty and that living in rural areas and being disable have the tendency to reduce household consumption expenditure thereby increasing poverty.

5.2 Chapter Summary

The study probed on the impact of remittances on poverty in Burkina Faso. The explanatory variables which were used are remittances, education, employment, income, rural, gender and disability. Secondary cross-sectional data for households in Burkina Faso was used and STATA 13 software was used to obtain the results. The study adopted descriptive statistics and the Logit model to make analysis and conclusion on the impact of remittances on poverty. The results showed support of remittances to influence poverty. Hence, the study rejects the null hypothesis that
remittances have no desired influence on poverty reduction in Burkina. There was ample empirical evidence that remittances have impact on poverty in Burkina Faso.

5.3 Policy Recommendations

A number of policy recommendations emerged from the study, chief among them is the need for aggressive promotion of remittances as a strategic move to alleviate escalating poverty levels in Burkina Faso and boost economic growth and development.

5.3.1 Remittances

The findings suggest that proper policy and efforts are required to upsurge remittances inflows, in which case, remittances should be channelized to more productive uses rather than merely for consumption in order to maintain sustainable reduction in poverty. In a similar vein, given that remittances are private transfers, it is important to understand, how they are used and the type of development activities they are invested in. For that reason, policymakers need to work directly with migrants and Diasporas, while collectively addressing the specific impediments that inhibit the developmental use of remittances.

As building blocks in the promotion of remittances as they have a strong positive bearing on alleviating poverty. Sound efforts need to be taken to reduce the costs of remitting money to and within Burkina Faso. High transaction costs limit the impact that remittances can have on development outcomes in Burkina Faso. Regulatory authorities need to permit post offices and microfinance institutions to play a greater role in the market for remittances in Burkina Faso. Post offices and microfinance institutions offer more coverage, particularly in rural areas where formal financial services are often limited. Allowing more Remittance Service Providers to operate in the remittance market and perform money transfers will bring about greater competition, with potential benefits for price and service quality.

Lastly, regulatory authorities should vigorously assess the practices of Money Transfer Operators. In a market dominated by such limited competition, there is a risk of monopolistic abuse. This calls for anti-trust bodies to investigate whether exclusivity
agreements involving MTOs inflate costs in remittance markets and prevent consumers benefiting from competition.

5.3.2 Income and Education for Rural people

Poverty is mainly high in rural parts of Burkina Faso mainly because of lack of income and education. Therefore, the researcher advice the government of Burkina Faso to implement income generating projects most for rural people. This can be done through open lines of credit meant only for rural people. This is so because income significantly reduces poverty level. In the same line, the responsible authorities particularly the Ministry of Education has to equip rural people with better education that enables rural people to complete or secure a decent employment in order to earn a living. All these efforts require sound policing and implementation as a way to reduce poverty level in Burkina Faso.

As for the other general populace, there is need to revisit both private and public remuneration policy so as to increase wages and salaries of employees. A dollar increase in income was found to have a significant and positive contribution to poverty alleviation in Burkina Faso. Hence the need for a wage and salary revision together with appropriate price controls so that household consumption expenditure is enhanced.

5.3.3 Disability

Researchers asserted that institutional barriers that range from accessibility, education and employment play a substantial role in the incidence of poverty in those with disabilities. Resultantly, the researcher recommends to the government of Burkina via its line responsible ministries to create a conducive inclusive environment mainly for the disabled to explore and live up to their full potential. Tailor made school curriculum and employment opportunities are should be quickly availed to this group of people. The study concluded that most spaces contain surmountable physical barriers that unintentionally create an unconducive environment for the disabled which need to be eradicated to reduce poverty levels in Burkina Faso. There is need to enforced, revise and support disability rights advocate, anti-discrimination and other disability specific
laws in order to protect them from any abuse and form of manipulation. To address the issue of employment requires prompt initiatives to develop more inclusive employment structures.

5.4 Areas of Further Study

- The researcher proposed that the same study can be done using a different econometrics estimation technique such as the Multinomial Probit and Ordered Logit model and as well different type of data for example Panel data which was not used in this study since the dependent variable of this study was only binary.

- There is need to carry out a similar study taking into consideration the use of any new published Surveys by different reliable data sources such as World Bank Global Financial Inclusion. Due to limited financial resources and time, this study could not reach that far.

- There is also need to carry out the same study in Zimbabwe using a different dependant variable as a proxy to poverty considering proxies such as poverty index.
REFERENCES


Iyoha, M.A. 2001: Policy Simulation with Macro Econometric Models of the Nigerian


APPENDICES

APPENDIX A: CORRELATION MATRIX

```
. correlate Remittances Education Employment Income Rural Gender Disability
(obs=3988)

                      Remittan Education Employment Income Rural Gender Disab~y
Remittances        1.0000
Education          -0.0462   1.0000
Employment         0.1481  -0.0072   1.0000
Income             0.0172   0.1562  -0.0557   1.0000
Rural              0.0315  -0.0629  -0.0006  -0.0426   1.0000
Gender             0.0122   0.0026  -0.0101   0.0242   0.0254   1.0000
Disability        -0.4715   0.0004  -0.0820   0.0123  -0.0031  -0.0126   1.0000
```

APPENDIX B: LOGIT REGRESSION RESULTS

```
. logit Poverty Remittances Education Employment Income Rural Gender Disability
Iteration 0:  log likelihood =  -2760.386
Iteration 1:  log likelihood =  -2733.3887
Iteration 2:  log likelihood =  -2733.3846
Iteration 3:  log likelihood =  -2733.3846

Logistic regression Number of obs  =  3988
LR chi2(7)      =  54.00
Prob > chi2     =  0.0000
Log likelihood  =  -2733.3846 Pseudo R2     =  0.0098

```

```
| Variable     | Coef. | Std. Err. | z     | P>|z| | [95% Conf. Interval] |
|--------------|-------|-----------|-------|------|----------------------|
| Remittances  | 0.2685199 | 0.0738745 | 3.63  | 0.000 | 0.1237285 - 0.4133113 |
| Education    | 0.0327336 | 0.0173025 | 1.89  | 0.059 | -0.0011787 - 0.0666458 |
| Employment   | 0.1284096 | 0.1367625 | 0.94  | 0.347 | -0.1395599 - 0.3965921 |
| Income       | 0.0267373 | 0.0090733 | 2.95  | 0.003 | 0.0089539 - 0.0445207 |
| Rural        | -0.4357636 | 0.1805162 | -2.41 | 0.016 | -0.7895688 - -0.0819585 |
| Gender       | -0.0636668 | 0.1517535 | -0.42 | 0.675 | -0.3610983 - 0.2337647 |
| Disability   | -0.1445496 | 0.0723504 | -2.00 | 0.046 | -0.2863538 - -0.0027455 |
| _cons        | -0.2313592 | 0.1521416 | -1.52 | 0.128 | -0.5295513 - 0.0668328 |
```
APPENDIX C: AVERAGE MARGINAL EFFECTS

. margins, dydx( Remittances Education Income Rural Disability)

Average marginal effects                  Number of obs  =     3988
Model VCE     : OIM

Expression    : Pr(Poverty), predict()
dy/dx w.r.t.  : Remittances Education Income Rural Disability

<table>
<thead>
<tr>
<th></th>
<th>Delta-method</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
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<tr>
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<td>dy/dx</td>
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<td>P&gt;</td>
<td>z</td>
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<tr>
<td>Education</td>
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<td>Income</td>
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<td>0.003</td>
<td>.0022228</td>
<td>.0109401</td>
</tr>
<tr>
<td>Rural</td>
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<td>-2.00</td>
<td>0.045</td>
<td>-.0704174</td>
<td>-.0007449</td>
</tr>
</tbody>
</table>

APPENDIX D: GOODNESS-OF-FIT TEST, HOSMER-LEMESHOW

. estat gof, group(10)

Logistic model for Poverty, goodness-of-fit test

(Table collapsed on quantiles of estimated probabilities)

number of observations =     3988
number of groups =           10
Hosmer-Lemeshow chi2(8) =    7.02
Prob > chi2 =               0.5347