

**Financial inclusion and poverty reduction:
Evidence from small scale agricultural sector
in Manicaland Province of Zimbabwe**

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ABSTRACT

The study investigated the impact of financial inclusion on poverty reduction in Manicaland province of Zimbabwe among smallholder farmers, using household data collected through a structured household questionnaire. Further investigation was done on households that were not in farming, to compare the results. Zimbabwe is divided into ten provinces with different demographics and agricultural opportunities. The study, therefore, took Manicaland Province as a case study because of the level of farming activities in the area. The study emanated from the premise of the increasing link between financial inclusion and poverty reduction. Since many households in Zimbabwe managed to get land from the land reform programme, there was, therefore, an interest to investigate if access to finance by the newly resettled farmers can transform to prosperity and poverty reduction. The objectives of the study were two-tiered: the theoretical and empirical. The theoretical objectives were to review literature on theories of poverty and their applicability to developing countries, review measures of poverty and their applicability to the context of developing countries, specifically Zimbabwe, review literature on the measures of financial inclusion, review and analyse a theoretical framework on the determinants of financial inclusion and, finally, highlight the theoretical argument on the relationship between financial inclusion and poverty.

The empirical objectives were to: profile poverty and financial inclusion among the smallholder farmers in the sampled area and develop an index to measure financial inclusion, determine the determinants of financial inclusion among smallholder farmers in Zimbabwe as well as to analyse the impact of financial inclusion on poverty in Zimbabwe among smallholder farmers and, finally, make recommendations as to how financial inclusion can be used to deal with poverty in Zimbabwe. The study employed a combination of econometric models to fulfil the objectives of the study. To get the determinants of financial inclusion, the study used the logistic regression, the multinomial logistic regression and multiple regression analysis. This study used different models so that comparisons can be made between results generated from the different models. Since the overarching

aim of the study was to investigate the impact of financial inclusion on poverty reduction, the first step taken was to assess the profile of poverty and financial inclusion using the data collected. The data on financial inclusion showed that financial inclusion was low in the province. This was shown by the percentage of households who borrowed, those who saved and those with insurance, for instance, more than 70 percent of household heads indicated that they did not save with formal financial institutions. On the profile of poverty, the study used the various welfare indicators and two measures of poverty, the absolute poverty line and the income plus asset index, to assess the profile of poverty in the province. The two measures of poverty showed that poverty is generally high in the province, especially among the smallholder farmers compared to those who were not in farming. The study went on to assess the determinants of financial inclusion using various models. The factors found to influence financial inclusion from all the models were off-farm income, education level, distance, financial literacy, age of the household, distance, transaction costs and financial literacy, agricultural extension service and size of the household.

Using the multiple regression to investigate the determinants of financial inclusion among the smallholder farmers, the study found out that off-farm income, education level, distance to the nearest financial institution, financial literacy and age of the household were the variables significantly influencing financial inclusion. Additionally, the determinants of financial inclusion among the non-farmers were age, the income of the household, education level, distance, transaction costs and financial literacy. The difference between farmers and non-farmers was that non-farmers were further influenced by transaction costs, the costs charged by financial institutions to perform various transactions.

The study went on to use the logit model with bank account ownership as a proxy of financial inclusion to investigate further the determinants of financial inclusion so that the results obtained can be compared. However, the analysis showed that there was not much difference in terms of factors influencing financial inclusion. After estimating the logit model, the study found that age of the individual, family size, off-farm income, agricultural extension service, distance to the nearest financial

institution and transaction costs were the factors influencing financial inclusion, while for households who were not in farming financial inclusion was influenced by age, household size, income, agricultural extension service, distance to the nearest financial institution and transaction costs. Closely looking at the results, we found out that, when using the index of financial inclusion and bank account ownership, there was not much difference in the determinants of financial inclusion. Agricultural extension service was the additional factor influencing financial inclusion when the logit model was used. Even among the farmers and non-farmers, there was not much difference.

The study also investigated the determinants of financial inclusion in terms of the factors influencing households to use different financial services, that is, the factors that influence households to have a transaction account, to save, and to have insurance. Using the multinomial logistic regression for smallholder farmers, the study found that household size, transaction costs, age and agricultural extension service were the factors influencing demand for a transaction account. While off-farm income and age of the household were the factors influencing households to borrow. When households who were not in farming were taken into account, the factors significantly influencing access to a transaction account were household size, age of the individual and distance to the nearest financial access point, while borrowing or credit was influenced by transaction costs, age of the households and off-farm income. Looking closely there were no significant differences in the factors influencing demand for different financial services by households who were farmers and those who were not in farming.

Also, the impact of financial inclusion on poverty was investigated using the developed index of financial inclusion and poverty from the two measures, the absolute poverty line and the income plus asset measure. The analysis was done separately for households who were into farming and those households who indicated that were not directly involved in farming. For both farmers and non-farmers, the results indicated that financial inclusion had an impact on poverty. A rise in the level of financial inclusion is associated with a fall in the level of poverty. An additional analysis was done to investigate the impact of various financial

services like saving, borrowing, performing transactions and insurance on poverty reduction. The results indicated that having a transaction account and saving were the significant variables in influencing poverty reduction in Zimbabwe. Though other variables were not significant, the negative sign on each of the variables supported our a priori expectation that the access to financial services such as insurance and credit can reduce the level of poverty. The study concluded that policies that are intended to fight poverty should be geared towards promoting financial inclusion. There is also a requirement to create an atmosphere that enables the poor to get access to loans at reasonable interest rates and charges. Agricultural extension services, the establishment of financial access points near the households to promote financial inclusion should continue be the prime goal of the government. There is also the need for the Zimbabwe Statistics Agency to reexamine the definition and measurement of poverty so that government works with practical figures, which are not inflated and sometimes deflated poverty rates that may be reported yearly in the country.

Key Words: Financial Inclusion, Determinants, Poverty Reduction, Linear Regression, Logit Model, Multinomial Logit, Manicaland Province, Zimbabwe.

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DEDICATION

This research is dedicated to my parents, my wife Annah and my daughter Abigail Ropafadzo may God bless you.

DECLARATION

I declare that this thesis titled

**Financial Inclusion and Poverty Reduction: Evidence from
Small Scale Agricultural Sector in Manicaland Province of
Zimbabwe**

is my own work and all the sources used in the study were acknowledged by way
of in-text citations and complete references and that I have not previously
submitted the thesis for postgraduate purposes at any other university

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LIST OF ABBREVIATIONS

AfDB: African Development Bank Report.....	221
ANC: Antenatal Care.....	228
APL: Absolute Poverty Line	286
ARC: Asylum Research Consultancy	199
ATM: Automated Tailer Machine	128
BEAM: Basic Education Assistance Module	233
CA: Communal Areas.....	214
CAPF: Comprehensive Agricultural Policy Framework	204
CFU: Commercial Farmers Union	191
CGD: Centre for Global Development.....	193
CMGC: Metallurgical Group Corporation	181
DA:Development Accounts	46
EC: European Commission	96
ECD: Early Childhood Development	231
EMS-REC: Economic and Management Sciences Research Ethics Committee	274
ESAP: Economic Structural Adjustment Programme	165
EU:European Union	73
FCAs: Foreign Currency Accounts	174
FFYNDP: First Five Year National Development Plan	164
FPL: Food Poverty Line	85
FTLRP: Fast Track Land Reform Programme	185
GDP: Gross Domestic Product	5
Global Findex: Global Financial Inclusion Database	139
GNU: Government of National Unity	168
GWE:Growth with Equity.....	11
HDI:Human Development Index.....	138
HPI:Human Poverty Index	138
IDC: International Development Community	2
IIEB: Indigenisation and Economic Empowerment Bill.....	182
IFI: Index of Financial Inclusion	305

IP:Income Poverty.....	8
IPAI: Income Plus Assets Index.....	288
JRF: Joseph Rowntree Foundation	30
KENFAP: Kenya National Federation of Agricultural Producers	110
LEDRIZ: Labour and Economic Development Research Institute of Zimbabwe ...	207
LEP: Look East Policy.....	181
LSCFA: Large Scale Commercial Farming Areas	214
MAP: Making Access Possible	243
MDC: Movement for Democratic Change.....	159
MDGs: Millennium Development Goals	144
MERP: Millennium Economic Recovery Programme	168
MFIs: Microfinance Institutions.....	237
MLE: Maximum Likelihood Estimation Technique	299
MMR: Maternal Mortality Ratio	228
MOHCW: Ministry of Health and Child Welfare in Zimbabwe.....	226
MOHTESTD: Ministry of Higher and Tertiary Education, Science and Technology Development	230
MOHTSTD: Ministry of Higher and Tertiary Education, Science and Technology.	230
MoPSE: Ministry of Primary and Secondary Education	231
MPS: Monetary Policy Statement	181
MSME: Micro, Small and Medium Enterprise	200
NERP: National Economic Revival Programme	168
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NSSA: National Social Security Authority	224
NWU-EMELTEN-REC: North West University Education, Management and Economic Sciences, Law, Theology, Engineering and Natural Sciences Research Ethics Committee.....	274
OLS: Ordinary Least Squares.....	298
PASS: Poverty Assessment Study Survey	85
PICES: Price, Income, Consumption and Expenditure Survey	203

PIMD: Provincial Indices of Deprivation for South Africa 2001	93
POZBO: Parliament of Zimbabwe Budget Office.....	221
PS: Project Sunrise	181
RESET: Ramsey Regression Equation Specification Error Test	280
RRAs: Rural Resettlement Areas.....	214
SADC: Southern African Development.....	221
SAES: Small Area Estimation Survey	216
SBA: Stand-By-Agreement	174
SMEs:Small to Medium Enterprises	60
SPSS: Statistical Package for Social Scienecs.....	24
TB: Tuberculosis	228
TCPL: Total Consumption Poverty Line	85
TFP: Total Factor Productivity	170
TNDP: Transitional National Development Plan.....	163
UK:United Kingdom	51
UN:United Nations.....	29
UNDP: United Nation Development Programme.....	138
US:United States	173
VIF: Variance Inflation Factor.....	279
WBG: World Bank Group.....	3
WCIF: Workers Compensation Insurance Fund.....	224
WWE:Growth With Equity	11
ZCFU: Zimbabwe Commercial Farmers Union	278
ZCTU: Zimbabwe Congress of Trade Unions.....	173
ZFU: Zimbabwe Farmers Union	278
ZIDHS: Zimbabwe Demographic Health Survey	160
ZIMPREST: Zimbabwe Programme for Economic and Social Transformation.....	167
ZimVAC: Zimbabwe Vulnerability Assesment Committee	247, 414
ZNA: Zimbabwe Nurses Association	227
ZNBS: Zimbabwe National Budget Statement	205

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CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

"Growing economies are critical; we will never be able to end poverty unless economies are growing. We also need to find ways of growing economies so that the growth creates good jobs, especially for young people, especially for women, especially for the poorest who have been excluded from the economic system."-Jim Yong Kim the 12th World Bank President from 2012 up to February 2019.

1.1 INTRODUCTION

Poverty is among the greatest global challenges affecting the world today, as clearly articulated by the Oxford Poverty and Human Development Initiative (OPHDI) of 2018 (Sasson, 2012:1; Gates, 2018:5). OPHDI (2018) states that poverty eradication is one of the absolutely necessary prerequisites for sustainable development for decades in the world, and the 2030 agenda calls for the eradication of poverty in all its manifestations, that is, all its dimensions and forms. In the same report, it is approximated that 23 percent of people (1.3 billion) in 105 countries which are home to 77 percent of the world population are identified as multidimensionally poor (OPHDI, 2018:7). As a result, poverty is viewed to be a worldwide problem. However, even though poverty is seen to be a global problem, it is more widespread in developing nations where approximately 80 percent of the poor people live (Castañeda et al., 2016; Collins et al., 2010; Davids, 2010; WBG, 2018a).

The world over governments and development partners have been striving to fight poverty in all its manifestations using various methods, instruments and strategies. Some of the strategies of development as highlighted by Foley et al., (2018) and Nkum (1998) include, among others, the trickle-down approach and the

empowerment approach. The trickle-down approach is founded on the notion that poor people will benefit from the fruits of economic growth rather than involving them much in the developmental activities. On the other hand, proponents of the empowerment paradigm have faith in the notion that poor people in society can get maximum help by involving them in decision making and the implementation of development activities (Nkum, 1998; Foley et al., 2018).

Accordingly, Chambers (2006) contends that the International Development Community (IDC) has had poverty eradication as one of its top priorities for decades through the use of the trickle down and the empowerment approaches. The empowerment paradigm is however assumed to take centre stage in the global development agenda (WBG, 2018a). For instance, the World Bank Group (WBG), through its periodical publications, contends that empowerment through inclusion in various spheres of the economy, which include access to productive resources like finance, can go a long way in fighting poverty (WBG, 2018b). It is alleged that financial inclusion can help in achieving seven of the seventeen sustainable development goals (SDGs) which include poverty eradication in all its forms everywhere, ending hunger, achieving food security, ensuring improved nutrition as well as promoting sustainable agriculture and many others (WBG, 2018b). However, the World Bank indicated that more effort is required to research further so as to establish the magnitude of the impact of financial inclusion in achieving the sustainable development goals mentioned above (WBG, 2018b).

In summit meetings like the United Nation Summit of September 2010 in New York, the Sustainable Development Impact Summit of 2017 in New York and the World Sustainable Development Summit of 2018 in India and on other occasions, world leaders have stated and reinforced their agreement that poverty must be reduced and eventually eradicated (Chambers, 2006; Yoshida et al., 2014; WBG, 2018a). For instance, the WBG stated as one of its objectives to end extreme poverty by 2030 in all its manifestations as well as to boost the shared prosperity of the bottom

40 percent of the population (WBG, 2018a). This implies that the WBG is targeting to reduce the poverty head count ratio from 10.7 percent globally in 2013 to approximately 3.0 percent by 2030 (Olinto et al., 2013). The statistics published by the WBG on how they wish to reduce poverty acts as a testimony to how poverty is a pertinent issue the world over.

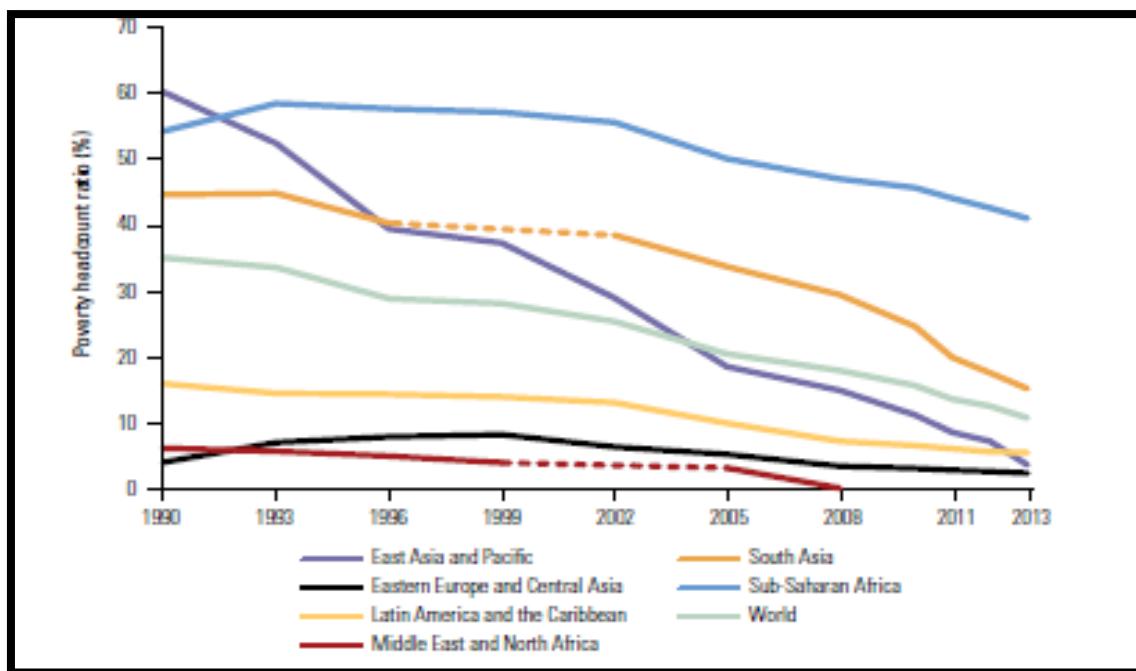
Despite this, the research by the WBG in the years 2016 and 2018 indicated that there were some good results on poverty statistics. The researchers estimated that, approximately 1.1 billion people have come out of the dehumanizing conditions of extreme poverty since 1990 as a result of the efforts put forward by the international development community together with individual countries (WBG, 2016; WBG, 2018a). Similarly, Olinto et al., (2013) noted that extreme poverty was shrinking on a global scale; however, despite the fall in poverty levels globally, it is said to be widespread throughout Africa, specifically sub-Saharan Africa (This is shown in figure 1). As a result, fighting extreme poverty is far from over, and in some instances is even getting harder as articulated by the WBG in its 2018 report.

The WBG (2018a) submits that, even though the levels of extremely poor people declined, the number of poor people the world over remains generally high, and this shows that the rewards of growth of various economies have not been distributed evenly across a number of countries as well as regions (WBG, 2018a:1). According to the 2018 WBG report, 736 million people still remain in extreme poverty, living below the international poverty line of \$1.90 per person per day. The report further alluded to the fact that the speed of poverty reduction is holding back and those living in extreme poverty will be harder to reach (WBG, 2018).

As a result, almost 11 people in every 100 in the world or 10.7 percent of the global population were poor by the \$1.90 standard, but this was 1.7 points down from the global poverty head count ratio of the year 2012 (Anyanwu, 2014; WBG, 2016). Moreover, it is estimated that approximately one child in five belongs to a poor

household and they are assumed to be twice as likely as adults to live in poor households. This is due to the fact that most of the poor households have large numbers of children, especially those located in rural areas (WBG, 2018a). Also, it is argued that children are the poorest individuals the world over even though the patterns vary from one region to another. For instance, it is estimated that sub-Saharan Africa has 49.3 percent of girls and 49.5 percent of boys who are residing in poor households. Also, boys are said to represent a slightly larger share (51 percent) of poor children worldwide than girls (WBG, 2018a). Figure 1 gives the trends of poverty and the poverty headcount ratio of the different regions and the world over from 1990 to 2013. From the analysis the poverty headcount ratio is highest in sub-Saharan Africa.

Figure 1: Poverty headcount ratio, world and regional trends



Source: WBG (2016:5)

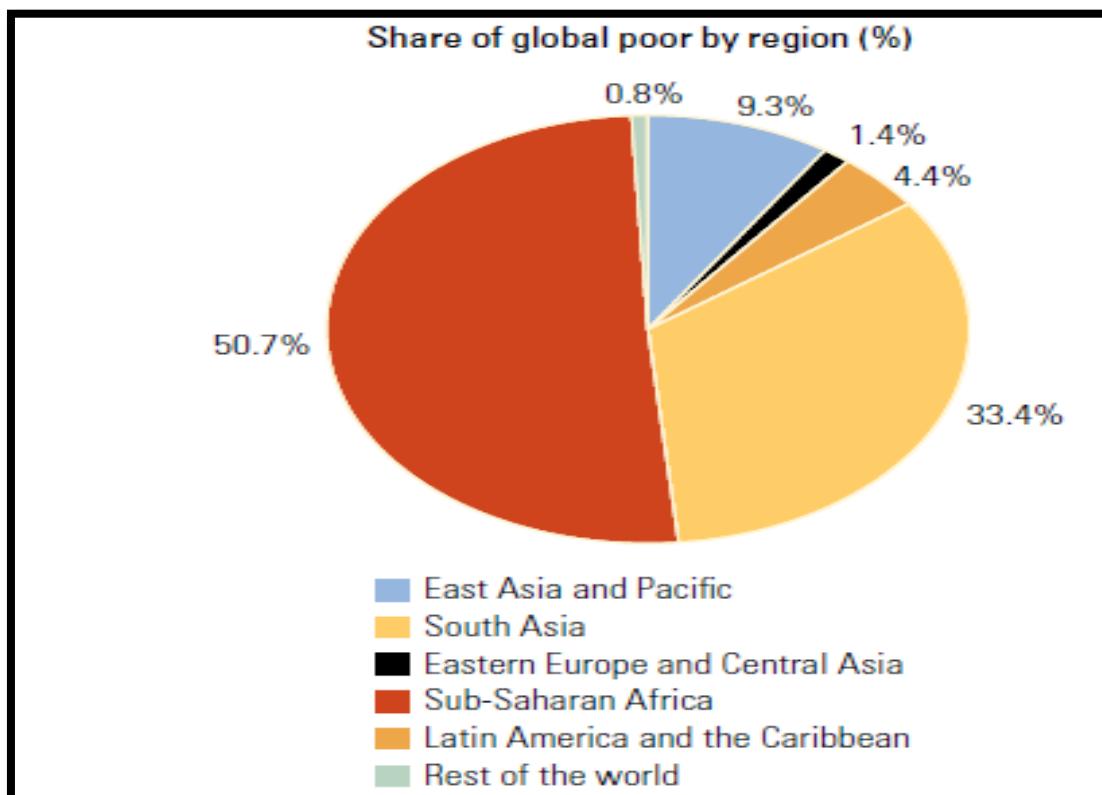
Figure 1 shows that poverty headcount ratio in sub-Saharan Africa is still the highest the world over, followed by South Asia. The WBG (2016:4) went on to highlight that

the total number of people in poverty fell by 4 million in the period of 2012 to 2013 in sub-Saharan Africa. This was a percentage point drop of 1.6 but the headcount ratio remained high at 41 percent as shown in figure 1. It was further highlighted that the headcount ratio for Central Asia and Eastern Europe dropped by a quarter of a percentage point to 2.3 percent, while, on the other hand, in Latin America and the Caribbean the ratio fell by approximately 0.2 percentage points to 5.4 percent (WBG, 2016:4). The evidence that sub-Saharan Africa is one of the poorest regions was supported by the United Nations. It was noted that for the period up to 2012, sub-Saharan Africa was the world's poorest region and the one with the highest headcount poverty ratio of 48 percent (Sachs, 2012; Pronyk et al., 2012; Eguruze et al., 2017). Sub-Saharan Africa was followed by South Asia with a head count poverty rate of 36 percent (Sachs, 2012). The high poverty incidences in sub-Saharan Africa portray a picture of the incidences of poverty prevailing in many sub-Saharan countries, Zimbabwe included.

In spite of the large number of poor people in sub-Saharan Africa, the region is alleged to be among the fastest growing in terms of Gross Domestic Product (GDP). The average annual GDP was estimated to be in excess of 5 percent for the period stretching to 2016 (WBG, 2018a; Mills, 2018). For instance, sub-Saharan Africa economic growth was approximately 3.1 percent in 2018 and increased to an average of 3.6 percent in 2019-2020 (WBG, 2016; Mills, 2018; Arvis et al., 2018). In a similar manner, sub-Saharan Africa was able to uphold stable rates of productivity and GDP growth; for instance, from 2005 to 2010, real GDP grew at an annual rate of 4.4 percent a year with productivity growing at a compound annual rate of 1.7 percent over the same period (Mills, 2018). However, the World Bank in the year 2016 reported that, despite the tremendous levels of growth in the African continent, sub-Saharan Africa in particular, abject poverty remained rampant among a number of African countries (WBG, 2016:5). Figure 2 shows where poor people

are living globally, by region. Figure 3 gives the total number of poor people in different regions.

Figure 2: The global poor by region

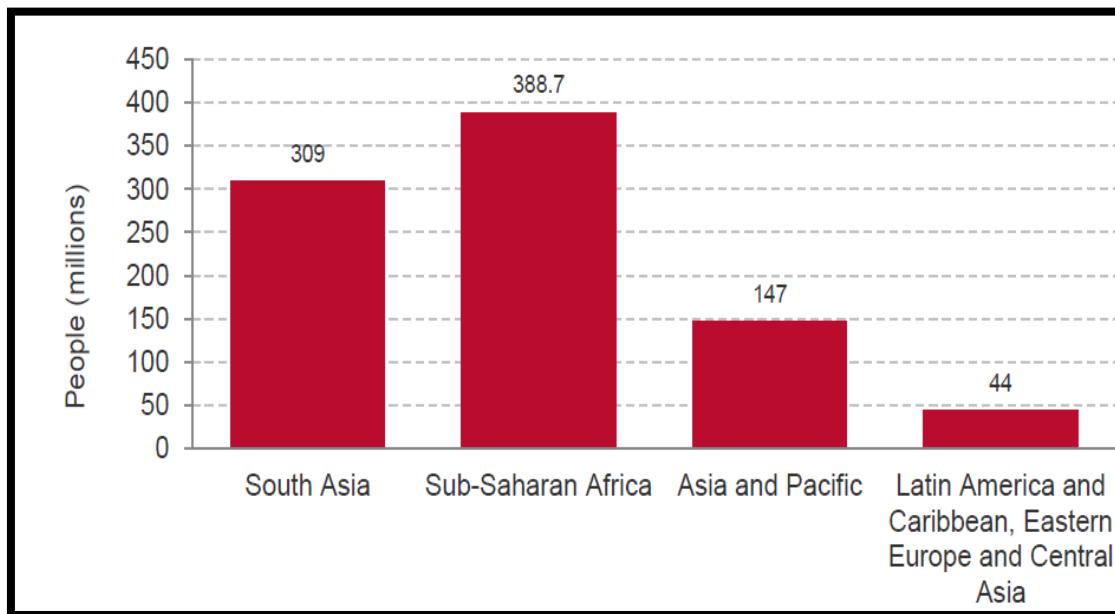


Source: WBG (2016:6)

In figure 2, of the six regions analysed, sub-Saharan Africa has the highest number of poor at approximately 50.7 percent followed by South Asia with 33.4 percent. Eastern Europe and Central Asia is the one with the lowest percentage of poor people at 1.4 percent. Eastern Europe and Central Asia is followed by Latin America and the Caribbean with 4.4 percent of poor people. This was supported by the Development Initiative (DI) of 2016 which stressed that Latin America, Central Asia and Eastern Europe are among the regions with least prevalence rates as well as the lowest depth and severity rates. DI (2016) went on to stress that, when high income countries are excluded from the analysis, sub-Saharan Africa and South Asia

still are the regions with the highest incidences of poverty, with fragility and conflict as key drivers of poverty. Figure 3 shows the distribution of poor people across global regions.

Figure 3: Distribution of poor people across global regions



Source DI (2016:3)

Figure 3 shows that sub-Saharan Africa and South Asia are the regions with the highest number of poor people. Latin America and Caribbean, Eastern Europe and Central Asia have the least number of poor people.

More importantly, many reports indicated that poor people are those who do not benefit fully from economic growth and development (DI, 2016; WBG, 2016; WBG, 2018). Most of these poor people live in underdeveloped and remote rural areas as well as urban slums where they have limited access to productive capital, productive assets, as well as poor and limited access to education, health and social capital. Poor people are also characterised by their sensitivity to suffer from ill health or disabilities (Manjengwa et al., 2016). In Zimbabwe, the Shona concept of chronic

poverty is captured in phrases such as "*nhamo yemadzinza*" which can be translated to mean "poverty passed down across generations" or "*nhamo inokandira mazai*" which means that "poverty that lays eggs". In like manner, Mpofu (2011) stated that in 1990 urban poverty was estimated to be at 12 percent by the World Bank, while the Poverty Assessment Study (PAS) of 1995 found urban poverty to be at 39 percent.

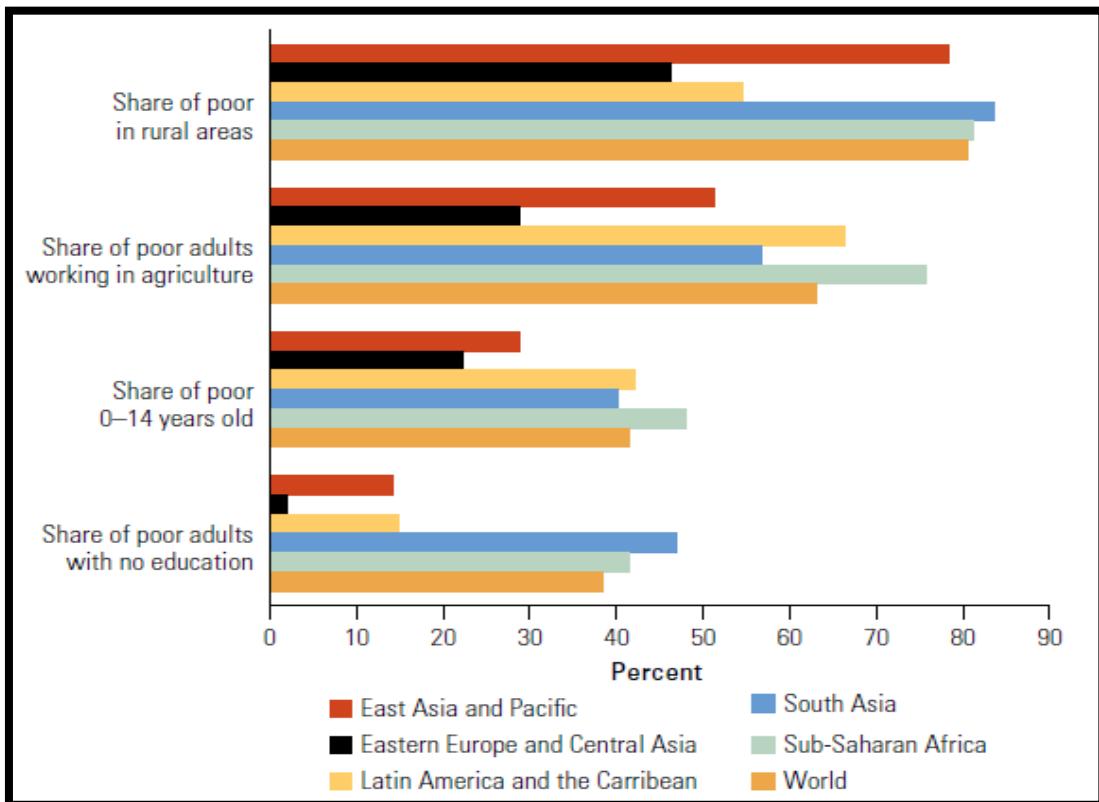
Moreover, Save the Children indicated that 10 million people were living in abject poverty in January 2009, which is translated to mean that over 75 percent of the 13 million Zimbabwean population by that time were living in desperate poverty in January 2009 (Mpofu, 2011). In April 2010, UNICEF noted that 78 percent of the Zimbabweans were in absolute poverty and 55 percent of the population (about 6.6 million) lived below the food poverty line in December 2009 (Mpofu, 2011). Commentators have argued that poverty is increasing in Zimbabwe (Dhemba, 1999, Bird and Shepherd, 2003; Manjengwa et al., 2012). Manjengwa et al., (2012) noted that poverty in Zimbabwe remains high, with four out of five individuals classified as poor in the year 2012.

The Zimbabwe Interim Poverty Reduction Strategy Paper 2016-2018 (ZIPRSP) also pointed out that Income Poverty (IP) expressed as the number of people with income less than the Total Consumption Poverty Line (TCPL) remained high in Zimbabwe. The figure is estimated to be almost constant at above 70 percent since 1995 (ZIPRSP, 2016:30). The worrying aspect about poverty prevalence in Zimbabwe is the fact that it is widespread in rural districts compared to urban districts. It is alleged that about 92 percent of the extremely poor population as well as 91 percent of the extremely poor households live in the rural districts (ZIPRSP, 2016:50; Tawodzera and Chigumira, 2018). The proportions of households who are poor in rural areas is also extremely high, estimated to be 78 percent, while the proportion of the poor population in rural areas is also high estimated to be at around 80 percent (ZIPRSP, 2016; Tawodzera and Chigumira, 2018).

In a similar manner, in 2012 it was alleged that 76 percent of the rural population was considered to be poor in comparison with 38.2 percent of urban households (ZIPRSP, 2016). The ZIPRSP (2016) went on to report that 84.3 percent of individuals in the rural districts were poor compared with 46.5 percent in urban centres. On extreme poverty, the ZIPRSP (2016) also stressed that 30.3 percent in rural districts were poor in comparison with 5.6 percent of urban districts. Manjengwa et al. (2012) also made the assertion that poverty in Zimbabwe is linked to the agro-ecological regions of the country apart from access to employment.

In the same vein, WBG (2016:5) also highlighted that the demographic profile of the poor at the US\$1.90 poverty line indicates that they are predominately rural who are young, poorly educated and most of them are employed in the agricultural sector. In addition to that, these poor people live in households with more children. WBG (2016:6; WBG, 2018) further reported that 80 percent of the world-wide people in poverty live in the rural districts, 64 percent worked in agriculture, 44 percent were 44 years and younger while 39 percent had no formal education (WBG, 2016:5; WBG, 2018). On prevalence of poverty across various population groups, the poverty head count is assumed to be more than three times higher among rural residents compared to urban residents. It is assumed that the poverty head count for rural people stands at 18.2 percent versus 5.5 for urban residents. Workers in the agricultural sector are over four times more likely to be poor compared to people employed in other sectors of the economy (WBG, 2016:5; DI, 2016; WBG, 2018). These statistics are shown in figure 4 which shows poverty incidence among those involved in agriculture and the people residing in rural areas.

Figure 4: Poverty profile of the poor by region or characteristics in the world



Source: WBG (2016:6)

In figure 4 regions with the highest percentage of poor people in rural areas are sub-Saharan Africa and South Asia with South Asia on the top followed by sub-Saharan Africa, East Asia and the Pacific. World-wide, the number of poor people in the rural areas is higher than poor adults without education. The share of adults who are poor working in agriculture is highest in sub-Saharan Africa followed by Latin America and the Caribbean (WBG, 2016:6).

Moreover, the ZIPRSP (2016:14) contests that Zimbabwe is experiencing structural and transient forms of poverty. It is alleged that the structural form of poverty is deeply rooted in the socio-economic political and cultural institutions of the country. It is further alleged that structural poverty is experienced over a long term period and often moves from one generation to another (Morduch, 1994; Carter and

Barrett, 2006). A typical example of structural poverty in Zimbabwe is provided by most of the rural households and individuals with limited access to productive capital, productive land as well as other useful resources (ZIPRSP, 2016:15). The gender dimension of structural poverty is often grounded in a legal and cultural framework which prevent women from accessing productive capital, and other useful resources (Unterhalter, 2009; ZIPRSP, 2016). Also, transient poverty results from cyclical or temporary factors and is usually experienced over shorter spaces of time. Transient poverty is associated with factors such macro-economic shifts like economic reform programmes, recession, natural disasters, inflation and many others (Jalan and Ravallion, 1998; ZIPRSP, 2016).

Since independence, several blue prints were crafted in Zimbabwe with policies aimed at alleviating poverty and promoting sustainable economic growth. Examples of these blue prints include, Growth with Equity (GWE) of 1981, Zimbabwe Economic Development Strategy (ZEDS) 2007-2011 and Zimbabwe Agenda for Sustainable Socio-Economic Transformation (ZimAsset) among others (Nyoni, 2018). The first years of independence in Zimbabwe were marked by strategies and policies aimed at amending the colonial era imbalances by incorporating previously marginalized people into the main stream economy (Nyoni, 2018). Some of the marginalized groups included smallholder farmers, youth, woman and the disabled (Mazingi and Kamidza, 2011). Likewise, the Zimbabwean government, to ensure that the marginalized groups participate in the main stream economy through the developmental policies, gave people land, free education and free health services.

As a result, approximately 7.6 million hectares of land in Zimbabwe are currently occupied by small scale farmers (Rukuni, 2018, Chigumira, 2010b). However, despite the many hectares of land occupied by the people, it is argued poverty levels are still at unacceptable levels in Zimbabwe, specifically in the rural districts where 91 percent of the rural households are living in extreme poverty (ZIPRSP, 2016). Researches to investigate the causes of poverty in Zimbabwe are there. For

instance, the government of Zimbabwe through the ZIPRSP (2016) insinuates that poverty is strongly linked to the under-performance of agriculture and poverty has the face of agriculture in Zimbabwe. The government of Zimbabwe through the ZIPRSP also hypothesised that the unprecedented recession of 2000-2008, which made the Zimbabwean government abandon its currency, was caused by international isolation and the exogenous impact of climate change on agriculture, among other causes of the high incidences of poverty in Zimbabwe.

In addition, Karanda and Toledano (2018) noted that lack of engagement and involvement of the local people in some development models like the traditional foreign aid and the recent bottom-up approach of supporting social entrepreneurs seems to be among key factors which contribute to the continued increase in poverty levels in Zimbabwe. Furthermore, Chipango (2018) contests that poverty in Zimbabwe is a result of unequal access to electrical energy, especially the rural households where the majority do not have access to electrical energy. Moreover, Dube et al., (2018) argue that flooding slows the progress of development through shifting of human populations, and destruction of crops, shelter and livestock in flood prone areas. The weather patterns in the last few years have shown that floods in Zimbabwe occur almost every farming season.

The authors also posit that floods also affect human capital through causing injuries to members of the community. This is true, especially with the recent floods caused by tropical cyclone Idai, which destroyed infrastructure, crops, animals and the lives of people in Chimanimani, Chipinge and some other parts of Zimbabwe. As a result, Dube et al., (2018) concluded that flooding is among the causes of poverty in flood prone area like Tsholotsho in Zimbabwe, Muzarabani and many other low lying areas. Chimhowu (2010), just like Manjengwa (2012), attributed poverty to the agro-ecological potential. The argument was that, in areas which do not receive enough rainfall especially areas in region 4 and 5, are prone to droughts which put a lot of households in poverty.

Furthermore, authors like Masiyandima et al., (2017); Chitokwendo et al., (2014) together with Mago and Chitokwendo (2014) attributed poverty in Zimbabwe to financial exclusion. The authors reiterated that inability of the economic agents, especially the vulnerable groups of smallholder farmers, small businesses, women, youth and the disabled, to access financial resources exacerbates poverty. The argument put forward by the authors is that the ability to access financial resources by the disadvantaged groups in the economy promotes inclusive growth and better livelihoods of all the people. Similarly, Park and Rogelio Jr (2015); Beck et al., (2008); Honohan (2008) and the WBG (2018) support the view that increased financial inclusion improves commitment savings, investment decisions, reduction of information and transaction costs, technological innovation and long run growth which will have an influence on poverty over an extended period of time. For instance, WBG (2018a) contests that financial inclusion can help to attain the targets of at least seven of the SDGs, chief among them goal one, of no poverty, which aims at ending poverty in all its forms everywhere by 2030 (WBG, 2018a:2).

However, while it is being appreciated that financial inclusion is an important aspect for achieving economic growth, development and poverty alleviation, the level of financial inclusion in Zimbabwe is far from being impressive. The Reserve Bank of Zimbabwe (RBZ) in its 2016 publication, the Zimbabwe National Financial Inclusion Strategy 2016-2020 (ZINFIS), stated that almost 70 percent of the total population in Zimbabwe is not part of the formal financial market while 30 percent only is financially active (ZINFIS, 2016). The survey conducted by Finscope in 2014, on the other hand, estimated that only 30 percent of the adults were formally banked as of 2014 and likewise 70 percent were not financially active. The statistics further attest to the fact that financial inclusion in Zimbabwe is biased in favour of the urban population as opposed to the rural population, despite 65 percent of the population living in rural areas (Chitokwendo et al., 2014). It is alleged that financial inclusion

in urban areas is approximately 89 percent against 62 percent of the rural households (Masiyandima et al., 2017).

In a similar manner, it was discovered that financial inclusion in sub-Saharan Africa also appears to be a big problem (Chaia et al., 2009). Allen et al., (2014) noted that approximately 80 percent of adults in sub-Saharan Africa are unbanked while in Asia the figure is less than 60 percent and for developed countries the figure stands at 8 percent. As a result, Chaia et al., (2009) contend that the level of financial exclusion helps to explain why poverty is more prevalent in many African countries, more specifically in sub-Saharan Africa. Motivated by the observations, the study considers the small scale agricultural sector in Zimbabwe as a case study to investigate the direct and indirect impact of financial inclusion on poverty.

1.2 PROBLEM STATEMENT

Zimbabwe has experienced an era of economic and political disturbances with harsh impact on the well-being of Zimbabweans (Manjengwa et al., 2012, Rutherford and Addison, 2007). Zimbabwe's agricultural sector was considered to be the second leading food producer with South Africa at the top (Bank, 2007). The average production in Zimbabwe was approximately 0.6 percent food output per annum during 1990-2005, compared to an average of 3 percent for the rest of Southern Africa (Bank, 2007; Manjengwa et al., 2012). The fall in the economy of Zimbabwe reached its climax in the socio-economic crisis which began in the year 2000 where hyperinflation reached 500 billion percent in December 2008 (Coomer and GsTraunThaler, 2011). As a result, many people were pushed into dehumanising conditions of poverty with the effects of this decline still currently experienced in Zimbabwe (Coomer and GsTraunThaler, 2011; Manjengwa et al., 2012). The economic decline was followed by a fall in productivity and a huge reduction of disposable income and employment.

In a similar fashion, Zimbabwe's agricultural output declined to unacceptable levels, to the extent that Zimbabwe currently imports food from other African countries like Zambia, Botswana and Malawi which she had been exporting to before (Clover, 2003; Kusena et al., 2017; ZINFIS, 2016). The University of Zimbabwe approximated that in the period between 2008 and 2000 Zimbabwe's agricultural production fell by 51 percent while the production of tobacco, the main export crop for Zimbabwe, dropped by 79 percent between 2000 and 2008 (Duri et al., 2013, Scoones et al., 2018). The economic decline in Zimbabwe is attributed to many factors but the major factor highlighted in literature is the land reform programme of 2000 where almost 7.6 million hectares of land were allocated to smallholder farmers (Chimhowu et al., 2010). The government of Zimbabwe allocated land to the black majority as a way of addressing the colonial era imbalances as well as to ensure that the people of Zimbabwe participated in the main stream economy (Richardson, 2006; ZIPRSP, 2016). However, despite the vast tracts of land owned by the majority of people in Zimbabwe, many of these people remain in abject poverty, where extreme poverty is estimated to be at 91 percent for rural households (Dube et al., 2018; ZIPRSP, 2016).

Consequently, to discover the causes of poverty in Zimbabwe, the government and various researchers did a number researches pertaining to the matter. As a result, many conclusions were stated on the causes of poverty in Zimbabwe. For instance, the government of Zimbabwe has attributed poverty to the underperformance of the agricultural sector among other factors. Thus, poverty in Zimbabwe has the face of agriculture (ZIPRSP, 2016). For that reason, one can ask a question on why poverty has the face of agriculture in Zimbabwe, yet many blacks have land? Accordingly, some researchers allege that the black farmers are underutilizing the land they have as a reason poverty is associated with agriculture (Bird and Shepherd, 2003; Rukuni et al., 2006). Agreeing to the same fact, in workshops and various engagements black farmers cited inability to access capital as a major

obstacle in their quest to fully utilize the land, among other factors (Mugwara, 2015). Some scholars like Leyshon and Thrift (1995); Sarma (2008); Demirguc-Kunt et al., (2018) named this situation as 'financial exclusion'.

The major reason cited why black farmers fail to get loans from banks is lack of collateral security (Helliker et al., 2018; ZIPRSP, 2016). As a result, in 2018 the government of Zimbabwe negotiated with banks to allow the 99-year leases given to farmers, act as collateral security for them to get credit. The inability of many farmers to get credit in Zimbabwe is a sign which attests to the fact that many farmers, especially smallholder farmers, are assumed not full participants in the formal financial market. Since the land reform is now irreversible as put forward by the Zimbabwean government, a lot of effort must be made to ensure that there is productivity in agriculture and Zimbabwe is restored to its role of producing food.

However, there is not much known in literature on factors which influence farmers to participate fully in the formal financial markets. In other words, there is limited information in literature on the determinants of financial inclusion. In addition, the term 'financial inclusion' or 'financial exclusion' is still a new concept and literature in Zimbabwe is also limited. This left people with the following questions: "What is financial inclusion?" "How is financial inclusion measured?" "What are the factors influencing financial inclusion of smallholder farmers?" "What is the direct impact of financial inclusion on poverty in Zimbabwe?" Studies which were conducted in this area in Zimbabwe were concentrating on drivers of financial inclusion, the overview of financial inclusion and exploring the profile of poverty, without assessing the direct and indirect impact of financial inclusion on poverty.

As an illustration, Manjengwa et al., (2012) conducted a survey for 16 districts in Zimbabwe to explore the profile of poverty while Cavendish (2003) demonstrated seven empirical regularities in the rural poverty environmental relationship in Zimbabwe. Under other conditions, Chitiga et al., (2005) used a micro-simulation

computable general equilibrium model to investigate the impact of poverty on trade liberalization in Zimbabwe. In fact, little effort has been done to fully investigate the direct impact of financial inclusion on poverty at household level and country level in Zimbabwe. For example, Masiyandima et al., (2017) used access to banking services as the dependent variable to investigate the level of financial inclusion and its impact on access to basic income, food, health and education. However, the study did not look at the determinants of financial inclusion among the smallholder farmers and the way financial inclusion was measure is not clear, the measure used in the study was access to banking services without spelling out the services. This study aimed to come up with a multidimensional measure of financial inclusion using household data to investigate its impact on poverty in Zimbabwe. Similarly, Chitokwindo et al., (2014) undertook a study to give a brief summary of financial inclusion in Zimbabwe. In their study the authors gave an overview of financial inclusion without going deeper to measure the level of financial inclusion in the country.

In a similar fashion, Mago and Chitokwindo (2014) carried out a research to investigate the impact of mobile banking on financial inclusion, taking Masvingo Province in Zimbabwe as a case study. Nevertheless, the study did not highlight the clear relationship between financial inclusion and poverty. Moreover, the study failed to clearly outline the determinants of financial inclusion among the smallholder farmers. Also, the study by Mago and Chitokwindo (2014) did not develop an index to measure financial inclusion. There have been other studies done in Nigeria on financial inclusion and poverty. As an Illustration, Fadun (2014) conducted a study in Nigeria which asserts that financial inclusion leads to poverty alleviation and retribution of income in Nigeria using descriptive analysis. The author did not use any index to measure financial inclusion. In Malawi, Brune et al., (2011) came up with a study which concluded that increased financial inclusion improves

commitment to savings, agriculture investment and agriculture productivity for financially excluded households.

However, Brune et al., (2011) did not come up with a distinct measure of financial inclusion. As a result, researchers are not agreeing on how financial inclusion is measured; there is no agreed measure of financial inclusion. Nevertheless, there are researchers who attempted to compute indexes of financial inclusion. For instance, Cámera and Tuesta (2014) developed an index of financial inclusion relying on demand side and supply side information to measure the index of financial inclusion at macro level for eighty-two less developed and developed nations. Their research adopted three dimensions of financial inclusion which are; usage, barriers, and access to financial products. On the contrary, the measure developed by Cámera and Tuesta (2014) used macro level data ignoring household data. The most prudent way of measuring financial inclusion for households in a country is to use household data so as to get a clear level of financial inclusion among the households.

In addition, Honohan (2008) used a regression-based method to develop a measure of financial inclusion. The measure developed by Honohan (2008) captured a fraction of the adult population in the various economies selected. Also, the measure developed by Honohan (2008) used one dimension of financial inclusion. Honohan (2008) did not appreciate the multidimensional nature of financial inclusion. Demirgürç-Kunt and Klapper (2013) pioneered the analysis of the Global Financial Inclusion (Global Findex) Database to develop new indicators of financial inclusion. The indicators were investigating how adults in 148 economies save, borrow, make payments and manage risk. However, Demirgürç-Kunt and Klapper (2013) did not provide any particular methodology for developing the measure of financial inclusion. From the different researches done, it is clear that there is no agreed financial inclusion measure let alone one specifically for developing countries. Hence this current study sought to develop an index to measure financial inclusion using

household level data. This index financial inclusion was used to explore the direct and indirect impact of financial inclusion on poverty in Zimbabwe.

1.3 RESEARCH OBJECTIVES

1.3.1 Primary objectives

The primary objective of this study was to use data collected from the smallholder farmers in Manicaland Province of Zimbabwe to develop an index to measure financial inclusion, to determine the determinants of financial inclusion, as well as to assess the impact of financial inclusion on poverty in Zimbabwe.

1.3.2 Theoretical objectives

In order to achieve the primary objectives, the following theoretical objectives were formulated for the study:

- Review literature on theories of poverty and their applicability to developing countries.
- Review measures of poverty and their applicability to developing countries, context specifically Zimbabwe.
- Review literature on the measures of financial inclusion.
- Review and analyse the theoretical framework on the determinants of financial inclusion.
- Highlight the theoretical argument on the relationship between financial inclusion and poverty.

1.3.3 Empirical objectives

The following empirical objectives were formulated in accordance with the primary objectives and theoretical objectives:

- Profile the poverty and financial inclusion among the smallholder farmers in the sampled area.

- Develop an index to measure financial inclusion.
- Determine the determinants of financial inclusion among smallholder farmers in Manicaland Province of Zimbabwe.
- Analyse the impact of financial inclusion on poverty in Manicaland Province of Zimbabwe among smallholder farmers.
- Investigate the perceptions of poverty and the perceived barriers to financial inclusion by households in Manicaland Province of Zimbabwe.
- Make recommendations as to how financial inclusion can be used to deal with poverty in Manicaland Province of Zimbabwe.

1.4 LITERATURE REVIEW

The study reviewed theoretical literature on determinants of financial inclusion and the impact of financial inclusion on poverty. In addition to that, the study also reviewed empirical literature on the determinants of financial inclusion, measures of financial inclusion and the impact of financial inclusion on poverty.

1.5 RESEARCH DESIGN AND METHODOLOGY

Data for this study on financial inclusion and poverty came from the primary source. The primary side was the demand side, and data was provided through interviews with end users of financial products such as individual households and firms. The study used the demand side as it gives information on why the smallholder farmers do not use the formal financial services. Supply side data provided by various financial institutions was used in chapter four to give a clear picture on the levels of financial inclusion in Zimbabwe. The structured questionnaire was prepared in this study to collect quantitative demand side data on financial inclusion and poverty for the study. The primary sources of data were farm households both male and female headed and households who were not in farming during the time of the survey. In this study the farm households were those who fell in the category of smallholder farmers. In Zimbabwe the smallholder farmers are in the A1 and A2 farming models.

A1 is a farming model where farmers are either villagised or in self-contained variant models or plots. The A2 farming model is a model in the variants of small scale, medium and large scale farming models. On A2, the small-scale farmers were the ones interviewed.

1.5.1 Structure of the questionnaire

Section A and B of the questionnaire had 24 questions. The purpose of the sections was to provide background information, household composition and head of the household information. Background information of the households - both farmers and non-farmers - was generated from these sections. This information was useful for analysing the determinants of financial inclusion. **Section C** of the questionnaire had 20 questions focusing on farmers' characteristics. The section was useful because information about the farmers, that is, the characteristics of the smallholder farmer households, was generated and information on issues to do with the size of land, output produced and many more was provided for the study from this section.

Section D focused on income of the household in United States dollars per month. The purpose of the section was to estimate the amount of income generated by the household per month in United States dollars. The idea behind this was to measure the level of poverty of each household. **Section E** focused on the amount of assets owned by the household apart from the income they accumulate per month. This helped to calculate the asset index for the household. **Section F** focused on the Lived Poverty Index (LPI) to assess the basic needs for the households so as to investigate the impact of financial inclusion on household poverty. **Section G** focused on poverty perceptions. The purpose of the section was to get the perceptions of households about their poverty status.

Section H focused on the household food insecurity access scale (HFIAS). The purpose of the section was to get the food insecurity access scale with the idea of investigating the impact of financial inclusion on food insecurity in Manicaland Province of Zimbabwe. **Section I** focused on the types of food. The purpose of the section was to assess the types of food the households eat during the day and/or at night. The idea was to assess the influence of financial inclusion on the type of food consumed. **Section J** focused on means of survival. The purpose of the section was to assess the means of survival by households in relation to their financial inclusion status. **Section K** focused on financial inclusion. The purpose of the construct was to develop a measure of financial inclusion for the households. The important point to note from the research instrument used in this study is that, not all the data collected from the sections described above was used in the final analysis. During the data cleaning process data from some sections was dropped from the analysis without compromising the final results of the study.

In the design process of the questionnaire, pre-testing was done. Firstly, an academic peer review process was undertaken under the Economic and Management Sciences Research Ethics Committee (EMS-REC). After their review, the committee referred the questionnaire to a higher committee for a second peer review process. The committee that reviewed the questionnaire for the second time was the North West University Education, Management and Economic Sciences, Law, Theology, Engineering and Natural Sciences Research Ethics Committee (NWU-EMELTEN-REC). Upon the advice of the experts, the questionnaire was adjusted accordingly. The layout of the questionnaire improved. The number of questions in some sections were reduced while in other sections the questions were increased. This will be explained in chapter five.

The second phase of the pre-test was done to assess the time taken to complete the questionnaire and to ensure content validity, obviously influenced by the works of Synodinos (2003) and Meyer (2018). The second phase of the pre-test was done

to ensure that the questionnaire was readable and the questions were feasible as well consistent and in a correct appropriate format. In the pre-test, three smallholder farmers were given the time to complete the questionnaire. Two of the farmers spent 40 minutes to complete the questionnaire while the other one took 30 minutes to complete the questions when the interviewer was asking the questions. The farmers were well experienced farmers who had been doing farming in Zimbabwe before and after independence in 1980 and one started farming soon after the land reform in Zimbabwe of 2000. Just like the peer review process, this phase assisted in reducing the number of unclear questions and sections were adjusted. Annexure C shows the final version of the questionnaire used in the study.

Since the main study was done in Zimbabwe Manicaland Province, the pilot study was done in Gauteng Province of South Africa. A lot of effort was made to contact 36 smallholder farmers across the Gauteng Province who voluntarily participated in the study. No incentives were given to the participants who agreed to be part of the pilot study. The province was chosen because of proximity to the researcher and to reduce costs of travelling to far places. The other reason was to avoid inclusion of pilot study participants in the main study.

1.6 DATA COLLECTION AND SAMPLING PROCEDURE FOR THE STUDY

The multistage simple random sampling method was used to choose the farm households who were participants in the study. The household head was taken as the sampling unit. Moreover, households who were not in farming were also considered to be part of the study. This was done in order to do comparisons between results for farmers and those who were not in farming. To get the sample size, the Slovin (1960) formula was used in the calculation of the sample size. Also, the work of Krejcie and Morgan (1970) and Cochran (1963) informed the study in the calculation of the sample size.

1.7 STATISTICAL ANALYSIS AND EMPRICAL MODELLING

The data collected were analysed using the Statistical Package for Social Sciences (SPSS) Version 25.0. Various models were used in the analysis. Models in the group of conditional probability models like the logit model and the multinomial logit models were used in the analysis. Simple and multiple regression models were also used in the analysis. In fact, the study used more than one econometric model to address the objectives of the study. Firstly, to investigate the determinants of financial inclusion, the study used the linear regression model, the logit model and the multinomial logit model. To examine the impact of financial inclusion on poverty, the study used the linear regression model. More explanation of the statistical models is given in chapter five.

1.8 SIGNIFICANCE OF THE STUDY

The study is very important to Zimbabwe, Africa and the world over. The results of the study provide examples of economic interventions which policy makers, development economists, development finance and future researchers can use to target the poor. The study will assist the poor people regarding the importance of financial inclusion, and the poor people will be equipped with more information on how financial inclusion can act as an instrument to fight inequality and poverty. When this information is availed to them, this can help them to participate in the formal financial market so as to fight poverty. In addition, development economists and development finance can also apply the results of the study to prepare modules and policies on the influence of financial inclusion on poverty, inequality and exclusion. This assists in increasing the channels of growth rather than paying attention to traditional models of growth.

1.9 DELIMITATION OF THE STUDY

This study focused on getting primary data from smallholder farmers in Manicaland Province and a section of households who were not in farming in the province. Data were collected from the ten districts of Manicaland Province namely Buhera district, Makoni district, Chimanimani district, Nyanga district, Chipinge rural, Mutare urban, Mutare rural, Chipinge urban, Rusape urban and Mutasa. Towns like Rusape, Mutare and Chipinge were divided into two urban and rural districts. Out of the 650 questionnaires distributed, a total of 611 questionnaires were collected with information however, 11 questionnaires were removed because they had missing information and missing pages making a total of 600 questionnaires used for the study.

1.10 ETHICAL CONSIDERATIONS

The study strictly followed the academic research ethical guidelines and was conducted in a responsible and professional manner to provide society with new information related to the topic under investigation, so that reasonable results conclusions and recommendations related to the topic under investigation can be generated. Identities of participants were highly protected together with their interests. Strict adhering to ethical and technical guidelines made it possible for the study to reduce incidents of plagiarism and fabricated data reporting. All the data and information received from the participants were handled confidentially throughout the study period. The ethical clearance and approval were obtained from the NWU-EMELTEN-REC ethical committee before commencement of the data collection under the ethical number NWU-00354-19-A2.

1.11 ORGANISATION OF THE STUDY

The study is organized into seven chapters. Chapter one presents the introduction, which focuses on the background, problem statement, objectives and justification of the study. Chapter two presents the theoretical literature review. Chapter three presents the empirical literature review. Chapter four presents the country profile and the profile of the study area. Chapter five present a discussion of the methodology used. Chapter six presents the main findings and chapter seven presents the conclusions and policy recommendations of the study.

1.12 GENERAL NOTES

The following information pertain to the study and the information contained therein:

- Referencing is based on Harvard style throughout the study. Page numbers were included in the in-text referencing especially on government documents, books and other publications like journals. However, in some documents where page numbers were not present, in-text references have no numbers throughout the study. In actual fact the study used a combination of page numbers and no page numbers for in-text referencing.
- On tables and figures, where sources were available, references accompanied each table and figure. However, where the table was compiled using data obtained from this study, references were referenced using the researcher's name: Mhlanga (2019).
- In the study, the word smallholder farmer is used interchangeably with farmer.

1.13 SUMMARY AND CONCLUSION

The main aim of the chapter was to give the introduction and background information of the study. The problem statement was clearly highlighted in this chapter. Study objectives, theoretical and empirical objectives were also clearly articulated in this chapter. Chapter 1 also provided the research design and methodology, where the structure of the data collection instrument was outlined clearly. The sampling procedure was also presented clearly in the chapter. The statistical analysis procedure was also presented, that is, the statistical models used to achieve the objectives of the study were clearly highlighted. The chapter also outlined the significance of the study, delimitation of the study, ethical considerations, general notes and organisation of the study.

CHAPTER 2

THEORETICAL LITERATURE REVIEW

2.1 INTRODUCTION

The chapter will provide a review of theoretical literature for the study. Before reviewing the different theories of poverty, the chapter will provide a discussion of various definitions of poverty in order to make an effective analysis of the causes and measures of poverty. Secondly, a review of literature on different theories of poverty will follow, accompanied by an analysis of the applicability of the theories of poverty to developing countries, Zimbabwe included. This analysis is important to the current study because it will provide ideas on factors which are causing poverty to rise in developing nations as highlighted by the different economic theories and to establish the applicability of these theories in the case of Zimbabwe. The next section will review theories on the measures of poverty as a way to inform how poverty will be measured in the current study. The review of these measures of poverty will help to analyse and understand how poverty is measured and whether the measures are applicable to developing countries, Zimbabwe in particular. The third section will analyse the theoretical framework relating to the factors which influence smallholder farmers to take part in the formal financial market. The review will inform the current study on the factors which may influence smallholder farmers to participate in the formal financial market or not to participate. The fourth section will highlight the theoretical arguments on the impact of financial inclusion on poverty. This is important because it is a main focus of the current study, and it will help to discover the various channels through which financial inclusion can have an impact on poverty.

2.2 DEFINITION OF POVERTY

Accordingly, the study will start with the description of some pertinent definitions of poverty before probing into the theories of poverty as explained by the different schools of economic thought. The definitions of poverty embraced by the different economic schools of thought over time reflect a paradigm shift from monetary aspects to the causes and measurement of poverty to multidimensional issues like political participation and social exclusion (Davis and Sanchez-Martinez, 2015:8). As a result, it is equally important to have a description of these definitions of poverty in order to identify the extent of this shift. Also, the current study is much focused on establishing the extent to which financial exclusion can be responsible for the causes of poverty. The first definition of poverty to be discussed is the United Nations (UN) definition of poverty.

The UN came up with two definitions of poverty related to absolute and overall poverty. Firstly, absolute poverty is a condition where poverty is depicted as deprivation of basic human needs like: food, health, shelter, safe drinking water and so on (Davids, 2010; Gordon, 2005). From this definition, poverty depends on many factors, not only income, but also on access to a variety of useful services (Davids, 2010). Overall poverty, however, assumes different forms which include: inability to have access to income and productive resources, hunger and malnutrition, ill health, inability to access education, a rise in morbidity and mortality from illness, shortage of housing, unsafe environments, social exclusion and discrimination (Jenkins and Sugden, 2006). Moreover, overall poverty involves lack of participation in decision making in civil, social and cultural life (Studies and Forum, 1998; Forsyth et al., 1998).

Looking closely on the United Nations definition of poverty, overall poverty recognises a variety of elements that can commit to a household's impoverishment apart from focusing only on monetary aspects of poverty. This further shows us that

poverty is a multidimensional phenomenon. Consequently, in 2010, the UN incorporated another definition in the class of poverty definitions, which was termed the multidimensional poverty index which involved a number of issues like education, health, standards of living and many other variables. In 2013, the Joseph Rowntree Foundation (JRF) defined poverty as a condition where people's material resources are not enough to satisfy the minimum needs that include social participation (Davis and Sanchez-Martinez, 2015). The definition by JRF recognized the significance of the social aspects of life for individuals, not only their material well-being (Davis, 2014; Davis and Sanchez-Martinez, 2015).

The WBG, on the other hand, stressed as important circumstances malnutrition, illiteracy and diseases as major elements which contribute to the poverty of an individual (Braithwaite and Mont, 2009). The WBG stressed consumption and income of individuals as major variables which can render a person to be poor, especially if the individual fails to reach a prescribed income or consumption threshold commonly known as the poverty datum line (Davids, 2010). Moreover, Peter Townsend like the JRF recognized additional factors which contribute to poverty apart from lack of income and food. Townsend defined poverty as the inability to have enough resources which are critical to allow individuals to participate in the activities approved by society (Townsend, 1979; Davis, 2014). This definition is purely a relative measure of poverty since many resources, not only earnings, should be investigated. Elements like inherited income and accumulated wealth are necessary in the determination of poverty (Townsend, 1979).

In the early twentieth century Seebohm Rowntree came up with another definition of poverty which differentiated primary and secondary poverty (Davis, 2014). Primary poverty is viewed as the amount of earnings which are not sufficient to meet the minimum needs for the maintenance of physical efficiency (Rowntree, 1901; Townsend, 1979). Secondary poverty, on the other hand, is merely a

development of the primary poverty where it depends on the subjective judgement of whether the people despite living above the poverty line are poor or not (Laderchi et al., 2003).

The analysis above presented different definitions and views of poverty. This shows us that poverty is a contested subject. As a result, Mpofu (2011) came up with the notion that poverty is difficult to study because it is multidimensional in nature. Mpofu (2011) argued that the problem with investigating poverty is that there are many dimensions to it and people have their own differing views in relation to poverty and their notions to it keep on changing. Mpofu (2011) went on to highlight that the people in poverty are not the same, but they are different in nature. Similarly, Illife (1987) indicates that the diversity of poverty makes it hard to study poor people. This prompted Orshansky (1969) to posit that poverty is difficult to study.

Orshansky (1969) argued:

"Counting the poor is an exercise in the art of the possible. For deciding who is poor, prayers are more relevant than calculation because poverty, like beauty, lies in the eye of the beholder. Poverty is a value judgement, it is not something one can verify or demonstrate, except by inference and suggestion, even with a measure of error. To say who is poor is to use all sorts of value judgements. The concept must be limited by the purpose which is to be served by the definition. There is no reason to count the poor unless you are going to do something about them. Whatever the possibilities for socioeconomic research in general, when it comes to defining poverty, you can only be more subjective or less so. You cannot be non-subjective".

As a result of these contestations, Hartwell (1972) stated that there is no universal definition of poverty. Therefore, scholars who tried to define poverty such as

economists, sociologists and historians failed to come up with one common view on the definition of poverty. Authors like Alcock and Craig (2009) asserted that poverty has no one correct scientific definition because it is viewed as a political and contested concept. Consequently, different definitions of poverty always identify different groups of people as poor or not poor and the way poverty is defined is related to how it is measured (Duclos et al., 2006).

In this fashion, it is clear that there is no single definition of poverty which can encompass all the dimensions. Glewwe and Van der Gaag (1990) pointed out that the diversity in measuring poverty is essential because it has implications on how to design policies and measures to reduce poverty. As such, different organisations and different scholars came up with several definitions and theories which try to explain poverty because of its diverse nature. The different theories will be discussed in the section to follow.

2.3 THEORIES OF POVERTY AND THEIR APPLICABILITY TO DEVELOPING COUNTRIES

2.3.1 Introduction

The numbers of poor people, especially in developing nations, has increased over the years and the gap between people in poverty and the rich has become impossible to understand (Stark, 2009; Stiglitz, 2003). In 2004, for instance, 969 million people lived on less than a dollar a day, a sign of soaring poverty in the world (Stark, 2009). The former World Bank President McNamara said,

"... people in low income countries, experience a condition of life so characterized by malnutrition, illiteracy, disease, squalid surroundings, high infant mortality and low life expectancy as to be beneath any reasonable definition of human decency"(Singer, 2006; Stark, 2009).

The reality of poverty is there, yet there are more billionaires than ever before, people who, as Barack Obama put it, "*make more in ten minutes than a worker makes in ten months*" (Stark, 2009).

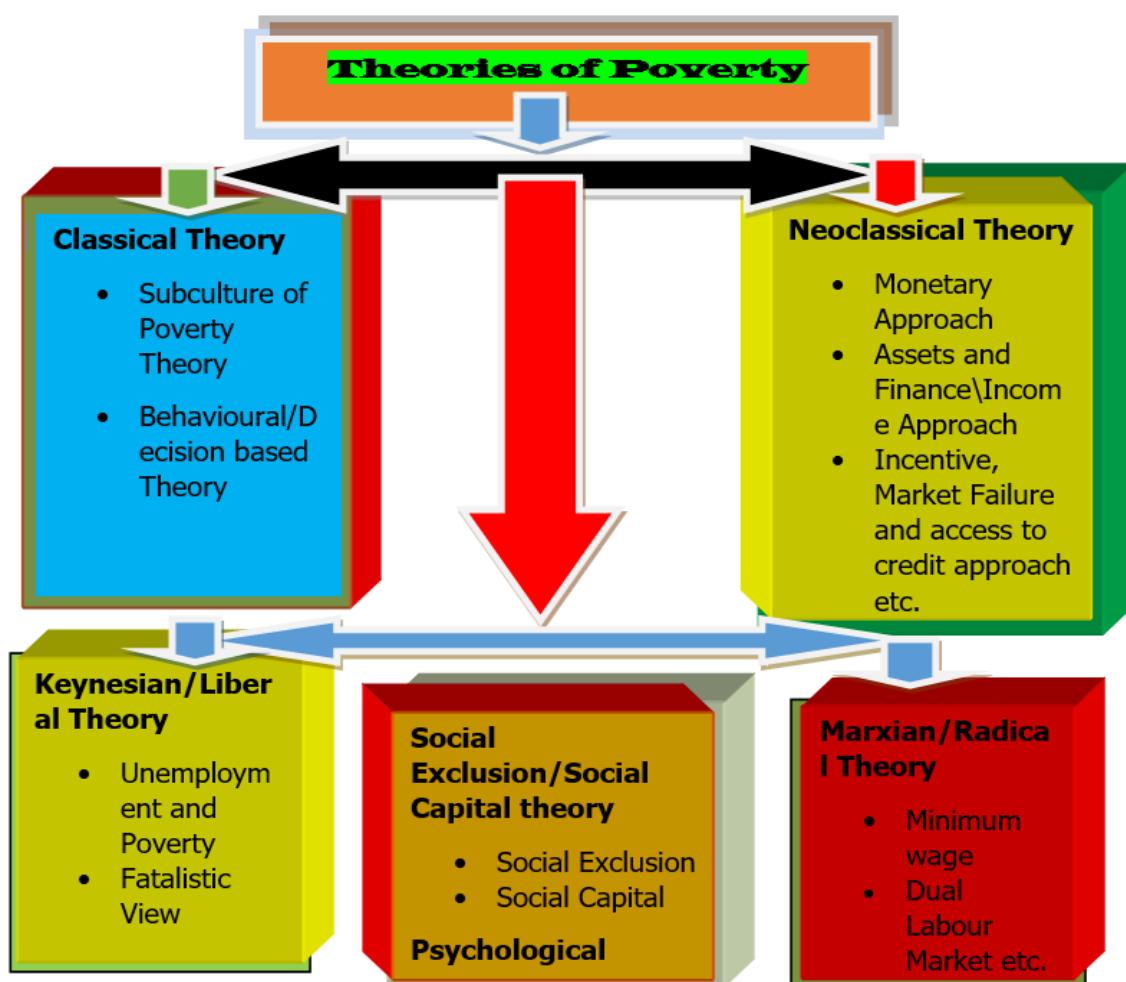
Given this sad picture, the following questions arise: What action needs to be taken? Who must take this action? Politicians, economists and celebrities must not be the only groups left to provide some answers. Theory can actually clarify more on these heated arguments (Gardner, 2004; Stark, 2009). Theory can clarify the possibilities (Stark, 2009). However, the way researchers interpret poverty ascertain the theories developed to address it (Davis, 2014). So, this section will discuss the various theories of poverty to see whether they are applicable to developing countries.

2.3.2 Theoretical framework on the theories of poverty

Figure 5 shows the theoretical framework of the theories of poverty which are discussed in this chapter. This framework helps to see the progression of the theories of poverty from the main schools of economics to other theories which are divorced from economics. This also assists us to see the relationship of ideas from the schools of thought in economics. The discussion will start with the description of the broader economic frameworks of the theories of poverty to which each of the individual theories of poverty belong. The Classical and the Neoclassical Schools also known as the Orthodox approaches will be discussed first. The analysis will start with the description of the differences between these two theories. This distinction is important to lay the background for the discussion of the theories of poverty. These Orthodox approaches introduced the analysis of poverty formally in the nineteenth century (Davis, 2014). The analysis which will follow is the explanation of the theories which came forth as a response to the propositions, suppositions and conclusions generated from the Classical and the Neoclassical economists. In these group of theories, there are theories that agree and deviate from the

fundamental principles of Classical Schools of thought; these theories will be discussed as well. However, these theories introduce several other new theories well known as the theories of the economic liberals for instance the Keynesian and other theories that assess the poverty problem from a completely different perspective known as the radical economic theorists, for instance, Marxian economists. These theories will be discussed as well. Finally, theories that cover the wide theoretical framework that deviate from the core theories of the main economic schools of thought will be discussed too. All these theories are shown clearly in the theoretical framework below.

Figure 5: Theoretical framework on theories of poverty



Source: Mhlanga (2019)

The theoretical framework outlined above gives a general picture of how the theories of poverty will be discussed in this chapter.

2.3.3 The fundamental differences between the Classical and the Neoclassical view of poverty

The discussion on the fundamental differences between the Classical and the Neoclassical views of poverty is important because it assists in establishing the background for the discussion of the various poverty theories. The Classical and Neoclassical schools on poverty represent the wide economic framework on poverty which all the other theories to the causes of poverty belong (Davis, 2014; Davis and Sanchez-Martinez, 2015).

The first difference is centred in the notion of utility. In Classical economics, utility is noticeably not present in theories of labour, value and growth (Davis, 2014). The value of a good is identical in value to the cost of producing it and value is an inherent property (Davis, 2014). In short, the Classical economists assert that value is cost and the rationality principle is not emphasised (Samuelson, 1968). As a result, no separation is given between the firm and an individual (Samuelson, 1968). The profits that accumulate to firms are equal to workers' wages and all the economic benefits generated by the free market (Davis and Sanchez-Martinez, 2015; Samuelson, 1968). Lastly, Classical economists believe that equilibrium occurs when savings are equal to investment (Walsh and Gram, 1980).

Conversely, the Neoclassical economists have the opposite view to what the Classical economists believe. The Neoclassical school of thought shares the view that the value of a good is a function of demand and supply for that good and the value of a good is a derived property while value is also regarded as utility (Davis, 2014; Kuttner, 1987). The Neoclassical economics school of thought also believes that economic agents have rational preferences that affect their buying selling behaviour and that individuals and firms seek to maximise utility and profits

respectively (Davis and Sanchez-Martinez, 2015; Walsh and Gram, 1980). Finally, Neoclassical economists believe that equilibrium occurs where demand and supply meet (Yang, 2001). The intersection point is arrived at from the rationality principle (Davis and Sanchez-Martinez, 2015; Yang, 2001).

2.4 CLASSICAL ECONOMICS THEORY ON POVERTY

The Classical approach to poverty is centred around the works of prominent scholars like Adam Smith and David Ricardo (Davids, 2010). In Classical economics, poverty is regarded as an outcome of poor choices by individuals and individual households. For example, poor people are regarded as people who lack self-control which will have a negative impact on productivity (Davis, 2014). However, the Classical economists also agree that different genetic abilities can be a potential cause of poverty among individuals (Bradshaw, 2007; Davis, 2014). The wrong choices made by individuals are viewed as the leading factors that drives individuals into poverty or the welfare trap (Davis, 2014). Accordingly, the Classical economists assert that there is a minimum benchmark where state intervention is required to help those in poverty to prevent destitution (Davis and Sanchez-Martinez, 2015).

Conversely, beyond that minimum standard, the intervention by the state is regarded as a source of economic inefficiency because of creating incentives that are not aligned with the experiences of individuals in poverty and the society at large (Bradshaw, 2007). In Classical school welfare programmes are generally seen as possible causes or the reinforcement of poverty through welfare dependency (Bradshaw, 2007; Davis, 2014).

Therefore, according to the Classical economics, the only reason the government can intervene is when poor people require supportive activities (Yapa, 1996; Lal and Myint, 1998). Moreover, the Classical economists theorise that policy prescriptions should be directed towards raising the productivity of poverty stricken or

unprivileged people so that they become part of the labour force (Yapa, 1996). However, the theory recognizes the fact that some groups of people like the young, the sick and elderly cannot fully participate in the main stream economy and they need alternative support (Davis, 2014). In all the different defining characteristics of the Classical school many different approaches can be distinguished, each emphasising different factors as causes of poverty.

2.4.1 Causes of poverty under the Classical school of thought

Considering the defining characteristics and assumptions of the Classical school of thought, the following constitute the major theories explaining the causes of poverty: decision based/behavioural approach (popularly known as the individualistic theory) and the subculture poverty theory, also known as simply culture poverty theory.

2.4.2 The individualistic/behavioural/decision based theory

Under the Classical tradition the first theory among other theories that explains the cause of poverty is the behavioural/decision based theory, popularly known as the individualistic approach. The view of this theory is that, poverty is an individual phenomenon (Bradshaw, 2007). The argument of the theory is that poverty is a kind of disease, where the poor people are blamed for their own circumstances (Acemoglu and Robinson, 2013). In this view, people are seen to be poor because of their lack of morals, ability and effort (Acemoglu and Robinson, 2013).

In addition, the individualistic view believes that poor people should be answerable for their conditions of poverty, because those conditions are purely related to individual deficiencies (Davis, 2014). In other words, people find themselves in poverty because of laziness, lack of education, ignorance, and inferiority complexes (Bradshaw, 2007). In a similar fashion, Rank et al. (2003) argued that the characteristics of individuals that force them into poverty may include poor industrial

ethics, poor virtuous morality, low levels of education and poor market skills. Rank et al., (2003) went on to state that the government has no role to intervene because the individual traits that causes poverty are either given or determined by market forces. The behavioural view was manifested throughout the nineteenth century, when there was a general belief that poverty was a necessity among the labourers otherwise they would not have any interest to work if they were rich (Davis and Sanchez-Martinez, 2015; Townsend, 1979).

Therefore, the policies derived from the individualistic principle were directed at keeping public expenditure low and subject to means testing, determining whether the family or individual is eligible for government assistance while maximising relief through charity and voluntary effort (Rank et al., 2003). The policies are chosen under the belief that those who are poor select themselves into deprivation; as a result, poverty is not the result of market failure but, rather, of the shortcomings of the poor in terms of their own efforts and capabilities (Rank et al., 2003; Townsend, 1979).

According to the behavioural theory, the major reason to support the poor is because of morality. It is also stated that aid or help should be channelled in a way that poor people invest in their skills (Davis and Sanchez-Martinez, 2015). Moreover, the individualistic approach states that proponents of the individualistic approach went even further to oppose using subsidies as an instrument to alleviate poverty (Davis, 2014). The following measures were suggested as options to welfare transfers to avoid welfare traps, especially where individuals lack the self-drive or motivation to work (Kasarda and Ting, 1996): decentralisation of affordable housing and improve transit options (i.e. public transport improvement), cutting welfare benefits, increasing wages through tax incentives and, finally, training social service staff to assist welfare recipients in moving from welfare to work (Davis and Sanchez-Martinez, 2015; Kasarda and Ting, 1996).

In addition, regardless of on-going debates about the size of the incentive misalignment effect, these policies were put into practice in advanced industrial countries like the UK (Davis and Sanchez-Martinez, 2015). However, the behavioural or individualistic explanation of poverty can be used to warrant the existence of racism, sexism and individualism (Davids, 2010). Apart from adopting the negative perspective of the individualistic and behavioural views of the causes of poverty, other prominent scholars instead focused on positive approaches (Davids, 2010). For instance, in America wealth is attributed to individualistic characteristics such as hard work and motivation (Davids, 2010).

However, there are quite a number of criticisms of the individualistic approach to poverty. The Neoclassical approach attests to the fact that individuals' decisions may be influenced by market failure. As a result, unemployment may be involuntary due to weak aggregate demand, as argued by the Keynesian or class-based operation, the Marxian (Davids, 2010). This reasoning was supported by Alwang et al. (2002) in the book "*Why poverty has increased in Zimbabwe*". The author believes that drought may be harmful, but it is not the only factor which entirely explains the increase in poverty in Zimbabwe. The deterioration of the economic environment was seen to have profound effects on the well-being of households through the reduction of the returns to both the human and physical assets of the people.

2.4.3 The subculture theory

The subculture theory reasons that poor people due to their conditions normally end up getting used to their conditions and develop a lifestyle which keeps them poor (Bradshaw, 2007; Davis and Sanchez-Martinez, 2015). Oscar Lewis was one of the distinguished scholars of the subculture theory of poverty (Davis, 2014). Lewis argued that the poor people in a society usually will form a subgroup with distinguished habits that are self-perpetuating (Davis, 2014). Lewis went on to

postulates that poverty will become a way of life, passed down from one generation to another along family lines (Davis, 2014; Davis and Sanchez-Martinez, 2015). Lewis further elaborated on social and psychological features that corroborate the subculture of poverty. These features are lack of ability to defer gratification, crowded quarters and frequent resort to violence (Davis, 2014).

The subculture of poverty is also linked to the incapability to amass or gather private and social assets by the people in a community (Davis and Sanchez-Martinez, 2015; Davids, 2010). As a result, the subculture theories assisted to change the solutions to poverty from market mechanisms to training and character reform at individual level as well as changes from expensive redistributive policies to cheap social work and community psychiatry (Davis and Sanchez-Martinez, 2015; Davids, 2010). As such, the subculture theory, also called the cycle of deprivation, reasons that deprivation should be viewed as a personal or family phenomenon rather than see it as a society-wide structural problem (Davids, 2010).

The culture of poverty theory went into the public discourse with Daniel Patrick Moynihan's (1965) report, *The Negro Family: The case for National Action* (Moynihan, 1997). The report provided the clue for why poverty continues to affect the poor urban black population (Moynihan, 1997). Moynihan concluded that dysfunctional cultural patterns among the poor black people were the primary cause of poverty (Davis, 2014). However, the criticism levelled against the culture of poverty theory is biased in the interpretation of attitudes and patterns of poor people. The main argument put forward by critics was that the methods and ideas used to support the culture of poverty are premised on western, middle-class values as put forward by Davis and Sanchez-Martinez (2015) and Davis (2014). Another criticism of the theory is that of the imprecision of the theory, i.e. the boundaries between people in subculture poverty and other people experiencing poverty are poorly specified and they are not quantified (Gorski, 2008; Davids, 2010; Davis, 2014).

Finally, there are many policy implications that come from the assumptions and conclusions of the Classical theories of poverty. Firstly, there must be policies that should aim to generate a constructive shift in individual behaviour. These include coming up with strategies ranging from counselling, creation of rehabilitation centres, drug rehabilitation to support groups and threats in the form of criminal sanctions and punishments (Davis and Sanchez-Martinez, 2015). Poverty alleviation strategies such as cash transfers are not recommended since they are thought to give incentive problems to people in poverty, thereby motivating disastrous habits and dysfunctional behaviour (Davis, 2014).

2.5 NEOCLASSICAL THEORY OF POVERTY

Alfred Marshal was the one of the prominent scholars considered to be the pillar in the Neoclassical school of thought. Neoclassical tradition was built on the premises and tradition of Classical economics. Marshal, building on the Classical tradition, argued that unequal talent endowments, unequal skills and capital are strong factors which influence the productivity of an individual in generating poverty within a free market economic system (Davis, 2014; Davis, 2007b). By the same token, Davis (2007b) also asserts that Neoclassical economics attributes poverty to the failure of the market due to factors like externalities, moral hazard, adverse selection and incomplete information. In other words, uncertainty will cause poverty due to the fact that poor people will be vulnerable to shocks which will affect their well-being for example, recessions, sickness, family breakdown (Davis, 2007; Davis and Sanchez-Martinez, 2015).

Additionally, the Neoclassical thinkers argued that moral hazard sometimes produces a high social cost or limits the availability of credit. When this happens, business is affected which may lead to poverty as many will lose their jobs or fail to get proper jobs (Chiappori et al., 1994). Like in Classical economics, there is also scepticism where the role of government is concerned (Gillis et al., 1992). The

function of government in the perspective of Neoclassical economics is biased towards targeted policies meant to address market failure. Government intervention in this school of thought may be necessary in some cases but not all the time (Gillis et al., 1992).

With the influence of the Classical view, the Neoclassicals also believe that the objective of attaining full income equality is difficult to achieve without incurring high costs in efficiency (Dequech, 2007). As a result, many scholars in the Neoclassical school do not see poverty alleviation as the ultimate economic objective.

As a result, policies meant to alleviate poverty were viewed as desirable when they help to increase efficiency in the allocation of resources (Dequech, 2007; Davi, 2014). This view contradicts the view of the Classical economists who believe that it is necessary to compare utility between individuals (Jung and Smith, 2007). Marshall and the Neoclassical authors believe that education is a central element to combat poverty as it permits individuals to be more efficient in the labour market, limiting the number of unskilled workers and raising the income of unskilled workers (Davis and Sanchez-Martinez, 2015). All things considered, the following is a discussion of the central causes of poverty pertaining to the Neoclassical view.

2.5.1 Causes of poverty under the Neoclassical school of thought

Considering all the assumption and defining features of the Neoclassical school of thought, the channels that have been suggested as the main causes of poverty include, but are not limited to the following: monetary view of poverty, assets and financial/income, incentive view of poverty, market failures and access to credit markets view, human capital theory, ethnic minority groups and immigration approach to poverty, health and demographics approach to poverty.

2.5.2 The Monetary approach to poverty

The monetary approach to poverty reflects the fundamental elements of the Neoclassical literature accurately (Laderchi et al., 2003). The monetary approach is one of the theories of poverty which is in line with the utility maximising behaviour. This means that consumption can help to measure welfare. In addition, in order to analyse poverty appropriately, income and consumption are the variables, taken as the major variables to be employed in the analysis (Davis, 2014). As a matter of fact, Bhalla (2002) contests that, from the monetary point of view, lack of income is taken to be the primary consideration among the plethora of factors causing poverty.

Income allows those in poverty to boost their purchasing power, and having access to resources will address the problem of poverty and resource inequality (Davis, 2014). Additionally, Bhalla (2002) quoted in Davis and Sanchez-Martinez (2015) went on to state that income allows people in poverty to procure or receive free public goods which will contribute much to their well-being. However, many theorists who subscribes to the Neoclassical school of thought do not see poverty alleviation as a dominate economic objective but support the minimum rights approach, originated by Rowntree (1901), who suggested a level of income commonly known as the poverty line, as the level of material resources everybody should be entitled to. This poverty line calculated by Rowntree is an estimation of the monetary needs for a nutritionally sufficient diet, together with a rough estimate of clothing and rental needs (Davis and Sanchez-Martinez, 2015). All the individuals below the line are considered to be in primary poverty and those who are above the line but living in obvious want and squalor were classified as being in secondary poverty (Rowntree, 1901).

Davis (2014) stated that one of the contributions of Rowntree's conceptualisation is the idea that the assessment of poverty in this way is said to be objective and hinged

on external assessment through involving the people in poverty themselves. Moreover, the other notable feature of Rowntree's conceptualisation is that it is regarded to be an individualistic view of poverty. It is not driven by factors other than the individual circumstances of poor only (Davis and Sanchez-Martinez, 2015).

However, the monetary approach is criticised on a number of fronts. For instance, the monetary approach is premised on unknown assumptions such as expressing utility in consumption which may fail to define well-being appropriately (Laderchi et al., 2003). Likewise, as highlighted by Davis (2014) poor people may be victims of shocks such as recession, individuals can become sick and some can be divorced. This will demand the need for poverty to be measured from time to time to show the difference between people in transitory poverty and those who are persistently poor. This was in line with the arguments by Ulimwengu (2008) who stated that poverty measurement over time is necessary to show the differences of individuals who are in transitory poverty and those who are persistently poor.

Davis and Sanchez-Martinez (2015) also proposed that assets are also important in the measurement of poverty in as much as income is important. However, the monetary approach to poverty omits a number of factors when considering current income as the major instrument to measure poverty. It was argued that current income ignores variables like savings, debt, differences in prices due to location and expenses directly related to work. As a result, the true picture of poverty is not depicted clearly by the current income.

Moreover, the monetary approach to poverty predefines poverty as an individual phenomenon and not a social phenomenon. The theory focuses on individuals yet data used when measuring poverty is measured at household level where distribution may be uneven especially between men and women, adults and children (Hulme and McKay, 2007; Davis and Sanchez-Martinez, 2015). Finally, according to Davis (2014), value judgements are done externally without the involvement of the

people experiencing poverty. The main policy message which comes from the monetary approach is for governments or countries to make more effort so as to ensure that gross domestic product (GDP) expands for employment and wages to rise so that people in poverty cover their needs and wants (Ulimwengu, 2008).

2.5.3 Assets approach to poverty

The assets approach to poverty - also known as the assets financial/income risk approach - builds up from the principles of the monetary approach and the social exclusion approach (Davis and Sanchez-Martinez, 2015). The general notion underlying this theory is that all households with enough assets are less likely to be affected by fluctuations in income because the assets they hold can be varied to the extent that the risk of becoming poor is minimal when negative shocks appear to them. The idea behind this reasoning is the fact that asset rich households are more likely to withstand the negative income shocks because they can sell part of their assets whenever there is a shock as opposed to poor families who will not have anything to sell when risks occur.

Additionally, Ulimwengu (2008) argued that poor income diversification which emanates from holding few assets has an effect on the probability of becoming poor as well as the period of poverty episodes. This will be more prevalent when the principal job is not secure as this will lead to the family's internal situation being susceptible to instability, a common trend amongst households who are in poverty.

Ulimwengu (2008) also indicated that, besides accumulating private assets, social assets such as health and education are also important factors which contribute to increase and persistence in poverty rates among the poor households. The other reason that assets are important in the perpetuation of poverty is the fact that they can be passed as inheritance from one generation to another. The passing of assets as inheritance will go a long way in fighting against poverty in the households

(Ulimwengu, 2008). As a result, households without assets will not have anything to pass through as inheritance to their children which will affect them and lead to the persistence of poverty. In the same way, Ulimwengu (2008) argued that, not only private assets are important in pushing people in poverty, but social assets like education and health determine the level of poverty rate and its persistence.

It was also argued that individuals in asset poverty have challenges to participate in the formal financial market because they find it difficult to save, and they will suffer from the problem of lack of collateral security, hence they are discriminated in the financial market. Ordinarily, in order to reduce asset poverty, it is advisable to come up with development accounts (DA), which include the matched accounts available to people living in poverty (Davis, 2014). The DA accounts concept was first suggested in the United States (Davis, 2014). In short, according to the asset approach to poverty, lack of appropriate assets can cause and perpetuate poverty of households (Sachs, 2005; Davis, 2014).

2.5.4 Incentive, market failures and access to credit approach

Market failure was also cited as a major cause of poverty among the households. Market failure in the form of information asymmetry and other constraints was cited as the major cause of poverty under this view, especially the negative effect of information asymmetry to credit access by individuals, households and firms. The stubborn effect of market failure will incline individuals to make poor decisions - sometimes ones to their interests (Davis, 2014). Banerjee and Duflo (2012) cited in Davis (2014) provided some of the facts on the reason for poor people to make decisions which are against their own interests. Firstly, people in poverty have limited resources to the extent that they will have to trade off health for other needs and wants.

Other factors are behavioural restrictions such as the act of postponing, self-control and concentrating on current consumption and ignoring future consumption. These factors can cause individuals to make poor decisions. Additionally, Banerjee et al., (2011) argued that these factors can be associated with poor people because they are assumed to be lazy and indulgent; however, it was stated that the rich are not different, but they do not face these costs because of their social standing, for instance, rich people have access to pension plans that constrain them to save for old age and also they have access to better and quality diets.

Davis and Sanchez-Martinez (2015) posit that all these factors mentioned above are symptoms of market failure in the form of information asymmetry which gives rise to adverse incentives. These conditions around poor people have been seen as the potential causes of poor saving behaviour which will drag more individuals into dehumanising conditions of poverty. In a similar fashion, Davis (2014) admits that, transaction costs and costly administration costs are other factors causing market failure and they are responsible for a poor saving culture by individuals.

In addition, Banerjee et al., (2011) stated that poor people can get assistance to change their life through household/micro level policies. As put forward by Davis and Sanchez-Martinez (2015), the assistance includes small-scale transfers and behavioural-change policies which include subsidies. However, it was argued that interventions that change information and people's beliefs can have powerful effects on the poor (Davis, 2014). Also, other areas where effort should be applied should be focused on addressing problems in setting up businesses, birth control and incentives to select good nutrition (Davis, 2014).

However, there are weaknesses put forward by scholars like Rosenzweig (2012) who argued that the benefits generated from tackling the individual level problems are small in absolute terms when compared with relative terms. This gave the clue to Davis (2014) who pointed out that information and implementation costs of these

individual/household level policies may be higher compared with macro level programmes targeted to fight poverty at national level. In addition, because poor people have challenges in starting new small businesses means that the focus should be to increase employment opportunities among the poor households (Davis and Sanchez-Martinez, 2015).

In addition, Pemberton et al., (2013) indicated that the other problem associated with market failure is the mismatch of skills among the low labour income earners in the labour market. The authors highlighted that, to prevent poverty, its existence and persistence, it is not only the quantity of skills that matter but also the quality and the type of skills possessed by the individual. This means that possessing wrong skills can cause the persistence of poverty. Davis (2014) posits that the dysfunction of the market occurs as a result of these mismatches of skills and incomplete or asymmetric information in the labour market. These mismatches in skills are linked to education and training costs that poor people usually fail to afford.

Moreover, Salverda et al., (2009) noted that inadequacies in the skills of children from disadvantaged backgrounds due to poor performance in terms of attainment and levels of education have an impact on the levels of poverty in later life. This is worsened by the decline in demand for unskilled labour in developed and developing countries (Davis, 2014; Salverda et al., 2009). However, the regulation of the labour market in a way intended to solve this type of market failure was regarded as a way which may later increase the levels of poverty among the households (Besley and Burgess, 2003). In addition, Besley and Burgess (2003) went on to speculate that immoderate regulation can act as an obstacle to poverty reduction since it hampers private businesses which will also have a negative impact on the investment atmosphere. This will later decrease economic activity and employment creation (Besley and Burgess, 2003).

Furthermore, problems in access to credit markets by individuals have been viewed as a cause of poverty. Granville and Mallick (2012) stated that the lack of access to credit which hinders individuals without enough collateral from starting businesses to lift them out of the jaws of poverty becomes a major cause of poverty among such people.

Likewise, poor access to credit is also associated with the difficulties in accumulating enough economic assets, difficulties of asymmetric information, moral hazards and adverse selection which are a consequence of credit markets (Davis, 2014; Ulimwengu, 2008). Ulimwengu (2008) further argued that the causes and consequences of poor access to credit and lack of assets creates a vicious cycle since it usually runs in both ways and in a wayward manner. For instance, liquidity and collateral issues limit individuals buying assets to avoid poverty, which leads limited chances of accessing credit. Ulimwengu (2008) went on to stress that this causality between access to credit and lack of assets leads to a poverty trap.

Besley and Burgess (2003) suggested that access to credit plays a critical role in the lives of poor people. Just like education, access to credit increases the positive elasticity between economic growth and poverty reduction by ensuring that people enjoy the benefits and opportunities that economic growth offers. In addition, Besley and Burgess (2003) argued that access to credit may also act as a method of income redistribution, hence problems of inequality will decline since poor people will have access to business opportunities and ownership of financial resources. Moreover, Bornstein (1996) argued that, besides the importance of credit to finance business ventures, credit can also help in consumption smoothing. Access to credit leads to some deficits in income without affecting consumption.

2.5.5 Human capital theory

Becker (1964) propounded the human capital theory which stressed the importance of the skills workers possess. This theory was named the human capital theory (Davis, 2014). Neoclassical economics in one of its strands focused on individual choices regarding issues such as education, training and mobility as factors which influence human capital. The argument put forward was that these factors will help to show the differences in incomes among the working class even though the theory did not explain the role played by other factors like economic institutions and social norms (Davis, 2014). Salverda et al., (2009) noted that poor households tend to invest less in education which later compromises their ability to earn more income, hence the high levels of poverty among them.

In a similar fashion, Becker (1964) contends that lower levels of education are associated with poverty, since poor people tend to invest less in education. Davis (2014) suggested that the policies that can come from the human capital theory view of poverty are as follows: despite the fact that incomes of individuals cannot be equalised across all the individuals because of factors like genetic differences in ability, a lot can be done through an increase in spending and educating people in poverty so as to improve their ability, which will improve their earning potential. Some scholars have noted that human capital investment implies a financial and emotional cost which may be high for individuals, to the extent that some will not be willing to be exposed to such a high cost (Davis, 2014; Ulimwengu 2008; Becker, 1964). Some will be willing to have stable but low paying jobs and some will be afraid to break social relationships (Davis, 2014; Becker, 1964).

In addition, Davis and Sanchez-Martinez (2015) argued that the inability of individuals to invest in their own skills usually prolongs low salaries which leads to poverty and this therefore raises the cost of human capital investment, thereby reinforcing the vicious cycle. One way of preventing the vicious cycle is to ensure

that policies which call for the redistribution public resources such as education to be implemented, as this will help to flatten the distribution of skills among the population (Becker, 1964; Davis and Sanchez-Martinez, 2015).

Moreover, Lydall (1968) stated that personal earnings can vary from one person to another because of the differences in intelligence, environment and education at individual levels. Scott et al., (2000) argued that programmes like adult education can play a major role for adults with skills in low demand and for the individuals who did not get the chance to do normal schooling. This programme can help to improve the skills of individuals and their earnings as well. When earnings improve, poverty levels will decline as a result.

2.5.6 Ethnic minority groups and immigration perspective

Poverty among ethnic minority groups is widely associated with discrimination even though cultural issues such as attitude to education may play a major role (Farkas, 2017; Tackey et al., 2011). In addition, Davis (2014) argued that immigration status of ethnic minority groups can be a further factor which explains poverty among ethnic and minority groups. Davis and Sanchez-Martinez (2015) further stated that, even if the communities of ethnic minority groups are a fraction of immigrants, however, ethnicity indicates the likelihood of immigrants to have more chances of being poor than natives. For instance, Davis (2014) noted that in 2010 around two fifths of ethnic minority group individuals in the UK were living in low-income households, which was twice the rate for white British people.

According Blume et al., (2007), immigrant groups have more challenges to get employment and welfare and other state benefits compared with natives. The longer the immigrants stay in a foreign country, the more likely they will be entitled to welfare benefits; this will reduce the likelihood of them becoming poor or go beyond the poverty line. This is because the number of years one resides in the host country

is an important element in determining the probability of being poor (Blume et al., 2007; Davis and Sanchez-Martinez, 2015).

Moreover, Davis (2014) contended that immigrants who stayed in the host country have more time get used to the country's socio-economic circumstances. This can also act as a factor of them being less likely to be in the poverty bracket. In addition, the other reason put forward was the mismatch of skills demanded in the labour market and the skills possessed by immigrants. This can result due to structural shifts in the economy like the transition from manufacturing to service industry (Davis and Sanchez-Martinez, 2015). Moreover, Davis (2014) stated that the level of education for immigrants plays an important role in creating chances of employment for immigrants relative to nationals, hence this will have an impact on poverty levels.

In this case, highly educated immigrants tend to have less chances of being poor due to their educational levels. It is argued that high educational levels create an impression to potential employers that immigrants are able to perform at work which reduces the chances of unemployment among the immigrant population (Davis, 2014). According to Raphael and Smolensky (2009), there are direct and indirect effects on poverty among the immigrants. The direct effect is whereby poverty rates rise because of higher population of immigrants in a certain area. On the other hand, Raphael and Smolensky (2009) explained the indirect effect of immigration on poverty as the inflow of immigrants affecting the supply of labour at different skills levels which will have a negative impact on the wages of native workers. When the negative externality of low wages is strong due to the increase in labour supply from immigrants, the poverty rate among natives may increase, which may lead overall poverty to increase, commonly known as the displacement argument (Davis and Sanchez-Martinez, 2015; Raphael and Smolensky, 2009).

2.5.7 Health and demographics perspective to poverty

Davis and Sanchez-Martinez (2015) argued that health and demographic issues such as the age of an individual act as strong elements of an individual's stock of human capital. As a result, these elements indirectly strongly influence the probability of being poor for an individual. Reinstadler and Ray (2010) came forward with several channels through which health status can cause poverty; for instance, when an individual has health problems this will lead to limited chances of getting a job which will increase the chances of being in poverty. Additionally, Buddelmeyer and Cai (2009) stated that it is possible for individuals with health problems to participate in the labour market, but they are most likely to get low paying jobs because an individual with health problems will not be able to meet the conditions of highly paid jobs due to lower marginal productivity.

In turn, Buddelmeyer and Cai (2009) also showed that poverty caused by lack of income may later cause health problems because of issues to do with malnutrition, consuming junk food and limited medical check-ups. It was later argued that being in poverty leads to behaviour which is against health such as smoking, alcoholism, drug abuse and too much eating owing to psychological problems (Davis, 2014).

Therefore, the feedback effects between ill-health and poverty may cause a vicious cycle of poverty which will lead to a permanent poverty trap for working age individuals (Davis, 2014). In addition, age was also seen as a strong predictor of poverty, especially if age is associated with unemployment as well as health problems. These groups of people who are more likely to be unemployed will enter and re-enter poverty. Empirically, Iryna (2013) argues that people who are old tend to have a lower marginal productivity than the youth due to limited cognitive skills which affect their human capital stock. As a result, age negatively influences the probability of coming out of poverty. The reasons put forward ranged from limited chances of regaining employment due to short employment periods and high

depreciation rate of their human capital. Likewise, the vicious cycle of poor health, poor income and poverty also apply to the relationship between age and poverty (Davis and Sanchez-Martinez, 2015). The arguments were said to also apply to young employees due to lack of work experience which reduces the chances of the youth from getting jobs because employers will be uncertain about their productivity (Davis and Sanchez-Martinez, 2015; Davis, 2014).

In addition, there is a high possibility of the youth being excluded from the labour markets because of employment protection legislation. This will lead to high youth unemployment and consequently high poverty levels among the youth. Also single parenthood is likely to cause poverty in these households because of one member who will provide food to the family. The result will be shortfalls in the generated revenue to meet the needs of the family. This will increase the chances of the household to fall into the jaws of poverty because lone parenthood limits the family from enjoying the economies of scale enjoyed by families where more than two members go to work (Davis and Sanchez-Martinez, 2015; Iryna, 2013).

According to Davis (2014), single parenthood has increased significantly due to social problems like parent separation which leads to poverty among these families, especially households headed by women. Poverty among women was associated with issues like discrimination and exclusion from the main stream economic activities (Davis, 2014). Generally, individuals who belong to the risk group have high jobless rates and the general example comes from youth unemployment (Davis, 2007b). The other example cited is of single parents who have children who lack access to expensive childcare which will lead these single parents to put more of their time meeting childcare needs which could otherwise be devoted to the labour market (Davis, 2014; Iryna 2013). Hence, a lack of affordable childcare services will prevent them from contributing their efforts to the labour market (Davis and Sanchez-Martinez, 2015; Davis, 2014; Iryna 2013). The direct policy prescription is to ensure that families who are poor are given the necessary support

on childcare so that these families have more time to join the workforce (Ellwood, 2004). More generally, demographic causes of poverty are regarded as difficult to address because they are seen as less sensitive to policy. It was later stated that strategies that increase employment and the wages of low-wage households will improve the conditions of poverty significantly (Ellwood, 2004). The following section now explains the Keynesian/Liberal theory on poverty.

2.6 KEYNESIAN/LIBERAL THEORY

The Keynesian theory/liberal theory is centred on the idea that poverty is not caused by market imperfections only but economic underdevelopment in all its manifestations is also responsible for poverty (Davis, 2014; Davis and Sanchez-Martinez, 2015). The liberals believe that economic growth can go a long way in improving economic development which is a key component in relieving people from poverty. The liberals argue that government intervention at macroeconomic level through fiscal and monetary policy is justified to address a plethora of problems, chiefly involuntary unemployment. Keynesian economists believe that when involuntary unemployment is tackled poverty levels in a country will respond by declining, especially for the people who were affected by involuntary unemployment (Davis, 2014; Sachs, 2005).

Additionally, in a normal Keynesian approach, the indications of underdevelopment include poor levels of human capital. Another issue which shows under development is that of low levels of business capital such as buildings and machinery, which also translate to show the levels of poverty in that particular setting (Davis, 2014, Sachs, 2005). Furthermore, the liberal theorists assert that under development can be shown through signs like poor infrastructure development such as dilapidated transport networks, power supplies and sanitation (Sachs, 2005; Davis, 2014). Underdevelopment is also associated with problems with natural capital, for instance, inviable land, problems with public institutional capital like rule of law and

security and, finally, knowledge capital like technical know-how, a requirement for productivity to rise (Sachs, 2005; Davis, 2007b; Davis, 2014). The liberals went on to argue that these signs of underdevelopment in a region give a broader picture of the levels of poverty experienced by the citizens of that country or region (Sachs, 2005; Davis, 2007b). The part played by the various structural factors was argued to be associated with developing countries, even though developed nations were sometimes associated with similar patterns (Davis, 2014; Davis, 2007b).

Sachs (2005) propounded the view of the liberal theorists clearly, positing that the liberals' main focus is to provide capital goods, like education and many others, in order to improve human capital as well as infrastructural development so as to boost the productive capacity of people experiencing poverty. Notably, Sachs' approach to poverty was seen as the creation of new ideas especially through his clinical approach to design anti-poverty measures. The approach adopted involved adapting to different circumstances rather than one size fits all when dealing with poor people (Sachs, 2005; Davis; 2007b). Davis (2014) in agreement with Sachs' approach noted that factors to be taken into account when dealing with poverty involve issues to do with the occurrence of poverty traps, the policy framework of the economy, the fiscal policy, fiscal traps, cultural barriers and geopolitics.

Notably, Davis (2014) went further to argue in support of Sachs' approach. Davis (2014) stated that poverty sometimes is influenced by the strength or weakness of the institutional environment; for instance, if the country's institutions are prone to corruption, the functioning of markets is disturbed a lot. In another perspective the most important element is geographical isolation, which may hinder the importation of basic goods and services essential for individuals to achieve a desired level of well-being. When there is an interruption to the flow of basic goods, this will push many people into the poverty bracket. As a matter of fact, Sachs (2005) went on to asserts that the only way to combat poverty through the dictates of the liberal

theories is to come up with policies meant for the different economic circumstances through weighing different economic factors at the macro level.

Conversely, Davis (2007b) summarised a number of critics who assert that the approach proposed by Sachs is similar to the big push approach to relieve poor people from the poverty trap using a substantial amount of aid. It was also argued that Sachs' approach was widely used in the 1950s but there was minimal evidence that it worked (Davis, 2007a; Sachs, 2005). However, Davis (2007b) contends that the bottom up approach is preferable to the top down approach, since it is better to involve people in poverty, rather than them receiving help without their involvement. The top down approach has the tendency of causing the problem of dependence syndrome, a situation where people in poverty cannot work on their own to fight poverty (Davis, 2007; Sachs 2005). In addition to that, the problem which may also follow the provision of massive aid is the abuse of aid, to the extent that in other circumstances aid may fail to reach the intended beneficiaries. To combat this Sachs (2005) proposed coming up with more rigorous ways of stopping the abuse of aid by governments.

In summary, among the list of capital goods considered important by the liberal economists fits the class of public goods (Davis, 2014). Davis and Sanchez-Martinez (2015) stated that the liberal theory of poverty is in agreement with Sen's capability approach by recognising the importance of public goods. Laderchi et al., (2003) state that, as emphasised by the Keynesian theorists, the adequacy of resources is much more important than their sufficiency for desire fulfilment. As a result, externalities and public goods are all necessary factors in poverty analysis which are appreciated more in terms of capabilities.

J.M. Keynes and Alfred Marshall, were the notable pioneer of liberal economics who shared the notion that forces of demand and supply or market forces can assist to

promote economic growth and development which are viewed to be the most important tools against poverty.

2.6.1 Theories of poverty under the Keynesian/liberal approach

Considering the defining characteristics and assumptions of the Keynesian approach - also known as the liberal approach - the following will constitute the major theories of poverty. Firstly, the Keynesians put greater emphasis on the macroeconomic activities of the economy than the neoclassical economists who emphasised the micro side of the economy. The Keynesians emphasised unemployment as the major factor contributing to poverty as well as the fatalistic perspective. In short the two theories under the Keynesian/liberal approach are the fatalistic theory and the unemployment theory of poverty.

2.6.2 Keynesian Macroeconomic View on Poverty

Even though Keynes recognized the importance of education in the fight against poverty, there was a greater shift in perspective of Keynes from the previous theories such as the Neoclassical economists. Keynes emphasised the macro side of the economy to the micro side which was the major focus of the Neoclassical economists (Davis, 2014; Townsend, 1979; Davis and Sanchez-Martinez, 2015). However, in human capital investment, Keynes believed that the accumulation of human capital in individuals was not supposed to be based on individual decisions but the accumulation of human capital through aggregate investment in public education (Davis, 2014).

In addition, Keynes argued that the role of the central government in the economy should take centre stage. The Keynesians posit that the intervention of the government to combat poverty is a requirement. The argument put forward was that government intervention is necessary in order to address different economic issues responsible for poverty such as involuntary unemployment and human capital

accumulation through massive public education investment. It was further asserted that human capital investment and tackling involuntary unemployment encourage economic growth through the highly celebrated multiplier concept and finally poverty reduction (Davis and Sanchez-Martinez, 2015). This is totally opposite of what the Classical and Neoclassical economists argue, claiming that government intervention should be limited in all spheres (Davis, 2014; Townsend 1979).

Davis and Sanchez-Martinez (2015) went on to posit that, from the Keynesian/liberal perspective, the presence of poverty is a result of misfortune of individuals who fall out of work, individuals who cannot work or they are not expected to even if they desire to do so. Responding to this, Townsend (1979) asserted that the government must be involved in the economy to provide regulation and exhortation and to supplement but not to enforce or impose them. In addition, it was stated that the actions of the state will help those who are unfortunate, i.e. those who are out of work but are willing and able to work. Moreover, Townsend (1979) contends that liberal theory subscribes to the notion that the occurrence of poverty can be a sign of market failure that can successfully justify redistributive taxation in cash and kind under certain conditions.

Aggregate investment was the variable most noted as key in creating employment and growth which can bring people out of poverty (Davis, 2014). Furthermore, Keynes posits that a country with low entrepreneurial investment is normally characterised by high unemployment as well as high poverty levels among those who supply labour (Davis, 2014; Davis and Sanchez-Martinez, 2015; Townsend, 1979). Also, Jung and Smith (2007) state that, in the liberal perspective, it was proposed that government revenue from taxes and the issue of bonds should be used for public investment well known as the socialization of investment by Keynes.

Moreover, it was further stated that, in order for public investment to achieve the objectives of economic growth such as employment creation and poverty reduction,

it is crucial to channel investment in strategic sectors with the highest multiplier effects (Jung and Smith, 2007; Davis, 2014). Examples of these sectors include infrastructural development and human capital development (Jung and Smith, 2007; Davis, 2014). It is argued that injecting resources into these areas will attract private capital investment, which will boost economic activity and the fight against poverty (Davis, 2014; Davis and Sanchez-Martinez, 2015).

Davis (2014) argued that, if an economy is able to induce economic growth which will induce a growth in jobs in a manner that will reduce poverty, then such growth will be viewed as attractive. Jefferson (2012) also noted that this growth is attractive due to the fact that it prevents the government from resorting to an increase in tax rates to finance anti-poverty programmes. Furthermore, Keynesians contend that this type of growth will reduce absolute poverty due to the fact that incomes of individuals will rise so that many will live above the absolute poverty line (Jefferson, 2012; Davis and Sanchez-Martinez, 2015).

However, Granville and Mallick (2012) suggested that the effects of economic growth on relative poverty depends on whether rise in income due to economic growth is followed by a reduction in variance in the distribution of income. Ellwood (2004) hypothesizes that poverty can continue to grow despite the growth of the economy, especially if the poor people are left off the growth wagon. Ellwood (2004) went on to assert that, to fight poverty successfully, growth must be sustainable viable and inclusive.

In relation to the most relevant sectors of the economy, Keynesians believe that, free flow of credit into Small to Medium Enterprises (SMEs) can have more impact on job creation for poor individuals, which will have a strong influence on poverty reduction (Ellwood, 2004; Davis and Sanchez-Martinez, 2015). According to Granville and Mallick (2012) the policies should be put in place to ensure that financial requirements of small entrepreneurs and businesses whose focus is growth

must ensure that the credit is distributed more evenly across borrowing firms, so that the impact on credit is greater. However, the major hindrance of SMEs in receiving credit is their persistent lack of collateral, which leads to credit rationing due to risk perception and lack of clarity (Granville and Mallick 2012; Davis and Sanchez-Martinez, 2015).

2.6.3 Fatalistic theory of poverty

The fatalistic perspective on the causes of poverty subscribes to the idea that not only market distortions are responsible for poverty, but underdevelopment in all its manifestations also causes poverty (Shek, 2004). More importantly, poverty is seen to be caused by accidental factors, commonly referred as fatalistic factors, for instance, bad luck or misfortune (Shek, 2004). In addition, other factors which poverty is attributed to are ill-health and social and economic consequences. The liberal approach believes that under development in a country is shown by factors such as low levels of human capital, for instance, health, skills and education, which will translate to show the levels of poverty in that particular setting (Davis, 2014; Sachs, 2005).

Moreover, the fatalistic view of poverty also attributes poverty to unforeseen circumstances normally beyond the control of an individual (Bullock and Waugh, 2005). By the same token, Davids and Gouws (2013) showed that fatalistic perceptions are mainly used to interpret how individuals perceive themselves when faced with situations of injustice and victimisation. In these circumstances individuals argue that the unfair discrimination or injustice towards them is due to bad luck or a mistake which will usually push them into poverty.

2.6.4 Unemployment and poverty

Unemployment is seen as one of the causes of poverty because it deprives people of labour income which is an important element to lift people out of poverty. It is

alleged that people without formal income are prone to be poor because they cannot afford the basics of life. Put differently, these people tend to suffer from absolute poverty (Davis, 2014). Aassve et al., (2006) noted that unemployment becomes too sensitive to poverty especially when poor individuals experience discontinuous, short term employment throughout their lifetimes.

Additionally, Aassve et al., (2005) with the support of Barros et al., (2015) argued that when poor people get a job and consequently fail to retain the job, regardless of the amount of pay they receive, the probability of them becoming poor is high. The reason given is that, during their employment, the amount of savings accumulated will be insufficient to maintain the standard of living above the poverty line. In the same fashion, Pemberton et al., (2013) noted that even with pension and social security systems people with inconsistent or discontinuous employment are more likely to fall into poverty because upon retirement there will be gaps in entitlements. As a result, stable employment is an important element in preventing the persistence of poverty and stable employment enables people to aim for better carrier opportunities with better income.

Stability in employment also facilitates important aspects of consumption smoothing such as borrowing which will allow households or individuals to enjoy long-term, consumption. In addition, with stable employment households will have the ability to save and invest even in their own skills which will have an important influence on poverty (Barros et al., 2015). In addition, Sen (1999) asserts that with stable employment it is easy to convert assets into entitlements and stable employment acts as a basis for differentiating between transitory short-term poverty and lifelong poverty.

However, the slipping into and out of poverty by individuals in their life time will limit their ability to acquire assets, and to accumulate human capital and liquid savings. This will hinder any possibility to escape poverty because of the ups and

downs in their incomes (Davis and Sanchez-Martinez, 2015; Reinstadler and Ray, 2010).

In addition, it is not only unemployment at the individual level which can push people into poverty; even regional unemployment can have a direct and indirect influence on poverty (Reinstadler and Ray, 2010). The direct effect of regional unemployment on poverty is a straight forward effect where higher regional unemployment will lead to higher individual unemployment which will lead to high poverty levels. Secondly, the indirect effect of regional unemployment on poverty comes in as a result of the influence of the unemployment rate on the wage bargaining power of the individuals employed. When regional unemployment is high, employed individuals will have weak bargaining power. Because of competition for jobs, they will either receive lower wages and due to fear of being fired (Davis, 2014; Reinstadler and Ray, 2010).

More importantly, Reinstadler and Ray (2010) went on to assert that aggregate variables like regional unemployment are notable even when controlling for individual features which affect the probability of being poor. This will give a lot of support to Keynesian ideas that macroeconomic factors are important in influencing poverty. However, even though employment is seen as an anti-poverty instrument, in other circumstances it can be another cause of poverty especially when employment is in the form of part-time, low paid as well as temporary jobs which are not by any measure secure (Salverda et al., 2009). Iryna (2013) argued that this situation happened in Germany in the crisis of around 2012 when there was a reduction in unemployment but poverty did not fall; in fact, there was a sharp increase in poverty. Similarly, in Zimbabwe, during the crisis of 2008, there was a lot of employment in the financial sector, but the people employed in that sector were poor because the money they got was eroded by inflation. The movement of money was very high forcing financial institutions to hire many workers in the process.

In addition, there was also a conclusion that almost half of the fourteen million poor people in the United Kingdom were from the working class (Davis and Sanchez-Martinez, 2015). This was supported by Osterling (2007) who added that economic reforms like the restructuring of the economy can cause poverty, especially in the short run. In addition, besides unemployment, there are other macroeconomic factors which are seen as activators of poverty, one of which is inflation. It was argued that inflation triggers poverty when nominal wages grow at a lower rate than the rise in prices. As a result, the workers' real income will be depressed which will cause poverty, especially when the prices of basic goods are affected (Davis and Sanchez-Martinez, 2015).

Equally important, according to Agénor (2002) in a study where a cross section of 38 countries was studied, it was found out that inflation in almost all the cases increases poverty. In a similar manner, Easterly and Fischer (2001), using a survey of 31,869 households in 38 countries, found that poor people were citing inflation as a concern when poverty occurs. Furthermore, Davis and Sanchez-Martinez (2015) also cited that high sovereign debt can be another factor which can trigger poverty in a country. This debt can exacerbate poverty by hindering economic growth, especially when public resources are allocated towards poverty eradication at the expense of capital expenditure programmes (Granville and Mallick, 2012; Davis and Sanchez-Martinez, 2015).

Furthermore, asset market bubbles can be another factor which can influence poverty towards undesirable levels. Early and Olsen (2002) pointed out that with outstanding increases in housing prices and rents, the risk of homelessness will be very high especially for those who do not have enough income to pay rentals and interest. This also applies to those who do not have enough assets to apply for mortgage loans. Therefore, housing bubbles can cause poverty through preventing vulnerable groups from participating in housing market so as to fulfil the basic right of shelter (Davis and Sanchez-Martinez, 2015). In short, unemployment is seen as

one of the causes of poverty because it deprives people of labour income which is an important element to lift people out of poverty. The next section explains the Radical/Marxian theory of poverty.

2.7 THE RADICAL/MARXIAN THEORIES OF POVERTY

Marxian economists argued that capitalism social and political factors which are hinged on class division are the major causes of poverty (Davis, 2014). In addition, Blank (2003) went on to argue that Marxian theorists believe that the markets do not function normally; instead, they are naturally dysfunctional. As a result, capitalist societies mostly maintain wages at low levels. In addition, in the markets there are numerous threats of unemployment. In a capitalist economy poverty can be eradicated through rigorous market regulation, for instance, coming up with minimum wages. Many theorists of this school of thought believe that poverty is an effect of structural factors which involve stratified labour markets, prejudice and corruption (Davis and Sanchez-Martinez, 2015).

The inability of the labour market to function properly was viewed as the major reason why government regulation is highly recommended in the labour market (Davis, 2014; Davis and Sanchez-Martinez, 2015). State regulation according to the Marxian theory should aim at improving the working conditions of workers and to promote higher wages among them (Blank, 2003). In short, the policy message in this school of thought is to institute anti-discrimination regulations and reforms in the labour market. These reforms are necessary to do away with structural barriers that act as barriers to employment which will translate into poverty.

As noted before, minimum wages were seen as one of the most important measures for preventing workers in the lowest income bracket from falling into poverty as a result of the abuse of capitalism (Davis and Sanchez-Martinez, 2015). The justification of minimum wages, according to Jung and Smith (2007), was that when

individuals who were receiving welfare assistance finally get jobs, but competition will increase, which will force the wages of all the workers to fall, and the end result will be an increase in poverty. In the same manner, Pemberton et al., (2013) argue that in most cases, low paid jobs may be a source of poverty through indirect channels, for instance, low paid workers are more likely to develop health problems which will later affect their effectiveness at work (human capital) which will reduce the possibility of eluding poverty.

Similar, low paid jobs may exacerbate poverty by preventing people from saving, which will lead to an increase in the probability of being poor, especially when there is a negative shock (Pemberton et al., 2013). In a similar fashion, Davis and Sanchez-Martinez (2015) noted that setting minimum wages can help to prevent the likelihood of falling into poverty by coming up with a threshold level which equilibrium wages are not allowed to pass. Similarly, Iryna (2013) asserted that unionisation is one of the strategies used to fight poverty through empowering the working class by ensuring that their basic standards of living are protected as well as increasing their wage bargaining power. However, unionisation and minimum wages legislation may come with distortions and have a strong impact on efficiency (Davis and Sanchez-Martinez, 2015). Despite the weaknesses, Neumark and Wascher (2002) suggested that coming up with minimum wages may assist in income redistribution from high to low income families, and this will help to achieve equal distribution of income.

2.7.1 Theories of poverty under the Marxist/radical perspective

Factoring in the assumptions and the defining characteristics Marxist theory, also known as radical theory, will make a major contribution to understanding the causes of poverty. These are dual labour markets, discrimination and class, poverty and the environment, and the structural approach to poverty.

2.7.2 Dual labour markets

This theory is premised on the belief that the labour market is classified into primary and secondary sectors (Davis, 2014). The secondary sector, as opposed to the primary sector, is characterised by employment which is unstable, low levels of wages and poor likelihood of promotion (Davis, 2014). According to Rank et al., (2003) cited in Davis (2014), poverty under the dual labour market theory is a result of vulnerabilities inbuilt into the system rather than individual characteristics and habits. The Marxian theory in its own right puts more emphasis on the negative effects of the secondary labour market than on people's traits (Townsend, 1979).

The Marxian theory gives more emphasis to the behaviour of employers in prolonging poverty and inequality through taking advantage of the dual nature of the labour market. This feature shows how the Marxian theory differs from the Neoclassical paradigm (Davis, 2014). In addition, the radical theory gives more emphasis to the issue of social class which becomes the basic unit of analysis and is its central element (Davis, 2014). Income distribution among the people in the radical approach is premised on class and how classes are divided. This division poses unequal opportunities to access the important social resources and complementary capital (Davis, 2014). As a result, some classes in society will be disadvantaged to an extent that they will be poor compared to other classes (Davis and Sanchez-Martinez, 2015).

This was supported by Tackey et al., (2011) who carried out a study in the UK which showed that social class is an important factor which influences educational performance. As a result, those classes in which individuals perform well in education are more likely to stand a better chance in fighting poverty than other social classes. In this regard, Ayittey (2005) posits that, in order to fight poverty effectively, the lower classes of society which are comprised of workers at the bottom end of resource distribution should gain control of production and

governance. The reasoning behind this view is that the actual people in poverty are the ones who can best find the solution to the problem of poverty they are in, without any need for external influence or advice. It is alleged that participation of those affected by poverty is so important because it is an element which shapes the way they interpret poverty (Davis, 2014).

Jung and Smith (2007) pointed out that everyone has something to offer in the labour market as clearly propounded by Adam Smith who alluded to the fact that, regardless of individual circumstances, overlooking working class obstacles like illness, injury or old age, everyone has something to offer in the labour market. In this regard, the Marxian view believes that poverty investigation should focus on the fulfilment of social rights and social justice (Davis, 2014).

2.7.3 Discrimination and class

Discrimination is defined as the effect of unequal access to scarce and valued social resources for individuals and groups as a result of structural factors beyond their control (Davis, 2014; Western et al., 2005). In this case, Morazes and Pintak (2007) asserts that there are many factors which prolong and condition inequality as well as accessibility of resources. These factors include gender, age, ethnic origins, class and location. In this way, some of the factors inherent to the individuals are closely related to social phenomena that lie beyond the control of the individuals. These factors include crime, education, health, housing and occupation. These factors will at the end determine the level of inequality among various groups in society (Davis and Sanchez-Martinez, 2015). Therefore, Jefferson (2012) argued that these arguments above only help to explain the fact that there is discrimination at the economic and social levels in society.

According to this perspective, Davis (2014) stated that discrimination is seen as a hurdle which hinders the full participation of people affected economically, politically and in all the other processes of the society.

Davis (2014) went on to reveal that the discrimination will go to the extent of isolating some individuals involuntarily from the activities of the economy and the hierarchy society. He went on to state that this discrimination will force the persistence of exclusion of individuals from the essential economic resources, which will show that economic and social discrimination are interrelated. As a result of discrimination and differences in class, discriminated people will find themselves in abject poverty (Davis, 2014). Therefore, Jung and Smith (2007) suggested that anti-discrimination laws and economic development with its fruits evenly distributed are seen as more important and effective anti-poverty strategies.

In a similar manner, Elliott and Sims (2001) found out that racial discrimination is among the major signs of poverty and it also shows that pro-growth policy strategies usually fail to notice some subgroups of society. Hoover et al., (2004), in support of the above stated views, argued that, in the United States of America, non-white people do not benefit much from the fruits of economic growth, especially in relation to poverty reduction due to the effects of discrimination and class. In addition, some scholars have pointed out that social status is one of the important determinants of inequality in a society, given the fact that in many societies the ownership of material resources usually closely follows social status (Davis and Sanchez-Martinez, 2015).

2.7.4 Poverty and the environment

Davis (2014) argued that when economic growth is associated with an unsustainable rate of exploitation of resources, mainly natural resources like gold, diamond, platinum and many others, as well as the production of products which

produce harmful by-products, this can have an indirect and detrimental impact on poverty. He went on to state that poverty rates will rise when the environment is affected negatively by the unsustainable exploitation of natural resources and the increase of negative externalities from the production process. In fact, there is a belief among the people that growth in general brings a rise in the incomes of individuals. However, despite this argument, it was alleged that the negative externalities of production on the environment will exceed in value all the benefits of income growth which will impact negatively on poverty (Davis and Sanchez-Martinez, 2015).

More importantly, the poverty-environment relationship has been confined to developing nations, even though Davis (2014) contend that it is also relevant to developed nations. As a matter of fact, Dasgupta et al., (2005) concluded that pollution in the form of water, air, and land damages health and the well-being of individuals in least developed nations and developed nations. When health is affected Dasgupta et al., (2005) asserted that this will have a negative impact on the stock of human capital of poor individuals. This erosion of human capital will push poor individuals to earn low levels of income which puts them into a poverty bracket.

Dasgupta et al., (2005) went on to stress that the environment-poverty nexus is more suitable in the circumstances of developing nations, where health of individuals in poverty is highly sensitive to the effects of environmental externalities (Davis and Sanchez-Martinez, 2015). However, Sánchez-Martínez (2012) showed that the existence of economic-environment poverty traps in most cases at national level is not limited to developing countries alone. Developed countries can as well experience the same. More importantly, it was argued that countries with low levels of capital and wealth mostly have more likelihood of falling into poverty-environment traps (Davis, 2014). In addition, countries that pass a prescribed level

of pollution of the environment will ultimately fall into a low income and low environmental quality equilibrium as well (Davis, 2014).

It is important to realise that the most outstanding class of negative environmental pollution affecting sections of poorest population is air pollution which the Marxian theorists view as a result of activities of higher income countries and groups with heavy industries (Davis and Sanchez-Martinez, 2015; Duraiappah, 1998). In a similar manner, Dixon et al., (2013) noted that, higher income countries and groups within a country have the ability to protect themselves from the detrimental effects of air pollution. In addition, in many nations and communities more polluting factories are located near or within the low-income neighbourhoods (Dixon et al., 2013). As a result, the health effects of negative externalities like air pollution are more eminent among low-income people.

In addition, Davids (2010) provided the best classical example of the link between poverty and environmental pollution. The author stated that the rise in respiratory diseases due to environmental pollution can impact the productivity of blue-collar workers negatively which will later affect the incomes of such individuals. As a result, as stated by Duraiappah (1998), the end result will be a drop in income which will result in poverty. Likewise, several authors have pointed out that there are many policies which can be implemented to address this market failure, but Davis (2014) noted that attention should be put on policy measures that focus on abolishing the predicament from its roots like total prevention of environmental externalities created by high income groups.

Davis (2014) also subscribes to the view that transfer policies ensure that there is a meaningful even distribution of the environmental burden which is also necessary. One of the examples of these policies is pollution taxes for people with polluting durable goods (Davis, 2014).

2.7.5 Structural approach to poverty

The structural view to poverty is the notion that one of the causes of poverty in society is the availing unequal conditions and opportunities within the society, not the intellectual and cultural deficits of the poor (Davis, 2014). People will be poor because of the conditions availed by the economic system which prevent them from accessing adequate income which will help them to come out of poverty (Shek, 2004). In this theory poor people should not be blamed for being poor because it is external factors which have forced them into poverty, factors like unfavourable social structures characterised by lack of access to opportunities (Davis, 2014; Shek, 2004).

The structural framework of the economy will suffer social injustice where poor people have limited access to social opportunities. Economic injustice, where poor people suffer from exploitation as a result of capitalism, where the rich people in society dominate the poor individuals (Davis, 2014; Hunt, 1996). In this way, people will suffer from ascribed deprivation defined as a situation where poor people lack access to opportunities because of residing in under-resourced and impoverished circumstances (Shek, 2004).

The other option in explaining poverty from the structural perspective is attributing poverty to the social structure, especially the opportunity structure. The opportunity structure is defined as the relationship between jobs and refers to the people seeking jobs. The relationship is relating to whether there are sufficient jobs in the economy, and whether poor individuals are equipped with the right skills and qualifications to take the jobs. Bartik (2002) showed that, in most circumstances, jobs available to the poor are low-paying jobs in the service sector, usually associated with risks of underemployment, job insecurity, and inadequate or little health care insurance.

Furthermore, the opportunity structure is biased against the poor in that policies designed to help welfare recipients in most cases only shifts those who are unemployed instead of diminishing the number of people unemployed. In most cases when the welfare recipients enter the labour market, there will be an increase in labour supply which will put pressure on the wage rate to fall. Also, the jobs obtained by welfare recipients will reduce job vacancies, making it harder for non-participants to find jobs, thereby increasing the unemployment rate for non-participants (Davis, 2014). The structural approach marks the end of the core theories of the main economic schools of thought on poverty. The next section focuses on theories that deviate from the core theories of economics

2.8 SOCIAL EXCLUSION AND SOCIAL CAPITAL

2.8.1 Introduction

This section will help to cover various theories of poverty which deviate from the economic theories of poverty. The theories discussed earlier were based on pure economic principles, while the social exclusion and social capital theories' assumptions and conclusions were derived from several disciplines like sociology and psychology without focusing on economics only. The analysis will firstly discuss how social exclusion causes poverty as part of core paradigm concept such as the political economy theories. The social exclusion and social capital theories are part of this discussion because their foundations are premised on the work of different researchers from various fields like social science (Davis, 2014).

2.8.2 Social exclusion theory

The European Union (EU) defines social exclusion as a situation where people or groups are excluded partly or completely from participating fully in programmes and activities of their society (Davis, 2014). On the other hand, Hills and Stewart (2005) define social exclusion as something which involves a lot more than the lack of

material resources through viewing poverty as a characteristic of the society as a whole that involves lack of participation by individuals in the society. In addition, Morazes and Pintak (2007) argued that there is considerable agreement among the theorists in believing that exclusion causes poverty through non-participation in production, consumption, and in social and political engagement. Davis and Sanchez-Martinez (2015) also contend that the continental European analysis of poverty mostly highlights the role played by social exclusion in explaining destitution.

Particularly, the most outstanding feature of social exclusion is its intrinsic focus, rather than focusing only on the processes and dynamics that push poverty and deprivation to rise and continue as well as the agents that cause it (Davis, 2014; Hills and Stewart 2005). In addition, social exclusion made it possible to study structural features of society and the conditions of particular groups together with their social characteristics, like older people, disabled people, landless people and minority ethnic communities which can generate exclusion. Lastly, social exclusion leads to a paradigm shift in focus to the resolution of distributional issues considered to be important aspects in eradicating poverty (Davis, 2014).

Therefore, it follows that inequality is one aspects of social exclusion paradigm (Hills and Stewart, 2005). Inequality is also not restricted to income inequality exclusively, but it is also explained by limited opportunities for poor individuals and in terms of the idea of resources availability in society (Hills and Stewart, 2005). Also, according to Davis (2014), there are other issues which should be taken into consideration apart from income inequality, issues like health and neighbourhood inequality.

However, the social exclusion theory was criticised on many fronts. Some argued that the theory is one of the least accurately defined concepts and is open to many interpretations when it comes to the theoretical interpretation of deprivation (Davis, 2014; Hills and Stewart 2005). Also, the concept of exclusion needs to be defined

with clarity in relation to society's normal activities. It is alleged that exclusion is more applicable to developed nations like the United Kingdom. In developing nations, a lot of people are excluded from formal sectors, like formal employment, but these people may not be excluded from normal social patterns and relationships (Davis and Sanchez-Martinez, 2015). Furthermore, putting together the various dimensions of exclusion is one of the most difficult exercises (Davis and Sanchez-Martinez 2015). The next section describes the social capital theory of poverty.

2.8.3 Social capital theory

Loury (1977) proposed the concept of social capital, contending that this theory complements that of human capital theory in elaborating the differences in income among the blacks, whites and youth in the United States. The study had a view that social capital influences the social position of individuals which will influence their ability to acquire standard human capital characteristics (Johnson and Mason, 2012; Davis, 2014). The human capital characteristics will have a strong bearing on economic status of individuals and their poverty status (Johnson and Mason, 2012). Loury (1977) in his analysis on differences in race argued that whites have better chances of building up social capital through the ability they have in creating social connections which are needed for the capitalisation of the job-market opportunities.

Loury (1977) went on to argue that it is very difficult to separate human capital and the social origin of the individual. As a result, human capital and social origin are critical factors which are crucial in the acquisition of standard features that influence the accumulation of productive stock which will influence poverty status of individuals. Loury's interpretation of social capital makes it useful to explain the different economic outcomes among minorities and non-minorities. At the end this will reveal and explain the inequalities among these groups. Due to this analysis, the theory of social capital is viewed as a suitable concept which can explain the existence of poverty (Loury, 1977; Davis, 2014).

Similarly, Osterling (2007) also added ideas to the social capital theory by extending its functions to see it as a tool which can play a big role in the production of other forms of capital necessary for individuals to fight poverty. Some of the examples of other forms of capital include access to power in society. Putnam (2001) states that social capital can be disaggregated into two separate components which are bridging social capital and bonding social capital. Bridging capital is defined as a combination of inclusive social networks that connect different groups. Bridging can explain the persistence of poverty in that individuals who lack this type of capital suffer from the problem of social isolation. The isolation of poor neighbourhoods will result in lack of direct contact with positive, pro-social role models, thereby hindering the chances of escaping out of poverty (Putnam 2001; Davis, 2014).

In a similar manner, if poor individuals have weak bridging capital this may lead them to stand few chances of getting a job, especially if they are in a highly unemployment-stricken area (Osterling, 2007). The only way the conditions of people to improve occurs is when they amass bridging social capital high enough to allow them to get jobs elsewhere through a solid network of contacts (Osterling, 2007).

Additionally, communities with poor social external contacts, mostly suffer from a multitude of socioeconomic problems and contagion effects in which maladaptive norms of behaviour are spread more easily among children and the youth through peer influences (Davis, 2014). Osterling (2007) argued that, since bridging capital is regarded as an instrument which can help in creating opportunities and providing information which is not available within one's own social sphere, a meaningful level of bridging social capital is an important asset for upward mobility. To illustrate, Wilson (2012) argues that, people in high poverty areas usually they have limited contacts with individuals with stable jobs, educated and people who are non-beneficiaries of public assistance. Wilson went on to state that highly poverty

concentrated areas are usually socially isolated from the social networks in the mainstream economy.

On the other hand, bonding social capital involves inward looking social networks depicted by strong cohesion and social support (Davis and Sanchez-Martinez, 2015). Lack of bonding capital can have a negative impact on the persistence of poverty through two main mechanisms which include problems associated with communities' social organisation and problems related to absence of trust, reciprocity and social support. These elements can determine the thickness of social safety nets, which are important in preventing the deterioration of standards of living, especially when negative shocks occur, as well as speeding up the process of poverty eradication (Davis, 2014).

According to the works of Osterling (2007), social support is highly associated with improved mental health which is then related to the likelihood of experiencing poverty. Putnam (2001) warns that, even though low levels of social capital can cause poverty, the opposite may not be true. That is, communities with a high number of poor people may not necessarily have low levels of social capital. After all, poor people may belong to social groups with high levels of social capital, but the limitation they may suffer is that, in most cases, these people do not have the necessary skills to take advantage of the available social capital (Putnam, 2001).

In essence, high levels of social capital are a necessary condition to combat poverty which is not sufficient in its own right. It was alleged that this social capital should be followed by minimal improvements in the material and socioeconomic attributes of the community in poverty (Davis and Sanchez-Martinez, 2015). In addition, there is a bad side of social capital where dense social networks may be utilized to attain goals which, in essence, do not add value to the public or the community but act on reducing the value of the community. Some of the best examples where social

capital acts against public good include prostitution networks, youth gangs and mafia families.

The networks may contribute positively to the members of these networks but they do not yield anything to the well-being of the community (Putnam, 2001). In addition, social capital in local networks may act as a deterrent to search for jobs, especially when it requires resources to reduce the effect of low income (Davis, 2014). Moreover, Pemberton et al., (2013) also concluded that, when social capital is low, many individuals will be channelled into poverty and kept impoverished. Pemberton et al., (2013) further alleged that the levels of social capital will be low, especially when there is disconnection of individuals from social networks, for instance when an individual went through long unemployment spells. Unemployment will limit the individual from social networks which limit the probability of getting a job and cause the persistency of poverty.

The other factor given as a potential source of poverty from social capital is the reinforcement of joblessness among the people, especially when people developed fear of losing social networks limiting them from moving to other places to find work. Social exclusion can also emanate from issue like the breakdown of family relationships and chronic health conditions among many other factors. The harmful effects of this exclusion on the incidence of poverty can be thwarted only through instituting strong social safety nets, which require high levels of social capital to be present (Davis and Sanchez-Martinez, 2015; Davis, 2014).

Davis (2014) also asserts that lack of social capital can have a negative influence on poverty through an indirect channel. In this channel low levels of social capital in a region may imply that families will have limited access to the roles played by relatives and friends in taking care of children when the parents are at work. Parents will go for paid childcare, which will raise the opportunity cost of work, causing a

vicious poverty cycle (Davis, 2014). The next section explains the psychological perceptions as to the causes of poverty.

2.9 PSYCHOLOGICAL EXPLANATIONS OF THE CAUSES OF POVERTY

Apart from economic theories as explanations of poverty there are also the psychological perceptions as to the causes of poverty (Weiss and Gal, 2006). Psychological explanations of poverty concentrate much on emotional problems and poor interpersonal abilities of individuals as issues which contribute to poverty. As a result, according to the psychological explanations, poverty is attributed to an individual's personal emotional state of mind. The psychological theory also believes that the causes of poverty can be associated with the attribution theory.

The attribution theory stresses that people always give distinct explanations for failure depending on whose failure it is (El-Burki et al., 2016; Hewstone, 1990). In this theory there is the problem of fundamental attribution error, referred to by psychologists as the act of over emphasising personality based explanations of failure over situational actors. That tendency is normally noticeable in circumstances where failure of members of a group is discussed. In fact, individual and cultural explanations of black poverty in America by white Americans fit this pattern perfectly (Hewstone, 1990).

2.10 MEASURES OF POVERTY AND THEIR APPLICABILITY TO DEVELOPING COUNTRIES

2.10.1 Introduction

Herzog (1969) in the article, *Facts and Fictions about the Poor*, submits that:

"Anyone who tries to ferret out and report facts about the poor- to tell it like it is encounters some statements that are simply not true and some that are true and not true at the same time. They may be true as far as they go but misleading if viewed out of context, or partly true but distorted into falsehood by oversimplification".

This statement shows that measuring poverty is a contested issue, in other words, the statement shows that researchers have different approaches when it comes to measuring poverty. However, Wagstaff (2002) highlighted that, even if measuring poverty is a contested issue, it is important in a way because measuring poverty keeps the people in poverty on track. If poverty is not measured, it will be easy to overlook the poor.

Measuring poverty is also important because it enhances and enriches strategies, procedures and policies which are meant to eradicate poverty. Moreover, measuring poverty is important because it gives room to track projects and policy interventions which are directed towards the poor. Also, institutions with the objective of assisting the poor need to be evaluated so measuring poverty is also necessary (Heger et al., 2018). More importantly, Ravallion (1998) provided one of the strongest justifications for measuring poverty by stressing that, through measuring poverty, policy makers can apply their attention to ensuring that the living standards of the poor are better. Accordingly, Ravallion (1998) went on to argue that, without a credible measure of poverty, it is very easy to ignore the poor if they are not visible statistically.

As a result, measuring poverty is necessary both politically and economically (Ravallion, 1998). Again, measuring poverty usually operationalizes the definition of poverty. From this, to measure poverty effectively it is crucial to follow the definition and conceptualization of poverty (Davids, 2010). At the same time, some measurements of poverty are not premised on the definition and conceptualization

of poverty. Davids (2010) asserts that definitions of poverty, theories of poverty, measurement of poverty and the general approaches to poverty are not mutually exclusive. As a result, the following section will explain the different notable theories on poverty measurement.

2.10.2 Money Metric approaches

According to Atkinson (1987) the pioneer who brought statistical rigor to the measurement of poverty was Sir Arthur Bowley among many theorists. Sir Arthur Brawley, among other authors, was the first to come up with the measurement of poverty in Britain almost seventy years ago. With Burnett-Hurst, Sir Arthur Bowley published a number of books, among them, *Livelihood and Poverty*, where they reviewed incidences of poverty in a number of English towns (Atkinson, 1987). On the other hand, Glennerster (2002) provided a historic analysis of poverty research in the United States through emphasising critical studies that contributed a lot to the debate on poverty.

More importantly, Glennerster (2002) pointed out that the records at Hull House and Chicago School of Civics and Philosophy revealed that poverty research in the United States commenced in Chicago. However, researchers in Europe, England in particular, were leading in poverty research, and researchers in other parts of the world - United States included - were behind. Glennerster (2002) went on to assert that Charles Booth and Joseph Rowntree were among the first researchers in Europe to promote the measurement and conceptualization of poverty towards the end of the 19th century. Charles Booth and Joseph Rowntree were the first to develop a measure of poverty which was merely counting the poor in the streets of central London (Davids, 2010).

As an illustration, Charles Booth and Joseph Rowntree used maps to mark each household in the streets of London in relation to class; thereafter, the number of

individuals in poverty were then calculated (Davids, 2010; Glennerster, 2002). To calculate the number of poor people Rowntree then used the level income and consumption which is one of the notable methods he pioneered in the measurement of poverty (Davids and Gouws; 2013, Ravallion and Bidani, 1994). In his method Rowntree calculated the cost of a minimum basket of goods which are sufficient to meet the needs of humans for them to live decently.

The basket comprised of the costs of food, clothing, heat and other necessary basic necessities (Davids, 2010). Equally important, the basket method by Rowntree had a purpose to provide a clear classification of people as poor and non-poor on the grounds that they are able to secure the prescribed minimal needs. In a way to categorise people as poor or non-poor Rowntree came up with the income level required to meet the minimum necessities (Glennerster, 2002). When the individual person or household fails completely to meet the minimum needs, then the household will be regarded as poor because their income will be below the threshold level (Davids, 2009). The threshold was later named the poverty datum line or simply the poverty line.

2.10.3 Poverty line

Building from Rowntree's work, researchers had to name the threshold level proposed by Rowntree as the poverty line (Bettison, 1960:225). The poverty line is referred to as the threshold by which people are regarded as poor or rich. For instance, when the income level of individual household is below the line/threshold the household is regarded as poor, and when the income is above the threshold the household is regarded as non-poor (Davids, 2009:60).

Also, Dunga (2014:45) stated that the poverty line is referred to as a normative concept by economists because in most cases it is totally opposed to the reality on the ground. In some instances, being above or below the line does not mean that

the individual household is poor or non-poor. In addition, the poverty line shows the aggregate value goods and services considered necessary on the basis of an agreed standard/threshold to satisfy the basic needs of an individual household (Davids, 2010). The use of the poverty line has a link to the definition of poverty and those who advocate for this approach usually measure poverty in absolute terms (Davids, 2010:27).

The poverty line received widespread support from economists for a period. Throughout the first part of the 1970s until the 1990s the poverty line dominated poverty until the time Peter Townsend started to criticize the method (Davids, 2010:29). When measuring poverty, the world over, the poverty line threshold is used, usually expressed in a common unit in all the countries. Therefore, for purposes of global comparisons, monitoring and evaluation, the WBG uses poverty lines between \$1.25 and \$2 set in 2005 purchasing power terms (Davis, 2014:13). In addition, the poverty line is widely used in measuring poverty. For instance, the line is the one used to monitor and evaluate progress towards the attainment of the Millennium Development Goals by individual countries (Davis, 2014:14).

The money metric approaches to the measurement of poverty advocate for the poverty line when measuring poverty. One of the greatest steps used to arrive at the poverty line is to define clearly the unit of measure and to institute necessary adjustments. Firstly, there is need to determine the line itself by means of calories requirements when coming up with the food poverty line, or just looking at the basic requirements in general (Dunga, 2014:45). The second step in coming up with the line is to obtain data related to the households on the issues required to construct the line. If the household is the unit of measure, the common characteristic used is the income or expenditure of the household (Dunga, 2014:45).

2.10.4 Absolute poverty line

According to Dunga (2014:45) the absolute line is premised on the sum of money needed to purchase the goods and services that satisfy the prescribed absolute minimum. Conversely, Davids (2010:27) posits that an absolute poverty line is a line which measures the ability or failure to meet the minimal necessities of physical existence. Most studies who came up with the absolute poverty line adopted Orshansky's approach (Dunga, 2014). Orshansky (1965) stressed that, in situations where it is difficult to state without doubt the amount enough or sufficient, it should be possible to state with confidence the amount on an average that would be sufficient (Orshansky, 1965). According to Dunga (2014) it is alleged that from Orshansky's approach such poverty lines or thresholds may be seen as arbitrary with minimal reasonableness (Dunga, 2014:45).

As a result, it was further alleged that the only sensible way is to come up with the threshold from a reasonable consensus point of view. The commonly used way of measuring the amount food which is adequate in calorie terms dispels the need to consider the quality and type of food, as long as the calorie content is the same (Dunga, 2014:45). However, in some instances the absolute poverty line can be one of the most important measures which can be suitably used in situations where comparisons are necessary. In addition, as argued by Dunga (2014:45) the definition of minimum is an issue which is subject to debate because the issues of arbitrary choices can be misleading. The absolute line commonly used at international level is \$1 per day, revised to \$1.08 per day in 1993; however, many studies have adopted the \$2 per day as the appropriate absolute poverty line (Dunga, 2014:45).

When the absolute poverty line is calculated, the cost of buying a basket of goods viewed as necessary for the household is the key aspect taken into consideration (Davids, 2010). However, the absolute measure has its own challenges which emanate from the question of what are the products referred to as the basic needs

(Dunga, 2014). Also, in terms of food, shelter and clothes, the question remains on what kind of food, shelter and clothes act as the minimum requirement since different societies eat different types of food, dwell in different types of shelter and put on different types of clothes (Davids, 2010; Dunga, 2014). Due to the existence of these weaknesses, to construct the absolute line estimates are used (Dunga, 2014).

As if not enough, there are quite a number of weaknesses encountered when calculating the poverty line (Dunga, 2014). Firstly, the purchasing power is different in all the countries and societies, yet in most cases the same benchmark is used for all the countries with little or no adjustments (Davids, 2010). However, some argue that the absolute poverty line can be recommended because in many nations when it is calculated food items are used to reach the recommended basket (Dunga, 2014). The reason for this argument is that food items in general have the same nutritional requirements which makes the line more common across societies and nations (Dunga, 2014). In Zimbabwe, the absolute poverty line used when calculating the amount of money required to purchase a particular food basket is the one used as the benchmark to measure whether people are poor or not (Davids, 2010; Dunga, 2014).

In Zimbabwe poverty is chiefly measured by the money metric measures of poverty. One of the common measure used is the Total Consumption Poverty Line (TCPL). The total consumption poverty line is defined as the minimum basket of goods and services a household should consume (Nkum, 1998; ZIPRSP, 2016). The hard-core poverty line, however, is measured using the Food Poverty Line (FPL) which is defined as the minimum food requirements per household (Nkum, 1998). According to a Poverty Assessment Study Survey (PASS) of 1995, it was estimated that almost 16 percent of people were living between the FPL and the TCPL and 46 percent were living below the FPL (Nkum, 1998). In the same vein, according to the ZIPRSP of 2016, the proportion of individuals living under the TCPL remained high in

Zimbabwe - above 60 percent - while the proportion of people under the FPL was halved from approximately 32.2 to almost 16.2 percent.

2.10.5 Relative approach to the measuring of poverty

The measurement of poverty as articulated by the money metric approach (poverty line) received criticism from Townsend because of its rigidity together with its inability to have a link to the welfare in a society (Davids, 2010). The critique of Rowntree by Townsend gave birth to the relative theory to the measurement of poverty (Davids, 2010). The relativist theory stresses that the poverty status of an individual is based on the conditions of other people in the society (Vos and Garner, 1991). According to McLachlan (1983) the view of Townsend was that some people may be able to afford their basic necessities but when compared to others they may be regarded as poor.

For instance, in Britain many have the ability to meet their basic needs but on relative terms they are viewed as poor when compared with their fellow citizens (Davids, 2010) Moreover, the relative theory to poverty states that in many circumstances there are many differences in living standards among the people in a country or society and these differences, according to this theory, are referred to as inequality (Davids and Gouws, 2013).

Furthermore, the advocates of the relative approach disowned the absolute measure of poverty (Davids, 2010). As a result, they came up with the concept of relative deprivation as an alternative theory to measuring poverty (Davids, 2010; Room, 1999). Sharing the same reasoning, Dunga (2014:46) argued that a person is considered poor according to the relativist approach when the conditions they are in are not acceptable according to the standards of the society. Therefore, when the poverty benchmark is modelled, it is done as a proportion of the mean or median income or expenditure or incomes of the whole population in question (Dunga,

2014). However, in the light of relative theory's arguments, Golding (1980) argued that the notion of relative deprivation views a household or an individual as poor if they are limited in participation in the various activities and lifestyles which are seen as common in the society where they reside.

More importantly, the concept of relative deprivation explains poverty as something more than cash income because other resources like assets, education, access to land and services are important variables which can contribute to the poverty of an individual (Davids, 2010). In Zimbabwe, the relative approach is normally used to measure poverty even if it is not direct. In the ZIMPRSP (2016) poverty in Zimbabwe was assumed to take many forms which included lack of animals like cattle and goats, and the tendency of hiring an ox drawn plough. When compared to other households in the community, a household without an ox drawn plough is regarded as poor. In some parts of Zimbabwe, a household without cattle is regarded as a poor family. In addition, households without a scotch cart (*ngoro* in Shona) are also regarded as poor. The other major aspect which is used as a measure of poverty is the access to land. If a household has a piece of land in a village, though they may not have the necessary income, the household is not regarded as poor.

The relativist approach proponents argue that the deprivation of individuals from the proper and efficient satisfaction of their basic needs entitled to them is viewed as a direct violation of their rights which is regarded as socially unjust (Davids, 2010). Likewise, social justice referred to a fair distribution of society's benefits and responsibilities (Davids, 2010). This was supported by Morris (2002) who also argued that social justice is defined as the fair distribution of society's benefits and responsibilities. The relative theory believes that poverty eradication is a critical concept of distributive justice, because normally poor households are limited to fully access primary resources like income, education and natural goods like health, intelligent and imagination as explained by Rawls in his theory of social justice.

Access to these goods will allow individuals to participate in the civil and political life of their communities (Azam, 2003).

2.10.6 Subjective approach to measuring poverty

According to Dunga (2014:46) the subjective approach to measuring poverty involves the use of subjective opinions of individuals. This is different to the relative and money metric approaches which are more objective due to the fact that they do not include individual opinions. Under the subjective approach, the subjective poverty line is arrived at by asking people their opinion on what makes up the minimum amount of cash, income or expenditure needed by a household to meet their basic needs. In this approach, there is need to come up with a sample to carry out a survey to get the perceptions of the people (Dunga, 2014:46). In general, people have many factors which affect their perceptions or their views on what they think constitutes the poverty line. These factors include but are not limited to the following: household's cash income, the composition of the household, age of the households, education level, gender and religion.

2.10.7 The capabilities theory of poverty measurement

The capabilities theory of measuring poverty was initiated by Amartya Sen (Davids, 2010). This theory differs with Rawls's theory in that resources like income, education and literacy on their own cannot show what an individual will be able to do with them (Davids, 2010). The argument by Sen (2014) was that, apart from being endowed with the resources like income and education, great effort should be put in place to see if the individual has the competencies or skills to use the resources for their benefit. The capabilities theory also alluded to the fact that an individual's well-being is influenced greatly by his/her capability or incapability of attaining goals he or she wants and to achieve those things the individual values the most (Davids, 2010; Sen, 2014).

In addition, Sen gave a distinction of the various classes of valuable items which were referred to as substantive freedoms. These things included political freedom, economic freedom which includes access to economic facilities, freedom in the access to social opportunities, transparency guarantees as well as protective security (Davids, 2010). As argued by Morris (2002) the approach by Sen (2014) in measuring freedom is premised on the concept of function and capability. Therefore, functioning is defined as a variety of things that one values to do while capability is defined as different sets or combinations of functioning that an individual is able to achieve (Davids and Gouws, 2013). Moreover, the capability approach by Sen (2014) in relation to poverty analysis deviated from the focus of looking at the means of achieving freedom towards looking at the real satisfaction related to the means or enjoyment of the different freedoms (Davids, 2010; Morris, 2002).

However, Qizilbash (1996) argued that, even though Sen (2014) managed to elevate the significance of non-money metric measures in poverty assessment, he failed to offer a proper account of how development occurs. In addition, Qizilbash (1996) reasoned that the approach by Sen (2014) failed to offer a suitable account of how the quality of life of people improves, because his approach was reluctant to show a list of what he referred to as valuable functioning which could provide clearly his interpretation of a life of people who are not in the poverty bracket from his substantive freedom measures. Moreover, Qizilbash (1996) stated that Nussbaum criticized Sen's approach by arguing that he was reluctant to define the meaning of a good life through his attempt to come up with functioning that constitutes what is referred to be a good life.

Also, Morris (2002) pointed out that Nussbaum's view was that the concept of human dignity should be the basis of the capabilities approach. Nussbaum (2002) argued that what should be the basic driver of the capability approach in the political arena is that human abilities have a moral claim that they should be developed. The idea stressed by Nussbaum (2002) is that development of human capabilities should

be a suitable goal human life and not stress functioning. Furthermore, Morris (2002) asserted that Nussbaum was of the view that it is the right of the individual to make personal decisions on his own as to what constitutes a good life. This view was referred to as self-determination (Davids, 2010). In Nussbaum (2002) there was a difference between high level capabilities and lower level capabilities, also known as basic capabilities.

Nussbaum (2002) reasoned that, in most cases, human beings have the capacity to perform lower level capabilities or basic capabilities if they are provided with the necessary support and if a good platform is provided. When the individuals perform the basic capabilities fully, this will allow them to also perform high-level capabilities (Davids, 2010; Nussbaum, 2002). In addition, Nussbaum and Faralli (2007) cited in Davids (2010) argued that it is equally important to come up with the appropriate institutional and the material environment which allows people to function once they secure a capability to act. Furthermore, Nussbaum (2002) went on to argue that the capabilities approach mostly promotes a society where people are regarded as worthy and where each individual lives like a proper human being. Nussbaum (2002) went on to point out that it is beneficial to come up with a list of items which would show a good life for a human being.

This list will then be used as a benchmark for the assessment of the quality of life for households and to plan politically (Davids, 2010; Nussbaum, 2002). In light of Nussbaum (2002)'s arguments it is clearer on what constitutes a good life than Sen's argument, but she fails to discuss - like Sen - whether or not development occurs. Qizilbash (1996) contended that Nussbaum was supposed to explain further the capability approach so that it will be possible to investigate whether one person's loss of capability will be another person's gain. Finally, Qizilbash (1996) showed that, in the process of making interpersonal comparison of capability, it should be possible to investigate whether human development was taking place (Davids, 2010).

2.10.8 Social exclusion approach

The social exclusion approach was premised on Townsend's arguments who stated that each and every citizen has a right to access basic essentials which are customarily enjoyed by everyone in the community as pointed out in the previous sections. Scholars like Room (1999) recognised the contributions of Townsend especially on extending his analysis on poverty issues (Davids, 2010). In the first place, Townsend's emphasis was that the primary objective of his study was hinged on distributional issues rather than relational issues. Distributional issues are centred on resource allocation while rational issues focus on equal social opportunities (Davids, 2010).

Distributional issues specifically refer to limited availability to a person in order to enjoy an acceptable standard of life (De Haan and Maxwell, 2017). On the other hand, rational issues are explained by lack of social participation, social integration and lack of power by an individual (De Haan and Maxwell, 2017). In order to provide evidence of a conceptualisation shift from poverty to social exclusion, there is need to give full emphasis to the distinction between distributional and relational issues (Davids, 2010). As such, social exclusion is described as the lack of equal access to productive resources and social opportunities for individuals in a community (Bhalla and Lapeyre, 2016).

In addition, an individual who experiences a lack of productive resources and who is socially excluded in most cases will suffer from insecurity, they normally have a feeling of powerlessness and have limited access to a number of services like housing (De Haan and Maxwell, 2017). As such, Wagle (2002) pointed out that the social exclusion approach was first introduced in the 1990s to widen the theory of poverty by the European governments, especially the French, British and Dutch. Generally, an individual is considered to be socially excluded when the person

cannot participate in the economic and social activities of the society in which they live (Davids, 2009; Chakravarty and D'Ambrosio, 2006).

Wagle (2002) also argued that the theory of social exclusion is more an economic and capability explanation of well-being. The reason given was that social exclusion involves a lot of issues comprising of participation in political, cultural and civic activities which are viewed as important elements of well-being (Wagle, 2002). Chakravarty and D'Ambrosio (2006) established the three types of social exclusion from the available literature which are limited participation in social institutions, the non-realization of rights of citizenship, and the increase in distance among population groups.

Scholars like Wagle (2002) and Whelan et al., (2004) also state that evidence is there in literature which shows that social exclusion gives a clearer picture of poverty. This was also supported by Du Toit (2005) who argued that social exclusion is in line with other theories which have managed to extend the study of poverty beyond money-metric measures.

2.10.9 Multidimensional theory of poverty measurement

In this section the multidimensional approach will be reviewed on how poverty is measured. According to Davids (2010) from the 1970s there was significant agreement among researchers to investigate the multidimensionality of poverty (Davids, 2010). Room (1999) contests that researchers agree that there is a requirement to investigate the multidimensional indicators of poverty so that the interrelationships that exist between poverty and elements like financial participation, poor housing, educational failure, lack of skills for the job market, deprived childhood, subsequent patterns of health, sickness can be taken into account.

The World Bank is also changing focus on how it views poverty from low consumption and low achievement in human capital to wide approaches which deal with opportunity, security and empowerment (Clert et al., 2001; Davids, 2010). In addition, the World Bank, as a way to capture the multidimensional nature of poverty, employed the traditional quantitative analysis of poverty together with the qualitative and participatory research (Clert et al., 2001; Davids, 2010).

In South Africa, the Provincial Indices of Deprivation of 2001 (PIMD) is one example of the indices which were developed to apprehend the multi-dimensionality of poverty. The overall index for each province consists of five domains measuring income, employment, health, education and living environment deprivation (Davids, 2010). When constructing the multidimensional measurement of poverty, the first step is to construct a deprivation score that adds the weighted indicators from the dimensions of poverty such as education, health and living standards (Alkire et al., 2014). In their multidimensional poverty index, Alkire et al., (2014) had to give a 1/6 weight to education and health dimensions, and living standards indicators were weighted at 1/18 to preserve equal weights across dimensions. In this way, for a person to be viewed as multidimensional poor, he/she was supposed to be deprived in at least one third of the weighted indicators.

Alkire and Santos (2010) and Alkire et al., (2014) in their multidimensional poverty index, ten indicators are aggregated into three equally weighted dimensions of education, health and standards of living which were used to assess people's deprivations. The ten indicators could identify a person as deprived if there is no household member who completed five years of schooling and if there is no school-aged child who is not attending school up to the age at which they would complete class eight (Alkire et al., 2014). The other indicators were looking at the number of children who died in the household, any adult or child who is malnourished, does the household has electricity, is the household's sanitation facility improved or is it shared with other households, and does the household have access to safe drinking

water or safe drinking water is more than a thirty-minute walk from home, round trip. The other aspects which were looked at are does the household have a dirt, sand or dung floor, and does the household cook with dung, wood or charcoal? Finally, does the household own more than one radio, television, telephone, bike, motorbike or refrigerator and does the household own a car or truck? (Alkire et al., 2014).

Looking at Zimbabwe, poverty is argued by many researchers to be a multi-dimensional phenomenon which involves economic, political and socio-cultural aspects (Nkum, 1998). Even though poverty in Zimbabwe is measured using money metric approaches, overall it is a multidimensional phenomenon. The current study used the absolute poverty line, the relative poverty line and the multidimensional poverty line to measure poverty. The food poverty line was used as well so that a clear picture is shown on the direct and indirect effects of financial inclusion on poverty. According to Dunga (2014:45) the absolute line is based on the amount of money needed to acquire the goods and services that satisfy the absolute minimum needs. The international \$1.95 poverty line was therefore used for this study. This section mainly focused on discussing the various poverty measures. The next section is discussing the theoretical review on the theories of financial inclusion.

2.11 THEORETICAL REVIEW ON THE THEORIES OF FINANCIAL INCLUSION

2.11.1 Introduction

This section will review different theories of financial inclusion. Various theories were propounded to establish the nature and causes of financial exclusion or non-participation in the formal financial markets by various economic agents, for instance the credit rationing theory by Stiglitz (1989) and Stiglitz and Weis (1981). Some of the theories try to highlight the factors that prevent economic agents from

participation in the formal financial markets directly while other theories highlight the factors indirectly. This section will discuss various theories related to financial inclusion. However, to clearly discuss the theories with clarity it is beneficial to define financial inclusion first.

2.11.2 Definition of financial inclusion

Financial inclusion is defined differently by many authors as reflected in the literature. Firstly, Leeladhar (2005) defines financial inclusion as the process of delivering banking services at an affordable cost to a wide section of disadvantaged groups as well as low-income groups. At the same time, Thorat (2007) defined financial inclusion as the process of providing affordable financial services such as access to payment services, access to remittance facilities, access to savings and access to loans and insurance services by the formal financial system to excluded groups. In addition, Sarma (2008:4) also defined financial inclusion as:

"the art of ensuring ease of access, availability, and usage of the formal financial system to everyone in the economy".

Arun and Kamath (2015) also added their own version to the class of definitions of financial inclusion where they defined it as the situation where:

"people who are able to use financial products and services have full access to quality financial services, provided at affordable prices, in a convenient manner and with dignity for all the clients".

On the other hand, financial exclusion is defined in another form even though the terms can be used interchangeably. Leyshon and Thrift (1995) defined financial exclusion as the conditions which limit individuals in societies and some social groups from accessing the financial system. Also, Sinclair (2001) defines financial

exclusion as a situation where individuals are unable to have access to necessary financial services in an appropriate form.

Additionally, Carbó et al., (2005) define financial exclusion as the incapability and/or reluctance of a particular group in society to have access to mainstream financial services. Moreover, Mohan (2006) defines financial exclusion as:

"the situation which shows limited access by segments of the society to suitable, low-cost, fair and safe financial products and services from formal financial service providers".

Moreover, the European Commission (EC) also defined financial exclusion as a process where people face challenges in the access and use of financial services and products in the formal financial market that satisfy their needs and enable them live a normal social life in the community to which they belong (Carbo et al., 2007). Furthermore, the EC went on to argue that constraints in the access and use of financial services are mainly due to the features of the products and services on offer and the laws they put up for sale and the financial capacity of the customer (Carbo et al., 2007).

For the current study financial inclusion is defined as the situation where an individual, individual businesses and communities at large have equal access, and usage of beneficial, affordable financial services and products that satisfy their various requirements such as performing transactions like payments, withdrawals, depositing savings, acquiring credit and insurance delivered through a sustainable and a responsible way (Leeladhar, 2005; Thorat, 2007; Sarma, 2008). The definition of financial inclusion for this study emphasises many dimensions of financial inclusion which include accessibility of financial products and services, usage of financial products, cost of financial products and services and the quality of the products and services.

The various dimensions of financial inclusion highlighted above are the ones which build what is defined as an inclusive financial system. More importantly, the bank in most cases is the gateway to the majority of basic financial products and services. As a result, banking inclusion or banking exclusion is normally comparable to financial inclusion or financial exclusion. In this study, banking inclusion, which includes all the forms of formal financial services was used to represent financial inclusion.

2.11.3 Background of the theory of financial inclusion

The importance of financial inclusion developed in the literature since the early 2000s due to the reality of financial exclusion and its direct and indirect relationship with developmental issues like food security, inequality and poverty (Levine, 2005). The UN listed the aims of financial inclusion as access to financial products and services at affordable cost by all households in a community, and the provision of sound and safe institutions with clear regulations and industry performance standards. The other goal is financial and institutional sustainability and, finally, the need to ensure that there is competition which leads to the establishment of a variety of affordable products and services for clients (Chowhan and Pande, 2014). The former UN Former Secretary General, Kofi Annan, on 29 December 2003 said:

"The stark reality is that poorest people in the world still lack access to sustainable financial services whether it is savings, credit or insurance. The great challenge is to address the constraints that exclude people from full participation in the financial sector. Together we can build inclusive financial sectors that help people improve their lives" (Chowhan and Pande, 2014).

The major goal and objective of financial inclusion is to ensure that there is improvement in the range, quality and availability of financial services and products to the individuals who are unserved, those who are under-served and those who

are not financially active (Akileng et al., 2018). More importantly, financial inclusion is very useful when productive resources are being allocated which will help in the reduction of cost of capital. It is alleged that an inclusive financial system helps to limit the roles of informal credit providers like money lenders who are well known for being exploitative (Sarma and Pais, 2011). The significance of financial inclusion is accepted far and wide in the policy circles and has become a priority of policy makers in many countries, Zimbabwe included (Masiyandima et al., 2017).

Retail financial markets and products grew to be recognized during the 1980s, when a lot of individuals had the opportunity to have access to a wide range of financial products and services. According to Kempson (1994) in the UK during the mid-1970s less than half of households had a current account. In a similar manner, it was postulated that almost a quarter of households in the UK were able to have full access to credit facilities during the early 1970s and this figure rose to seven out of ten during the 1990s (Berthoud and Kempson, 1992). The deregulation of financial markets and the introduction of information technology to assess risk were the two factors cited as major reasons for the increase in the use of financial products and services (Kempson and Whyley, 1999).

Consequently, many people managed to benefit from the developments of the financial markets such as the people who enjoyed stable income during this period (Zhijun, 2007). However, during the same period many minority groups had challenges in accessing the most basic of financial products and services like owning a current account and insurance (Zhijun, 2007). This inability to fully participate in the formal financial services is growing to be an issue of concern which is linked to social exclusion (Kempson and Whyley, 1999). As a result, the issue of financial exclusion has been treated as a major concern in the US and Europe and the world over due to its links to financial and social exclusion (Zhijun, 2007).

Regarding the general analysis on the causes of financial exclusion, Leyshon and Thrift (1995) noted that, even though the procedure of identifying individuals as financially active is different in different societies and seasons, in general the financial system has a natural inclination to discriminate against the poor. In a similar vein, Demirgüç-Kunt et al., (2008) mentioned that reforms in the financial sector to ensure inclusive access to financial services or products is at the helm of the development agenda. However, little has been done to investigate the direct and indirect impact of financial inclusion development.

Kempson and Whyley (1999) came fourth with a number of elements which heighten financial exclusion rather than looking at physical access alone. The various factors are related condition exclusion, resource exclusion, price exclusion, marketing exclusion and self-exclusion. Access exclusion was defined as a limitation in the access to financial products and services due to issues related to unfavourable risk assessments (Delvin, 2005). In addition, condition exclusion can be defined as a situation where people cannot enjoy the benefits of some financial services because of conditions attached to the financial product or service (Delvin, 2005).

Moreover, price exclusion is a situation where the price on offer by the providers of financial services is not affordable by some individuals in a community or setting (Kempson and Whyley, 1999). Also, marketing exclusion is viewed as a situation where individuals are excluded from the financial provider's target market and sales (Devlin, 2005). Furthermore, self-exclusion is a condition where people may have some doubts about applying for financial products due to the belief that they will be rejected. Lastly, resource exclusion is a condition where people may not have the necessary income to save for the future (Devlin, 2005).

2.11.4 The origin of the theory of financial inclusion

Leyshon and Thrift (1993) argued that the phrase 'financial exclusion' was used for the first time in 1993 by geographers who were worried about lack of physical access to banking services due to bank branch closures. However, before 1993, during the period of the 1990s, there was growing research on the obstacles which people from some parts of the society face in accessing the conventional financial system. However, the growing debate on factors influencing financial exclusion has changed the trajectory from the geographical access aspect to involve other real factors which contribute to the problem (Hogarth and O'Donnell, 1999; Kempson, 2000). The European Commission in response came forth with a clear outline of the types of exclusion based on financial services such as banking exclusion, saving exclusion, credit exclusion and insurance exclusion (Claessens, 2006). It is argued that these various services should be accessed by all the people in society.

For the first time a classical economist by the name of Walter Bagehot, a follower of Adam Smith, founded the theory where the financial system is an important aspect of economic growth and development (Stolbov, 2013). More importantly, the arrival of Bagehot's work in the early 1870s in Great Britain appeared to be a logical phenomenon. During that time, Britain was one of the great world powers with one of the most highly developed financial systems (Stolbov, 2013). In his work, Bagehot gave a detailed description of how processes in the financial domain were associated with the conditions in the real economy in his work. See "*Lombard street: a description of the money market*"(1873) (Stolbov, 2013).

In his work Bagehot gave many examples in his demonstrations of how the various activities on the British money market influence capital spill overs in the country searching for the most profitable ways of applying them (Stolbov, 2013). According to his work, Bagehot (1873) assumed that loanable funds encourage economic activity through a variety of channels. The argument given was that, when loanable

funds are allocated to different investors, this will motivate the adoption of new technology. When new technology is adopted, the production of goods and services in an economy will improve in quality and quantity and the process will slowly spill over into the economy as whole.

In a similar fashion, Goldsmith (1975) pioneered in the introduction of the index of financial inclusion which was expressed as a financial interrelation ratio (Leyshon and Thrift, 1995). The main argument of Goldsmith's index was to explain the level of penetration of the financial system in relation to the number of branches, customers as well as capitalisation of the bank. Even in today's time, the analysis by Goldsmith has gained a lot of significance.

In recent years, financial inclusion has grown to be a significant and an important policy objective in many governments. Governments, financial regulators and the various financial institutions at country and the world level have come up with new approaches for financial inclusion and new legislative rules have been initiated in economies, hence the need to study the various theories of financial inclusion.

2.12 THEORIES OF FINANCIAL INCLUSION

2.12.1 The economic theory of financial inclusion

The analysis of financial inclusion from the economic perspective states that financial inclusion can be analysed through the assumptions and conclusions of both the Neoclassical economic theory and New-Keynesian theory. Accordingly, the Neoclassical theory focuses much on economic agents and it views the role of the government as secondary (Abu Seman, 2016). The theory assumes that primary economic agents are firms and final consumers of goods and services. The objectives of primary economic agents are assumed to be rational and self-interested.

The other assumptions are that the objectives of primary agents are well-informed and they are naturally competitive (Abu Seman, 2016). Influenced by the assumption outlined, the Neoclassical concluded that financial exclusion is a product of consumer choice together with government policy (Abu Seman, 2016). Due to the influence of consumer choice, economic agents can choose to utilize informal financial market services instead of formal financial market services because of the influence of economic cost factors which limit the access of formal financial products and services (Buckland, 2012).

In addition, Buckland (2012) the influence of the government can also influence the financial market. For instance, the government policy can place ceilings in the credit market which will end up creating distortions in the market, the end result of which will lead to the financial exclusion of disadvantaged and vulnerable groups (Buckland, 2012). Moreover, the New-Keynesian theory also gives a lot of emphasis on market distortions which are deep-rooted in the micro economy, for example information asymmetries and issues to do with adverse selection (Buckland, 2012). Stiglitz and Weiss (1981) explained the micro wide distortions through the provision of a well detailed account of the direct and indirect effects of imperfect information on financial inclusion. In their explanations Stiglitz and Weiss (1981) stressed that creditors sometimes depress interest rates and restrict credit in a way to keep away risky borrowers (Abu Seman, 2016). When this happens, automatically some people will be left out of the formal financial market as will be explained below.

2.12.2 Credit rationing theory

This is a theory credited to Stiglitz (1989), where he argued that, when imperfect information is present in a competitive loan market, credit rationing will be the major feature of the credit market. The meaning of credit creation is that, among a group of borrowers with fully observable and identical characteristics, some will have the opportunity of receiving loans while others will not get anything (Stiglitz, 1989). In

the process, some borrowers who will feel disappointed will be more than willing to pay an interest rate which is more than the market interest rate. However, financial institutions will surprisingly not be willing to respond to excess demand for loanable funds through raising the interest rate for borrowers (Stiglitz, 1989). The major reason given was that, in many circumstances when the interest rate is high, safer borrowers do not borrow as they are depressed from borrowing (Yuan et al., 2011).

In addition, when the interest rate is high, borrowers will invest in high risk projects which will limit the probability of paying back the loan (Stiglitz and Weiss, 1987). This condition will limit the participation of other potential players from full participation in the credit market. Accordingly, this explanation will help to explain why some economic agents do not fully participate in the financial market and the increase in financial exclusion in the formal financial markets.

Moreover, Stiglitz and Weiss (1981) went on to provide a framework for analysing the inefficiencies in the financial markets. Stiglitz and Weiss (1981) believe that one of the major factors which causes the market to malfunction in developing nations is information asymmetry. The argument of the authors was that, information asymmetry through adverse selection and moral hazard is the primary source of market inefficiencies (Bell et al., 1997; Yuan et al., 2011).

As a result of these inefficiencies in the market, high risk borrowers like small scale farmers will be excluded from the group of potential borrowers (Yuan et al., 2011). This will mark the reason many economic agents are financially excluded in the formal financial markets which leads to the problem of financial exclusion. The behaviour of farmers is also unpredictable in that they tend to go for informal financial associations which is argued by some authors to be the result of information asymmetry (Bell et al., 1997; Yuan et al., 2011). Farmers sometimes do not have enough information about the formal credit market, which will lead many of them to utilize the services of informal credit providers at the expense of formal credit providers.

2.12.3 The adverse selection theory

The adverse selection theory is credited to Akerlof (1970) who argued that information asymmetry is among the major root causes of adverse selection. Information asymmetry is explained as the situation where an economic transaction is characterised by the condition that one part of the transaction is equipped with more information as compared to the other partner in the transaction. The works by Stiglitz and Weiss (1981) marked the beginning of the adverse selection theory in the credit market. There are two main assumptions which the theory is premised on. Firstly, it is assumed that it is difficult to differentiate borrowers of different risk by credit providers; because of that, credit contracts will be characterised by limited liability. Limited liability is explained as the condition where debt commitments are more than the returns of the project. In this situation, the borrower carries no responsibility to pay out of pocket (Karlan and Zinman, 2009). In these circumstances, if the borrower is characterized by unobservable features, adverse selection will arise in the process (Karlan and Zinman, 2009).

As a matter of fact, there is a direct and indirect way at the creditor's disposal of dealing with this problem of information asymmetry (Hellwig, 1987). The direct procedure is defined as the situation where the loan provider scrutinizes clearly the characteristics of the borrower (Hellwig, 1987). On the other hand, the indirect procedure is the process where the lender provides the terms and conditions of the loan which will force borrowers with good risk to take. The common method used to distinguish good risk borrowers and bad risk borrowers is pledging of collateral security like title deeds (Eaton and Gersovitz, 1981).

In fact, poor people do not have assets that make useful collateral. The effect of pledging collateral will side-line poor borrowers like small businesses, small farmers and many others from the mainstream credit market. The task of separating good risk from bad risk borrowers is a big one for many lenders which pushes other

potential borrowers from the market. In fact, many lenders do not have the proper method of separating good risk borrowers and bad risk borrowers, a method which do not exclude other potential borrowers from the market (Eaton and Gersovitz, 1981).

2.12.4 Moral hazard theory

Financial participation can also be clearly articulated by the moral hazard theory. This theory tries to explain what will happen if the insured has considerable control which the insurer does not have. This scenario is directly called moral hazard (Berhanu, 2005). Moral hazard is defined as the condition where the insurer insures against a risk where the insured has a control over the risk (Berhanu, 2005). In addition, this also applies to the relationship between borrowers and lenders. In most cases, a borrower when borrowing money for a project in the form of loans, the expectation of the borrower is that the project's payoff will be able to repay the loan (Boot and Thakor, 1994; Besanko and Kanatas, 1993).

The performance of the project in terms of returns and payoffs depends in most cases on the behaviour and actions of the borrower towards the project. This includes the effort applied on the project, the amount of inputs, quality of labour and many other variables which will improve the performance of the project in terms of profits. As a matter of fact, the borrower is anticipated to take actions which assist in generating maximum returns. Nonetheless, due to asymmetric information, usually the borrower will not always take actions that will optimize returns (Boot and Thakor, 1994).

In circumstances where collateral security is not present, in most cases the lender and the borrower will have different objectives. The borrower sometimes will act in a way that will not prove to the lender that he/she is aiming to fully internalise the costs of product failure (Berhanu, 2005). Since some actions of the borrower are

not observable by the lender, it is sometimes hard for the lender to state clearly how the borrower should act in the process (Mohiuddin and Al-Jalaly, 1993).

More importantly, Mohiuddin and Al-Jalaly (1993) pointed out that there is a way where moral hazard can be solved through the process of tying credit and savings together. This is done through coming up with a built-in mechanism for emergency fund to handle unforeseen shocks. As a result, this will limit those who desire to borrow because they will have limited information on the possible returns from the project (Berhanu, 2005). This points to the fact that some economic agents will, as a result, be unable to be part of the credit market hence the problem of financial exclusion arises.

2.12.5 Demand and supply theory

The first one to come up with demand theory as a fundamental principle of microeconomic theory was Walras (1834-1910), a French economist (Blaug, 1992, Debreu, 1984). The theory of demand is the investigation of the association of demand for goods and services with their prices. The theory also analyses the decisions of consumers when purchasing goods and the direct and indirect impact of the commodity prices on demand (Debreu, 1984). As propounded by Walras, the price of a good or service influences its demand (Negishi, 1979).

The theory by Walrus was described as shallow by economists; even so, economists used the theory as the basis for the development of the theory of demand. The theory of demand is described as the inverse relationship of the quantity of a commodity and its own price. The explanation of this is that, when the price of a good or service rises, correspondingly the quantity of goods or services falls as a result and the opposite is true, holding other things equal (Mathea, 2014).

In addition, consumer behaviour has been a subject of debate by many economists using a variety of theories and empirical concepts (Mathea, 2014). From these theories and concepts of demand it was alleged that there are many factors which

influence an individual or a household's demand for a commodity (Mathea, 2014). These factors which influence demand manifest themselves differently, ranging from economic, social and even political factors. The influence of these factors depends on the market where the product is located. For instance, in financial markets credit is one of the major products central to the improvement of welfare for the poor in their various macro and micro economic activities (Armington, 1969).

Likewise, when cost of credit and other formal financial market products rises, the marginal utility per dollar raised from that credit goes down. When that happens the household will therefore choose to consume or use less of the credit (Armington, 1969). This analysis will help to have a deeper understanding on the effects of the law of demand on participation by different economic agents in the financial market. Economists usually use the idea of consumer utility to explain the demand of these consumers on the commodity (Armington, 1969; Watts and Zimmerman, 1979). The definition of utility given by economists is the satisfaction enjoyed by a consumer when he/she consumes goods and services (Pigou, 1903).

In economics it is usually argued that any commodity that assists to satisfy human wants has utility (Pigou, 1903). The good example which can be given in this case is that credit generates utility especially when the financial needs of an individual or a household are satisfied (Mathea, 2014; Saleemi, 2007). This is true considering the fact that the objective of any individual when taking credit or when receiving any financial support will be to maximise satisfaction in the form of more returns (Saleemi, 2007). The other objective of acquiring credit is to expand the business so that the business will generate more income and later more investment.

Omboi and Wangai (2011) pointed out that, generally, when income increases, demand for goods and services will respond likewise. However, small-scale investors usually limit the size of their businesses to low quality which will lead them to target low income earners (Omboi and Wangai, 2011). Also, most small businesses keep their businesses small to the extent that it will be very difficult to attract high income

earners. The major reason given as to why these businesses remain small was that, under those circumstances, small scale investors will have low returns which limit them from borrowing credit from big institutions where the trader will be required to incur implicit and explicit costs (Omboi and Wangai, 2011).

Similarly, Omboi and Wangai (2011) further stated that the quantity of goods which an individual is prepared to buy depends on several factors. These factors include the person's tastes or preferences, and the price of the goods or services. The buying power for consumers is reduced when the cost of buying the goods increases. When the price of a good is reduced, the buying power is increased (Omboi and Wangai, 2011). Correspondingly, the financial market has the same characteristics as the goods market. However, in the financial market emphasis is placed on implicit and explicit costs of credit. These costs are defined as the additional costs to businesses which usually influence them on whether to borrow from a financial institution or not and from which source (Mathea, 2014).

The theory of economics explains that the amount bought of any commodity is influenced by the availability of other goods, especially when the goods are close substitutes (Mathea, 2014). For instance, the decision to borrow money from the formal financial institution is influenced by the prices or cost of credit offered by the different credit providers. If formal markets are expensive to the borrower, the likelihood of the borrower to turn to informal markets will be very high (Mathea, 2014). Omboi and Wangai (2011) further pointed out that the size of a household's income affects the amount it buys of a commodity.

They further argued that, if the income of a household increases, this will allow the household to buy more goods, especially if the goods are necessities. As a result, the same argument holds for necessity goods such as credit borrowing needed for the financing of business operations, but the contrary to this this will not apply to inferior goods (Omboi and Wangai, 2011).

2.12.6 The risk-averse peasant theory

The risk-averse peasant theory states that peasant households in general have the objective of enduring the survival of the household through avoiding risk where possible (Mendola, 2005). Henrich and McElreath (2002) assert that a lot of research was done to investigate the reason small-scale subsistence farmers or peasants are slow in the procurement of new technology, adoption of new agricultural methods, and the adoption of new developments in the financial markets. Accordingly, Henrich and McElreath (2002) state that pioneers in this vital area alluded to the fact that many peasants are influenced by cultural conservatism which involves issues like rigidity in adherence to customs, lack of education and general ignorance.

However, some researchers responded by arguing that this conservative behaviour of peasants may be a result of rational cost benefit analysis on their part which they make in relation to uncertain and unstable economic conditions (Gladwin, 1979; Henrich and McElreath, 2002). This was supported by Ellis (1993) who asserted that, in general, peasants when they are into production they do so in uncertain circumstances emanating from natural hazards. The uncertainty is propelled by the fact that these peasants do not have access to insurance because of the low levels of income they generate from production.

Examples of natural hazards include changing weather patterns, pests, diseases, market fluctuations and social uncertainty (Ellis, 1992). All the examples given above will present risks to peasant farmers, which will make them very cautious, especially in making decisions like taking credit (Walker and Jodha, 1986). All things being equal, many risk averse small scale farmers or peasants prefer a smooth consumption stream to a swinging consumption stream. In the event of incomplete capital markets and underdeveloped institutional arrangements, many peasants will find it very difficult to fully participate in the financial market (Ellis, 1992).

2.12.7 Credit extension through contract farming theory

Contract farming is defined as a situation where the farmer gets credit from the buyer in the form of cash inputs and where the agreement is directly linked to a purchase agreement (Grosh, 1994). In this way, when the farmer sells the produce during the harvest season, there is a deduction of the credit or inputs provided by the buyer (Grosh, 1994). One example of contract farming are out-grower schemes where smallholder farmers are controlled by agribusiness (Bijman, 2008). In contract farming, smallholder farmers present their land and labour while the buyer provides inputs as well as extension services in return (Bijman, 2008; Grosh, 1994). In cases where significant investment is needed, for instance, packaging and grading sheds, tobacco barns and heavy machinery, most financial providers like banks do not advance credit to small-scale farmers without the sponsor's guarantee (Eaton and Shepherd, 2001).

However, the actions of the sponsor will make it difficult or easy for the farmer to participate in the credit market. For instance, when the sponsor is reluctant to bear the burden of the loan from the bank, it will be difficult to get assistance from the bank or to be active in the credit market (Barrett et al., 2012; Eaton and Shepherd, 2001). On the other hand, where the sponsor is willing to take the burden of the loans from banks, the smallholder farmers will find it easy to be fully active in the credit market (Barrett et al., 2012). An example of this is how Kenya National Federation of Agricultural Producers (KENFAP), a non-governmental organization in Kenya, provides guarantees for some member groups to acquire loans from the selected credit institutions (Fischer and Qaim, 2012).

In Zimbabwe, a seed company called Agri-seeds makes it possible for farmers to participate in the formal financial market through providing farmers with inputs, extension and transportation services for both inputs and final products. One of the advantages given in support of contract farming is that the sponsor always is

contracted to purchase all the products grown even though their conditions are set, like quality specification and quantity parameters (Fischer and Qaim, 2012). The other benefit given is that contract farming equips farmers with a variety of managerial and technical skills as well as advanced extension services which are not attainable by the small-scale farmers (Fischer and Qaim, 2012).

2.12.8 The pecking order theory

The pecking order theory reasons that the asymmetric nature of the information in most cases increases the cost of finance (Shyam-Sunder and Myers, 1999). This is because sometimes economic agents will end up using costlier finance due to unavailability of information for cheaper finance (Shyam-Sunder and Myers, 1999). According to the pecking order theory, finance for a business is generated from at least three main sources which are internal funds, debt and finally equity finance. In most cases, businesses set priorities when choosing the various sources of finance. The first priority is an internal source of finance, the second priority being debt and the last priority being equity finance (Frank and Goyal, 2007; Shyam-Sunder and Myers, 1999).

As a result, in many businesses, internal financing is the first source to be used; when all the internal sources of finance are depleted debt finance is issued. Finally, when it is no longer attractive to issue more debt finance, equity finance is issued (Frank and Goyal, 2003). This theory supports the argument that, in general, businesses stick to the hierarchy of sources of finance: internal sources of finance are preferred depending on availability rather than debt which is more preferred over equity given external circumstances where external sources of finance are required (Frank and Goyal, 2003).

Among the theories of leverage, the pecking order theory is the most influential theory (Frank and Goyal, 2003). Myers (1984) was one of the theorists who came up with the pecking order theory. This theory states that information asymmetry

plays a major role in determining the number of players in this market (Myers, 1984). Myers (1984) posits that usually firms make use of internal funds because they normally cost less compared to other sources of funds. Myers went on to argue that the insufficiency of internal funds gives firms the desire to go for external funds. Among the external sources of finance, firms prefer debt finance over equity finance due to the lower information cost of the process of issuing debt finance (Frank and Goyal, 2003). In this case, equity finance is infrequently issued (Myers, 1984). Vogt (1994) later refined and confirmed these ideas into testable predictions. Vogt (1994) discovered that part of a firm's investment decisions is influenced by internal sources of finance. In agriculture, pecking order behaviour is clearly indicated by the behaviour of farmers where they prefer the use of internal funds such as savings (Vogt, 1994). Likewise, these farmers will resort to debt when internal sources of finance are not sufficient to finance investments (Vogt, 1994).

2.12.9 The signalling theory

The signalling theory was pioneered by Akerlof and Arrow who reviewed this theory in relation to job and product markets. Likewise, Spence (1978) further developed this theory to signal equilibrium theory, which argues that usually good firms differentiate themselves from bad firms through the process of sending a signal to the market to show the quality of the firms and that of their products to markets. The only way good firms can successfully send a signal which is convincing is when bad firms are not able to imitate good firms through sending the same signal (Spence, 1978). This is only possible if the cost of signalling is too expensive for bad firms to imitate; as a result, these bad firms will find it unnecessary to mimic (Spence, 1978).

In particular, Ross (1977) indicated that, the amount of debt a company has can be used as a costly signal which can differentiate good firms from bad firms. In situations where there is asymmetric information between managers and investors,

signalling seems to be a credible exercise firms can undertake in order to get financial resources (Ross, 1977). For instance, a signal where firms show high debt in their books implies an optimistic future (Riley, 1989). Riley (1989) reasoned that debt can indicate the quality of the firm in that usually high quality firms normally use more debt compared to low quality firms who normally have low debt levels (Riley, 1989). In this way, good firms differentiate themselves from bad firms by admitting to be scrutinized. On the other hand, bad firms do not admit to be examined because they afraid of being discovered in the process (Riley, 1989). Signalling has two types which are costless signalling and costly signalling. Costly signalling is normally referred as signalling inside information, discussed by Spence (1974), Ross (1977) and Talmor (1981). Costless signalling equilibrium was proposed by Downes and Heinkel (1982) and Ross (1977).

The circumstances which necessitate a signal to be costly are when the process of producing the signal consumes a lot of resources and in situations where the signal is related to losses loss in welfare is generated by deviations from distribution of claims in perfect markets (Bulbulia and Sosis, 2011). It is also generally believed that debt signalling can be used to differentiate the potential competition of entrant firms (Poitevin, 1989). The signal of low cost entrants is mostly issuing debt, while high cost entrants issue only equity (Poitevin, 1989). Harris and Raviv (1985) also argue that calling a firm's convertibles can be a kind of signal while Bhattacharya and Dittmar (2003) show that the rate of purchase of stock can act as a signal to represent firm value.

Signalling is also used in the farming industry especially in financing tactics where good firms try to differentiate themselves from bad quality firms through the use of different financing devices (Kennett and Winterhalder, 2006). The farming industry is different from corporate firms in that corporate firms have the opportunity of doing signalling at the stock market (Kennett and Winterhalder, 2006). Farm owners, however, do their signalling by sending signals to all potential lenders in

agricultural capital market (Kennett and Winterhalder, 2006). Ordinarily, there are many signalling instruments for farm businesses which include profitability, farm income, risk management documentation, and operating products among other various factors (Green et al., 2005).

2.13 THEORETICAL ARGUMENT ON FINANCE AND POVERTY REDUCTION

The connection between financial market development, economic development and poverty reduction has been a central topic for discussion in economics. Theory to explain the financial inclusion and poverty nexus is there but is not exact and is limited. Most of the arguments put forward by several authors build mainly on the arguments put forward by the Classical economists and the Keynesian economists.

2.13.1 The Classical economics theory

The earliest proponents of the theory of the free market economy was discussed for the first time in the Classical 1776 *Wealth of Nations* by a well-known economist, Adam Smith (O'Brien, 1975). Adam Smith was supporting the invisible hand in the economy where the economy operates on its own and the forces of supply and demand interact so that the economy will achieve equilibrium automatically without the involvement of government (O'Brien, 1975). Adam Smith went on to state that the classical economic theory is based on the notion of a laissez-faire economic market (Skinner and Wilson, 1975). The doctrine of laissez-faire or free-market demands that the government have little to no government intervention in the market operations.

The laissez-faire approach also allows individuals to behave according to their own self-interest when economic decisions are concerned (Skinner and Wilson, 1975). This will allow economic resources to be allocated in agreement with the wishes of individuals and firms in the market place (Skinner and Wilson, 1975). Bagehot

(1873) stressed the importance of the banking system in economic growth. He indicated conditions where the bank can spur innovation and growth through funding productive investments and establishing productive investments (Bagehot, 1873).

Bagehot (1873) argued that banks provide important financial services which are essential for economic development and poverty reduction. The services which can be provided include but are not limited to the following; mobilizing savings, evaluating different projects, managing risks and facilitating transactions (Bagehot, 1873). These various services were argued to be instrumental in encouraging innovation economic growth and development.

2.13.2 The Keynesian economics theory

Keynes (1930) in his monograph on money argued that money is a central element to the growth and development of the economy. Keynes (1930) believed that bank credit creates the platform for production to travel along with ease and if the bankers realise the extent to which their role is significant, they will strive hard to provide these facilities to ensure that production take place at full capacity. Robinson (1952) concurred with the same reasoning by arguing that developments in finance will be followed by growth. In addition, Robinson (1952) showed that there is a causality between enterprise and finance. He argued that wherever enterprise leads finance will automatically follow.

In fact, Keynesian theory is premised on the role of government intervention through massive spending to jump-start economic growth in periods of sluggish economic downturns (Hicks, 1974). Just like the classical economists, Keynesians share the view that the economy of a country is made up of variables like consumer spending, government spending and business investment (Hicks, 1974). Moreover, the Keynesians usually concentrate on immediate results in their economic theories.

Further, the Keynesians believe that many economic policies should focus on the short-term needs (Hicks, 1974).

In addition, the Keynesians articulate clearly that economic policies as they are implemented in a nation have the power to make instant corrections to a nation's economy (Gordon, 1990). More importantly, Keynesians believe that, in periods of economic recessions and depressions, individuals and businesses are not equipped with resources which can bring about immediate results through investment and spending. However, the government is viewed as the only force which can bring to an end the ups and downs in the economy through their monetary and fiscal policies to boost aggregate demand which will help to boost output (Gordon, 1990).

According to the Keynesian theory, government expenditure is one of the variables which can influence financial inclusion and financial deepening (Demetriades and Hussein, 1996). To put it differently, the Keynesians contest that for a nation to achieve full employment it should inject money into the economy through massive government expenditure (Demetriades and Hussein, 1996). In other words, when a country is equipped with fully-functioning financial systems, institutions and markets provide the pathway for individuals, small businesses and large firms to invest more through channelling funds to the more productive use of funds which will boost growth, and improve income distribution which will have an impact on poverty reduction (Grabel, 1995).

In fact, Keynesians contend that the development of the financial sector and an improvement in the access to finance will help to accelerate economic growth, reduction in inequality and finally poverty reduction. However, Dornbusch et al. (1990) argued that increasing government expenditure promotes investment and reduces private investment at the same time through the crowding out effect. This is mostly common when government expenditure is financed through borrowing from the private sector, a condition which forces interest rates to rise (Dornbusch

et al., 1990). The authors went on to assert that it is necessary to come up with government policies which consider the imperfections and inefficiencies in the markets. According to Tissot and Gadanecz (2018) financial inclusion can help to overcome the frictions that affect the proper functioning of the financial markets in support of the poor and underprivileged (Tissot and Gadanecz, 2018).

Also, Robinson (1952) argued that when there is economic growth demand will be created automatically. As a result, the spontaneous response of the financial system because of this demand will cause development in the financial system. In summary, one of the policies which can emanate from this discussion is that financial inclusion in its own right can contribute to the development of the financial sector, leading to economic growth, development and poverty reduction (Acemoglu and Robinson, 2013). Hannig and Jansen (2010) also argued that an improvement in the way people in poverty access financial services has a direct and indirect effect on their standards of living; however, the reality of the matter is that many of them rely on the use of formal financial institutions.

2.13.3 The endogenous growth theory

According to the endogenous growth theory, economic growth is by and large the result of internal factors not external forces (Aghion et al., 1998; Pack, 1994). The theory contests that massive investments in human capital development, innovation and knowledge are notable factors which can contribute more to the growth of the economy (Aghion et al., 1998; Pack, 1994). In addition, the endogenous growth theory put a lot of emphasis on positive externalities of a knowledge based economy which is argued to have an effect on economic development.

Moreover, the theory also accepts the notion that growth in the long run for an economy is premised on policies like significant increase in research and development subsidies (Howitt, 2010; Pack, 1994). In other words, the endogenous

growth theory argues that, in order to have significant macroeconomic outcomes on various macroeconomic variables, dynamics in the country itself are the ones which impact more than outside factors (Rivera-Batiz and Romer, 1991). As a result, policies geared to the development of the financial sector, the manufacturing sector within the economy, are more important than outside factors. In this way, it is suggested that policy measures which improve financial inclusion are important aspects which can help to drive poverty reduction as they can help to improve the human capital potential of the population which improves their earnings in return. However, according to Easterly (2006), issues like development aid from external forces can have an impact on poverty but insignificantly. Borrowing from the investment theory, issues like financial exclusion have negative effects on the poor because they affect their ability to accumulate needed resources which will later impact more on the ability to secure bank loans (Beck et al., 2007).

In addition, it is believed that every population has a share of skilled entrepreneurs and these poor people have the ability to use loans to grow small to medium businesses (Honohan and Beck, 2007). The little businesses create employment opportunities for the owners and others as well. However, if there are problems with the financial sector like high interest rates for borrowers, this will ruin their businesses thereby affecting the employment of people in the process (Honohan and Beck, 2007). Henceforth, proper financial mechanisms can help to unleash the entrepreneurial ability of the people which will create an avenue out of poverty through the creation of jobs (Beck et al., 2009).

The final channel comes from the human capital theory, which asserts that households can make use of loans to educate their children which will increase work and business opportunities for their children (Beck et al., 2007). In a similar manner, parents can also invest a lot of money in different professions like on the job training which will also improve their human capital. Improvement in human capital will help to improve the chances of getting jobs and starting meaningful businesses (Beck et

al., 2009). Beck et al., (2007) stressed that this scenario is relevant especially for people who were ex-ante poorly educated. In summary, it is argued that financial inclusion can have an impact on poverty through improvement in education (Beck et al., 2007).

2.13.4 Financial inclusion, financial development, economic growth and poverty reduction

The nexus between financial market development, economic development and poverty reduction has been a central theme in the field of economics. Since the beginning of the financial crisis of 2007, the relationship between financial development and economic growth has drawn more interest. However, theory which explains the financial inclusion and poverty nexus is there but is not exact and is limited. The following theorists stressed the impact of financial development on the growth of an economy and poverty reduction: Schumpeter (1911); Cameron (1967); Goldsmith (1969); McKinnon and Shaw (1973).

The direction of causality between development in finance and economic growth is not clear. There are several questions asked on whether economic development will result in financial development or is it the case of financial development leading to economic growth? As highlighted by Schumpeter (1911) among others the likelihood of the causality running both ways is very high. McKinnon and Shaw (1973) argue that financial repression through controlled credit creation, nominal interest rate ceilings and high reserve requirements are generally inefficient and are sources of economic instability as well as reducing the volume of financial savings, and reducing the actual size of the financial system compared to non-financial sector and the rate of real economic growth. This will have a direct bearing on the ability of citizens in the country to fight poverty and destitution.

Inefficiencies in the financial market affect investment as economic agents will find it difficult to get capital to finance new and existing business operations. Economic growth will be affected negatively causing incidences of poverty (McKinnon and Shaw, 1973), but financial liberalisation, that is the removal of ceilings on nominal interest rates, removal of high reserve requirements and controlled credit, will improve the rate of economic growth because of a direct increase in efficiency of financial intermediation and financial discipline (McKinnon and Shaw, 1973). This implies that financial liberalisation will help to boost financial inclusion. Disadvantaged sections of the society usually suffer from exclusion from the formal financial market like the small to medium enterprises, small scale farmers, the youth and women.

Financial participation of these groups will help to reduce the levels of poverty in an economy. Schumpeter (1911) argues that financial intermediaries play five key roles in an economy, namely savings mobilisation, project evaluation, risk management, monitoring and evaluation of managers and transactions facilitation. The work by Schumpeter (1911) was supported by King and Levine (1993) who argued that, when financial development is high, in general rates of economic growth will grow very fast. This will also lead to a direct improvement in physical accumulation of capital and finally improvement in economic efficiency. This implies that when the economy grows as well as capital accumulation poverty and inequality will automatically be reduced in the process.

Greenwood and Jovanovic (1990) posit that there is an inverted U-shaped relationship between income inequality and financial development. In this theory financial development causes inequality to increase at first and later to decrease. According to Greenwood and Jovanoch (1990) the increase in inequality was because of the poor people who will be unable to make use of the financial intermediaries which result in growing inequality, but in the long run more people will make use of financial services offsetting the inequality (Greenwood and

Jovanovic, 1990). When inequality between the poor and the rich is reduced, this will imply that the total number of individuals will also decrease in the process (Greenwood and Jovanovic, 1990).

Theory has revealed that the economic stage of a region is important in determining the overall development of an economy. According to Rostow (1960) the economic progress of a region usually can be compared to the take-off of an aeroplane from the ground. The growth of an economy will be assumed to take the following steps: firstly, there is traditional society, pre-conditions for take-off, take-off, maturity and finally the stage of high mass consumption. According to this theory, financial development starts mostly in the stage of take-off and finally reaches maturity in the upcoming stages of development (Rostow, 1960). According to Rostow's model, capital formation is premised on the productivity of agriculture and the promotion of social capital.

Agriculture performs an important duty to support the increasing population with food especially in the agricultural sector. The other role played by the agricultural sector is to generate more export earnings to achieve sustainable development which will ensure that issues to do with underdevelopment and poverty issues are addressed clearly. In addition, some theorists believe that financial intermediary development has a disproportionately beneficial impact on the poor. For instance, Banerjee and Newman (1993) together with Galor and Zeira (1993) argued that imperfect movement of information creates credit constraints among the poor individuals which will have a future effect on resources accumulation to fund their own ventures and even on having enough collateral to access bank credit. These credits constraints will limit the poor individual's business opportunities.

This was also supported by Aghion and Bolton (1997) who assert that information asymmetry generates limitations among the poor because these individuals do not have the resources to fund their own ventures, and the needed collateral to have access to bank credit. Moreover, some political economy theories argue that better

perfectly functioning financial systems ensure that financial services are made available to many people rather than restricting the number of people to receive finance (Haber et al., 2003; Rajan and Zingales, 2003). Thus, through removing constraints in access to credit, financial development may help to improve entrepreneurship, new business formation and, finally, improve economic growth.

Lamoreaux shares the view that, in most cases, only the rich and politically connected primarily enjoy the improvements in the financial system (Lamoreaux, 1986). Lamoreaux (1986) went on to argue that, in the early stages of economic development, access to financial services like credit is normally limited to the wealthy and politically connected. Under these conditions, greater financial development may only succeed in directing more capital to a selected few (Lamoreaux, 1986). Thus, the question remains whether financial development narrows or widens income disparities regardless of the fact that it promotes growth.

2.14 SUMMARY AND CONCLUSION

This chapter managed to review theoretical literature on many aspects covered by the theoretical objectives. Firstly, the chapter provided a discussion of the different definitions of poverty. The definitions provided the solid ground to discuss the various theories of poverty and how it is measured. This analysis was important to the current study because it managed to provide an understanding of the multitude of factors responsible for poverty. The discussion also highlighted the applicability of these theories in developing nations and developed nations. The second section reviewed theories on measures of poverty to inform the current study on how poverty is measured. The review of these measures of poverty helped to analyse their applicability to the context of developing countries, specifically Zimbabwe. The third section analysed the theoretical framework on the determinants of financial inclusion. This informed the current study on the factors which may influence smallholder farmers to participate in the formal financial market. The fourth section

highlighted the theoretical argument on the relationship between financial inclusion and poverty. This was important because it is the focus of the current study. This helped to discover the various channels available in which financial inclusion can have an impact on poverty.

CHAPTER 3

EMPRICAL LITERATURE REVIEW ON DETERMINANTS OF FINANCIAL INCLUSION, MEASURES OF FINANCIAL INCLUSION, AND THE IMPACT OF FINANCIAL INCLUSION ON POVERTY

3.1 INTRODUCTION

This chapter will describe the empirical literature related to the objectives of the study. This helps to identify the work that has been done already and to see how this can be improved. Firstly, an empirical literature review on the determinants of financial inclusion will be discussed. This is a discussion of the factors which either motivate or demotivate individuals to participate in the formal financial market. Empirical literature on the various measures of financial inclusion will also be reviewed. This will help the current study to identify the methodology to use when coming up with the measure of financial inclusion.

In this study, the measurement of financial inclusion is important in that it is part of the main objectives of investigating the impact of financial inclusion on poverty. Measuring financial inclusion in the current study is as important as measuring poverty. Finally, empirical literature on the impact of financial inclusion on poverty will also be reviewed. This section is also one of the important part as it will highlight the work which was done to discover the impact of financial inclusion in fighting poverty. This will also provide a clue on available channels through which financial inclusion can fight poverty. In addition, this review of literature on financial inclusion and poverty will assist the current study to find possible ways in which financial inclusion can help to reduce poverty.

3.2 EMPIRICAL LITERATURE REVIEW ON DETERMINANTS OF FINANCIAL INCLUSION

Empirical literature on the determinants of financial inclusion is available but limited. Studies which investigated the determinants of financial inclusion among smallholder farmers is available but limited. Many studies available investigated the determinants of financial inclusion in general without specifically focusing on smallholder farmers, for example Masiyandima et al., (2017); Sanderson et al., (2018); Akileng et al., (2018); Uddin et al., (2017) and many more. These studies were looking at the determinants of financial inclusion without directly investigating the determinants on smallholder farmers.

There are a few studies which were done on the determinants of financial inclusion among smallholder farmers directly. Many studies carried out in this field looked at the determinants of financial inclusion among smallholder farmers indirectly, for instance, many studies were focusing on determinants of access to credit by smallholder farmers or factors influencing choice of credit as well as factors influencing product market participation. Examples of these studies are Kalunda (2014); Chaia et al., (2009); Saqib et al., (2018); Nwaru et al., (2011); Baiyegunhi and Fraser (2014). Masiyandima et al., (2017) using the logit model discovered that the main factors which influence financial inclusion in Zimbabwe were household income, financial literacy of the people and the geographical presence of financial institutions. This was also supported by Sanderson et al., (2018) who reviewed the drivers of financial inclusion in Zimbabwe.

Sanderson et al., (2018) using the logit model to investigate the various socioeconomic factors responsible for financial inclusion, established that age of the household, education level of the household, financial literacy of the individual household, income level and internet connectivity were the factors which influenced financial inclusion positively. Factors like documentation required to open a bank

account and the distance to the nearest access point were influencing financial inclusion negatively. In addition, Sanderson et al., (2018) were in agreement with Akileng et al., (2018) on financial literacy as one of the determinants of financial inclusion. Akileng et al., (2018) examined the impact of financial literacy and financial innovation on financial inclusion of different households in Uganda. The study discovered that financial literacy and financial innovation were among the best factors which can influence the financial inclusion of different households.

Similarly, another study done by Uddin et al., (2017) in Bangladesh examined the determinants of financial inclusion. After clustering the determinants of financial inclusion into two broad areas which are bank specific factors and macroeconomic factors. The study discovered that, on the supply side, the size of a bank, its efficiency, and the interest rate charges have a direct impact on financial inclusion, whereas on the demand side the literacy rate was positively related to financial inclusion while the age dependency ratio was negatively related to financial inclusion. In addition to that, quantile regression analysis found that bank size has a significant impact on both deposit collection and loans and advance disbursements of a bank.

These results by Uddin et al., (2017) were similar to the results discovered by Zulfiqar et al., (2016) in Pakistan. Zulfiqar et al., (2016), using the probit model to estimate the dominants of financial inclusion in Pakistan, found out that the level of education, income level of households and discrimination using gender were the factors influencing financial inclusion in Pakistan. Lack of money and requisite formalities were seen as barriers to have full access to financial services by the households. Moreover, Soumaré et al., (2016) investigated the determinants of financial services in Central and West Africa using the Global Financial Inclusion Database. The study discovered that the gender of the household head, level of education of the household head, age, income level, place of residence, employment

status, marital status, household size and degree of trust in financial institutions were the factors which influenced access to formal financial services.

Apart from the household characteristics such as gender, education, age and income seen as determinants of financial inclusion by Masiyandima et al., (2017); Sanderson et al., (2018); Uddin et al., (2017) and Zulfiqar et al., (2016); Soumaré et al., (2016) discovered a set of interesting additional factors such as residence area, employment status, marital status and degree of trust in financial institutions as determinants of financial inclusion.

In addition, Soumaré et al., (2016) indicated that Central Africa was different from the African continent in general on some determinants of financial inclusion such as the education level of the household, working-age of the household, urban residence and full-time employment. The paper also came to the conclusion that the gender of the household head and marital status of the household head influenced financial inclusion positively for Central Africa, whereas income level of the household was a significant factor in West Africa and Africa in general. In addition, the size of the household had a negative influence on having a bank account in West Africa and not Central Africa. Factors like saving behaviour, borrowing behaviour and frequency of use of financial services were also significant influencing financial inclusion in Africa.

In the same way, Sandada and Mapfuyanzara (2016) investigated factors responsible for financial exclusion in Zimbabwe. Using factor analysis, the results of the study showed that the main causes of financial exclusion were the liquidity crunch and gender issues. In the same way, the study by Kodongo (2018) examined the connection of financial regulation and financial inclusion. The study revealed that agency banking regulations and financial literacy were factors which can improve financial access. Knowing your customer rules, capital and liquidity prudential regulations at macro level were influencing financial inclusion negatively.

The studies by Sandada and Mapfuyanzara (2016) and Kodongo (2018) concurred

on the liquidity crunch and regulation of the environment of the financial market as factors influencing financial inclusion.

Moreover, Oyelami et al., (2017) investigated the determinants of financial inclusion for a number of sub-Saharan countries. Through the use of the panel autoregressive distributed lag model, the results showed that both the demand side and supply side factors had an influence on financial inclusion. The factors which were discovered to affect financial inclusion were the level of income and literacy level as the demand side factors. The supply side factors were interest rate and bank innovation proxy by Automated Tailor Machine (ATM) usage. These factors were discovered to be the main factors influencing financial inclusion.

By the same token, Evans (2016) investigated the factors influencing financial inclusion in Africa for the period 2005 to 2014. The factors seen to influence the level of financial inclusion in Africa were per capita income, broad money percent of GDP, literacy rate, internet access and Islamic banking presence. The insignificant factors were domestic credit provided by the financial sector, percentage of GDP, deposit interest rate, inflation rate and the population level. Oyelami et al., (2017) and Evans (2016) were in agreement on the conclusion that financial inclusion is influenced by level of income and literacy rate in Africa.

Yakubu et al., (2017) investigated the factors influencing financial inclusion in Northern Ghana using discriminant analysis. The study found out that financial inclusion in Northern Ghana was influenced by age of the individuals, cost of financial products, capability of the individuals, literacy level of the individuals, distance and employment status. Identically, in Ghana Akudugu (2013) examined the determinants of financial inclusion in Western Africa with specific focus on Ghana. The results of the study from the logit analysis showed that at least two in five adults were financially active in Ghana. Factors such as age, literacy rate, wealth of an individual, distance to the nearest financial institution, lack of documentation,

lack of trust in formal financial institutions, money poverty and social networks were seen as significant factors influencing financial inclusion in Ghana.

In a way Akudugu (2013) and Yakubu et al., (2017) agree on many factors which influence financial inclusion like age of the household head, literacy rate, and distance to the nearest financial institution. In the same way, Abdu et al., (2015) analysed the drivers of financial inclusion in Nigeria using the binary probit model. The study found that youthful age, good education and high income influenced financial inclusion positively whereas old age, being a female and low income were the factors reducing the chances of households being financially active.

In like manner, Tuesta et al., (2015) investigated the factors influencing financial inclusion taking Argentina as a case study. The study found that, in terms of use, the individual's level of education, income level and age of the household were the determinants of financial inclusion. Finally, the study also found that the perception of different barriers of involuntary exclusion were influenced by income and age of the household head. Additionally, Chithra and Selvam (2013) investigated the determinants of financial inclusion in India using the index of financial inclusion by Sarma (2012). The study concluded that income level, literacy rate and population level were found to be important factors in influencing financial inclusion. In relation to banking variables, deposit and credit penetration were seen as variables which were significant in influencing financial inclusion but the credit deposit ratio did not have any influence on financial inclusion.

The studies discussed so far were explaining the determinants of financial inclusion without specifically looking at determinants of financial inclusion among smallholder farmers. However, in those studies which were looking at determinants of financial inclusion among smallholder farmers many of them were looking at factors influencing access to credit and access to markets. Though the studies were investigating determinants of financial inclusion, the investigations were not direct because they investigated determinants of financial inclusion using one-dimension

access to credit, using financial inclusion as defined by Sarma (2008) and Sarma (2012).

Saqib et al., (2018) in Pakistan examined the factors influencing farmers' access to agricultural credit in a flood disaster risk-prone area using the weighted least squares regression. The results of the study found that education level, experience in farming, the size of land owned, income earned per month and household size were the factors influencing farmers' access to credit facilities.

Similarly, Chandio et al., (2017) examined the farmers' access to credit, with the question as to whether collateral is an important matter in Sindh province of Pakistan using a probit regression technique. It was discovered that factors like gender of the household head, the size of the household, the level of education, the size of the farm, level of income and whether collateral was available were factors which influenced farmers' access to credit positively. The two studies by Saqib et al., (2018) and Chandio et al., (2017) are in agreement on many factors such as household size, land size, income level, education level and many others such factors influencing access to credit.

Likewise, in Kenya, Kiplimo et al., (2015) also investigated factors influencing access to credit among the smallholder farmers using the logit model estimation technique. The study discovered that the level of education, nature of occupation and access to agricultural extension services were the main factors influencing access to credit among the smallholder farmers positively. Annual household income and the distance from the financial institution had negative influences on access to credit. This study in Kenya was in agreement with Saqib et al., (2018) and Chandio et al., (2017) who investigated the same subject in Pakistan where income level was also significant in influencing access to credit among the smallholder farmers.

Moreover, Enimu (2018) in Cross River State Nigeria examined the factors influencing borrowing capacity for smallholder farmers in Cross River State, Nigeria.

The result of the multiple regression analysis indicated that the factors which influence farmers' borrowing capacity were, among many, asset value, debt outstanding and the value of equity in assets, educational index, farm size and family size. Enimu (2018) went on to show that obstacles facing farmers in accessing credit were high interest, lack of collateral and short repayment periods. Furthermore, in Rwanda Musabanganji et al., (2015) carried out an investigation to discover the determinants of financial inclusion among small scale farmers with more emphasis given to formal and informal agricultural credit using the logit model.

The study discovered that household income and level of expenditure, socio-economic category of the household, amount of off-farm income, status of employment and the size of the land owned by the household were among the factors found to influence access to informal and formal credit. In addition, the study discovered other community attributes which influence access to credit; these factors were the residence area of the household, availability of transport and the availability of informal financial services. In relation to the farmer's characteristics, education level was found to be the only factor affecting the smallholder farmer's access to agricultural credit.

Equally important, Korir (2015) in Kenya analysed the factors affecting access to credit by the farmers. The paper discovered that access to credit was influenced by the existence of asymmetric information, high risks involved, lack of collateral, the distance between the lender and the borrower, income level of the borrower, distance to credit sources, past credit participation and the amount of assets owned. The study also revealed that choice of credit provider was influenced by nearness to the financial institution, the time spent processing credit, ability to access credit at all times, flexibility in repayment as well lower transaction costs.

In like manner, Abdul-Jalil (2015) investigated the determinants of access to credit in Karaga district of Ghana. The multivariate tobit estimates showed that the age of the household, gender of the household, household size, education level of the

household, farm size and being a member of a farmer based organisation had a positive impact on access to credit. In addition, credit worthiness and access to a credit guarantor had a positive influence on access to credit. In the same fashion, Shiferaw et al., (2015) examined the factors that affect farmers' decision to allocate credit on livestock production in Ethiopia using a trivariate probit model. The study revealed that the larger the size of land owned by the farmer and access to livestock centred extension services will have a greater likelihood of utilizing credit for livestock production. Again, Baiyegunhi and Fraser (2014) investigated the individual and household characteristics that influence credit market access in South Africa using the logit model. The results suggested that credit access was influenced by gender, education level, households' income, value of assets, amount of savings, the dependency ratio, repayment capacity and social capital. These were the factors found to significantly influence access to credit in South Africa.

In Zambia Sebatta et al., (2014) set out to find the factors that affect smallholder famers' decisions to have access to rural finance using the double huddle model. The article revealed that the level of education of the household head, household size and the number of daily meals served influenced the decision to have access to finance while factors like loan payback period, possessing a phone and personal savings influenced the intensity of participation in the rural financial market.

Likewise, in Bangladesh Gani and Hossain (2015) examined the decision to participate in the credit market by small holder farmers using the probit estimation model. The study discovered that the size of the farm owned by the household, using household labour, agricultural extension service, income from livestock and farm income are the factors which influence the small holder farmer's decision to participate in the output market and the credit market. Bindu et al., (2013) supported the findings by Gani and Hossain (2015) in the study where small holder farmers' decisions to participate in the output market in Zimbabwe were investigated. The study found that participation increased when farm size,

household labour and farm income increased and when income from livestock decreased participation of small holder farmers increased as well.

In addition, Beck et al., (2011) investigated indicators of barriers to banking services using data from 209 banks in 62 countries. The study discovered that barriers such as minimum account balances, loan balances, account fees and amount of documents required were associated with lower levels of banking outreach. On the other hand, the study found out that country features associated with financial depth, like effectiveness of creditor rights, contract enforcement mechanisms and credit information systems, were weakly correlated with barriers.

In the same fashion, Mbugua (2013) in the paper discussing factors which influence access to credit facilities for farmers concluded that collateral security, basic loan requirements and interest rates on loans were the major factors influencing farmers' access to credit. Any inadequacy, incompleteness and insufficiency in these factors affect farmers' chances of accessing credit. Chaia et al., (2009) concluded their study by arguing that coming up with an effective regulatory policy can go a long way in improving access to financial services by almost everyone in a community, region or country.

3.3 EMPRICAL LITERATURE ON THE MEASURES OF FINANCIAL INCLUSION

3.3.1 Introduction

A review of various measures of financial inclusion will be presented in this section. A deep analysis of literature on the index of financial inclusion will be reviewed. Many studies done on how financial inclusion is measured will be reviewed especially on the methodology for the computation of the index. This will help the current study in coming up with the proper methodology on measurement and development of the index of financial inclusion. The subject of financial inclusion is relatively new

in literature. This review of literature available will help to find the possible methodology for measuring financial inclusion. Measuring financial inclusion is important in this study because this study seeks to establish the impact of financial inclusion on poverty hence the need to measure it.

3.2.2 Empirical literature on the measures of financial inclusion

After a deep analysis of literature on how to measure financial inclusion, it was clearly observed that in 2007 indicators were first used to measure financial inclusion by many researchers (Sarma, 2008). Many different methodologies were employed to calculate the index of financial inclusion. However, it has been established that the development of the index of financial inclusion has been strongly linked to data availability. The availability of data in computation of the index of financial inclusion has been the major huddle in coming up with a well-informed index.

Many of the measures of financial inclusion employed in the literature are not comprehensive because of limitation in accessing data. As a result, literature lacks a measure of financial inclusion which considers both demand side and supply side data. Additionally, literature on how to measure financial inclusion is relatively new but growing. In fact, how financial inclusion is measured is premised on how it is defined (Sarma, 2008). Initially, literature presented individual measures of financial inclusion, where financial inclusion was measured by many indicators.

The number of bank accounts per 1000 adult persons, the number of bank branches per million people, the number of ATMs per million people, the amount of bank credit and the amount of bank deposits were the common indicators used (Sarma, 2008). Such indicators were giving limited information on financial inclusion in an economy and they were divorced from the reality of the situation which may be existing at household level leading to misleading results (Sarma, 2012).

A good measure of financial inclusion is the one which can be used to monitor the levels of financial inclusion in different economies, different districts, and provinces. When the measure of financial inclusion is good, it will be an easy thing to evaluate and monitor policies meant to achieve financial inclusion (Sarma, 2015). A good measure can provide answers to long time questions on whether high financial inclusion leads to low levels of poverty (Kempson et al., 2004; Sarma, 2008). To fully investigate the question, there is need for a robust index of financial inclusion which is simple to develop and calculate. The measure should be able to include many dimensions of financial inclusion so as to give a true picture of the level of financial inclusion (Kempson et al., 2004).

The weaknesses associated with individual measures of financial inclusion lead to the development of many indexes or measures of financial inclusion. Firstly, Sarma (2008) proposed an index to measure the level of financial inclusion. This index takes values between 0 and 1. The value of 0 indicates complete financial exclusion while 1 represents complete financial inclusion. The multidimensional method commonly used by UNDP was employed in developing the index. The measure by Sarma captured information on many dimensions using a single number. The index used access to financial products and services, usage of financial products and services and availability of financial products and services as dimensions of financial inclusion.

In Sarma's index the dimension index d_i is computed by the following formula in the equation:

$$d_i = w_i \frac{A_i - m_i}{M_i - m_i} \dots \quad (1)$$

From the formula, w_i represents the weight attached to the dimension i such that $0 < w_i < 1$. This indicates the relative importance of dimension i in quantifying the inclusiveness of a financial system. A_i represents the actual value of dimension i , m_i is the lower limit on the value of dimension i , fixed by a pre-specified rule. M_i is

the upper limit on the value of dimension i fixed by some pre-specified rule. The actual index used by Sarma is such that the index of financial inclusion is given as:

Annexure A gives the full information about the variables in equation 2.

According to Park and Mercado Jr (2018), the advantage of the approach used by Sarma is that it is relatively simple to calculate as it does not need many different weights for the different dimensions. In addition, Honohan (2008) also developed a measure of financial inclusion using a regression-based method to develop a measure of financial inclusion. The method used by Honohan captured only one dimension of financial inclusion and the data used in the process captured only part of the adult population in the selected countries with data available on access to financial services. Per capita GDP and the number of individuals with bank accounts were the indicators used in nations without available data. This measure of financial inclusion was biased because it used one dimension to measure the level of financial inclusion though it was relatively simple to compute and it used household data which indicates what really happens at household level.

Furthermore, Cmara and Tuesta (2014) developed another measure of financial inclusion. This measure relied on demand and supply side data for eighty-two developed and less developed nations. Usage, access and barriers were the three dimensions assumed to influence the degree of financial inclusion by Cmara and Tuesta (2014). Two stage principal component analysis was used to allot weights to the dimensions endogenously. The definition of financial inclusion by Cmara and Tuesta (2014) emphasised usage, access and minimisation of barriers. This definition captured demand and supply side data on financial inclusion. Although the methodology used by Cmara and Tuesta (2014) was sound to be effective especially on the selection of a variety of dimensions, there was a weakness in

drawing weights from available data rather than following the discretion of the researcher so that potential bias is detected and accounted for.

Additionally, Arora (2010) calculated a measure of financial inclusion premised on Sarma (2008) assumptions and reasoning using data drawn from developing and developed nations. Only 98 economies were used for the study because of data availability. Arora added many indicators in the outreach dimension. This dimension was measured as depth and availability by Sarma. Demographic and geographic penetration was clearly captured by Arora and dimensions such as ease of transactions and cost of different transactions were added in the index. Arora (2010) presents three different dimensions, outreach, ease and cost of transaction, and in her research financial inclusion is measured mainly in terms of transactions. The measure by Arora (2010) included many indicators in the dimensions which improved the reach of the measure.

Moreover, Chakravarty and Pal (2010) used the Min-Max rule following an axiomatic approach in index construction. This index was used to evaluate the impact of different policies of banks on financial inclusion in India from 1972 to 2009. The measure used panel data econometric methods to examine the different banking policies. The index reiterated that increasing the volume of credit and geographic penetration can act as brilliant policy measures which can improve financial inclusion. The index was further improved by Chakravarty and Pal (2013) where they used the axiomatic approach to develop the index of financial inclusion where the percentage contributions of each dimension were computed.

In a similar manner, Chattopadhyay (2011) came up with an axiomatic measurement to measure financial inclusion. The developed index was done in such a way that factor-wise components can be generated from the index which shows the percentage contribution of each dimension. Each dimension was given the same weight and the financial inclusion calculated for Kolkata region was between 0 and 1. Like Sarma 1 shows complete financial inclusion and zero shows complete

financial exclusion. The index by Chattopadhyay (2011) was viewed as a suitable measure especially for making policies for improving financial inclusion. Also, the index was employed in such a way that cross country comparisons can be made where financial inclusion is concerned.

In the same fashion, Gupte et al., (2012) developed a measure of financial inclusion for India through building on the works of Sarma (2008) and Arora (2010). The index was computed in such a way that all dimensions of financial inclusion were considered like usage which was not included by Arora and dimensions like ease and cost which were not in Sarma's measure. The Index was developed using the World Bank data base of 2008. In addition to that, the computation of the index was done as a geometric mean of four dimensions: accessibility or outreach penetration, usage, ease of transactions and cost of transactions.

The study followed the UNDP methodology, the one used in developing the HDI in 2010. The methodology used in this study is different from the ones used in earlier studies, Gupte et al., (2012) adopted the methodology used on HDI in 2010 which clarifies the use of geometric mean which includes the imperfect substitutability of all the dimensions. All other studies used the method used by UNDP before 2010. The methodology used by Gupte et al., (2012) avoided the weakness of the linear aggregation formula which permitted the imperfect substitutability of all the dimensions. In the index, sub-indices of all the dimensions were calculated first and the indicators were transformed into indices between 0 and 1 by coming up with the maximum and minimum values.

Again, Kainth (2013) developed a measure of financial inclusion, followed the multidimensional approach to come up with the measure of financial inclusion. Kainth (2013) followed similar methods used by UND to develop indices like HDI, the Human Poverty Index). The dimension index for each dimension was calculated first. The formula used by Sarma (2008) was the same formula used by Kainth to calculate the dimension index for i^{th} dimension d_i . The proposed index by Kainth

takes values in the interval of 0 and 1 just like in the case of Sarma (2008). Availability, usage and penetration dimensions were used in computing the index.

Yorulmaz (2013) also developed the multidimensional index to measure the level of financial inclusion in Turkey. The index by Yorulmaz takes values between 0 and 1 using financial access indicators. Yorulmaz (2013) also followed the UNDP methodology used to develop different indices. The Euclidean distance formula was used to extract the normalised indicators, and the calculation of the index was done by computing the index for each dimension of financial inclusion just like Sarma (2008) and Kainth (2013).

Adding to the family of measures of financial inclusion, Demirguc-Kunt and Klapper (2013) analysed the Global Financial Inclusion (Global Findex) Database for the first time to provide indicators of financial inclusion for 148 countries. Demirguc-Kunt and Klapper (2013) investigated how adults in 148 economies save, borrow, make payments and manage financial risk. Using this investigation, what they did was then used to see the picture of how financial inclusion was progressing in the 148 economies. The indicators investigated by the authors were provided by the Global Findex data base generated by the survey data from interviews of 150 000 randomly selected adults of 15 years and above. However, Demirguc-Kunt and Klapper (2013) failed to provide a methodology to measure financial inclusion; they showed financial inclusion only through graphical techniques.

Likewise, Okpara (2013) using the average ratio approach, developed a single index of financial inclusion. The index was regarded as simple to calculate with minimum or no assumptions. In its computation of the measure, Okpara (2013) collected the indicators from an IMF financial access survey. The different indicators were collected in an easy way into a value which shows an index. The index computed with this method is known as the chi-wins index of financial inclusion which is generated using the average ratio method. The weights of the various indicators were the proportion of the rural branches reached in terms of an activity to the total

activities of the banks. Where data on rural dwellers is not available, variables on small scale enterprises were used as a substitute for the calculation of the weights.

Similarly, Mojica and Mapa (2015) developed an index of financial inclusion for the Philippines. They constructed a financial inclusion index which measures access to financial services and usage of the various financial services in the Philippines using provincial data. The proposed index by Mojica and Mapa (2015) was constructed using a nonparametric methodology. The distance-based approach was followed where indicators were normalized using the modified distance based approach and to achieve simplicity an equal weighting scheme was used. The constructed index covered two dimensions, access and usage of financial services. Access was measured using presence of financial institutions such as banks in relation to the population and land area as the indicator of financial inclusion. Usage was measured using percentage of households with deposit, credit and insurance facilities.

Furthermore, Mishra et al., (2014) developed an index for Utter Pradesh in India by improving the methodologies used in earlier literature. The methodology used was directed at coming up with a method which can be justified statistically to calculate the financial inclusion index. The method was supposed to be one with a weighting method where financial inclusion could be compared among the districts, states and all over the country. According to Mishra et al., (2014) in this index an effort was made to come up with a comprehensive methodology to assign proper weights in relation to their importance. The measure which Mishra et al., (2014) computed takes values in the interval 0 to infinity, where zero shows complete financial exclusion. In this measure, there is no upper boundary because complete financial inclusion is difficult to achieve. The index by Mishra et al., (2014) does not have an upper boundary, which is the only difference with the Sarma (2008) index.

In like manner, Sethy (2016) proposed a measure of financial inclusion which was multidimensional in nature. The index was developed in such a way that comparisons and monitoring the levels of financial inclusion can be undertaken at

any point in time. Just like Sarma (2008) Sethy (2016) followed the method used by UNDP in developing indices. The dimension index for all the dimensions was calculated first. Demand side indicators and supply side indicators were employed to come up with the index. To construct the index, the study first calculated a dimension index for every dimension of financial inclusion. Two groups of indicators were considered, demand side indicators and supply side indicators. As a result, two measures of financial inclusion were calculated in the process.

In similar way Ambarkhane et al., (2016) came up with a measure of financial inclusion for India using demand side, supply side and infrastructure dimensions. Population growth, law and order as well as corruption were other variables taken into consideration. All the factors which have a negative adverse effect on financial inclusion were named drag factors. Using the methodology by Ambarkhane et al. (2016), different indices and a composite index were developed for the three dimensions. In addition to that, another index for drag factors was computed. To arrive at a comprehensive index of financial inclusion, all the separate indexes were modified through the inclusion of the effect of drag. The displaced ideal method was used to develop the index.

Goel and Sharma (2017) developed another measure of financial inclusion using the methodology used by UNDP when developing different indices. Three dimensions associated with measurement levels of access and usage were used in the calculations. The dimensions used were the availability of banking services, banking penetration and, finally, access to insurance. From the three dimensions, six indicators were generated which were supposed to cover the three dimensions.

Furthermore, Park and Mercado Jr (2018) developed a relatively new measure of financial inclusion for 151 countries. The new measure developed by Park and Mercado Jr (2018) used principal component analysis to generate weights to get an aggregate of the nine indicators of the three dimensions used in the study. The dimensions employed in the index are access to financial services and resources,

availability of financial services and products and usage of financial services and products. The indicators were generated from the World Bank's Global Findex database. This index by Park and Mercado Jr (2018) put together Sarma's (2008) multidimensional methodology which assumes normalized weights and the methodology of Cámera and Tuesta (2014) who used the principal component analysis to compute weights for the different indicators.

Park and Mercado Jr (2018) combined the two methodologies so that they could minimise the disadvantages associated with the methods by Sarma (2008) and Cámera and Tuesta (2014). The use of principal component analysis was to achieve stability in the indicators and weights. When developing the index, Park and Mercado Jr (2018) defined financial inclusion just like Sarma (2008) who defined it as the art of ensuring ease of access to financial products and services, and availability and usage of financial services for everyone in the community or country. The definition of financial inclusion provided by Sarma (2008) is good because it tries to view financial inclusion from different dimensions.

The advantage of the definition is that it builds the concept of financial inclusion based on several dimensions, including accessibility, availability and usage which can be assessed separately. While following Sarma (2008)'s definition of financial inclusion, the index used separate indicators for each dimension. For the purposes of measuring financial inclusion in this study, methodologies by Sarma (2008), Cámera and Tuesta (2014) and Park and Mercado Jr (2018) were used. The purpose of combining these methodologies was to come up with an index of financial inclusion which could measure financial inclusion at household level for developing countries.

3.4 EMPIRICAL LITERATURE ON FINANCIAL INCLUSION AND POVERTY REDUCTION

3.4.1 Introduction

This section will review empirical literature on the impact of financial inclusion on poverty reduction. This is important as this marks the major objective of this study which is to discover the impact of financial inclusion on poverty. Reviewing the different studies in the area will help to unravel the channels available in which financial inclusion can impact poverty. After this review, we will be in a position to see whether financial inclusion has a direct or indirect impact on poverty.

3.4.2 Empirical Literature review on financial inclusion and poverty reduction

Financial inclusion has been one of the important elements in the fight against poverty. Sarma and Pais (2008:1) stated that:

"An inclusive financial system has several merits. It facilitates efficient allocation of productive resources and thus can potentially reduce the cost of capital. In addition, access to appropriate financial services can significantly improve the day-to-day management finances. An inclusive financial system can help in reducing the growth of informal sources of credit (such as money lenders), which are often found to be exploitative. Thus, an all-inclusive financial system enhances efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services."

The information provided by Sarma and Pais (2008:1) shows how it can be used as a tool to address economic problems like economic growth, economic development, inequality and poverty.

The Writers' Club (TWC), one of the global committee of entrepreneurs commonly known as the Start-up, also indicated that financial inclusion can help to fight poverty. However, little has been done to reveal the direct and indirect impact of financial inclusion on poverty reduction in developing nations as well as developed nations at micro level and macro level. Studies which were conducted in the area were concentrating on the impact of financial access and poverty, financial development and poverty reduction, financial growth and poverty reduction. However, financial inclusion is multidimensional in nature. Focusing on the impact financial access on poverty alone will fail to give a comprehensive picture of the impact of the direct impact of financial inclusion on poverty.

In addition, financial inclusion is not access to a bank account and access to finance only, but it takes on many dimensions such as access, usage, banking penetration and even quality of the products and services. However, few studies in that regard did manage to give a bright picture of the impact of financial inclusion on poverty. Firstly, Sarma and Pais (2008) carried out an investigation to discover the relationship between financial inclusion and human development using data from 49 economies on banking services. Their study discovered that financial inclusion helps to improve human development and, if taken as a policy objective, it can help in poverty alleviation which goes a long way in the improvement of the welfare of the people through changing people's standards of living.

In the same way, Chibba (2009) came up with a study to investigate the impact of financial inclusion on poverty and the achievement of the Millennium Development Goals (MDGs) even though we now have sustainable development goals. The study concluded that the traditional approaches used to fight poverty and the MDGs were not sufficient without coming up with proper policies which embrace financial inclusion as an initiative to address poverty and inequality. The argument of the paper was that financial inclusion in its own right can provide a number of direct

and indirect channels which can help to address developmental issues which will result in poverty reduction.

The investigations by Chibba (2009) also concluded that the persistent increases in the number of financial crises globally require more attention to be applied to policies which increase financial inclusion. The argument by Chibba was that financial inclusion should be taken as a complement of the traditional policies towards meeting the global developmental challenges like poverty. Moreover, the study found out that there are four factors which are important in improving the doctrine of financial inclusion and poverty reduction. These factors include the following: financial and non-financial private sector development, scaling up of microfinance support of businesses and finally public support for the business in the financial and non-financial sectors. It is alleged that, when these factors stated above are put in place, financial inclusion can be scaled up leading to poverty reduction.

Mehrotra et al., (2009) investigated the relationship between financial inclusion, economic growth and poverty reduction using an index. The index was also used to measure the level of financial inclusion. The arguments they came up with were that when people have access to banking services it enables them to save their money in banks. The effect of the actions of the people will be more on investment which will lead to high inclusive economic growth through the multiplier effect. In other words, when growth is inclusive, poor people can be uplifted from poverty since they will be able to participate in the main stream economy (Mehrotra et al., 2009).

Mehrotra et al., (2009) further assert that services from banks should be seen as a public good which should be accessed by anyone in the economy even though the nature of banking products and services is completely different from typical public goods. In addition, Mehrotra et al., (2009) went on to argue that financial inclusion

can be used as a quasi-public good due to the fact that it is useful just like access to basic education and water. Again, Bruhn and Love (2009) analysed the impact of extending financial services to low-income earners to do entrepreneurship activities in Mexico. The research concluded that, when low income earners access finance, the economic activity will respond in a positive way, implying that in the long run the increase in economic activities will influence economic growth, development and poverty reduction.

In addition, Sarma and Pais (2011) carried out an investigation to see the direct and indirect relationship between financial inclusion and economic development through establishing a list of factors related to financial inclusion for individual countries. The investigation concluded that financial inclusion and human development move in the same direction. Furthermore, the study identified a number of socio-economic and infrastructure factors which were viewed to be important in influencing the financial inclusion human development nexus. These factors included the following: the level of income for households, level of inequality, literacy level, the degree of urbanization and physical infrastructure for connectivity and information. The important aspect revealed by these authors was that levels of human development are directly associated with the levels of financial inclusion.

Moreover, Diniz et al., (2012) in the analysis of barriers to financial inclusion concluded that financial inclusion is an important aspect of development as it can contribute a lot to the socio-economic development of the society. It was also highlighted that, even though financial inclusion has socio-economic benefits, it has some problems associated with it such as reinforcement of power asymmetries, reproduction of social exclusion practices and many more. The other contribution made by the researchers was that, despite the importance of financial inclusion in development especially of low-income households, access to financial resources by this group should be followed by inclusive mechanisms like financial education for it to have meaningful results.

Lal (2018) examined the impact of financial inclusion through cooperative banks on poverty reduction. Using data gathered from 540 individuals who were using cooperative banks in India, it was concluded that financial inclusion can help to fight poverty, especially when financial inclusion is done through cooperative banks. The research went on to conclude that access to financial products and services by the poor will help them to live decent lives through fighting poverty. It was argued that access to loans, insurance and saving will help these poor to make informed economic decisions which will later influence their income generation and management hence the reduction of poverty.

In a similar manner, Park and Mercado Jr (2018) examined the effect of an inclusive financial sector on poverty reduction and income inequality for quite a number of economies. The research concluded that, when financial inclusion is improved in a significant manner in high and middle income economies, poverty will decline. They also came forward with the conclusion that high and middle to high income economies with meaningful financial inclusion levels have low levels of poverty. However, in the middle to low income economies there was no such relationship. According to Park and Mercado Jr (2018), it is equally important to choose the right policies of financial inclusion so as to obtain the right results in terms of growth, development and poverty reduction. In this way financial inclusion has shown evidence of reducing poverty in high and middle income economies.

Ellis and Lemma (2010) supported the argument that financial inclusion can help to fight poverty by arguing that, when households are able to access financial services, it will allow them to save and invest in projects which can improve their incomes and hence reduce poverty in the long run. The research went on to show that financial inclusion will also help the individuals in the rural areas to borrow for agricultural purposes which will have long run effects on their incomes. The other conclusion by Ellis and Lemma (2010) was that, when financial inclusion is scaled up, people in urban areas will also borrow to start businesses which in effect will

help to fight poverty among them. In addition, the other conclusion was that financial inclusion should be followed by other supporting mechanisms like financial education because, based on this study, people who are highly educated borrow, save and invest more than individuals with less education.

More importantly, Banerjee and Newman (1993) discovered that finance is a critical factor for people to run away from poverty. The authors believe that productivity can help to fight poverty if it is accompanied by financial inclusion. Supporting the conclusions by Banerjee and Newman (1993), Binswanger and Khandker (1995) contend that the rural bank expansion in India assisted in lowering the levels of rural poverty and there was a sharp increase in non-agricultural employment. These conclusions were strongly supported by Eastwood and Kohli (1999) who discovered that the expansion of bank branches in India improved significantly small scale business output. Eastwood and Kohli (1999) also discovered that expansion of rural bank branches reduces the number of informal credit providers who normally exploit the small scale businesses.

Moreover, Guiso et al., (2002) investigated the impact of regional differences in financial development using the household dataset for various regions of Italy. The study discovered that the likelihood of individuals starting businesses increases with financial development in the local region. In addition to that, there is a rise in competition in the various industries as more businesses are started. In general, the increase in completion will result in the growth of the firms as they will grow in their quest to fight competition. The other important conclusion from Guiso et al., (2002) was that all the results discovered were premised on the size of the firm. For instance, it was discovered that the results were stronger with smaller firms because of their inability to generate funds outside of the local area. When there is financial development in the local area, these small firms benefit much more than big firms which can raise finds outside the local market.

In the same manner, Clarke et al., (2003) analysed the relationship between financial development and income inequality for the period ranging between 1960 and 1995 for 83 countries. Clarke et al., (2003) found out that inequality decreases when financial development is high, especially in the long run. In actual fact, inequality will be at a very low level when financial development is high. However, there is a possibility that inequality may increase especially when financial development increases at a very low pace, but Greenwood and Jovanovic (1990) argued that the relationship is there, but it is not robust. Greenwood and Jovanovic (1990) went on to support the findings by arguing that, apart from improving economic growth, an increase in financial development will lead to a decline in inequality.

Moreover, Jalilian and Kirkpatrick (2002) and Jalilian and Kirkpatrick (2005) assessed the influence of financial development on poverty for developed and developing economies through the use of data by Dollar and Kraay (2002). The study discovered that financial sector development is one of the instruments which can be used to fight poverty. However, there was no clear measure for financial development in their study. In addition, Quartey (2005) studied the influence of financial development on mobilization of savings on poverty reduction in Ghana through the use of time series data for the period ranging from 1970 -2001. Quartey (2005) found out that massive financial sector development results in a decline in poverty levels.

This was supported by Beck et al., (2009) who discovered that an economy with an easily accessible and well developed financial system will lead to a decline in transaction and information costs. When this happens, savings will increase which will lead to economic growth and poverty reduction. Burgess and Pande (2005) also argued that expansion of rural banks with the support of the government assisted to reduce poverty in India. The robust argument by Burgess and Pande (2005) was that opening bank branches in rural areas where many people do not have bank

accounts helped to lower poverty levels in those areas. In line with the same idea, Brune et al., (2011) postulated that access to finance through commitment to savings accounts improved the lives of poor individuals in rural Malawi.

Similarly, Demirguc-Kunt and Levine (2008) used cross country data and discovered that financial development is one of the instruments which assisted in raising the incomes of the poorest individuals through the reduction of income inequality and improving economic growth. In their study, Demirguc-Kunt and Levine (2008) revealed that there were drastic reductions in the number of people living on less than a dollar per day in countries with very high levels of financial development. The other important conclusion by Demirguc-Kunt and Levine (2008) was that almost 30 percent of cross country variations in poverty reduction are ascribed to differences in financial development across countries.

Additionally, Morawczynski (2009) discovered that usage of mobile money transfers (MPESA) contributed a lot to the improvement of the incomes of the rural households through receiving remittances. The other important factor was that the use of mobile money transfers resulted in higher savings by the household. In like manner, Gupta et al., (2009) investigated the effect of an increase in remittances in sub-Saharan Africa on poverty and financial development. The study concluded that remittances which are stable have a direct impact on poverty reduction and the development of the financial sector. The conclusion of the paper was that remittance should be formalized in such a way that the 'unbanked' population will have access to finance.

Also, Nyasetia et al., (2012) examined the influence of financial deepening on savings and investment behaviour in Kenya. After the regressions, the study concluded that financial deepening improved the levels of savings and investments in Kenya. This result indicated that financial deepening is crucial in improving savings by households which will later improve investment in the country. At the

same time, Ndege (2012) also examined the influence of financial deepening on economic development in Kenya. Similarly, the study found out that financial deepening is an important element to promote economic growth, efficiency, investment and economic development.

In the same way, Wang'oo (2013) assessed the relationship between financial inclusion and economic development in Kenya. Using meta-analysis, the investigation concluded that financial inclusion and economic development have a positive relationship meaning when there is significant financial inclusion, economic development will respond likewise. In Bangladesh, Uddin et al., (2012) examined the relationship between the development in the banking sector and poverty reduction from 1976 to 2010. It was concluded that poverty reduction is directly related to banking sector development. The development in the banking sector will allow poor people to have access to cheap loans, saving and insurance. This will automatically improve their standards of living and hence poverty reduction. However, the paper also shows that there is a bidirectional causality between banking sector development and poverty reduction.

Also, Inoue and Hamori (2012) assessed empirically whether financial deepening contributes to poverty reduction in India. The main idea was to discover whether financial deepening has an influence on poverty reduction in the 28 states of India. The results of the study showed that financial deepening influenced poverty reduction in a significant way in India. In the same fashion, Fowowe and Abidoye (2013) assessed the impact of financial development on poverty and inequality in African countries. The study showed that financial development has an insignificant impact on poverty and inequality in African countries. On the other hand, low inflation and openness to trade were the significant factors in reducing poverty and inequality.

Casadas Puertas (2015) provided a cross-country quantitative approach on the effects of financial access provided by mobile money deployments in the financial intermediation and poverty reduction. The study revealed that mobile phones are used to improve the level of financial inclusion in developing countries. They further revealed that mobile phones have an impact on increasing the number of people moving from the informal economy to the formal economy through mobile money. In addition, the study found out that financial inclusion through access to mobile money has a positive impact on poverty reduction in many developing countries.

The results by Casadas Puertas (2015) were supported by Mmolainyane and Ahmed (2015) who indicated that financial development contributed more to economic growth and development in Botswana. Innovations like mobile money are key boosters of economic growth. Likewise, in developing Asia, Park and Mercado (2015) examined the link between financial inclusion, poverty and income inequality at country level. The results from the study indicated financial inclusion is a significant factor in reducing poverty and inequality in developing Asia. Variables like per capita income, rule of law, and demographic features were also seen as significant in influencing financial inclusion in developing Asia.

Oji (2015) also came with the conclusion that financial inclusion is an important factor for the growth of the economy and empowerment of people in the rural areas. The study further revealed that financial inclusion allows the disadvantaged people to engage in business activities and to trade in goods and services. When people are involved in business, this will help to improve their standards of living through massive poverty reduction. The other important conclusion was that, in order to have sustainable socio-economic development, people in an economy should be motivated to engage in business activities where financial transactions take place and to be able to do this people should be financially active.

In the study for sub-Saharan Africa Jabir (2015) found out that individuals who are educated with a bank account or those with relatives who own a bank account and individuals with alternative sources of funds are less likely to be in the poverty bracket. However, females who borrow from stores have less likelihood of being out of poverty. Finally, Jabir (2015) indicated that financial inclusion has a net benefit derived from it through saving, borrowing and performing transactions which help to fight poverty. More importantly, in Egypt Abosedra et al., (2016) also supported the idea that there is a long run relationship between financial deepening economic growth and poverty reduction. However, it was noted that financial development influences poverty reduction when domestic credit to private sector is used as a proxy for financial development.

Focusing on developing nations, Williams et al., (2017) examined the influence of financial inclusion on economic growth and poverty reduction. Panel data analysis was used with a log linear model specification framework. The results show that the numbers of active ATM, bank branches and government expenditures selected from three African countries were the most robust predictors for financial inclusion on poverty reduction in a developing economy.

Likewise, in India Sethy (2016) concluded that financial inclusion leads to an increase in economic activities which will help to generate employment for rural households. With financial inclusion the economy will improve positively because it helps to improve disposable income for rural households which will lead to more savings. On the other hand, a wide deposit base for financial institutions like banks will help boost their businesses leading to economic growth. Sethy (2016) further supports the idea that financial inclusion improves the lives of the poor through government provision of social development benefits and subsidies in the beneficiary bank's accounts. This activity will help to reduce leakages and pilferages from social welfare benefits.

Anwar et al., (2008) in Indonesia, investigated the influence of financial inclusion on problems of geography against poverty. Using panel data, the study discovered that there was a positive and significant effect of inclusive finance to investment and growth. In addition to that, the study discovered that there was a negative and significant impact on poverty. Correspondingly, in Zimbabwe, Masiyandima et al., (2017) investigated the direct and indirect link between financial inclusion and livelihood indicators. The results of the study indicated that financial inclusion can promote effective access to basic income, food, health and education for individuals in a community, region or country.

Furthermore, Okoye et al., (2017) investigated the influence of financial inclusion on the growth and development of an economy in Nigeria. The results of the study indicated that, even though provision of credit to the private sector was not significant in influencing economic growth in Nigeria, overall financial inclusion was significant in promoting poverty reduction. In a similar fashion, Siddiqui and Siddiqui (2017) argued that financial inclusion is a key facilitator for reducing poverty and boosting prosperity. The researchers went on to argue that telecommunication is emerging as a key driver for economic development. The study adopted a sample size of 400 households using random sampling. The two dimensions, namely, financial inclusion and telecom have been considered for the study. From the results there was clear evidence that telecommunication and financial inclusion have a positive impact on economic development.

Tita and Aziakpono (2017) used the Global Findex data base of 2011 to investigate the relationship between financial inclusion and income inequality for sub-Saharan Africa. The major objective was to establish the major influence of various dimensions of financial inclusion on poverty and inequality. The paper concluded that business account ownership, electronic payments and formal savings are the indicators of financial inclusion which was viewed to have a positive influence on inequality. Accordingly, Tita (2017) also concluded that in sub-Saharan countries

financial inclusion is interrelated with financial stability, financial integrity and consumer education. In some circumstances, these variables re-enforce each other. It was also shown that, in the early stages of financial development, income inequality increases, but at higher stage of development inequality will decline. The increase in inequality in the early stages may be as a result of corruption caused by weak institutions, but when institutions become strong, inequality will decline as people will have equal access to finance. Finally, it was revealed that financial inclusion is positively related to assets ownership.

3.5 SUMMARY AND CONCLUSION

This chapter provided an analysis of empirical literature on a number of objectives of the study. The empirical literature was mainly focused on the following objectives: firstly, determining the determinants of financial inclusion among small holder famers in Zimbabwe, analysing the impact of financial inclusion on poverty in Zimbabwe among smallholder farmers, and many other objectives stated in chapter one. The first section contained the review of empirical literature on the determinants of financial inclusion. The review of literature showed that studies which investigated the determinants of financial inclusion among the smallholder farmers is there but too limited. Most of the studies in this area were focusing on the determinants of financial inclusion at macro level or country level without specifically focusing on smallholder farmers. In addition, there was also literature on the determinants which influenced access to credit among the smallholder farmers. In general, literature on determinants of financial inclusion among smallholder farmers is still scarce.

A review of the determinants of financial inclusion was important because it equipped the study with the various socio-economic factors which influence households to be financially active. The review of literature from this angle helped the current study to come up with an idea of the possible factors which influence

financial inclusion based on studies done already. In this chapter there was also a review of the empirical literature on the various measures or indexes of financial inclusion. This review was significant because it provided the road map on how financial inclusion was measured. In the reviewed literature, many measures of financial inclusion developed were measuring financial inclusion at the macro level, that is, country level. Very few studies managed to develop a measure of financial inclusion which can measure the level of financial inclusion at household level. The review of literature on the index of financial inclusion influenced the study to come up with a proper methodology for measuring financial inclusion.

Finally, empirical literature on the impact of financial inclusion on poverty was also reviewed. The review indicated that many studies which tried to highlight the impact of financial inclusion on poverty mainly targeted the influence of financial development on economic growth, development and inequality. However, few studies managed to show the influence of financial inclusion on poverty. This review was important to the study because it assisted the current study to find the possible scenarios and channels through which financial inclusion can help to reduce poverty. Chapter four will present the profile of the study area and country where the study was based.

CHAPTER 4

COUNTRY PROFILE: ZIMBABWE

4.1 INTRODUCTION

This chapter will give a detailed description of the profile of Zimbabwe which includes the history of Zimbabwe, economically, socially and politically. The aspects which will be discussed include the economy of Zimbabwe, the land reform in Zimbabwe, a brief description of agriculture in Zimbabwe, poverty in Zimbabwe, the state of financial inclusion in Zimbabwe and, finally, a detailed description of the Manicaland Province, the study area. The description of the study area is important because this will help to explain why the province was chosen from the ten provinces in Zimbabwe as the study area.

4.2 HISTORICAL BACKGROUND

Zimbabwe is one of the countries in Southern Africa and the country is generally regarded as a low income nation. It is a landlocked nation sharing borders with Mozambique, Botswana, Zambia and South Africa. The population in Zimbabwe is approximately 14 million as articulated in the 2018 country review produced by Country Watch¹ (2018). The total area occupied by Zimbabwe is approximately 390 757 square kilometres according to Chifurira and Chikobvu (2010). In addition, the population growth rate for Zimbabwe from 2002 to 2012 was estimated at 1.1 percent as revealed by the census in the year 2012 (ZimStat, 2012). Moreover, almost two thirds of the population in Zimbabwe - more than 9 million - reside in the rural areas and approximately 4 million live in urban areas. As a result, one can

¹ Country Watch is an organization which provides information to corporations, government agencies, universities and many other organizations on different countries of the world. The organisation produced a Country Review of Zimbabwe in the year 2018. The web address is <http://www.countrywatch.com>.

conclude that Zimbabwe is generally occupied by rural dwellers. Furthermore, it was approximated that the female population in Zimbabwe is almost 51.9 percent, which shows us that there are more females than males. Zimbabwe was a colony of Britain dating back to 1888 when the British South Africa Company acquired the right to mine minerals from traditional chiefs (Chamberlain, 2014; Mlambo, 2014). The British influence was strong to the extent that the country was named under the British rule as Southern Rhodesia, and later named Zimbabwe after the attainment of independence from British rule in 1980 (Mandaza, 1980; Mlambo, 2014).

Zimbabwe was part of the region of nations divided and ruled by the British government. In this region, Zimbabwe was named Southern Rhodesia, Zambia was Northern Rhodesia, and Malawi was named Nyasaland. All these countries used these colonial names until the day they received independence. In 1953, all these countries - Zimbabwe, Malawi and Zambia - were in a federation which was later dissolved in 1963 upon a bitter crisis arising in these nations (Country Watch, 2018:2). Immediately after dissolving the federation in 1964, Malawi and Zambia became independent states while Zimbabwe became independent in 1980 (Country Watch, 2018:2).

In the period around 1965 the British government mounted pressure on Rhodesia to accept black majority rule. However, the whites in Rhodesia declared their own independence from the United Kingdom, motivating the UN to impose economic sanctions on Rhodesia (Rowe, 2001). Consequently, other researchers argue that in 1965 is where the problems of Zimbabwe started even though the whites in Rhodesia during this time managed to sustain the economy with minimal challenges compared to the sanctions on Zimbabwe in 2000 (Mlambo, 2014). Ultimately, years of anti-government violence and the impact of economic sanctions forced the whites in Rhodesia to accept black majority rule leading to the creation of modern day Zimbabwe in 1980 (Country Watch 2018:2). Unlike other states Zimbabwe enjoyed its independence in 1980 while others were declared independent in 1964.

On a sad note, the country had one president for 37 years, a period extending to almost three decades. Robert Gabriel Mugabe started to rule the country in 1980 as Prime Minister with Cannan Banana as the President before he took over in 1988 as the Executive President of the Republic (Batsell, 2018; Lindholm, 2018). Zimbabwe was effectively a one-party state, until the 2008 parliamentary elections, as the country was under Zanu-Pf rule with Mr Mugabe as its leader until 2017 (Country Watch, 2018:2).

Zanu-Pf was challenged significantly for the first time in 2008 by the opposition Movement for Democratic Change (MDC) (Bratton, 2014; Lindholm, 2018). This challenge was the first in almost three decades, which threatened Mr Mugabe's power. Morgan Tsvangirai, leader of MDC, won the election even though he failed to get a majority to form the government (Bratton, 2014). This necessitated the need to form a government of national unity from 2009 to 2013 (Bratton, 2014). However, the year 2008 marked the climax of the crisis which affected the country from 2000 to 2009. During the period 2000 to 2008, the country was affected economically, socially and politically to the extent that in 2014 the effects of the crisis made Zimbabwe to be ranked 156 out of 187 in terms of international development ranking of the UN development index (Arruda, 2018).

4.2.1 The geographical structure of Zimbabwe

Zimbabwe shares a border with Zambia, Mozambique, Botswana and South Africa as highlighted earlier in the previous paragraphs. The country has a total of ten provinces and it is land locked. The provinces include Manicaland, Harare, Bulawayo, Mashonaland Central, Mashonaland East, Mashonaland West, Masvingo, Matabeleland North, Matabeleland South and Midlands Province. Each province has an urban area; however, Harare and Bulawayo are solely urban provinces on their own. In fact, the country has five major cities which are the following: Harare,

Bulawayo, Chitungwiza, Gweru and Mutare. Among the five major cities, Harare is the capital city (Chirisa et al., 2018; Patel, 1988). In terms of agro-ecological regions, Zimbabwe is divided into five agro-ecological regions which are sometimes referred to as the natural regions (Moyo, 2000; Vincent and Thomas, 1961). These regions were classified based on the amount of rainfall they received, the quality of the soil, and many other factors. In fact, the quality of all these factors - especially soil quality - falls as we move from region one to region five (Moyo, 2000; Vincent and Thomas, 1961). The map in Figure 6 below from the Zimbabwe Demographic Health Survey (ZIDHS) shows the geographical structure of Zimbabwe.

Figure 6: Map of Zimbabwe: geographical structure



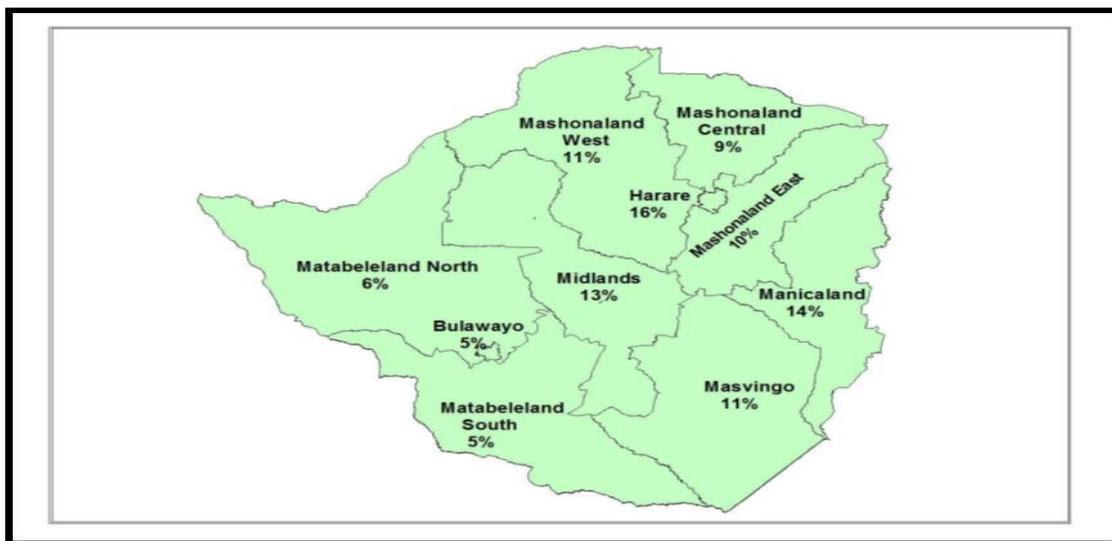
Source: ZIDHS (2015:1)

Figure 6 above, shows all the ten provinces in Zimbabwe. Also, the country that shares the border with Zimbabwe are also shown Zambia, Mozambique, Botswana and South Africa.

4.3 POPULATION DISTRBUTION BY PROVINCE IN ZIMBABWE

The population distribution in the ten provinces is such that Harare Province has the highest with 16 percent of the total population followed by Manicaland Province with 14 percent of the total population. Likewise, Midlands and Masvingo provinces follow with 13 percent and 11 percent respectively. The provinces with the least population are Bulawayo Province and Matabeleland South Province. They both account for 5 percent each of the population of the whole country. The distribution of the population in Zimbabwe in 1982 as shown in table 1 was such that the rural provinces had the highest population distribution. However, the demographic distribution of Zimbabwe population has changed over the years from 1982 to 2012 such that urban provinces now accommodate the largest number of people. This is clearly shown in figure 7 below.

Figure 7: Population distribution in Zimbabwe



Source: ZIMSTAT (2012:10)

Figure 7 above gives the population and sizes of each province per square kilometres according to the 2012 population census. This is important to get a general picture of how the population in Zimbabwe is distributed across the provinces. As shown,

Harare is the Province with the highest percentage population distribution, with 16 percent. Given the fact that Harare is a pure urban province if compared with Manicaland Province (with large proportion of it being rural) which has 14 percent, it shows us that the population distribution has been changing in Zimbabwe since 1980.

4.3.1 The population of all the provinces according to census results 1982-2012

Table 1 gives the population sizes of each province per square kilometre according to the population census of 1982, 1992, 2002 and 2012. For instance, as of 2012 Harare had a total population of 2 123 132 while Manicaland had a total population of 1 752 698.

Table 1: population distribution in Zimbabwe's 10 provinces

Name	Area Square(Km)	1982 Census	1992 Census	2002 Census	2012 Census
Harare	872	828 567	1 485 615	1 896 134	2 123 132
Bulawayo	479	413 814	621 742	676 650	653 337
Manicaland	36 459	1 103 837	1 537 224	1 568 930	1 752 698
Mashonaland Central	28 352	560 847	856 736	995 427	1 152 520
Mashonaland East	32 320	667 933	1 034 342	1 127 413	1 344 955
Masvingo	56 566	1 029 504	1 222 581	1 320 438	1 485 090
Matabeleland North	75 025	548 250	641 186	704 948	749 017
Matabeleland South	54 172	515 298	592 398	653 054	683 893
Mashonaland West	57 441	854 098	1 112 955	1 224 670	1 501 656
Midlands	49 166	1 086 284	1 307 769	1 463 993	1 614 941
Zimbabwe	390 757	7 608 432	10 412 548	11 631 657	13 061 239

Source: Mhlanga (2019)

It is important to get a general picture of how the population in Zimbabwe has been growing since attainment of independence. As shown in the table 1 above it is possible to analyse the growth rates in population for the ten provinces. The

provincial growth rate for the years 2002-2012 is presented in percentages. The highest growth rates in population were registered in Mashonaland East and Mashonaland West with 1.7 percent growth rate. Mashonaland Central was the next province with 1.3 percent population growth rate. The other provinces like Masvingo had 1.2 percent, Manicaland had 1.1 percent, and Harare and Midlands had 1 percent. The least provinces were Matabeleland South and Matabeleland North with 0.5 percent. However, Bulawayo province was the province with a decrease in population with -0.3 percent. The next section describes the general overview of the economy of Zimbabwe and the beginning of crisis.

4.4 THE GENERAL OVERVIEW OF THE ECONOMY OF ZIMBABWE AND THE BEGINNING OF CRISIS

Zimbabwe was born after a tough armed struggle between the natives and the whites in the country. Zimbabwe is home to many natural monuments naturally taken as tourist attraction centres, for instance, the Victoria Falls and the Great Zimbabwe monuments. Zimbabwe is well known for its natural beauty with vast deposits of a variety of minerals, diamonds, gold, platinum and coal to mention a few (Coomer and GsTraunThaler, 2011). Economically, Zimbabwe has been playing a significant role in supplying African countries, European countries and many other surrounding counties with agricultural products.

Settler colonialism and racism ended after the armed struggle which gave birth to Zimbabwe independence in 1980 (Nyoni, 2018; Coomer and GsTraunThaler, 2011). Immediately after gaining independence in 1980, Cannan Banana became the first President of Zimbabwe until his retirement in 1987. When Reverend Cannan Banana took over from the Rhodesian government, several policies were put in place primarily to undo the colonial damage that had been done by the colonialists. The Banana administration hit the ground running and this is evidenced by the first two development plans, the Transitional National Development Plan (TNDP) in the years

1981-1983 and the First Five Year National Development Plan (FFYNDP) in 1985-1990 that were formulated and implemented subsequently. It is imperative at this juncture to recognize the fact that these first two economic policies were put forward in the context of a command economy. These two policies were basically anchored on post-war reconstruction (Nyoni, 2018). These two policies in the post-war reconstruction agenda were generally achieved because at the time Zimbabwe was successfully recapitalized and integrated into the world economy.

However, the success of the FFYNDP was negatively affected by the severe drought during the 1986-1987 agricultural season that significantly reduced output for both rural and commercial farmers. It is also important to note that the TNDP which had targeted an economic growth rate of 8 percent and low inflation rates of around 15 percent failed to meet targets. The FFYNDP which aimed at 5.1 percent growth also failed to achieve its goals. It is therefore apparent that the first decade after independence was a decade of failure in terms of policy (Nyoni, 2018). Figure 8 gives an overview of economic growth during the Banana administration from 1980-1987.

Figure 8: Economic growth during the Banana administration (1980-1987)



Source Nyoni (2018)

As depicted by the graph above, at Independence in 1980, economic growth was approximately 14.4 percent. Banana's administration was faced with a challenging task of rebuilding the nation of Zimbabwe. To stimulate growth and development in Zimbabwe, Banana's administration sought to implement the TNDP and the FFYND as alluded to before. Statistics in the graph above indicate that instead of increasing the economy generally regressed. Average economic growth over the period 1980-1987 was approximately 4.93 percent. Although the Banana led administration failed to achieve people's expectations, it was generally better than what Zimbabweans have experienced in the period 2000-2008.

Economic growth declined from an all-time high of 14.4 percent to an all-time low of approximately -1.9 percent in 1984. The slight improvement in economic growth in 1985 could have been caused by the FFYNDP which was formulated to address some of the weaknesses of the TNDP. However, due to political issues that ensued during that time, some of the objectives of the TNDP and the FFYNDP could not be achieved. By the end of his presidency, Rev Banana and his team had already failed to revive the economy of Zimbabwe. It is imperative to note, however, that during this time Zimbabwe was not yet bed-ridden. President Mugabe took over in 1988 when the economy gained slightly up to 1990 after which disaster befell the nation after the Economic Structural Adjustment Programme (ESAP) was introduced (Nyoni, 2018; Mlambo, 1997).

4.4.1 The economic structural adjustment programme (1991-1995)

The government of Zimbabwe introduced Economic Structural Adjustment Programme (ESAP) because the economy of Zimbabwe failed from 1980 to 1990 to create jobs and to attract the much needed domestic investment and foreign direct investment (Nyoni, 2018; Makaya, 2018; Mlambo, 1997). ESAP was adopted in the year 1991 under the leadership of President Robert Mugabe who took over in 1988 from Rev Cannan Banana (Nyoni, 2018). The primary theme of ESAP was to

transform the economy from being heavily regulated to liberalization (Nyoni, 2018). The primary targets of ESAP included the following to attain a growth rate in GDP of five percent for the period from 1991 to 1995. The other objectives were to improve investment to the target of twenty-five percent of GDP for the same period, exports were supposed to grow at the target of nine percent per annum, the budget deficit was supposed to be reduced from over ten percent of GDP to five percent by 1995 and inflation was to be reduced from 17.7 percent to ten percent by 1995 (Makaya, 2018; Mlambo, 1997).

The World Bank and IMF advised the government to liberalize all markets so as to attain the objectives of the ESAP policy framework. Unfortunately, the performance of the economy under the ESAP was not as expected (Mlambo, 1997; Tekere, 2001). Due to the failure of ESAP, socio-economic ills such as poverty, unemployment and social unrest continued to exacerbate in Zimbabwe. Accordingly, several reasons were put forward to explain the failure of ESAP. The most important reason was fiscal indiscipline of the government of Zimbabwe. According to Mumvuma et al., (2003) the failure of ESAP was also explained by the lack of stakeholder consultations which made many of them unaware of the reforms. Furthermore, this resulted in ignorance which affected ownership of the reforms by many interested groups.

Juana and Mabugu (2005) went on to state that before ESAP Zimbabwe was named the bread basket of Africa due to its active role in supplying the African continent with food. This was necessitated by the fact that Zimbabwe was performing well from 1980 up to 1987 where the growth rate was approximately 4.93 percent (Nyoni, 2018). Productivity was on an upward trend, as well as the gross domestic product until 1992 (Batsell, 2018). However, military adventures, reckless spending and the failure of ESAP led to exploding deficits which, coupled with the droughts of 1992 and 1995, proved to be a problem to the economy of Zimbabwe which enjoyed stable growth only before independence. Thereafter, growth was

characterised by cycles of boom and bust before experiencing a depression for almost a decade (Coomer and GsTraunThaler, 2011). Figure 9 gives an overview of economic growth during the Mugabe administration (1988-2017).

Figure 9: Economic growth during the Mugabe Administration (1988-2017)



Source Nyoni (2018)

The Mugabe administration took over from the Banana administration but to no avail. In the early 1990s the Mugabe administration sought some new policies in order to materialize real growth in Zimbabwe and this is the time when ESAP was adopted (Coomer and GsTraunThaler, 2011). In 1992, Zimbabwe was hit by a serious drought that significantly led the economy to perform poorly as evidenced by a negative growth rate of approximately -9 percent (Nyoni, 2018). Many workers lost their jobs during this period and this gave birth to a great deal of social unrest. When it became clear that ESAP was not a good policy, the government adopted the Zimbabwe Programme for Economic and Social Transformation (ZIMPREST) which also failed (Mapuva, 2015). By 2003, economic growth had already fell to -17 percent as shown in figure 9. It is important to remember that this period is the one when opposition politics had grown tremendously in Zimbabwe (Nyoni, 2018).

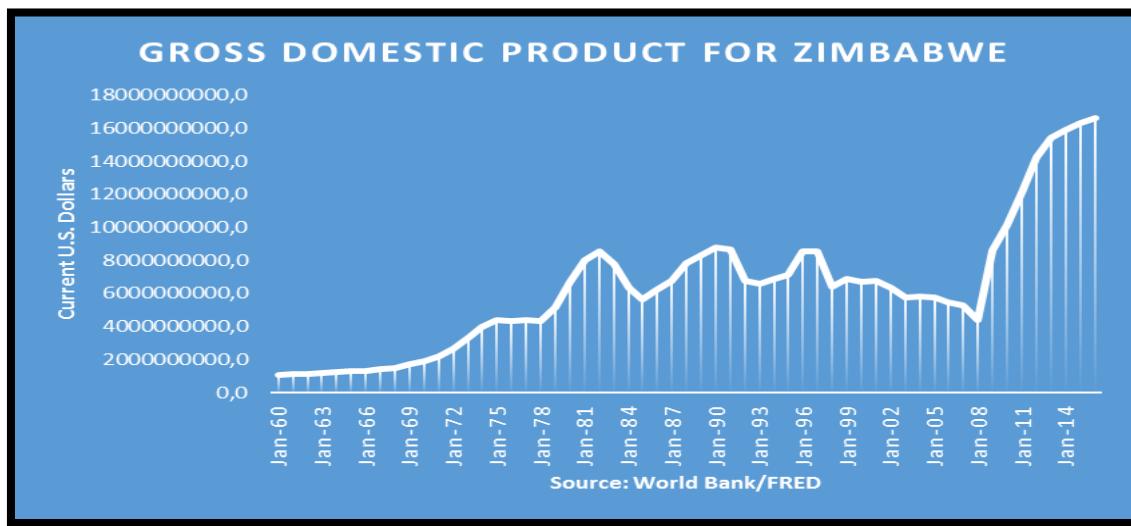
Many Zimbabweans had already lost confidence with Mr Mugabe and his government. The new millennium was met with negative economic growth rates as shown in figure 9. Economic policies of the time such as the Millennium Economic Recovery Programme (MERP) and the National Economic Revival Programme (NERP) did not prove to be useful as indicated by staggering economic growth right at the onset of the early 2000s. Gross macro-economic mismanagement was the order of the day during this period. The period was known for extreme unemployment and high levels of inflation that culminated in the hyperinflation of 2008, with economic growth as low as -17.7 percent.

The 2008 hyperinflation marked the demise of Zimbabwe's own currency which was unceremoniously dumped in 2009 in favour of the United States dollar. In the political arena, this was the time when the Government of National Unity (GNU) was formed (Lindholm, 2018). The graph in figure 9 above shows that the GNU was the Moses of the economy of Zimbabwe because economic growth greatly improved. This is a clear indication that political stability is a necessary ingredient for the growth of the economy. Furthermore, it was argued that it was the input of opposition politics that was supposed to be recognized as it contributed to the growth of the economy during this period. The economy of Zimbabwe continued in a progressive growth trajectory until the year 2011 when economic growth was approximately 12 percent (Maenzanise, 2016).

While most Zimbabweans expected the main opposition, a party led by the late hero Dr Morgan Richard Tsvangirai, to win the 2018 harmonized presidential elections, the opposite happened and this marked another downward spiral in the growth of the economy of Zimbabwe as shown by the black arrow in the figure 9. This fact is also strongly supported by Sibanda and Makwata (2017) who argue that the outcome of the 2013 presidential elections reversed the gains brought by the GNU. Furthermore, statistics for the growth of the economy under the Mugabe administration showed that the economy was growing at an average of 0.97 percent

and this is a clear testimony that, indeed, the Mugabe administration had failed to meaningfully grow the economy until his exit from power in November 2017. The behaviour of the GDP from 1960 to 2014 can act as a sure testimony of the failure of the Mugabe administration. This is clearly shown in figure 10 below, the diagram which shows the behaviour of the GDP for the period 1960 to 2014.

Figure 10: Gross domestic product for Zimbabwe 1960-2014

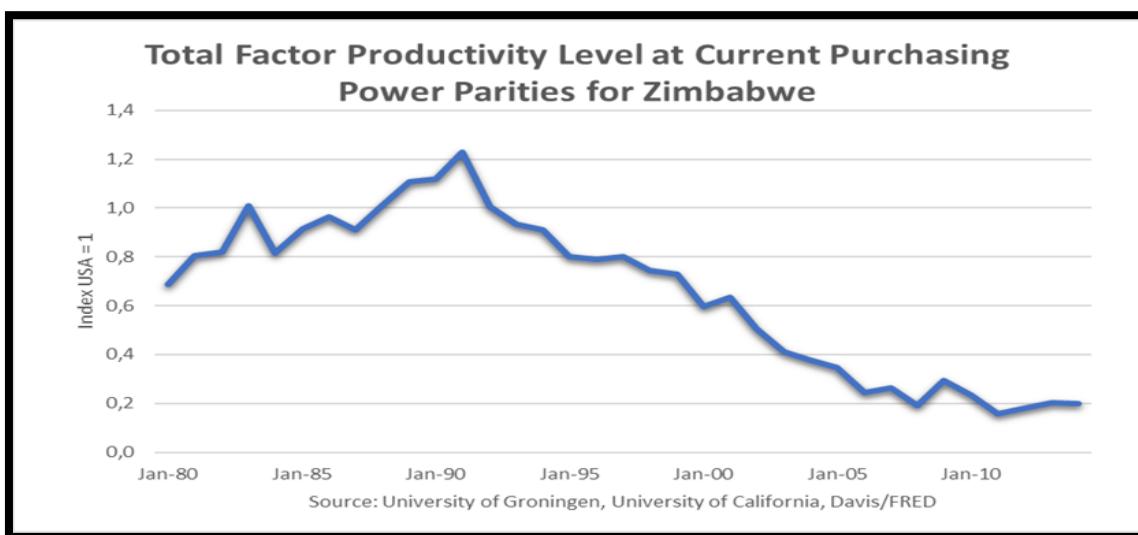


As an illustration, Figure 10 above gives the performance of the economy of Zimbabwe in a summary for the period ranging from 1960 to 2014. The graph is acting as clear testimony that both the Mugabe administration and the Banana administration failed to grow the economy of Zimbabwe. Meaningful growth was only registered from 1960 to 1980 under the Smith administration and 2009 to 2011 when there was a Government of National Unity. The period between 1980 and 2008 did not register any meaningful growth to the economy of Zimbabwe. Notably, immediately after 1982 the economic performance was characterised by booms and busts. However, from 1996 to 2008 the economy was in a depression characterised by high unemployment, high inflation rates, a weak manufacturing sector, unavailability of credit lines, decrease in national output due to suspension of major investments, and significant reduction in trade and commerce as well as fluctuations

in the value of a currency. All these factors led to the appearance and persistency of high poverty levels (Lindholm, 2018).

On the other hand, to even show more of the failure of the Mugabe administration and the Banana administration, for the period 1982 to around 1990, productivity was also not impressing at all. It was following the boom and bust trend of the GDP. Productivity was rising and falling before falling for good with the depression of 1996 to 2008. Figure 11 again gives the behaviour of the total factor productivity at current purchasing power parities for Zimbabwe. Total factor productivity (TFP) is defined as the efficiency and intensity in which inputs are utilized in the production process (Comin, 2017).

Figure 11: Total factor productivity level for Zimbabwe 1980-2010



In figure 11, productivity was declining for almost two decades from 1991. The major cause of the fall in productivity, among other factors, is attributed to poor and inconsistent policies which affected investment in many spheres. One of the policies noted for that matter was the 2000 land reform programme which forced commercial farmers to leave their land and production. The land reform policy almost brought the agricultural production to a standstill. The land reform

programme will be discussed in full in the proceeding sections of this chapter. Some attribute the economic crisis in Zimbabwe to the liberation struggle for independence in the 1970s which led to high military adventures coupled with reckless spending leading to exploding budget deficits impacting negatively on the economy (Coomer and GsTraunThaler, 2011). The following section chronicles how the crisis began in Zimbabwe from 1997-2000.

4.4.1 How the crisis began in Zimbabwe (1997-2000)

Responding to structural impediments to the growth of the economy, the government of Zimbabwe implemented major economic reforms which were biased towards liberalization of the economy (Coomer and GsTraunThaler, 2011). However, the reforms did not work properly because of a plethora of problems which included the vulnerable fiscal policy and unstable monetary policy (Chiimba, 2005). As if this was not enough, the country suffered from serious droughts in the years 1992 and 1995 which affected production in the agriculture, the backbone of the country through forward and backward linkages (Coomer and GsTraunThaler, 2011).

Despite the plethora of problems, the country was able to soldier on. The economic fundamentals were not much affected because the land reform had been treated with more caution. During that period, major prime land used for agricultural purposes was in the hands of 4 000 white commercial farmers who were busy with production for export and domestic consumption. The native farmers were much involved in subsistence farming, farming for home consumption and the sale of their extra output (Chiimba, 2005).

At the same time, only three million hectares of land was distributed to native blacks because the government was implementing land reform through the willing seller willing buyer concept where the government bought land at market prices (Coomer

and GsTraunThaler, 2011). Subsequently, the 1992 Land Acquisition Act changed the willing seller willing buyer concept and came up with the compulsory purchase of farms on condition that property was abandoned or forsaken, under-utilized, the land was encircled by communal areas, and when the owner had many farms (Lindholm, 2018). In mid-1997 the government announced compensation and a pension plan for war veterans who participated in the liberation struggle due to a rise in political pressure (Lindholm, 2018). According to Chitiyo (2000) approximately 60 000 war veterans received ZW\$50, 000 each which was paid immediately.

These pay-outs which were not budgeted for were virtually equal to US\$ 3 000 at that time. Together with this a monthly pension equal to US\$ 125 (Chitiyo, 2000) was paid. However, the disheartening fact was that the total package was not included in the 1997 fiscal budget and it was approximately three percent of the 1997 GDP (Chitiyo, 2000). The immediate impact of the pay-outs was to inflate the budget by 55 percent (Kairiza, 2009). Immediately after issuing the pay-out, the World Bank suspended credit to Zimbabwe until the government could show clearly that the pay-outs were not going to fuel the budget deficit above the projected 8.9 percent for the 18 months towards 1998 (Kairiza, 2009).

According to Kairiza (2009), after compensation, the war veterans started to raise concern as to how the land reform programme was progressing. As a result, President Mugabe gave in to the pressure by announcing compulsory acquisition of land owned by whites without any detail on how the acquisition was supposed to be financed (Kairiza, 2009). Immediately after the announcements, 1 471 commercial farms were gazetted for compulsory purchase and these farms were a significant part of the commercial farms in the country (Coomer and GsTraunThaler, 2011). Notably, lack of proper budgeting finance for war veterans' pay-outs and land acquisition marked the genesis of economic challenges in Zimbabwe. These unbudgeted major activities undertaken by the government created investor panic

because of uncertainty about the future of government policies, especially fiscal policy. So, investors had to move with their capital which caused many problems in the country within a short space of time.

According to Kairiza (2009) a massive flight of foreign capital led to the crash in the Zimbabwean money and capital markets. The foreign reserves of the Reserve Bank of Zimbabwe (RBZ) were exhausted in the process which caused the crash of the Zimbabwe dollar on November 14, 1997. This day is commonly referred to as "Black Friday" in Zimbabwe. On this day, the Zimbabwean dollar lost 75 percent of its value against the US dollar (Raftopoulos and Mlambo, 2008). The government planned to finance the rising expenditure through increasing taxes in the 1998 budget; however, there was a massive rise in street protests organized by trade unions with the Zimbabwe Congress of Trade Unions (ZCTU) leading the protests. These massive protests forced the government to reverse the policy and finally monetized the debt (Coomer and GsTraunThaler, 2011).

In addition, the cost of living continued to rise, especially for basic commodities like mealie meal. This led to an eruption of food riots to the extent that, at one time in 1998, there was a shut down for almost two days (Raftopoulos and Mlambo, 2008). The government responded to this by introducing price control policies because it accused businesses of profiteering (Kairiza, 2009). To make matters worse, the President, Mr Mugabe, had to send 11 000 troops to the Democratic Republic of Congo (DRC) in September 1998. The bad part of this action was that the military move was not budgeted for (Kairiza, 2009). In a way that continued crippling the economy, the government went ahead with land reform process. In November 1998, the government went on to issue acquisition orders to 814 farmers who initially contested the compulsory purchase of 1997 (Raftopoulos and Mlambo, 2008).

Early 1999, foreign donors began to scale down their funding and the World Bank and IMF suspended their aid as well (Coomer and GsTraunThaler, 2011). Responding to mounting pressure on the Zimbabwean dollar and reserves, the government introduced import controls and banning of foreign currency accounts (FCAs) (Kairiza, 2009). The idea behind banning of foreign currency accounts was to ensure that the RBZ kept all the export proceeds. In addition, reacting to the pressure on the economy, the government had to agree with the IMF to initiate an economic recovery programme supported by the 1998 Stand-By-Agreement (SBA) (Coomer and GsTraunThaler, 2011).

The aim of the programme was to ensure that there was a decline in inflation to at least 30 percent by the end of 1999 from the 47 percent of 1998. In addition, the programme was to attain a GDP growth rate of 1.2 percent and gain international reserves of US\$ 160 (Coomer and GsTraunThaler, 2011). The fiscal policy was supposed to be adjusted significantly, supported by tight monetary policy, and to build confidence like revealing of the costs incurred in the DRC war among others (Coomer and GsTraunThaler, 2011). However, the programme was not carried out appropriately, to the extent that inflation rose to 70 percent in October 1999 and real GDP declined by 0.2 percent. In addition, pledging and collateralization of foreign assets depleted the much needed reserves which increased a little bit to US \$ 314 in 1999 (Coomer and GsTraunThaler, 2011).

In short, this discussion shows us that, even though Zimbabwean problems originated way back in 1965 when UN sanctions were imposed, the period of 1997 to 1999 marked the genesis of an economic, social and political crisis in Zimbabwe. Beginning in the year 2000, the economic climate in Zimbabwe became perilous. The political position taken by the government led the country to lose international aid. Due to poor investor confidence and the fixed exchange rate regime, foreign reserves were depleted by the RBZ when it was trying to support the currency. The government started to print money to finance the budget deficit, opening the gates

of hyperinflation in Zimbabwe (Coomer and GsTraunThaler, 2011). The proceeding section will explain how land was distributed in Zimbabwe. This discussion is important because it gives us the real picture of how land was transferred from whites to blacks and to show the current land ownership structure.

4.4.2 The redistribution of land (2000-2003)

Since 1980 President Mugabe has been placing land reform as a priority (Country Watch 2018; Moyo, 2006). However, the process was not smooth because on many occasions white commercial farmers refused to allow the government to take their land without following legal procedures. In most cases the leadership were refusing the chance for squatters to get land procedurally using legal methods which proved to be a problem (Moyo, 2006). In the year 2000 the government allowed the law to be abandoned and allowed land to be grabbed from white commercial farmers immediately after the failure of the constitutional referendum of the same year (Country Watch, 2018). In general, the total amount of land owned by white commercial farmers in 1980 was more than that owned by black farmers (Moyo, 2006; Country, Watch 2018).

The amount of agricultural land owned by the white commercial farmers was approximately 15.5 million hectares while native farmers were occupying 1.4 million hectares translating into 8500 small-scale commercial farmers (Moyo, 2006). In percentages the indigenous farmers were occupying only 5 percent of agricultural land in Zimbabwe (Country Watch, 2018). From 1980 land reform or redistribution was voluntary in nature where white commercial farmers would sell their land to the government of Zimbabwe. Through the Lancaster House Agreement², the money to purchase the farms were supposed to come from the British government

² The Lancaster House Agreement, signed on 21 December 1979, declared a ceasefire, ending the Rhodesian Bush War; and directly led to the creation and recognition of the Republic of Zimbabwe.

and the Zimbabwean government. In simple terms, white commercial farmers would receive compensation for their land (Moyo, 2006).

The ascension to power of Tony Blair as the Prime Minister of Britain made compensation a problem, as he refused to compensate the white commercial farmers which made the Zimbabwean government follow suit. The beginning of the year 2000 marked the full swing of land grabs in Zimbabwe with the government citing redressing colonial era imbalances as the major reason to make that political move (Nmoma, 2008). The government of Zimbabwe argued that the rationale of the land reform programme was to address historical inequalities because internationally the move was viewed as persecution of and discrimination against white commercial farmers (Nmoma, 2008). The government went on to state three key issues which they argued to be addressed by land redistribution, namely inequality in land ownership, the insecurity of land tenure and finally inefficient use of agricultural land in communal areas and commercial farms (Gonese et al., undated).

Gonese et al., (undated) stated that the other reason for undertaking a land reform programme by the government was the fact that 42 percent of drought prone land was allocated to blacks from 1980 while approximately 51 percent of more fertile land was explicitly reserved for white commercial farmers who were engaged in commercial farming (Gonese et al., undated). The fully-fledged land reform programme as indicated before started in the year 2000 immediately after the country held the 12-13 February constitutional referendum (Raftopoulos and Mlambo, 2008). Within a space of a week, the draft constitution was rejected with the maximum efforts of the commercials farmers (Raftopoulos and Mlambo, 2008). The involvement of the white commercial farmers in the referendum did not go well with the government and the war veterans who declared war against them (Raftopoulos and Mlambo, 2008).

As a result, violent farm invasions started in 2000 to the extent that by April 2000 a total of 1 600 farms were occupied. On the other hand, parliament approved to amend the constitution so as to permit compulsory acquisition of land owned by white commercial farmers. Parliament went ahead with the amendment to the extent that in March 2000 the amendment was formally incorporated into the Land Acquisition Act (Coomer and GsTraunThaler, 2011). The announcement of the fast track land reform programme was done officially by the government in June 2000. In this announcement it was announced to the public that about 150 thousand families were resettled under the fast track land reform on 5 million hectares of land. This was way above the number of families resettled in Zimbabwe since independence in 1980. Raftopoulos and Mlambo (2008) alluded to the fact that, since independence, 73 thousand families had been resettled on 3.3 million hectares of land since 1980. The government further stated that 2 455 farms were listed to be acquired and the government would not compensate for the land but only for the capital improvements on the land (Coomer and GsTraunThaler, 2011).

In particular, the public supported the land reform programme; however, other sections criticized it in terms of implementation. Commentators and other governments had reservations on how the Land Acquisition Act, also commonly referred to as the Land Act, was implemented (Country Watch, 2018). The other stubborn criticism of the land reform is the fact that most of the people who benefited from the land were ill-equipped with the necessary skills and capital to farm the land. During this period problems in the economy were beginning to show up, especially with foreign exchange, aid and budgetary support suspensions. This made the land reform a challenge to many farmers as they did not have the necessary budgetary support to utilize the land (Country Watch, 2018). In addition, the country had widespread problems of shortages of foreign reserves.

However, in 2001, the supreme court came to the rescue of the remaining commercial white farmers by announcing an interdict against further land grabs. On

a sad note, in July 2001, the government went on with the fast track and increased the hectares from 5 million to 8.5 million, approximately 70 percent of the land owned by white commercial farmers (Njaya and Mazuru, 2010). The economy went on to experience macro-economic problems challenges. Inflation, for example, was treated as a cause of profiteering rather than loose monetary policy (Njaya and Mazuru, 2010). The increases in prices forced the government to introduce price controls which later caused widespread shortages (Coomer and GsTraunThaler, 2011).

In spite of the continuation of economic problems dividing the nation, the government went on with the land reform programme. In November 2001 the president made a decree to amend the Land Acquisition Act so as to change the previous ruling on the land reform programme (Coomer and GsTraunThaler, 2011). To achieve the objective, the Supreme Court was reconstituted on December 4, 2001. As a result, the previous ruling on land reform was reversed, making the land acquisition lawful (Madhuku, 2004; Naldi, 2009). On May 2002, parliament approved the November 2001 amendments and these resulted in work on the farms to be suspended immediately with eviction orders issued. All the commercial farmers were given only three months to leave their farms and August 8, 2002 was the deadline for the compulsory takeover of all farms (Coomer and GsTraunThaler, 2011).

Finally, the land reform was declared to be over in late 2002 following the announcement made by the then Agriculture Minister, Joseph Made (Country Watch, 2018) indicating that the government had grabbed 35 million acres of land from the white commercial farmers (Country Watch, 2018). Kriger (2007) argued that almost all farms owned by white commercial farmers were designated for state acquisition towards the end of the year 2002 (Kriger, 2007). In the beginning of 2003, many white farmers left their land to comply with the eviction orders (Coomer and GsTraunThaler, 2011).

However, the land reform process caused deaths for both whites and blacks and many people were injured in the violent conflicts and many are still recounting their losses because of the poorly implemented land reform programme (Laurie and Chan, 2016). The fast track land reform programme caused a lot of challenges especially in the agricultural sector which collapsed, exacerbating economic problems. Even the UNDP in February 2002 in their report concluded that the fast track land reform programme was the source of economic and political challenges affecting Zimbabwe (Country Watch, 2018). The sector which also suffered a lot from the fast track land reform was the manufacturing sector which relied more on agriculture through the forward and backward linkages. However, critics believed that the land reform programme had nothing to do with addressing the colonial era imbalances but it had more to do with political manipulation of landless poor constituencies. Both blacks and whites have been victims of this political game up until today.

The effects of the land reform to the economy of Zimbabwe will be discussed in section 4.7. Section 4.5 will explain the hyperinflation period for Zimbabwe from 2005 to 2008 and how the economy was 'dollarized' will be discussed in section 4.6. This section is important to show how the economy suffered from inflation and many other macro-wide economic challenges before giving the effects of the land reform.

4.5 THE HYPERINFLATION PERIOD IN ZIMBABWE (2005-2008)

The speed at which the economy of Zimbabwe was deteriorating was at its climax in early 2005 when inflation was around 135 percent and rising to 164 percent in June of the same year. The way inflation was rising in the country made the Consumer Price Index (CPI) unreliable due to the existence of prices which were pegged at artificial low levels by the government (Coomer and GsTraunThaler, 2011). On the other hand, the parallel market premium rose to about 100 percent

in July 2005. This was a sign of loose monetary policy which was announced in early 2005 coupled with a decline in foreign exchange at the auction system, the system introduced by RBZ in 2004 due to problems with the fixed exchange rate regime (Coomer and GsTraunThaler, 2011).

However, the surrender requirements were abused within the RBZ, as members of the ruling party were buying foreign currency and selling it on the black market in a way to enjoy the difference between the official exchange rate and the black market (Coomer and GsTraunThaler, 2011). In the year 2005, government forces instituted an operation code named operation *murambatsvina*, a Shona phrase for the “*rain that clears away the chaff*”(Tibaijuka, 2005). This operation was targeting mainly the informal sector in the urban areas of the country (Tibaijuka, 2005). According to UN reports, Zimbabweans during that time were depending on the informal sector as a source of income for a living during the period the operation took place (Tibaijuka, 2005). The destruction of shanty buildings, townships and market areas took place for a period of two months (Coltart, 2008).

At the same time, beginning in the year 2006, real interest rates were negative and the black market exchange rate for the US dollar was ZW\$135 000 to one. In reaction to these developments, the RBZ raised the market rates which led the three-month treasury bills to yield positive real rates of interest (Robinson, 2006). In addition to that, a one-yield index-linked treasury bill was introduced, a development which was viewed as important at that time as the Zimbabwean money market was lacking a variable rate of interest which could allow investors to do hedging in the money market (Robinson, 2006). However, inflation went on to rise reaching 50 percent per month of hyperinflation, leading to worsening of the erosion of the inflation tax (Coomer and GsTraunThaler, 2011).

To make matters worse, pension fund assets were eroded which forced the government to look for funds from private banks (Hanke and Kwok, 2009).

Accordingly, around May of the year 2006, any form of liquidity management exercise came fourth with severe costs given the fact that, for the first time, year on year inflation was estimated to be around 1200 percent from official estimates. This led to the situation where any liquidity management exercise was proving to be costly in the country (Robinson, 2006). In the same month and year, May 2006, surprising many, inflation exceeded 1000 percent (Coomer and GsTraunThaler, 2011).

As a result, to perform simple transactions in the country people were supposed to carry large sums of money. In response to the worsening situation, the government came forth with currency reforms which were named Project Sunrise (PS). These reforms were announced for the first time in the RBZ Monetary Policy Statement (MPS) of the year 2006. These reforms were expected to fight the worsening economic crisis in the country (Coomer and GsTraunThaler, 2011).

Consequently, in August 2006, a new Zimbabwean dollar was introduced replacing another Zimbabwean dollar. The ratio used in the replacing the old Zimbabwean dollar was 1000:1. Accordingly, the new dollar was devalued against the US dollar (Kairiza, 2009). The reasons put forward by the governor in devaluating the dollar was that removing three zeros from the currency would have a psychological influence on people especially when people compare the relative strength of the local currency against regional and international prices. In addition, the other argument was that, when comparing the prices of goods and services against international or regional prices, it will have a psychological effect as well (Kairiza, 2009).

To try and combat the economic crisis, the government also introduced the Look East Policy (LEP) around mid-2006. The government made an announcement on December 22, 2006 that they were in negotiations with the government of China for a US \$ 2 billion loan facility. Surprisingly, the China Metallurgical Group

Corporation (CMGC) denied being part of the negotiations and also refuted the claims by the government about the offer (Coomer and GsTraunThaler, 2011).

The day the final figures were made known to the public it was noted that the growth rate in money annually had risen to 1416.5 percent. Consequently, inflation was declared illegal in the country around February 2007. Therefore, businesses and individuals were warned against raising prices. It was stated that anyone caught raising prices or wages would be arrested and punished severely (Coomer and GsTraunThaler, 2011). Although a lot of measures were put in place by the government through the RBZ, the country entered in a serious hyperinflation situation in March 2007. During this period, month on month inflation reached 50.54 percent while year on year inflation was at 2 200 percent (Coomer and GsTraunThaler, 2011; Kairiza, 2009).

Surprisingly, the government went on to harass the business community by introducing the Indigenisation and Economic Empowerment Bill (IEEB) around June 2007. The bill required indigenous people to own 51 percent of shares in all businesses (Coomer and GsTraunThaler, 2011). The government intensified price controls where all the prices were halved. The price controls led the country to experience shortages and the manufacturing sector was heavily affected to the extent that output fell by more than 50 percent. The country entered officially into hyperinflation. The final run of hyperinflation began being experienced in the country up to 2008 when the country finally 'dollarized' the economy (Coltart, 2008; Coomer and GsTraunThaler, 2011).

4.6 THE DOLLARIZATION OF THE ECONOMY OF ZIMBABWE (2008-2009)

When inflation reached 417.823 percent around March 2008, harmonised elections were held in Zimbabwe and, as a surprise, the ruling party lost the elections for the

first time. However, due to the fact that the presidential elections had no outright winner, it required a run off from which the leader of the opposition, Richard Morgan Tsvangirai, withdrew citing massive violence on his supporters (Coomer and GsTraunThaler, 2011). However, Mr Mugabe went on to have the election alone and declared himself the winner and was sworn in as the president (Coomer and GsTraunThaler, 2011). At the same time, cheques were taking a lot of time to be cleared which led shops to charge two prices instead. To make matters worse, there was massive limitation on bank withdrawals and the maximum withdrawal was pegged at ZW\$100 billion. However, the maximum withdrawal was less than the cost of one loaf of bread (Country Watch, 2018).

Generally, due to persistent hyperinflation, the printing press was strained too much to the extent that the RBZ introduced one ZW\$ 100 note. However, all this effort was to no avail because hyperinflation was the brain child of the quasi-fiscal activities of the RBZ. These activities resulted in a rapid rise in the deposits of banks with RBZ (Country Watch, 2018). As a result, local currency M3 rose to unprecedented levels. The growth in M3 was unable to match the printing of physical notes (Country Watch, 2018). Correspondingly, at the end of 2008, reserve money fell to US\$ 7 million at the exchange rate of ZW\$ 35 quadrillion. The real demand for money and the parallel market exchange rate also collapsed as a result of still-accelerating inflation. Accordingly, the persistent hyperinflation left the local currency defunct, motivating the economy to dollarize in the late 2008 (Country Watch, 2018).

Moreover, it is argued that inflation in Zimbabwe reached 500 billion percent in September 2008. Hence, businesses started to price goods and services in foreign currency. Businesses adopted mostly the US dollar and the South African rand in their pricing of the goods and services (Coomer and GsTraunThaler, 2011). This move resulted in the local currency totally disappearing from circulation in the local market. Cheques and bank transfer transactions in Zimbabwe dollars ceased to

operate effectively in January 2009 (Kairiza, 2009). In response, the RBZ licensed about 1000 shops to charge and sell goods in foreign currency (Coomer and GsTraunThaler, 2011).

The RBZ gave arguments that selling goods in foreign currency would help businesses with shortages of foreign currency to supplement their reserves so that they would be able to import goods and spare parts from other countries (Coomer and GsTraunThaler, 2011). This move was the first stage of the dollarization in Zimbabwe. In the first few months of 2009, legal tender status for the South African rand and the US dollar was announced by the Minister of Finance. This was the official step of dollarization of the economy of Zimbabwe.

4.7 THE IMPACT OF THE LAND REFORM ON THE ECONOMY OF ZIMBABWE

The fast track land reform which took place in Zimbabwe, starting in the year 2000, caused major changes to the way land was used in Zimbabwe (Chigumira, 2010a). The land reform transferred approximately over 7.6 million hectares of land to both small scale units - also named the A1 model in Zimbabwe - and larger scale farms also called the A2 model (Chigumira, 2010). The A1 model in Zimbabwe is a settlement model in the form of a communal subsistence farming model either as a 'villagised' or self-contained model variant (Chigumira, 2010b, Chiremba and Masters, 2003). The self-contained variant model is a model where the farmers are mainly responsible for the improvement of their infrastructure while the villagised model is the government which has the responsibility for improving the infrastructure of the farms such as roads and irrigation equipment if available (Chigumira, 2010a).

On the other hand, the A2 settlement model is the commercial model with variants of small, medium, large and peri-urban farm models (Chigumira, 2010b) The land

reform impacted the economy of Zimbabwe from many angles to the extent that there is no single story of what exactly transpired in the country and the effects of the programme (Chigumira, 2010a).

Accordingly, it is believed that the Zimbabwean government managed to acquire approximately 6,422 farms by the year 2003. These farms covered almost 6,500,000 hectares of land (Chigumira, 2010a, Moyo, 2005, Utete, 2003). In addition, it was stated that, for the period between 2000 and 2003, 130 000 households managed to get the land through the Fast Track Land Reform Programme (FTLRP) (Chigumira, 2010a). This figure was relatively higher than the amount of households resettled during 1890 to 1997 (Sachikonye, 2003). It argued that from 1980 to 1997 only 71 000 families were resettled (Sachikonye, 2003). Moreover, the number of households who received land increased to 156 000 in 2006. This was revealed by the land audit which was done in 2006 by the government of Zimbabwe. The government stated that 156 000 households managed to get land from the land reform exercise covering 6 800 000 hectares of land (Chigumira, 2010a). In addition, Chimhowu et al. (2010) stated that by the year 2007 it is argued that about 24.34 million hectares of land were allocated to smallholder farmers.

As indicated, the FTLRP managed to transform the settlement model in Zimbabwe from the dualised settlement model to the multiple class farming model with small, medium and large scale commercial farming classified under A1 and A2 settlement models (Chigumira, 2010a). Due to the fact that the fast track land reform programme took place under adverse macro-economic and unstable political conditions, it caused the worst economic crisis for the economy of Zimbabwe which is still experienced even now (Chigumira, 2010a). The level of poverty and suffering of the population of Zimbabwe regardless of owning vast tracks of land is testimony to the fact that the land reform programme contributed to the economic crisis in Zimbabwe. Table 2 below gives the reconfiguration of land used after the land reform programme.

Table 2: Agricultural land use in Zimbabwe after land reform

Farm Class	1980		1996		2007	
	Number of Farms	Area(ha) Millions	Number of Farms	Area(ha) Millions	Number of Farms	Area(ha) Millions
Smallholder	700 000	14.4	1million	16.4	1 325 000	24.34
Medium	8000	1.4	8000	1.4	24 500	2.83
Large	6000	15.5	4500	7.7	2 014	3
Corporate			960	2.04	960	2.04

Source: Chimhowu et al., (2010)

As indicated in Table 2 above, land use in Zimbabwe has changed dramatically from 1980. Smallholder farmers are now occupying most agricultural land, estimated to be 71 percent (Chimhowu et al., 2010). The number of farms occupied by smallholder farmers is 1325 000 as of 2007 from 700 000 in 1980. The number of hectares now occupied by smallholder farmers is now 24.34 million up from 14.4 million hectares in 1980. The number of farms occupied by large scale farming decreased from 6 000 to 2 014 while the number of hectares decreased from 15.5 million hectares to 3 million hectares as of 2007. The number of farms occupied by medium scale farmers increased from 8 000 to 24500 with corporates now occupying 2.04 million hectares.

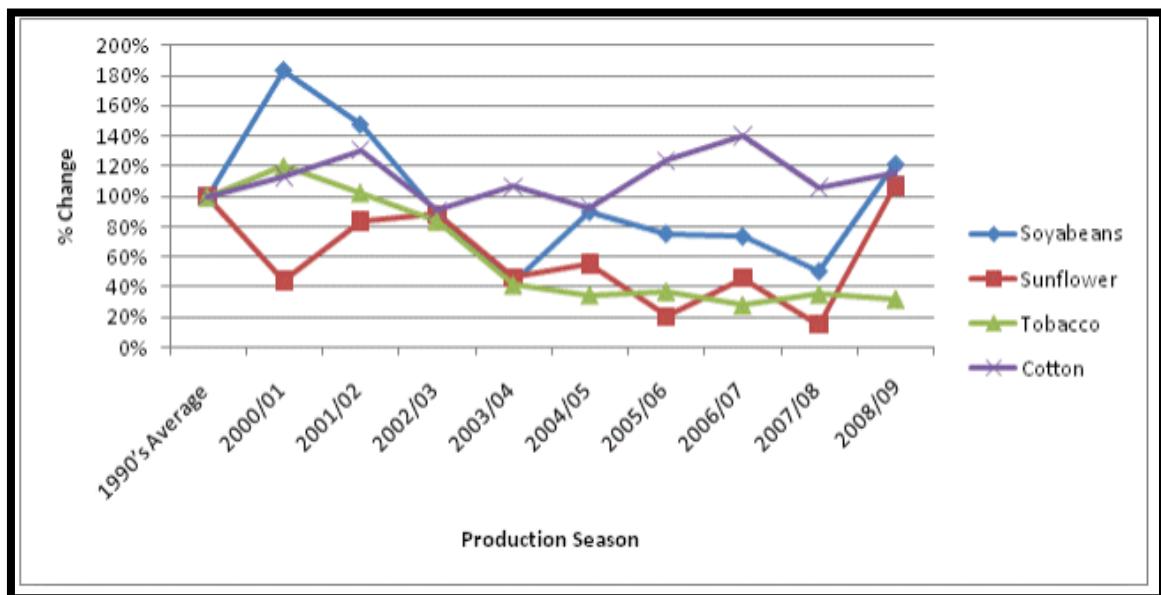
4.7.1 The impact of land reform on agricultural production

Initially before the fast track land reform programme in 2000, land owners were in possession of large farms which enabled them to use economies of scale to generate the required capital to borrow money from banks and any other financial institutions.

These white commercial farmers had limited challenges in accessing lines of credit to buy modern farm equipment when needed to improve productivity. However, during the fast track land reform programme, the people who benefitted from the land reform programme were chiefly members of the ruling party, government employees and their relatives. These people had limitations in terms of access to capital and the stock of knowledge to do agriculture. As a result, there was a tremendous drop in total farm output because of stated factors such as lack of experience, desire and capital to farm the land (Dancaescu, 2002). Accordingly, export crops suffered a lot from the fast track land reform programme. For instance, Zimbabwe was the sixth largest producer of tobacco in 2001; however, in 2005 the country produced less than a third of the total production of the year 2000 (Nyawo, 2014).

In fact, before the land reform programme Zimbabwe was one of the highly regarded nations in terms of agricultural produce to the extent that the country was referred to as the bread basket of Southern Africa. However, currently Zimbabwe is having some challenges in feeding its own people due to the collapse of the agricultural sector. In 2003, it was estimated that about 45 percent of the population was considered to be malnourished (Glantz and Cullen, 2003; Nyawo, 2014). Products which suffered most from the land reform were tobacco, coffee and tea among other many other cash crops as described by the figures below. Figure 12 shows the performance of major crops in terms of exports for the period 2000 to 2009. The crops covered are tobacco, soybean, cotton and sunflower.

Figure 12: Export performance for tobacco, cotton and oil seed crops 2000-2009 based on 1990 average exports



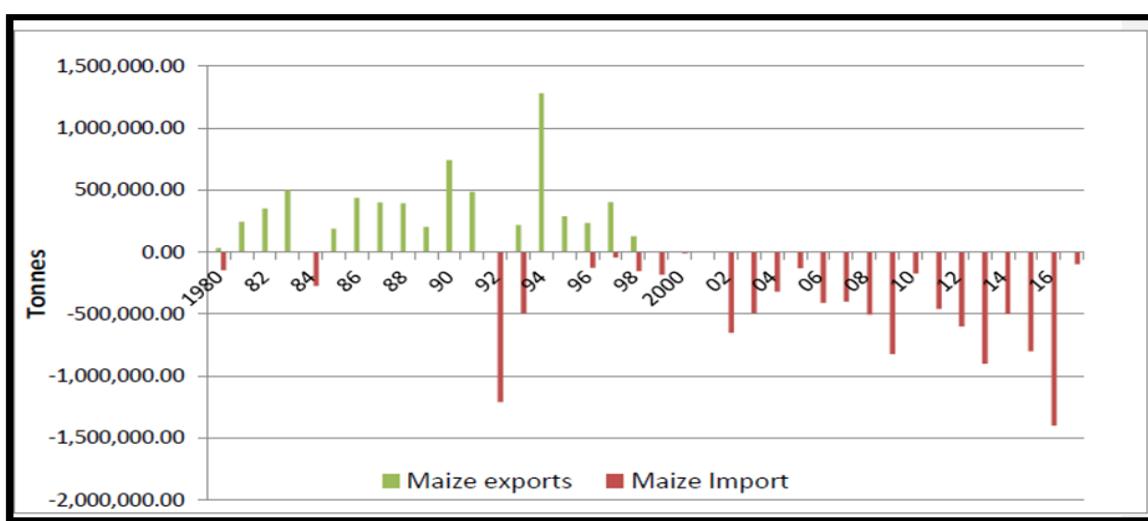
Source: Mujeyi (2010)

Among all the crops under investigation, tobacco was the main crop affected in terms of exports as shown in figure 12 above. Tobacco declined by 43 percent from 2000, the year land reform started. This shows us that, holding all other factors constant, the land reform had a negative impact on the exports of tobacco in Zimbabwe from 2000 to 2009 compared to 1990 average exports. The crop which registered a positive figure is cotton which had a slight increase in exports by 13 percent. Even though cotton exports increased in terms of exports, large scale producers suspended production in 2006. From 2007 only subsistence and smallholder farmers were now producing cotton, as commercial farmers stopped to produce. Oil seed, soya bean and sunflower suffered varying rates of decline as shown above.

In addition, the land reform programme affected to a larger extent the production of maize in Zimbabwe. Zimbabwe was a net exporter of maize from 1980, except

for 1984 and 1992, when the country was heavily affected by drought. The moment land reform issues were debated among the community of war veterans, problems started to emerge. Zimbabwe began to be the net importer of maize, the staple for the country (Doré, 2018). Figure 13 shows the amount of maize exports in Zimbabwe from 1980 up to 2017.

Figure 13: Zimbabwe maize exports and imports: 1980 – 2017 (metric tonnes)



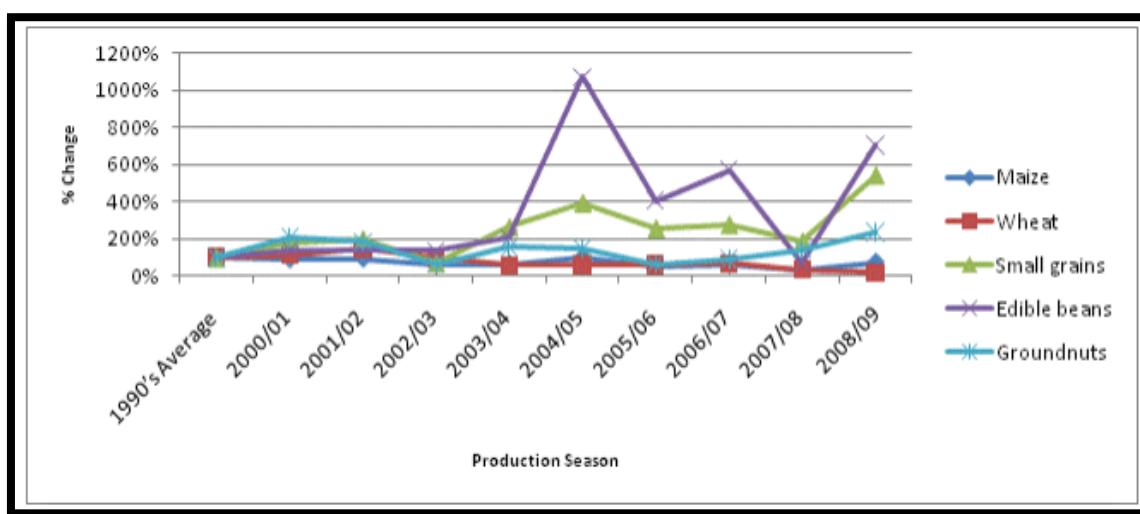
Source: Doré (2018)

From figure 13, it can be seen that Zimbabwe was a net exporter of maize from 1980 up to 1998, except for selected years when the country was affected by drought, for instance, 1984 and 1992. However, from 1998 when the land reform debates began among the war veterans and in the government as a whole and the starting of the programme in 2000, Zimbabwe became a net importer of maize. From 1998 to 2017 Zimbabwe has been importing maize. According to Doré (2018) maize yields dwindled from an average of 1.7 tonnes per hectare in 1987 to 0.85 tonnes per hectare in 2017.

Apart from the statistics shown on maize, other agricultural products like small grains, wheat and ground nuts were among the products heavily affected in

production from the year 2000. In terms of production, the crops which were originally produced on a large scale declined in production for instance wheat production, small grains among other major crops. This is also revealed by figure 14 below, which indicates the production performance of main food crops based on 1990 average production.

Figure 14: Production performance for main food crops 2000-2009 based on 1990 average production



Source: Mujeyi (2010)

Large scale commercial crops suffered a lot in terms of production from the year 2000 if compared to the 1990 production. The crop which recorded a major decline after maize was wheat. The crop declined by 27 percent as compared to the 1990 production. Some crops like small grains, edible beans and ground nuts did not suffer much in terms of decline even though much progress in terms of output was recorded significantly from 2004 onwards. These crops recorded some average increases, for instance, average production of small grains increased by 163 percent, while that of edible beans increased by 282 percent and finally average production of ground nuts rose by 43 percent.

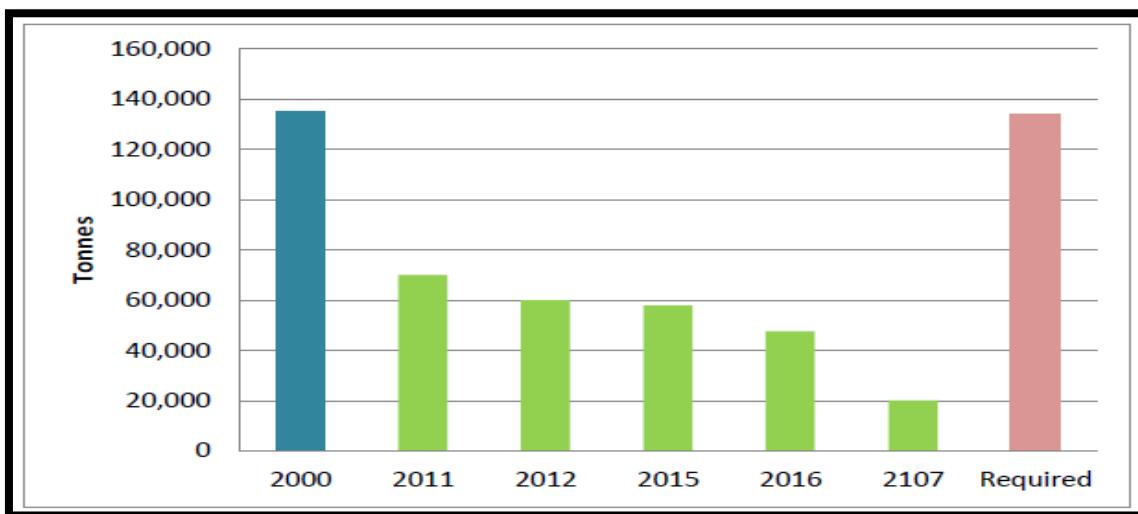
According to Mujeyi (2010) the main reason for the fall in production output for maize and wheat was the reduction in the cropped area because of the fall in the number of commercial farmers due to the land reform programme. Additionally, by 2007, beef production was only one third of the 1990 production levels. In terms of coffee production, 10 percent of it was produced as compared to the year 2000 production levels (Doré, 2018:4). In actual fact, wheat production declined from 270 000 tonnes in 1998 to 62 000 tonnes in 2007. This caused a complete shortage when compared to the national requirement of 400 000 tonnes (Doré, 2018:4). This made Zimbabwe to be a net importer pf wheat. As a result, during the period of September 2018 to November 2018 the price of bread was increased twice from \$1 to \$1.40 before it jumped to \$3.50 in April 2019 due to shortages of wheat among a plethora of challenges.

In 2009 the production of wheat was estimated to be 12 000 tonnes only. The major reasons cited were lack of support by the government to commercial wheat farmers, limited inputs and many other economic problems. In actual fact, from 2000 to 2019 Zimbabwe has experienced massive food deficits to the extent that even in good rainy seasons the country remains in need of food assistance to feed its population. For instance, in the 2008/09 rainy season, Zimbabwe experienced good rains and production was approximately 1.14 million tonnes, but even with this figure almost 2.8 million people were in need of food assistance during the marketing year of 2009/10 (Doré, 2018:4). The Commercial Farmers Union (CFU) of Zimbabwe estimated that Zimbabwe lost about \$12 billion worth of agricultural output in the 10 years from 2000 to 2009.

Likewise, soya bean was another crop which was heavily affected to the extent that production in the country is not able to meet national demand. Doré (2018) asserts that, in the year 2000, Zimbabwe as a country was able to produce 135 000 tonnes of soya beans, and this amount was able to satisfy national demand. Even though the country was able to produce almost half of the 2000 output, in 2017 the country

produced only 20 000 tonnes. Doré (2018) went on to argue that, in order to meet national demand, Zimbabwe had to import the shortfall from Zambia which had produced 300 000 tonnes in 2017 (Doré, 2018). Figure 15 shows the production of soya bean from 2011 to 2017 compared to 2000 production.

Figure 15: Zimbabwe soya bean production (metric tonnes) 2011-2017 compared to 2000 production and national requirements



Source: Doré (2018)

Figure 15 above shows Zimbabwe soya bean production in metric tonnes for the period 2011 to 2017 compared to 2000 production and national requirements. In 2000 Zimbabwe was able to produce enough soya beans for national requirements but after the land reform programme Zimbabwe is now a net importer of soya beans, as shown in the figure above.

As if not enough, horticulture was also affected heavily from the year 2000 onwards. For instance, in 2000 horticultural output worth \$143 million was produced making it the second largest agricultural foreign currency earner for the country after tobacco. Moreover, in 2000 Zimbabwe was among the leading exporters of cut flowers. In 2001, Zimbabwe was the second largest producer of cut flowers in Africa. The only country ahead of Zimbabwe was Kenya. However, on a sad note, in 2014,

exports of horticultural products declined to \$10.2 million while flower exports in 2015 flower exports declined to a mere \$3.1 million.

In terms of dairy production, in the 1990s Zimbabwe was producing 262 million litres of milk per year from 197 000 head of cattle. However, by 2011, the national herd declined to 26 000 with only half of them being milking cows. As a result, milk production in 2011 was less than 20 percent when compared to 1990 production levels. The herd in 2011 was producing 50.6 million litres only. Surprisingly, in 2016 there was an improvement in dairy production, rising to 65 million litres compared to 50.6 million litres in 2011 and 34 million litres in 2009.

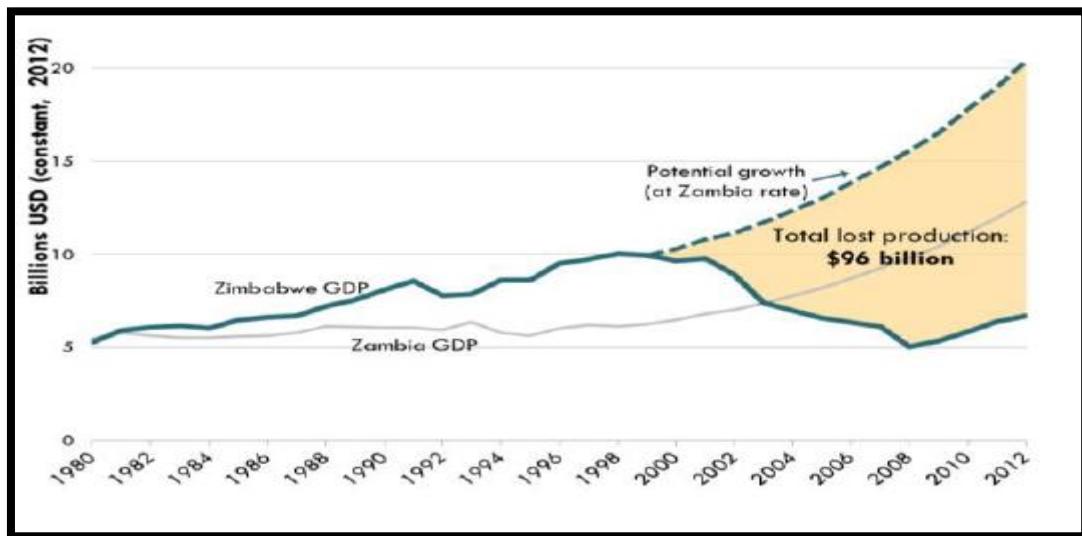
In terms of coffee and tea, in the year 2000, 15 000 tonnes of coffee were produced by 145 farmers, cultivating 7 600 hectares of land. Coffee production was expected to increase to 20 000 tonnes by 2004; however, there are only three commercial farmers who are in the business as of 2018 who produce only 500 tonnes (Doré, 2018). Coffee production declined by 95 percent compared to the 2000 production output. Tea estates in Zimbabwe were affected but to a lesser extent. Production of tea dropped from 22 000 tonnes to 13 000 tonnes in 2018 which shows a 40 percent decline. This discussion is showing the impact of the fast track land reform on production of various agricultural products. The impact is quantified in figure 16 which estimates the economic cost of the land reform in Zimbabwe.

4.7.2 Economic cost of the fast track land reform in Zimbabwe

The economic impact of the land reform in Zimbabwe was estimated using the actual economic growth with the potential growth of the economy without the land reform. To perform this exercise, Todd Moss of the Centre for Global Development (CGD) used economic growth of Zambia as the proxy for potential growth of Zimbabwe without land reform. As a result, to estimate the actual impact of the land reform in Zimbabwe, Todd Moss compared the actual economic growth for

Zimbabwe with economic growth of Zambia which represented potential growth in the economy of Zimbabwe without the land reform. Figure 16 shows the economic cost of the land reform in Zimbabwe for a period which stretches from 2000 to 2012.

Figure 16: Estimate of economic cost of the fast track land acquisition programme



Source: Doré (2018)

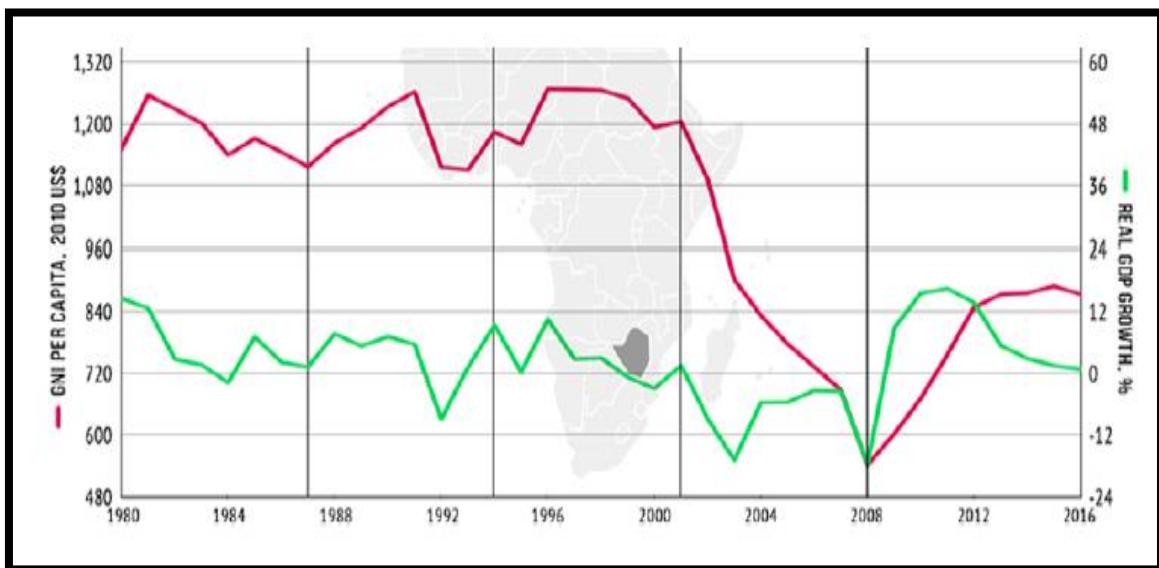
Figure 16 shows the estimated economic cost to Zimbabwe caused by the land reform of 2000. Todd Moss of CDG estimated the cost at \$96 billion dollars. As shown in the diagram above, Zimbabwe's Actual GDP from 2000 was compared with the GDP for Zambia which acted as a proxy for the Zimbabwe GDP without the land reform.

4.7.3 Influence of land reform on GDP and per capita GDP

The land reform of Zimbabwe by virtue of influencing the production of many crops either negatively or positively means that, directly or indirectly, it also influenced the GDP of the country either directly or indirectly. In addition, the land reform programme did not affect the agricultural sector only, but many sectors were affected either positively or negatively through the forward and backward linkages

of the agricultural sector with other sectors of the economy such as the manufacturing sector. Figure 17 displays the GDP and per capita GDP for Zimbabwe from 1980 to 2016. This diagram shows the influence of land reform on GDP and per capita GDP from the year 2000 to 2016 by observing the movement of the two variables.

Figure 17: Zimbabwe GDP (green) and per capita GDP (red) (1980 – 2016)



Source: Doré (2018)

Figure 17 above shows GDP and per capita GDP for Zimbabwe from 1980 to 2016. The purpose is to view the behaviour of the two economic variables after the land reform programme. After the land reform the economy of Zimbabwe further declined to negative territories from 2000 to 2008. Per capita income also follows the same trend declining to approximately \$600 in 2008 from as high a figure as \$1200 in 2000 (Doré, 2018). This prompted Hartwing Schafer in 2005 to make the following statement, "*I can't think of a country that has experienced such a decline in peace time.*"

4.7.4 The positive impact of the land reform in Zimbabwe

The land reform in Zimbabwe was also seen by many on the positive side. Despite the myriad of challenge associated with the land reform programme, successes were also cited. According to Nyawo (2014) the land reform exercise benefited many households who did not have land before. It is argued that approximately 156 000 households managed to get land through the fast track land reform exercise compared to 71 000 households resettled from 1980 to 1997 (Chigumira, 2010a; Nyawo, 2014). Nyawo (2014) went on to assert that the land reform managed to benefit both the rural peasants and urban dwellers (Nyawo, 2014).

According to Moyo and Yeros (2009), in their study they stated that utilisation of land increased in Zimbabwe by more than 40 percent since the fast track land reform exercise. This gives us a clear picture that, despite the flaws in the process, land utilisation increased meaning people who were not able to use the land before were now able to use it for the benefit of their families and the nation at large even though issues to do with lack experience and lack of capital among many were cited as obstacles towards the full utilisation of the land. However, Nyawo (2014) went on to state that the new structure of the agricultural sector in Zimbabwe promises a lot to the people to the extent that, if the enabling environment and support is availed to the new farmers, agriculture will bring food sovereignty to the households and the country at large.

In addition, Rosset et al., (2006) stated that food security defines the whole agrarian and rural development policy. This revelation by Rosset et al., (2006) shows that with the availing of land to the rural people, the food security package needed to fight poverty, protecting the environment as well as enhancing broad based economic development. It can easily be put in place because rural folks have land in their hands. Another area of success, as argued by Nyawo (2014), was the ability

of the exercise to broaden the ownership of land from the hands of the few to many households, especially those who were previously disadvantaged or excluded.

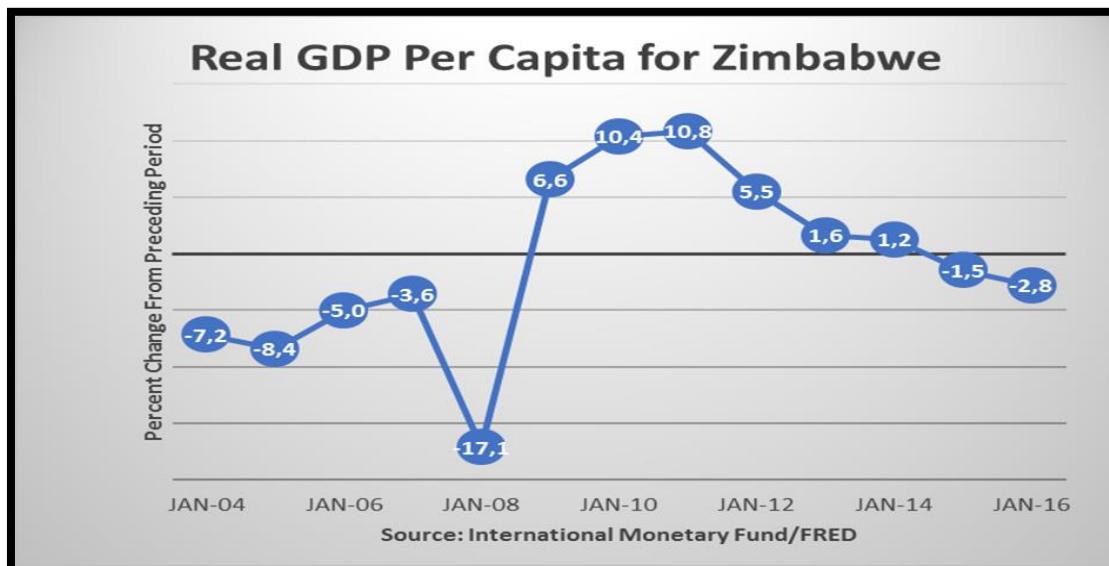
However, Nyawo (2014); Chigumira (2010a) and Moyo (2013) among many still believe that, despite the successes registered by the land reform, still there are areas which require urgent attention in order for the country and its citizens to fully benefit from it. Firstly, agricultural productivity declined despite the fact that many people did receive land in abundance. The studies highlighted that inability to get enough farming inputs by the new farmers in the form of suitable seed varieties, persistent droughts, shortage of appropriate farming equipment, inappropriate skills and limited budgetary support by the government and multiple farm ownership were highlighted as areas which require urgent attention in order for the sector to be productive.

4.7.5 The economy of Zimbabwe after the crisis of 2000-2008

In 2009, the economy of Zimbabwe began to show signs of improvement after decades of negative growth, high levels of inflation, unemployment, poverty and political instability. There were a number of factors put forward by many as the reasons for the improvement in growth, but Doré (2018) argued that the adoption of the multiple currency regime which legalized the pricing of goods in US dollars helped the nation to stop hyperinflation, the formation of the Government of National Unity (GNU) assisted to instil discipline on government spending reducing government expenditure in the process and, finally, the slowing down in land acquisition, especially the restrictions given on taking over dairy farms and sugarcane estates, helped to put Zimbabwe on a growth path (Doré, 2018:10).

Figure 18 helps to explain how the economy of Zimbabwe performed after the period of economic crisis from 2 000 to 2008 through following the behaviour of Real GDP per capita of Zimbabwe from 2004 to 2016.

Figure 18: Gross domestic product per capita for Zimbabwe



Source: International Monetary Fund/Fred

From Figure 18 it can be seen that the economy of Zimbabwe was in a recession from 2004 up to 2008. The graph explains with clarity that, after the recession, the economy started to grow from 2009 to 2011 where GDP per capita rose from -17.1 to 10.8. The economy has been declining since 2011 to the extent that in 2016 it was -2.8. Zimbabwe went into a technical recession in 2016.

On the other hand, factors of production from 2009 to approximately 2011 were highly productive, with productivity rising in the same period. Figure 19 helps to show how productivity in Zimbabwe improved significantly from 2009, the period when the Zimbabwean dollar was abandoned and a new government called the government of national unity was introduced.

Figure 19: Total factor productivity at constant national prices for Zimbabwe



Source: University of Groningen, University of California, Davis/Fred

Total factor productivity as shown in figure 19 above was growing from 2009 post the contraction period, the same period per capita GDP was growing as also shown in figure 18. Some reasons put forward for productivity to boost post 2009 levels were, as highlighted before, the coming in of GNU and the abandonment of the Zimbabwe dollar as well as fiscal policy consolidation among a variety of measures taken.

However, the Asylum Research Consultancy (ARC) indicated that, even though there was significant progress in Zimbabwe from 2009 onwards, various reports including the United Nations Country Reports show that the country did not fully recover from a decade of economic decline where approximately 80 percent of the people were unemployed and 90 percent survived under the poverty datum line (ARC, 2014:25; Mazingi and Kamidza, 2011). In addition, according to the 2011 HDI, Zimbabwe was among the least nations in terms of development ranked below Afghanistan. Even though growth was registered from 2009 to 2011, still there were a number of economic problems which acted as obstacles for the country to maintain the growth

(ARC, 2014:25; Matambo, 2012). Some of the obstacles which are still affecting the economy now include but are not limited to the following: poor infrastructure, pressure of inconsistency in policies, overwhelming domestic and international debt, high unemployment and uncertainty in politics (ARC, 2014:25; Matambo, 2012).

Also, the International Crisis Group in 2014 argued that, despite the progress in the economy of Zimbabwe from 2009 to 2011, the country remained in a crisis to the extent that growth forecasts were revised downward many times in 2014 and 2016 (ARC, 2014:26). Pazvakavambwa (2015) also argued that the failure by the government to efficiently implement ZimAsset, policy inconsistency and incoherence were among the major factors which are still limiting progress in Zimbabwe. In fact, capacity utilisation rose from around 10 percent in 2008 to 57.2 percent in 2011. However, by 2015, it declined to 34.3 percent (ZIPRSP, 2016:50).

The decline in capacity utilisation was characterised by company closures and massive downsizing of operations known as de-industrialisation. The situation has contributed to the rising poverty as many people lost their jobs (Mbira, 2015). In addition, the number of individuals who are owners of Micro, Small and Medium Enterprise (MSME) is very high. The survey done in the sector showed that, from the population of 12.7 million Zimbabwe as of 2012, approximately 2.8 million business owners are operating in the MSME sector, two million of which are micro businesses, and 800 000 are MSMEs. This shows that there are few big companies in Zimbabwe which makes the idea of reducing unemployment in the country a big challenge.

The outbreak of diseases like typhoid and cholera continue to be a big challenge for the country as well. The main cause of these outbreaks was insufficient supply of water, limited supply of essential drugs by the health sector. The health sector also lacks essential personnel due to the massive brain drain caused by the economic meltdown (ARC, 2014:27). Moreover, people in rural areas continue to suffer from

high prices of food and many sometimes go without access to food (Justesen and Bjornskov, undated). According to the survey done by Afro barometer in 2012, it was shown that 80 percent of people in rural areas of Zimbabwe often and sometimes always go without food to eat (ARC, 2014:27). This indicates that the progress registered in Zimbabwe from 2009 to 2011 was short lived. To make matters worse, people in rural areas and in towns both cite unemployment as the major cause of poverty in urban and rural areas of Zimbabwe (Rusvingo, 2015).

4.8 UNEMPLOYMENT IN ZIMBABWE AND THE WELL-BEING OF THE PEOPLE

In Zimbabwe, decent job-creation which results from sustainable economic growth is one of the fundamental prerequisites for improving the well-being of the people. However, Zimbabwe is facing serious challenges pertaining to decent job creation (ZIPRSP, 2016:34). Unemployment levels in Zimbabwe are estimated to be above 95 percent. As a result, many citizens depend on earnings from the informal sector, that is small scale businesses such as cross border trading. Others depend mostly on remittances from countries like South Africa, Britain and the United States of America (ARC, 2014:27). However, despite the fact that the country is experiencing high levels of unemployment, almost 96.8 percent of the country's budget from 2016 to 2018 was spent on salaries. Some argue that the public sector wage bill is highly inflated with a number of ghost workers who earn salaries to reinforce the patronage system (ARC, 2014:28; Parvez Butt et al., 2018).

The true unemployment figure in Zimbabwe is not known because the figures include underemployment. The figure of 95 percent is an estimate as the current economic conditions in Zimbabwe are such that very few are employed as there is widespread company closures (ARC, 2014:27). This situation is making a lot of people in Zimbabwe impoverished. For instance, the UNDP in 2014 in one of their human development reports, pointed out that Zimbabwe was at number 156 out of

187 countries with a human development indicator of 0.492, indicating very low human development and poverty in the country (ARC, 2014:27). For instance, it was shown that 41.04 percent of the estimated 14.5 million people were multidimensional poor and the percentage of the working class poor who live below \$2 a day was 87.1 percent (ARC, 2014:26).

Furthermore, the UNDP stated that the employment to population ratio was 88.6 percent in 2014 and the unemployment for 15 years and above was estimated to be 90 percent (ARC, 2014). It is generally argued that the unstable macro-economic environment resulting in weak economic performance during the 2000-2008 period impacted negatively on employment, leading to retrenchments as a result of closing up and downsizing of companies (Chigumira and Makochekanwa, 2014:34; ZIPRSP, 2016). Furthermore, the ZIPRSP (2016) stated that formal employment declined to less than 1 million jobs from 1.4 million. The other revelation was that about 400 000 of those were part of the retrenched class between 2005 and 2014 (ZIPRSP, 2016:35; Mpofu, 2018).

Also, in terms of earnings between men and women, the ZIPRSP (2016) stated that women earn two-thirds of men's income because women generally dominate soft occupations which are low paying, for instance, clerks and secretaries. In 2012, at least 51 percent of the people employed in soft low remunerating sectors were women, in relation to their field of study and social roles (ZIPRSP, 2016:34; Mpofu, 2018). On the contrary ZIPRSP (2016:34) outlined that men dominate the hard core sciences, high remunerating sectors and occupations, such as machine operators, engineers and technicians, mining and construction, transport and mechanics. In 2012 approximately 93 percent of people employed in these hard core sciences as well as high remunerating jobs were men (ZIPRSP, 2016; Mpofu, 2018).

Moreover, the proportion of individuals working in the informal sector who are 15 years and above increased to 94.5 percent in 2014 from 84.2 percent in 2011

(ZIPRSP, 2016:35) indicating that the number of people working in the informal sector in Zimbabwe dominates over the number of workers employed in the formal sector. The other fact shown was that those who work in the informal sector are more likely to be poor compared to those in the formal sector. For instance, the ZIPRSP (2016) contends that almost 93 percent of 1.5 million low paid workers were in the informal sector as at 2012. In addition, it was contended that almost 52.4 percent of all the people working in the informal sector were women and most of them are unskilled. For instance, in 2012 it was estimated that 85.9 percent of people employed in the informal sector were unskilled. Among them it was also shown that 54.4 percent of the unskilled employees were women (ZIPRSP, 2016; ARC, 2014:26).

However, the other worrying aspect of the informal sector was that, despite it employing a bigger percentage in the country, it is the hub of poverty as the Price, Income, Consumption and Expenditure Survey (PICES) for 2011/12 shows. The survey indicated that 78.3 percent of the households whose heads are employed in the informal sector are poor and 24 percent of them are extremely poor (ZIPRSP, 2016; ARC, 2014:26). Additionally, according to provincial and district level consultations held in May 2016 in Zimbabwe by the Ministry of Finance, it was concluded that the high level of unemployment has contributed immensely to welfare loss and underdevelopment of many people (ZIPRSP, 2016; ARC, 2014:26). Furthermore, lack of industry and opportunities for formal employment also result in poverty at national level in Zimbabwe. In terms of proportion of people unemployed, youth had a high proportion of 77.1 percent. In that regard, urban areas had very high numbers of youth who are unemployed compared to rural areas. The rate of urban youth unemployment was 37.5 percent while that of rural areas was only compared 4 percent (ZIPRSP, 2016; ARC, 2014:26). This indicates that more urban youth are unemployed compared with rural youth.

Likewise, urban young women had a higher rate of unemployment compared to men. For instance, the ZIMRSP (2016) highlighted that urban women unemployment had 46.6 percent compared to urban young men with 26.3 percent (ZIMRSP, 2016). In addition, under-employment also proved to be a major problem especially in rural agriculture in Zimbabwe. The major group which contributed 58.7 percent of under-employed persons consisted of those in communal resettlements and peri-urban farmers. Own account workers were contributing with 27.3 percent, giving a total share of 86 percent of under-employed persons in 2012 (ZIMRSP, 2016; Mpofu, 2018). In short, unemployment is the greatest problem which contributes to the vulnerability of the population to poverty and underdevelopment in Zimbabwe.

4.9 AGRICULTURAL SECTOR AND ITS SIGNIFICANCE IN ZIMBABWE

The purpose of this section is to show the significance of the agricultural sector in the Zimbabwean economy. The agricultural sector is one of the central sectors in the economy of Zimbabwe, to the extent that it was referred to as the backbone of the economy of Zimbabwe which supports greatly the economic, social and political livelihoods of the people (Gadiel, 2018; Mpofu, 2018). The Comprehensive Agricultural Policy Framework 2012-2032 (CAPF) noted that the contribution of the agricultural sector to the GDP is within the range of 15-18 percent. In addition to that, the sector contributes above 40 percent of export earnings at national level.

In terms of raw materials, Musiyiwa et al., (2014) also highlight that the sector is estimated to contribute about 60 percent of raw materials to agro-industries. Furthermore, in Zimbabwe over 70 percent of the national population depend on agriculture for a living (CAPF, 2012:1). Moreover, the sector also contributes immensely to employment. It is argued that agriculture supports a third of the formal labour force. This was also supported by Kapuya et al., 2010) who also stated that the agricultural sector contributes 30 percent in terms of national employment.

As a result, African countries came forth with the Maputo declaration which advocates for a 10 percent expenditure of the national budget to go towards agriculture (CAPF, 2012:1).

Authors like Kapuya et al., (2010); Musiyiwa et al., (2014) and Robertson (2011) supported the idea that agriculture is important in Zimbabwe. These authors also believe that, in order to be successful, the sector must receive enough funding. Robertson (2011), also argued that the economy of Zimbabwe is directly influenced by the agricultural sector. In his view Robertson believes that the growth of other sectors of the economy like the agro-industry depends directly on the performance of the agricultural sector. The Zimbabwe National Budget Statement (ZNBS) of 2014 outlined that the agricultural sector contributed food and income to almost 75 percent of the country's population (ZNBS, 2014:19).

During the ZIPRSP (2016) provincial and district level consultations, held in May 2016, it came out clearly that poverty in Zimbabwe is strongly linked to the under-performance of the agriculture sector. It was stated clearly during the consultations that, in Zimbabwe, poverty has the face of agriculture. These consultations revealed that little rains received in the country affect crop production in agriculture from where almost 70 percent of the people derive their livelihood as noted earlier. The absence of rains will cause persistent drought which will push large parts of the population into poverty (ZIPRSP, 2016:36). The other reason cited for poverty to have the face of agriculture is the culture of growing crops which requires a lot of rain in a dry region, for example, growing maize instead of small grain crops in dry regions (ZIPRSP, 2016:36).

Additionally, many small subsistence farmers and small scale farmers plant crops without fertilizers which affect the yields; in fact, the yields become very poor. Those with the opportunity to get good yields face the problem of poor markets for the produce (ZIPRSP, 2016:36). In addition, many farmers who were allocated land lack

farming knowledge; they do not have farming skills and for farmers who use irrigation, the water cost is very high while market prices for many farm produce are very low compared to the production costs (ZIPRSP, 2016:36). In many areas there is even lack of water sources for irrigation, coupled with siltation of dams, and in other instance there is the dependence syndrome in agriculture that has become a culture in Zimbabwe with people always looking forward to receive inputs from government (Madebwe et al., 2011).

On a sad note, the agricultural sector has been declining in terms of output and productivity since the introduction of the fast track land reform programme, among many other challenges such as drought. This situation forced the country to be a net importer of various agricultural products such as maize and soya beans among others. Overall, the general decline in agriculture production has been mainly attributed to recurrence of droughts, high cost of production, undeveloped markets, rural/urban migration and the fast track land reform programme (Chidakwa and Chigumira, 2016). The other key factors which undermined agricultural production are lack of appropriate funding to farmers, especially smallholder farmers, as a result of the liquidity constraints in the economy, inaccessible international lines of credit and inappropriate funding facilities (ZIPRSP, 2016).

4.9.1 Contribution of agriculture to GDP in Zimbabwe

The agricultural sector in Zimbabwe contributes immensely towards the GDP for the country. In 1978 agriculture and forestry contributed 15.5 percent to Gross Domestic Product (GDP), in 1980 it was 14 percent, in 1983 the contribution was 11.6 percent, in 1986 the contribution was 14 percent and, finally, in 1989 agriculture contributed 14 percent (Närman, 1991:6). Since 1978, the manufacturing sector has been the leading the sector in Zimbabwe, contributing 20 percent of GDP on average. However, by 2006 the agricultural sector assumed the

leading role by contribution 17 percent to GDP while the manufacturing declined to 15 percent contribution to GDP (Zimbabwe, 2011:8).

Table 3 outlines the contribution of agriculture to GDP for selected years from 1978 to 2016. This can help to give a clue to the importance of the agricultural sector in the economy of Zimbabwe.

Table 3: Contribution of agriculture and forestry to GDP in Zimbabwe

Year	1978	1980	1983	1986	1989	2001	2006	2016
Contribution to GDP (%)	15.5	14	11.6	14	14	22	17	11.3

Source: Mhlanga, (2019)

From table 3 agricultural production has been going through ups and downs throughout the period. In 1979 agriculture contributed 15.5 percent which rose to 22 percent in 2001, 17 percent in 2006 declining by 5 percent and finally fell to 11.3 percent in 2016 (Zimbabwe, 2011:8).

Apart from its immense contribution to GDP, agriculture also plays a pivotal role in ensuring that jobs are created in the economy. This was highlighted in the previous paragraphs. From 1980, the agricultural sector has been contributing a lot towards the creation of jobs. According to the Labour and Economic Development Research Institute of Zimbabwe (LEDRIZ), the agricultural sector has been the leading sector among all other sectors except for few years like in 2000 where job creation was affected by the fast track land reform programme and during 2010 to 2011 when there were relatively low wages approximated at 65 dollars per month (LEDRIZ, 2016). Table 4 gives the distribution of employment for selected years from 1980.

Table 4: Employment distribution by sector selected periods, 1980-2014

Sector/Year	1980	1985	1990	1995	2000	2005	2010	2014
Agriculture	32.4	26.3	24.3	26.9	26.3	-	32.9	29.6
Mining	6.6	5.2	4.3	4.8	3.6	5.0	3	3.4
Manufacturing	15.8	16.1	16.5	15.0	14.7	18.8	11.5	8.4
Electricity & Water	0.7	0.7	0.7	0.8	0.9	1.5	1.3	1.7
Construction	4.2	4.3	6.4	5.8	4.3	3.8	1.8	1.8
Financial Services & Real Estate	1.2	1.5	1.5	1.7	2.8	7.6	6	4.6
Distribution	7	7.4	8.1	8.1	8.4	0.8	6.5	7.4
Transport & Communication	4.5	4.8	4.5	4.1	3.5	4.2	2.4	3.2
Public Administration	7	8.6	7.8	6.2	4.7	8.9	7.9	9.9
Education	4.1	8.5	9.1	9.3	11.3	15.5	10.2	13.3
Health	1.5	1.9	2.1	2.1	2.3	4.7	4	4.2
Private Domestic Services	10.7	9.4	8.6	8.2	8.3	1.6	8.1	7.6
Other	4.3	5.5	6.2	6.9	9	7.7	4.3	5
Total	100	100	100	100	100	100	100	100

Source: LEDRIZ (2016)

Table 4 shows that agriculture is the main employing sector, even though the share of employment fluctuates from time to time. In 2000 the contribution of agriculture to employment declined owing to the effects of the fast track land reform exercise. From 2010 to 2011, the contribution to employment declined due to low wages; the minimum wage was 65 dollars only (LEDRIZ, 2016). The moment agricultural employment falls; it directly translates to a rise in the poverty level unless the fall is as a result of a shift from one sector to another. The reason for the rise in poverty is that agriculture employment creation has a bearing on the rising levels of poverty in Zimbabwe, especially among the rural households who depend directly on agriculture for their livelihoods.

4.10 POVERTY PROFILE IN ZIMBABWE

Poverty is a multi-dimensional complex phenomenon which includes inability to have full access to productive resources leading to individual deprivation or in some instances group deprivation. In other circumstances lack of access to resources

leads to vulnerability and powerlessness of the people (Hulme et al., 2001). In Zimbabwe poverty manifests itself in many ways which include hunger, malnutrition, ill-health, limited or no access to education, health care, safe housing, water, sanitation and decent paid work environments (ZIPRSP, 2016:22, Gaidzanwa, 2019). It also includes experiences of economic, political and social discrimination and disempowerment (ZIPRSP, 2016:22). However, in Zimbabwe poverty means a lot, especially when experienced by individuals and households at district and provincial levels.

According to the ZIPRSP (2016), poverty as experienced at provincial and district levels in Zimbabwe includes the inability to have access to means of survival and production, inability to have access to resources for sustenance, a situation where there is no draught power, having neighbours tilling someone's land because they have no draught power. In addition, it also involves lack of land for agricultural purposes, shortage of water bodies strategically positioned to benefit communities with sustainable development, lack of means of production and status of having no goats or cows (Gaidzanwa, 2019). Moreover, poverty also involves lack or limited access to physical goods and services, that is, lack of access to local amenities such as schools, not having the basics for living and individuals failing to get basics such as food, shelter and clothing (Gaidzanwa, 2019).

Poverty also involves lack or limited access to income and cash to buy essentials to live a full life, very low incomes for households that cannot afford to buy food, total cessation of cash flow and lack of resources, especially financial (ZIPRSP, 2016). Furthermore, poverty in Zimbabwe also includes lack of capabilities and opportunities including lack of infrastructure, that is, being denied access to enabling facilities by the existing policies, for example, no linking roads to main centres of commerce (ZIPRSP, 2016:22). Additionally, in Zimbabwe poverty also manifests itself in various ways including inability to have three meals a day, a situation where there is no food, surviving on handouts, inability to pay school fees

for children, no money for health services, no decent accommodation, no proper clothing, and inability to pay utility bills for water and electricity (Gaidzanwa, 2019). Other issues include inability to have access to clean energy, inability to live life to the full, being unemployed, not having a retirement package, lack of information, loss of hope resulting in a mind-set that cannot process and comprehend strategies to break free from poverty and, in most cases, disability equals poverty (ZIPRSP, 2016:23).

Furthermore, poverty in Zimbabwe also includes lack of own currency, lack of inclusive banking, inability to sustain one's livelihood, being powerless in influencing decisions that affect people's lives, and being condemned by the system to stay at the back of beyond (ZIPRSP, 2016; Gaidzanwa, 2019). In addition, poverty in Zimbabwe also involves issues to do with lack of upholding and enjoyment of all the rights due to: poor governance and leadership; lack of democracy, accountability and transparency; lacking fundamentals according to the African Charter and Declaration of Rights and any state that leads to vulnerability (ZIPRSP, 2016:23). In Zimbabwe, poverty related to disability is defined as a state of social economic deprivation resulting in the inability to provide for oneself and one's family and failure due to societal, physical, social, economic, political, cultural, institutional and attitudinal barriers (ZIPRSP, 2016:23; Chipango, 2018).

This includes lack of access to services due to attitudes imposed by society, and lack of accessible formats such as braille and sign language for those with visual and hearing challenges. Poverty also involves lack of large print for low vision, lack of appliances such as calipers, crutches, hearing aids, and specially designed walking sticks, including lack of assistive devices to mitigate challenges imposed by disability and lack of access to inclusive education, health, employment, self-representation, land and other empowerment opportunities (ZIPRSP, 2016:26; Chipango, 2018). In this regard, no single measure can fully reflect the poverty that

people experience. Ideally, in order to reduce poverty, strategies are required in all these dimensions of poverty (Hulme et al., 2001).

4.10.1 Poverty prevalence trends in Zimbabwe

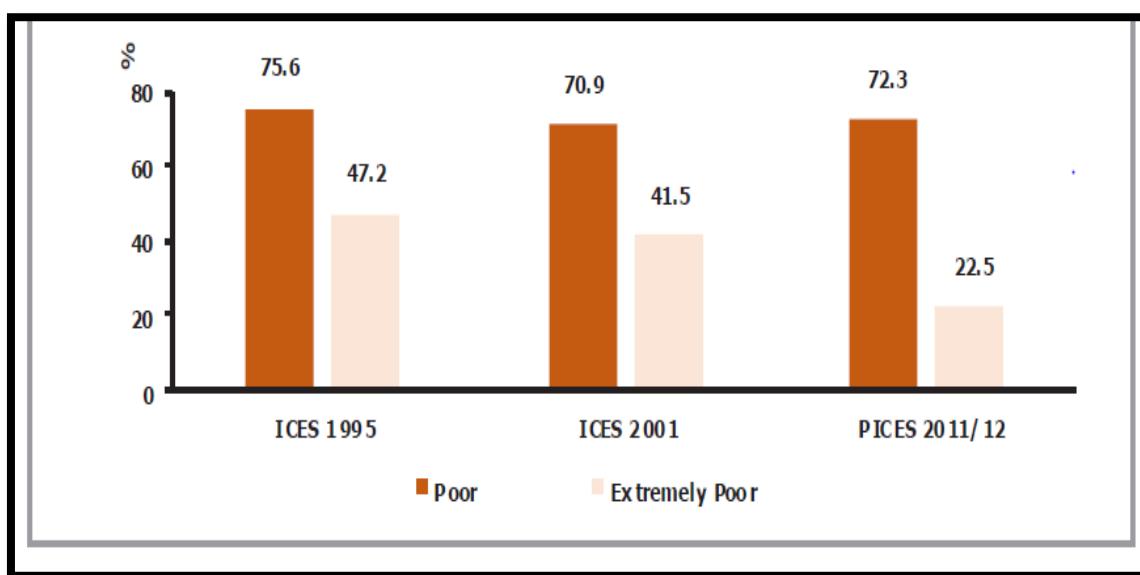
In Zimbabwe poverty is measured using the Total Consumption Poverty Line (TCPL) and the Food Poverty Line (FPL). Since 1995, the data available from the 2012 census shows that the proportion of individuals with income less than the TCPL was estimated to be above 70 percent. Figure 10 shows the figure (ZIPRSP, 2016:27, ZimVAC, 2017). In 2011/12, Zimbabwe had a TCPL of US\$ 76.70 per person/month, that is US\$ 384 per household for an average household of five persons per month (ZIPRSP, 2016:27, ZimStat, 2015c). In addition, extreme poverty as measured by the proportion of the population below the Food Poverty Line (FPL) was halved to a quarter in 2011/12 (ZIPRSP, 2016 : 27; ZimStat, 2015c).

The actual FPL was US\$ 32.70 per person/month, that is, US\$ 164 per household/month for an average household of five persons. However, income poverty as measured by TCPL remained high, generalised to be above 60 percent (ZIPRSP, 2016:28). The other stubborn fact in Zimbabwe is that the number of extremely poor people and individual households reside in rural areas (Chipango, 2018). For instance, the Poverty Income Consumption and Expenditure Survey (PICES) 2011/2012 indicated that 92 percent of the extremely poor population and 91 percent of the extremely poor households reside in rural areas of Zimbabwe. In addition, the proportion of the poor population is extremely high in rural areas estimated at 80 percent. The proportion of poor households in rural areas is also high estimated to be 78 percent (ZIPRSP, 2016:28; ZimVAC, 2017).

On the other hand, de-jure widowed, de-jure divorced and the never married female headed households were disproportionately experiencing general income poverty, in comparison to the corresponding male-headed households. The de-jure female

widowed households had a poverty prevalence of 68.9 percent, while de-jure divorced female households had 49.5 percent, and the never married female headed households had poverty prevalence of 34.4 percent. Conversely, the male headed households had a poverty prevalence of 54.7 percent, 35.6 percent and 30.8 percent respectively (ZIPRSP, 2016:28). The elderly 65 years and above had 71.3 percent poverty prevalence. This was higher than the economically active group, 15-64 years, with a poverty prevalence of 66.7 percent. In fact, larger households have a greater likelihood of being poor than smaller ones in Zimbabwe and is true at all levels (ZIPRSP, 2016 :28).

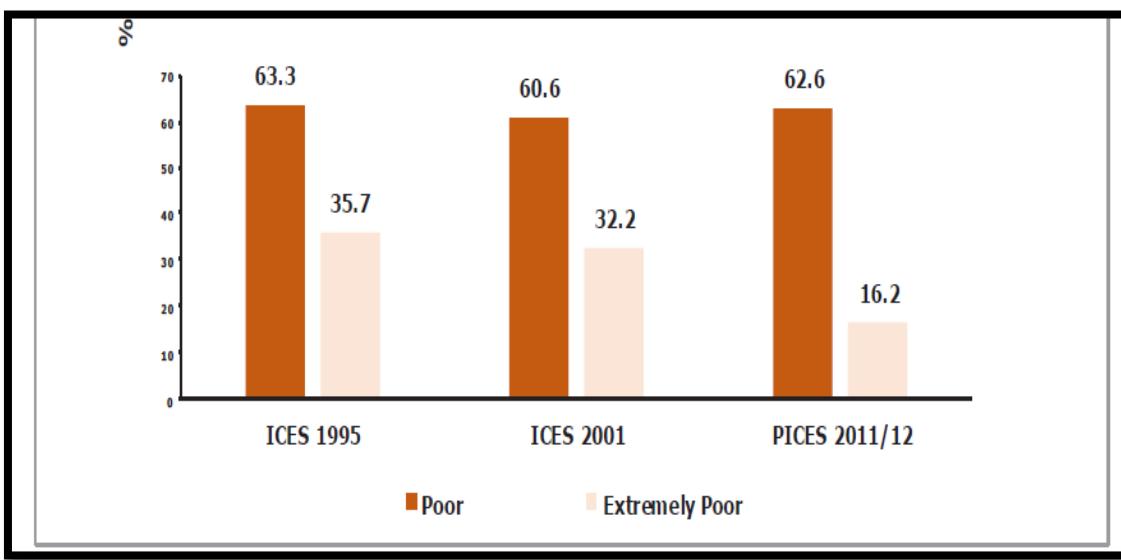
Figure 20: Poverty prevalence trend in Zimbabwe PICES 1995 to 2011/12



Source: ZPRSP (2016:28)

In figure 20 income poverty as measured by the proportion of people with income less than the TCPL was 75.6 percent in 1995. The figure remained high in 2011/2012 at 72.5 percent. However, the percentage of extremely poor people was greatly reduced to 22.5 percent in 2011/12 from 47.2 percent in 1995.

Figure 21: Household poverty prevalence trend 1995 to 2011/12, Zimbabwe PICES, 2011/12



Source: ZIPRSP (2016:28)

In figure 21 income poverty measured by the proportion of households whose income is less than TCPL, was 63.3 percent in 1995. The figure remained high in 2011/2012 at 62.6 percent. However, the percentage of extremely poor people was greatly reduced to 16.2 percent in 2011/12 from 35.7 percent in 1995. This shows the contribution of the 2009 GNU in Zimbabwe.

Generally, the rain-fed agriculture is fast becoming a huge risk to food security and poverty in Zimbabwe due to the effects of climate change. In addition, poverty in Zimbabwe is as a result of both structural and transient factors. Among the structural factors, many scholars argue that the fast track land reform programme is one factor responsible to a greater extent for the high levels of poverty experienced in the country due to its negative effect on food security, especially among the rural people (Stoneman, 2017). Since the share of population is almost 72 percent in Zimbabwe compared to the population staying in towns, rural people are the ones who suffer more from poverty compared to the people staying in urban areas (ZIPRSP, 2016:24).

As a result, Rukuni (2018) stated that poverty in Zimbabwe is a rural phenomenon since a greater proportion of people in rural areas are highly affected by poverty compared with urbanites (Rukuni et al., 2006). In reality, poverty in Zimbabwe mainly affects food crop farmers in Rural Resettlement Areas (RRAs) and workers who work on large scale farms (ZIPRSP, 2016:25). The majority of food crop farmers are those who are in subsistence farming who use simple tools with small farm sizes. These people mainly have challenges in accessing basic community services like health, adequate water supply, sanitation facilities and education services (Stoneman, 2017; ZIPRSP, 2016).

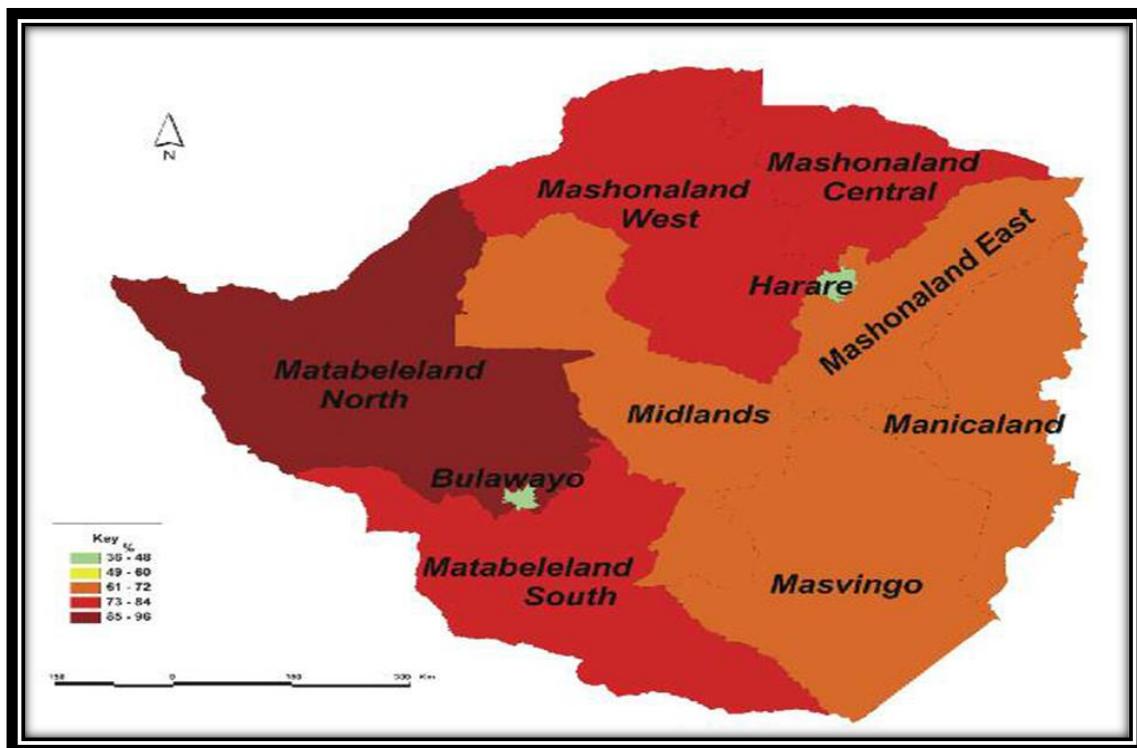
In addition, land alienation has been one of the major factor which aggravate poverty in Zimbabwe. Large Scale Commercial Farming Areas (LSCFA) were allocated high agricultural potential areas with fertile soils fit for agriculture while the rest of people in the Communal Areas (CA) are allocated land which is unfit for agricultural production (Moyo, 1986; ZIPRSP, 2016). Currently majority have the land, but the problem of capital is still hounding the process of production which in essence is further aggravating the poverty problem (Dube, 2016; Musiyiwa et al., 2014). Provincial and district level broad consultations done by the Ministry of Finance in 2016 indicated that poverty in Zimbabwe is now a source of high levels of crime, violence and vandalism, in the form of stealing and high crime levels which include opportunistic crime, vandalism of public infrastructure, increase in domestic violence and divorce rates, human abuse such as human trafficking and illicit deals coupled with unethical behaviour (ZIPRSP, 2016).

4.10.2 Poverty prevalence by province in Zimbabwe

Poverty in Zimbabwe as highlighted affects mainly the food crop farmers who are in the rural areas who increasingly become victims of climate change, capital constraints and inaccessible markets for their produce. As a result, poverty prevalence at provincial levels in Zimbabwe is more concentrated in rural areas. The

map in figure 22 is showing the incidence of poverty in Zimbabwe for the ten Provinces.

Figure 22: Zimbabwe provincial poverty map



Source: Poverty Atlas (2015:1)

The map in figure 22 above shows how poverty is experienced at provincial level in Zimbabwe. In the map, places where poverty is more prevalent are Matabeleland North, which falls in the range of 85-96 percent, followed by Mashonaland West, Mashonaland Central, and Matabeleland South. They are in the range of 73-84 percent. These places are followed by Manicaland Province, Mashonaland East, Midlands and Masvingo Province which are in the range of 51-72 percent. Places with low poverty incidence are Bulawayo Province and Harare Province which are in the 35-48 percent range. Looking closely the provinces where poverty is more prevalent these are provinces where a considerable part of the area is covered by urban areas. For instance, Harare province and Bulawayo province are urban

provinces and as a result the poverty prevalence is relatively lower than provinces where a large part of the area in the province is predominantly rural like Matabeleland North.

Indeed, the same pattern prevails with respect to household extreme poverty at provincial level, where extreme poverty in Matabeleland North Province was 36.9 percent and Masvingo Province was 13.8 percent in 2011/12 (ZIPRSP, 2016:30). However, urban provinces like Bulawayo and Harare provinces had a much lower household extreme poverty prevalence of 3.4 percent and 3.3 percent respectively (ZIPRSP, 2016:31). This stands as a testimony that poverty in Zimbabwe is predominately in the rural areas of the country as noted before. Table 5 also shows the same trend as depicted by the map above.

Provincial poverty prevalence according to PICES and small area estimation survey (SAES)

The PICES of 2011/2012 and SAES give a clear poverty prevalence for the ten provinces in Zimbabwe. Using the findings from the two distinct surveys helps to get a true picture of the prevalence of poverty in Zimbabwe. This is shown in the table below.

Table 5: Provincial poverty prevalence

Province	PICES Poverty Prevalence(%)	Small Area Estimation	Difference (%)
Bulawayo	34.5	37.2	2.5
Manicaland	70.6	71.8	1.2
Mashonaland Central	75.5	75.6	0.1
Mashonaland East	67.0	67.3	0.3
Mashonaland West	72.4	73.3	0.9
Matabeleland North	81.8	85.7	3.9
Matabelaland South	70.8	73.6	2.8
Midlands	67.0	68.7	1.7
Masvingo	63.7	65.7	2.0
Harare	35.7	36.4	0.6

Source: PICES and SAES (2012)

Table 5 above shows the provincial incidence of poverty in Zimbabwe's ten provinces from the PICES and SAES. Matabeleland North has the highest poverty incidence according to PICES and SAES. From PICES and SAES poverty prevalence in Matabeleland North was 81.8 percent and 85.7 percent respectively. The province with the lowest poverty prevalence was Bulawayo with 34.5 from the PICES. Harare province has the lowest when the SAES estimate is taken into consideration. Harare has 36.4 percent from the SAES. There are some variations between PICES results and SAES results in district poverty prevalence rates within the provinces but these variations are not too large to distort the true picture of poverty prevalence in the provinces. The figures provided in the table above go hand in glove with the general poverty prevalence as shown by the map in figure 22.

4.10.3 Poverty prevalence by district in Zimbabwe

Poverty prevalence at district level in Zimbabwe seems to follow the trend exhibited by the prevalence rate of poverty at provincial level. The districts mostly affected by poverty are rural districts; districts located in towns are less affected by poverty. The districts around the capital Harare, Bulawayo city and part of Masvingo town

and Chivi growth points have the least poverty prevalence compared to other rural districts where poverty prevalence is in the range of 73-84 percent as well as 85-96 percent as shown in figure 23. The rural districts mostly affected by poverty with the prevalence of 85-96 percent were Binga, Gokwe South, Khayi, Lupane, Bubi, Tsholosho, Hurungwe, Muzarabani, Mudzi, Rushinga. In Manicaland Province most districts had a poverty prevalence in the range of 61-72 percent, for instance, districts in Mutare and Makoni, as well as 73-84 percent, for instance, in districts in Chipinge, Chimanimani and Buhera. The map gives a picture of the distribution of poverty across the districts in the ten provinces of the country (ZimStat, 2015c:22).

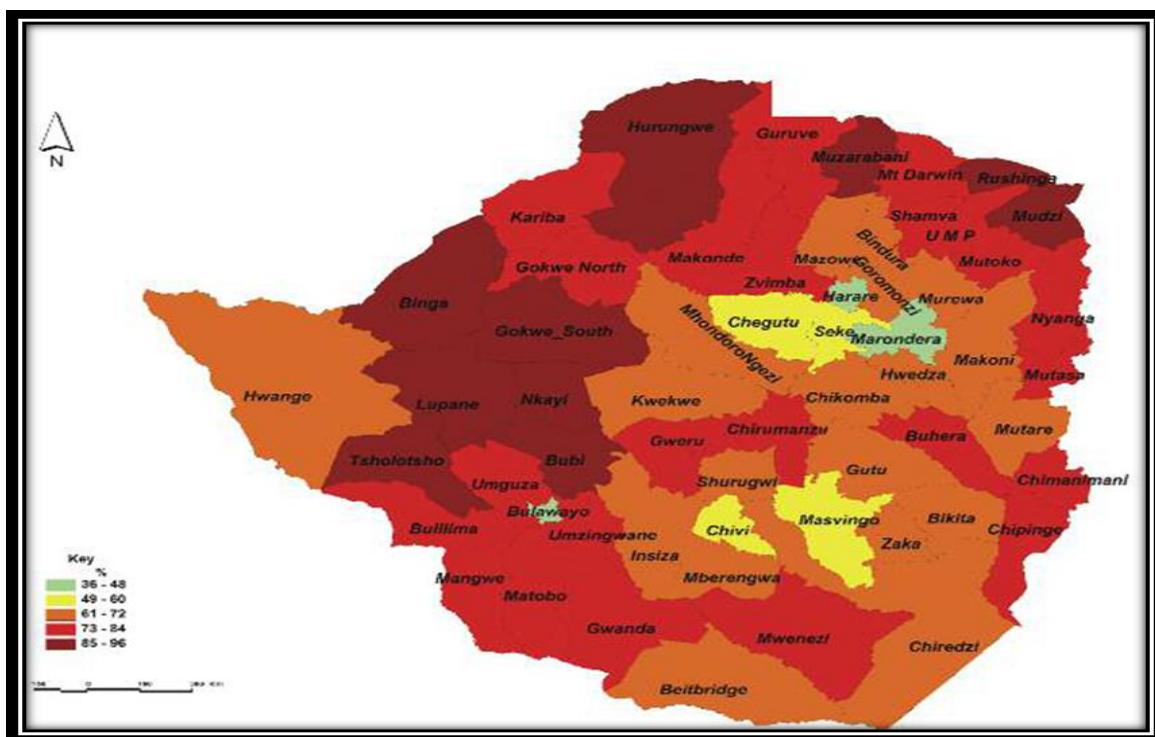
Poverty in urban districts is also increasing in Zimbabwe due to high population growth rates. The growth rate in the population of Zimbabwe was estimated at 3 percent from 1980 to 2000 and an estimated 2 percent growth from 2000 to 2016 (ZIPRSP, 2016). However, the rate at which the population is growing is above the rate at which jobs are created in the country causing a lot of joblessness among the people (ZimStat, 2015c; ZIPRSP, 2016). The other reason for a rise in poverty in urban districts is rural-urban migration, where people move from rural areas to urban areas. In addition, the social and economic infrastructure has been deteriorating over the years in the urban areas, causing people to be destitute and pushed into poverty (ZimStat, 2015c; ZIPRSP, 2016).

In fact, the people who are mostly affected by poverty in urban districts are poor youth school leavers in general, youth who don't have employable skills, those who dropped out of school and vagabonds. Other classes of people highly affected are those who dwell in slum areas, squatters, those who are disabled and old people who are victims of the breakdown of the extended family system in urban areas (Manjengwa et al., 2016; ZIPRSP, 2016).

The seriousness of poverty in Zimbabwe usually changes with seasons of the year (Kinsey, 2000; Nkum, 1998). For instance, in rainy season the incidence of poverty

is less than other seasons because the rainy season coincides with harvest season. Likewise, in lean seasons the severity of poverty is high because harvests would have been depleted with new crops not matured yet (Nkum, 1998). The map in figure 23 shows poverty prevalence at district level in Zimbabwe.

Figure 23: Zimbabwe poverty map by district



Source: Poverty Atlas (2015:1)

Figure 23 above gives a more robust picture of the poverty prevalence in Zimbabwe at district level, buttressing the fact that poverty is more prevalent in rural areas in Zimbabwe. The incidence of poverty in figure 12 moves in the same direction with the incidence of poverty as shown in figure 11. The maps are indicating that provinces located in towns have least poverty compared to rural provinces. Rural households are those highly affected by poverty (ZimStat, 2015c:14).

For instance, the ZIPRSP (2016) highlighted that rural areas had a household income poverty prevalence of 73 percent in 2001 which later rose to 76 percent in

2012 as measured by the 2011/2012 PICES. However, in urban areas household income poverty prevalence was 38.2 percent in 2001 which rose to 38.8 percent in 2012 as measured by the PICES. By the same token, in the rural areas of Zimbabwe, extreme poverty was higher, measured at 22.9 percent of the households than urban areas measured at 4 percent in 2011/12 (ZIPRSP, 2016:30).

In terms of rural district poverty prevalence in Zimbabwe, among the 58 rural districts from the PICES 2011/12 data available, household poverty prevalence is highest in Nkayi district with 95.5 percent and lowest in Marondera rural district with 52.3 percent (ZIPRSP, 2016:31). In comparison with the 30 urban districts, household poverty prevalence was lower than the rural districts; however, Epworth district had the highest poverty prevalence of 74.9 percent, whilst Chiredzi district had the lowest household poverty prevalence of 17.2 percent (ZIPRSP, 2016:31). Despite the high level of poverty prevalence in Epworth, rural districts in general had the highest poverty prevalence.

In relation to household extreme poverty prevalence for rural districts, the district with the highest poverty prevalence was Nkayi district with 60.3 percent and the lowest was Chikomba district with 6.5 percent. The urban districts have much lower household extreme poverty prevalence with Epworth district having the highest of 20.8 percent, whilst Beitbridge district has the lowest of 0.9 percent (ZIPRSP, 2016:31). Although the Matabeleland region has some of the highest poverty prevalence, as noted in the discussion, the concentration of poor people in the province is much lower than in the other regions (ZIPRSP, 2016:31).

4.10.4 The growth rate in population, GDP and welfare in Zimbabwe

The population in Zimbabwe almost doubled in three decades from 1982 to 2012. In 1982 the population was 7.5 million which increased to 13.1 million in 2012 and an estimated 14.2 million in 2016 (ZIPRSP, 2016:26). In addition, the population in

Zimbabwe is projected to be 19.3 million in 2032 giving an average annual growth for the period 2012-2032 of 2 percent (ZimStat, 2015a:11). Comparing the rate of growth in population with the rate of growth in the economy, it is clear that poverty is on the rise in Zimbabwe. For instance, in 2016 it was estimated that the economy would grow by 1.2 percent. However, the actual growth of 0.7 percent was registered, reflecting worsening poverty levels as wealth creation was lower than the population growth (ZIPRSP, 2016:26).

In addition, the Parliament of Zimbabwe Budget Office (POZBO) indicated that the African Development Bank Report (AfDB) projected real GDP growth for Zimbabwe to be 1 percent in 2018 and 1.2 percent in 2019 while the World Bank projected 0.9 percent real GDP growth rate in 2018 and 0.2 percent in 2019 (POZBO, 2018:3). The mismatch between population growth and real GDP growth implies that there is need for the government to restore higher economic growth that outpaces population growth to sustain efforts in lifting the majority of the population out of poverty. Furthermore, Zimbabwe's per-capita gross domestic product for the period 2004 to 2016 falls among the lowest compared to other countries in the region. Table 5 gives the real GDP per capita for Zimbabwe from 2004 to 2008 followed by the graph for the same period. The comparison of real GDP per capita for Zimbabwe with other Southern African Development (SADC) countries (South Africa and Botswana) is also shown in the table and the graph. From the graphs Zimbabwe is proving to be the lowest in terms of real GDP per capita.

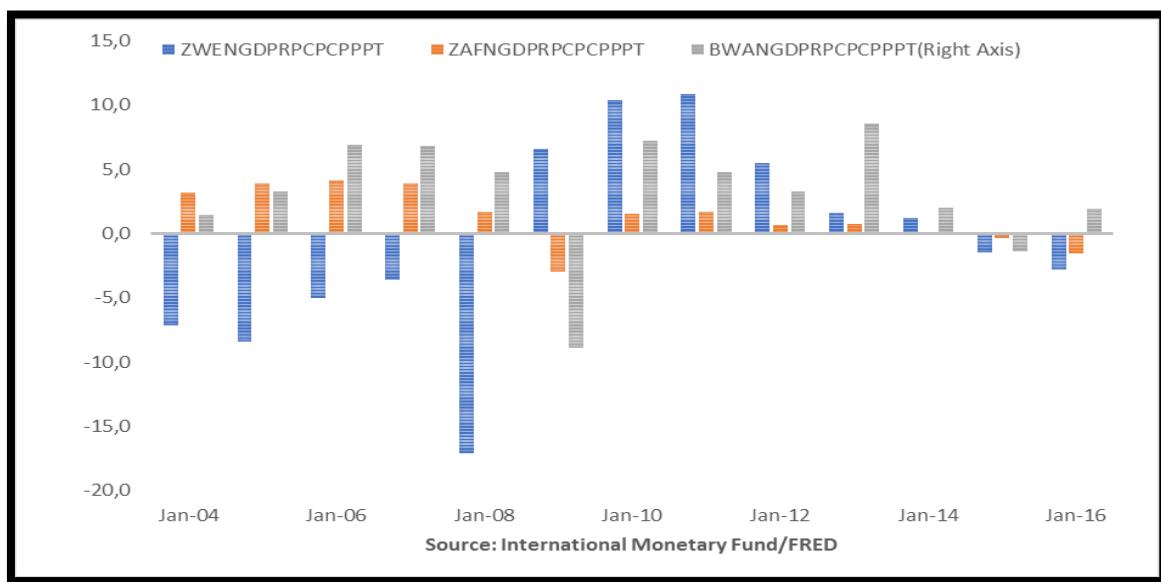
Table 5: Comparison of real GDP per capita growth rates for Zimbabwe, South Africa and Botswana

Date	Zimbabwe	South Africa	Botswana
	Value	Value	Value
2004	-7,2	3,2	1,5
2005	-8,4	3,9	3,3
2006	-5	4,2	6,9
2007	-3,6	3,9	6,8
2008	-17,1	1,7	4,8
2009	6,6	-3	-8,9
2010	10,4	1,5	7,2
2011	10,8	1,7	4,8
2012	5,5	0,6	3,2
2013	1,6	0,7	8,6
2014	1,2	0,0	2
2015	-1,5	-0,4	-1,4
2016	-2,8	-1,5	1,9

Source: International Monetary Fund/Fred

In table 6 above taking the real GDP per capita for Zimbabwe, Botswana and South Africa from 2004 up to 2008 Zimbabwe had the lowest real GDP growth rate. In 2004 it was -7.2 and it reached -17.1 in 2008. During the same period South Africa and Botswana's real GDP growth rates were 3.2 and 1.5 respectively and in 2008 South Africa and Botswana had 1.7 and 4.8 respectively. From 2009 to 2011 real GDP for Zimbabwe was growing and it reached 10.8 in 2011 before it started to fall where it reached -2.8 in 2016. Though South Africa's real GDP fell to -1.5 in 2016 and Botswana registered 1.9 growth rate, Zimbabwe is still below in terms of real GDP growth rates among the two countries. Figure 24 gives a clear picture of the growth rates in real GDP among the countries, South Africa, Zimbabwe and Botswana.

Figure 24: Graphical representation of the comparison of Real GDP per capita for Zimbabwe, South Africa and Botswana



In the period 2004 to 2016, Zimbabwe had the lowest real GDP per capita in 2008 compared with South Africa and Botswana. The period where Zimbabwe's real GDP per capita improved was from 2009 to 2011 before it started to decline. Compared with South Africa and Botswana, Zimbabwe is the country with the lowest growth rate in the period under consideration.

Until in August 2013, for three decades, the per capita income in Zimbabwe was declined to reach a level similar to that of Somalia, slightly better than Democratic Republic of Congo (DRC) and roughly comparable to that of Burundi (ARC, 2014). On per capita basis, the purchasing power income for Zimbabwe was half that of Mozambique (ARC, 2014). It was also noted that, in 2013, Zimbabwe was in a worse-off than in 2000 and 1980 in terms of economic performance. This shows that the country was not performing well in terms of growth (ARC, 2014). Moreover, in terms of income inequality, the income Gini coefficient shows that income inequality is relatively high in Zimbabwe. It is alleged that in Zimbabwe income inequality stands at 0.42 in 2011/12 and the highest quintile had almost two-thirds (0.63) of the total income, whilst the lowest quintile had only 2 percent of the total income (ZIPRSP, 2016:30; Arruda, 2018).

4.10.5 The welfare system in Zimbabwe

The national social security welfare system in Zimbabwe is compulsory and it was officially started in 1994 with the National Social Security Authority (NSSA) advancing a National Pension Scheme (NPS) and a Workers' Compensation Insurance Fund (WCIF) for employers and employees (ARC, 2014:10; Kaseke, 2017). The workers and the employers both share the payment towards the pension fund. The worker pays 50 percent and the other 50 percent is paid by the employer. Workers receive payments at retirement age, or when they become disabled or suffer an accident (ARC, 2014:30).

However, there is a considerable group of people excluded from the social security fund - groups of household workers, agricultural labours, and those individuals employed in the informal sector (Mushunje and Kaseke, 2018:105; ARC, 2014). The hyperinflation period proved to be a challenge to the social security system of Zimbabwe to the extent that the payment system was suspended because the value of the Zimbabwe dollar was not significant (Mushunje and Kaseke, 2018). In 2011 and 2012, NSSA collections increased substantially because of an improvement in the economy even though the number of employers who were paying subscriptions was little than expected due to capital constraints (Mushunje and Kaseke, 2018).

In Zimbabwe there is no unemployment benefits for those who are not employed (ARC, 2014 : 30). With the unemployment rate estimated to be around 80 percent, very few people benefit from the money issued by NSSA (ARC, 2014:30). As a result of the fact that the economy of Zimbabwe is weak, it is very difficult for the country to fully support a strong welfare system. In reality, the impact of high unemployment, a constrained tax base and poor productivity, the economy surely cannot support a viable social security system (ARC, 2014:30). Only in 2011 after a decade of economic hardships did the pensioners started to receive a notable amount of money of 40 dollars which was increased to 50 dollars in the year 2012

and later raised to around 90 dollars in 2017 (ARC, 2014:30). The time NSSA planned to raise insurable income from 200 dollars to 1000 dollars, the organization was criticised by the employers and their representatives and the government (Mushunje and Kaseke, 2018). The government resisted this move because its wage bill takes up the biggest amount of the budget which means that raising the amount was going to create pressure from its employees (Mushunje and Kaseke, 2018).

The major issue with the rise in the deficits and increase in government expenditure financed by creating money through real time gross settlements is that the rising inflation devalued the pension funds and payments as well. As of June 2019, the pensions for many pensioners were eroded in value due to the effects of inflation which forced the rise in prices of basic commodities. Due to persistent rises in prices of goods and services, poverty levels in the country are increasing and it is estimated that more than 70 percent of people are living below the poverty line of \$1.25 per day and 72 percent live below the national poverty line. As a result, large segments of the population tend to rely upon the support of their family members if they become unable to work due to old age or illness, not NSSA.

In October 2014, NSSA reported that only 50 percent of companies were paying the compulsory employee contributions to the pension fund as the economy continues to struggle to pay compulsory employee contributions. On the other hand, even though state run pension fund is mandatory, state owned companies are finding it hard to pay. Compliance increased by 4 percent only from 2011 to 2013 (ARC, 2014:30).

4.11 HEALTH IN ZIMBABWE

In Zimbabwe the public health system provided by the Ministry of Health and Child Welfare (MOHCW) is the largest health-care service in the country. Mission hospitals and non-governmental organisations (NGOs) complement the efforts of the

government in the provision of health-care services (MOHCW, 2014:5). To show that health care services provided by the government contribute more, in 2008 the government provided about 65 percent of health care services in the country with 45 percent provided by the private sector which include mission hospitals, NGOs and private hospitals (MOHCW, 2014:5). However, the social and economic predicaments which affected the country led to the deterioration of the sector leading to loss of experienced personnel and the general fall in the quality of services given to clients (MOHCW, 2014:5).

According to Witter et al., (2017) the ratio of physicians to patients deteriorated in Zimbabwe to the level that in January 2016 it was recorded that there were 1.6 physicians and 7.2 nurses for every 10 000 people. It was further recorded that in Zimbabwe there is a vacancy rate of over 50 percent for doctors, midwives, laboratory staff and environmental health staff due to dropouts and few people who are willing to be trained (MOHCW, 2014 : 18; Witter et al., 2017). In addition, in Zimbabwe there is a rise in preventable diseases like HIV and AIDS, malaria, tuberculosis and other vaccine-preventable diseases, diarrhoeal diseases and health issues affecting pregnant women and neonates (Batsell, 2018). In every year in Zimbabwe one in every 11 children dies before his or her fifth birthday (Batsell, 2018).

Expressing in numbers, 35 500 children in Zimbabwe die under age of five almost every year (MOHCW, 2014:10). According to the World Fact book Zimbabwe, there were 1.7 beds per 1000 population as at 2011 and the major hurdles people face in accessing medicines in Zimbabwe include drug stock-outs, long distances to clinics and huge medical costs (ARC, 2014:32). It is further alleged that health facilities in the country stock less or half of the required medicines patients require at any given time. The economic crisis in the country is truly affecting the ability of the government to provide enough funds to the health sector (ARC, 2014:32).

Ruth Labode, a medical doctor and a member of parliament for the Movement for Democratic change (MDC), said in a press statement in May 2014:

"The government's inability to adequately fund public health had forced hospitals to deny the poor access to health care. Patients are left to die because they cannot afford tertiary care services. The service providers have withdrawn their services or are demanding cash up front. She went on to say, health service delivery has been crippled by corruption such as theft of drugs and equipment from hospitals and the flouting of tender processes by hospital officials for personal gain. In addition, she highlighted that, the migration of trained labour has hit the health sector more than any other sector in the economy" (ARC, 2014:32).

Regina Smith, president of the Zimbabwe Nurses Association (ZNA), also indicated that:

"Hospitals are severely understaffed, hundreds of nurses that have been trained locally have found it difficult to be employed because government had frozen vacancies in the public sector. She also revealed that, health facilities in 2014 were operating below 40 percent of their capacity because government could not afford to buy drugs and fund other essential operations and rural facilities were lacked 50 percent of the needed medicines" (ARC, 2014:32).

Poverty is impacting on health on many fronts which include high prevalence of preventable diseases, mental illness, stress, suicide and death, increase in HIV/AIDS prevalence, high infant mortality, and malnutrition especially among children. Overall, health challenges faced by communities are viewed largely as an outcome of poverty, rather than a cause of it (ZIPRSP, 2016:38).

Notably, HIV/AIDS remains a significant public health problem, despite the decline of HIV prevalence from 17.4 percent to 16.5 percent in 2012 and 2017 respectively for adults 15-49 years, with women being worse off than men. Although there was a fall in HIV/AIDS prevalence, the number of new tuberculosis (TB) cases reported in 2016 is still a high figure. For instance, it was noted that in 2016, 269 per 100 000 cases of tuberculosis were recorded (ZIPRSP, 2016:38).

Accordingly, in 2012, the Maternal Mortality Ratio (MMR) declined to 525 deaths per 100 000 live births in 2012 from a high figure of 1 069 deaths per 100 000 live births in 2002 even though it was higher in rural areas compared to urban areas (ZIPRSP, 2016:38). The proportion of women who have at least four antenatal care (ANC) visits, as recommended by the World Health Organisation (WHO), has been increasing over the years to its current level of 75.7 percent in 2015 (ZIPRSP, 2016:38). Nonetheless, rural areas are worse off than urban areas in this regard (ZimStat, 2015b:5). The proportion who had at least four ANC visits in 2015 generally increases with wealth quintile.

According to the ZIDHS (2015), 78.1 percent of births in Zimbabwe are attended by a skilled doctor or midwife showing an improvement from 72.5 percent in 1999 with rural areas worse off (ZIDHS, 2015:9). The proportion of births attended by skilled health personnel increases with wealth quintile. The number of births delivered at home increased from 23.3 percent in 1999 to 33.5 percent in 2010 to 2011, before declining to 17.6 percent in 2014 (ZIDHS, 2015:9). Poverty in Zimbabwe is leading to early marriages and prostitution, as girl children try to cushion themselves against vulnerability to poverty. In addition, this increases the risk of divorce and HIV infection. Other social impacts highlighted include lack of clothing, shelter and food, family despondence, loss of "Ubuntu", that is, social fabric is lost, hopelessness, helplessness, and shame.

For instance, the ZIPRSP (2016) indicated that 24.4 percent of girls aged 15 years and 19 years were married in Zimbabwe or in a union in 2014, increasing from 21.3 percent in 1999. As if not enough, adolescent females aged between 15 years and 19 years who are child bearing are numerous to the extent that in 2015 there were 22 percent of these women, increasing from 20.5 in 1999. In addition, Zimbabwe is suffering from the effects of cancer among women, especially cervical cancer. The worrying aspect of this is that many women did not have the physical examination for cervical cancer. It was reported that only 13 percent of women in 2015 went through a cervical exam, with rural areas worse off compared to towns (ZIPRSP, 2016:40).

Neonatal and infant mortality remain unacceptably high in Zimbabwe. The infant mortality rate (IMR) consistently declined from 65 per 1 000 births in 1999 to 50 deaths per 1000 live births in 2015, with rural areas worse off (ZIDHS, 2015:10). Neonatal mortality rate remained at the same level at 29 deaths per 1000 live births between 1999 and 2015. The proportion of children fully vaccinated generally increased with wealth quintile, whilst those who had not received any vaccinations showed an opposite trend (ZIDHS, 2015:10). The proportion of children below the age of six months who were exclusively breastfed has increased from 31 percent in 2010 to 2011 to 48 percent in 2015 and under-five mortality rate remains high in Zimbabwe at 69 deaths per 1 000 live births in 2015, having generally declined from 102 deaths per 1000 live births in 1999.

In terms of access to water, in Zimbabwe, 76.6 percent of the households had access to safe drinking water in 2011 and 2012 respectively (ARC, 2014). Generally, in Zimbabwe, households' access to safe drinking water decreases with poverty levels, and this pattern is the same for rural and urban households. In relation to sanitation in Zimbabwe, access to safe sanitation is worse compared to access to safe drinking water in both rural and urban areas. Nationally, 55.9 percent of the households had access to safe sanitation in 2011 and 2012. Access to safe sanitation

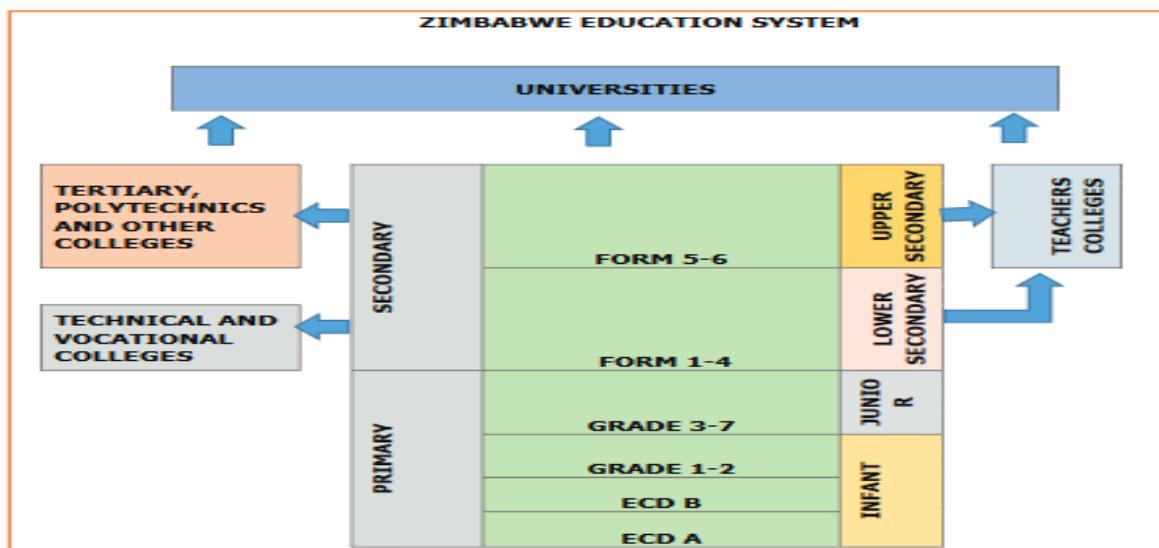
decreases with poverty and this pattern is true in both rural and urban areas (ZIPRSP, 2016:45)

4.12 EDUCATION IN ZIMBABWE

The Ministry of Primary and Secondary Education (MoPSE) together with the Ministry of Higher and Tertiary Education, Science and Technology Development (MOHTESTD) are responsible for the education sector in Zimbabwe. The MoPSE is directly responsible for primary and secondary education while the MOHTESTD is responsible for higher education in the country. These ministries are directly controlled and regulated by the cabinet of Zimbabwe. Education was declared a basic human right in 1980 in Zimbabwe with primary and secondary education recognized as free and compulsory. The importance placed on education in Zimbabwe since 1980 has seen education being instrumental in skills development for people in the country (Shizha and Kariwo, 2011:5). Notably, the curriculum in Zimbabwe is highly centralized mostly determined by different stakeholders who include a panel of subject teachers, education officers and representatives from the teachers' associations, universities, churches and many other stakeholder groups.

Figure 25 below gives the structure of the education sector in Zimbabwe.

Figure 25: The structure of the education system in Zimbabwe



Source: MoPSE (2014:1)

As shown in figure 25, the education system in Zimbabwe is comprised of primary, secondary and tertiary/higher education. Primary level is sub-divided into infant education, which includes Early Childhood Development (ECD) A, B as well as grade 1 and 2 (MoPSE, 2015). In addition to early childhood development, there is also junior education in primary level which includes grades 3 to grade 7. Secondary level has lower secondary (forms 1 to 4) and upper secondary forms 5 to 6. The tertiary or higher education in Zimbabwe covers teachers' colleges, polytechnics, technical/vocational colleges and universities.

Zimbabwe was recognised as the country with the best education system in Africa. The curriculum for black Zimbabweans was developed in the 1950s and from 1980 there was a rapid expansion of the sector. As a result, the adult literacy rate for the Zimbabwean population for people 15 years and above who completed at least grade three stood at 98 percent in 2014, one of the highest in sub-Saharan Africa, with gender parity (Shizha and Kariwo, 2011:5). According to the MoPSE's annual statistical report, as at 2014 at least 98 percent of the schools in Zimbabwe provided ECD and B, while 67 percent provided ECD A (MoPSE, 2014:13). Net enrolment

ratios (NERs) for Infant level ECD A and ECD B - that is, grade 1 and 2 - were generally low for both girls and boys.

According to the ZIPRSP (2016:420 and MoPSE (2014: 77) net enrolment ratios for ECD A and ECD B grades 1 and 2 was at 53.1 percent in 2015, with gender parity, whilst those for junior level grades 3-7 are generally high at 77.5 percent with near gender parity. NERs for lower secondary forms 1-4 were generally low at 54.2 percent in 2015 for both girls and boys, with a bias against boys, whilst the expected low NERs at upper secondary forms 5 and 6 of 8 percent in 2015 have a bias against girls (ZIPRSP 2016:42). Participation in education at primary and secondary school levels varies with poverty with children from the extremely poor households more likely not to be enrolled in school at both levels. However, poverty reduces net enrolment more at secondary school level than at primary (ZIPRSP 2016:42; MoPSE 2014:79).

However, there was a rise in tertiary education enrolment which includes universities, teachers' colleges, technical colleges and industrial training centres in Zimbabwe from 2012 to 2016. Tertiary education enrolment rose from 87 779 to 104 698 during the same period, which represented a 19 percent increase (ZIPRSP 2016:42; MoPSE 2014:78). However, the share of women enrolled in universities, technical colleges and information technology centres is high and above 50 percent in non-science disciplines and generally low in the hard-core science disciplines such as engineering, whilst women are over represented in primary and secondary teachers' colleges at 70 percent of enrolment in 2012 (ZIPRSP 2016:42; MoPSE 2014:78). This implies that women remain in soft, low remunerating occupations.

In terms of poverty and education, in the years 2010 and 2011, nationally, poverty decreased with the education of the head of household, with households whose heads have no education having 81.5 percent poverty prevalence compared to those with post-secondary education with 17.5 percent (ZIPRSP 2016:42; MoPSE 2014:

78). Extreme poverty levels on the other hand were 28.9 percent for the family with a household head without education and 1.1 percent for the household with education, and this trend was true for households headed by both female and males. Moreover, the pattern is similar for rural and urban areas, with rural areas being worse-off. In relation to primary education, children from the extremely poor households are more likely to have never been to and/or dropped out of school, compared with their counterparts from moderately poor and non-poor households (MoPSE 2014:78).

Children from extremely poor households have the highest proportion of those who have never been to school which stands at 5.6 percent, whilst the non-poor have the lowest (1.7 percent in 2011 to 2012), with boys being worse off than girls (MoPSE, 2014 :72). With regards to school dropouts, children from extremely poor households have the highest proportion at 10.5 percent, with the non-poor having 4.9 percent, with boys being worse off than girls. In secondary education forms 1 to 4, there was no difference in school dropouts by poverty category, which is around 10 percent, with girls being worse off than boys. The reasons for dropping out of secondary school are mainly financial and pregnancy related, the latter affecting the girl child more than the boy child (MoPSE, 2015:72).

However, in terms of financial assistance the government makes an effort to provide financial assistance to the disadvantaged children. For instance, under the Basic Education Assistance Module (BEAM), during the period 2012-2016, a cumulative 3 097 317 students were supported with tuition fees at a total cost of US \$ 72.6 million, with gender parity. Students receiving assistance declined from 460 239 in 2012 to a mere 10 817 students in 2015, consistent with the decline in the resources (ZIPRSP 2016:46). The education sector registered progress in relation to gender and women's development. However, the share of women in top decision-making positions in the civil service falls far short of the gender equality target of 50 percent (ZIPRSP 2016:50; MoPSE 2014:77).

4.13 FINANCIAL INCLUSION IN ZIMBABWE

In Zimbabwe financial inclusion is defined as:

“the effective use of a wide range of quality, affordable and accessible financial services, provided in a fair and transparent manner through formal or regulated entities to all Zimbabweans”(ZINFIS, 2016:15).

The definition of financial inclusion in Zimbabwe is premised on a number of principles which include effective use of financial services. The Zimbabwean government has the view that usage of financial services must be taken as a way of life for all the people including the youth, women, disabled, small business owners, smallholder farmers and many other groups of people marginally excluded from the use of formal financial services (ZINFIS, 2016:16; Masiyandima 2017).The other principle underlying the definition of financial inclusion is the provision of a wide range of products and services to everyone which includes banking, insurance, pension capital markets and remittances.

Moreover, the other principle of financial inclusion in Zimbabwe is the provision of quality financial products, suitable for people's needs so as to improve their welfare (ZINFIS, 2016:16; Masiyandima 2017). Furthermore, accessibility of financial services is another underlying principle of financial inclusion in Zimbabwe. In this way, financial access point should be near the intended beneficiaries to promote regular use of the financial services. Moreover, fairness and transparency is another underlying principle of financial inclusion in Zimbabwe. With this principle, financial inclusion should reach the marginalised sections of the society so that people will be able to gain access to affordable and appropriate financial products and services without being subjected to exploitation. This will help to increase the level of trust in the financial products and services (ZINFIS, 2016:16).

The other underlying principle is formalisation of the provision of financial services to the marginalised population in Zimbabwe to ensure that exploitation of low income groups by informal service providers is greatly reduced. When financial services are provided formally, money laundering risks will be easy to manage as well as effective monitoring will be possible. Finally, sustainability of the financial sector is another underlying principle of financial inclusion which implies that the transaction costs should be reduced and there should be better products and services that meet client needs. Sustainability entails finding new ways to reach the unbanked population of the society (ZINFIS, 2016:17; FinScope, 2014). These principles of financial inclusion in Zimbabwe help to shape the objectives or goals of financial inclusion in the country. Some of the strategic goals of financial inclusion in Zimbabwe are explained in the following section.

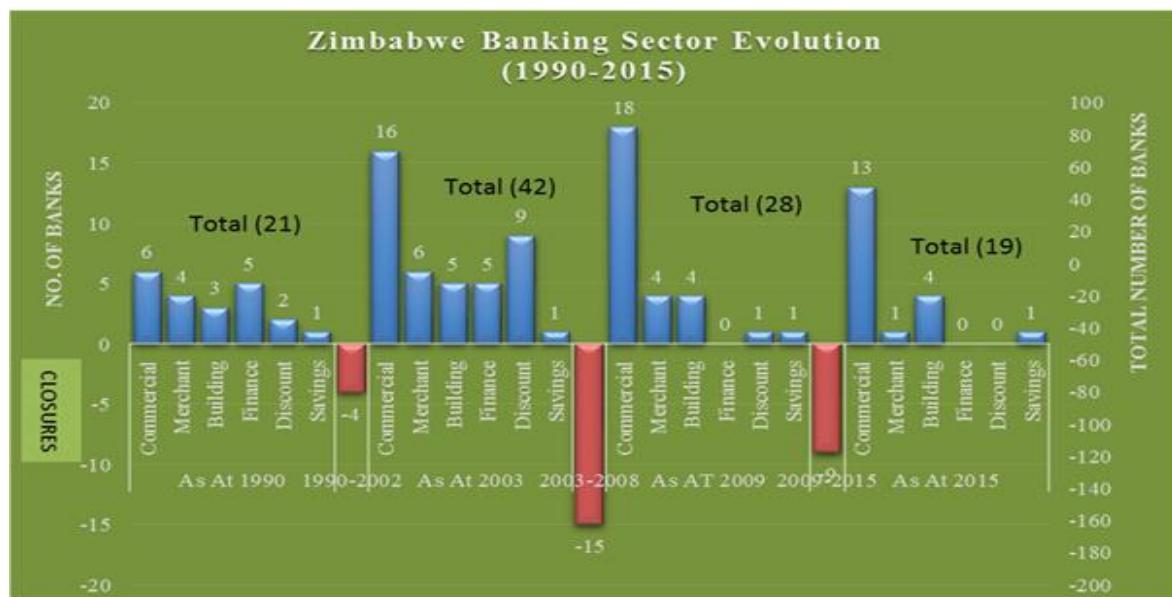
4.13.1 Strategic goals of financial inclusion in Zimbabwe

The Zimbabwean government came up with the National Financial Inclusion Strategy (ZINFIS) in 2016 which spelled out the number of strategic goals of financial inclusion. One major goal of financial inclusion in Zimbabwe is to increase the level of financial access so that people will have access to affordable and appropriate financial products and services from 69 percent in 2014 to at least 90 percent by 2020 (ZINFIS, 2016:17; FinScope, 2014). In addition, ZINFIS also spelled out that the percentage of banked adults must increase from 30 percent in 2014 to at least 60 percent by 2020 (ZINFIS, 2016:17). While the target of financial inclusion in Zimbabwe is to increase the level of financial inclusion among the adults, there is also a recognition of the needs of special interest groups of women, youth, small businesses, the rural population and the small scale agricultural communities (ZINFIS, 2016:17; Chitiga et al., 2005; Masiyandima 2017).

4.13.2 The financial sector in Zimbabwe

The financial sector in Zimbabwe has different players who provide a variety financial services which include insurance, pensions, banking, payment systems, microfinance services and development finance services. Figure 26 below shows the evolution of the banking sector in Zimbabwe from 1990 to 2015.

Figure 26: Zimbabwe banking sector evolution (1990-2015)



Source: Masiyandima (2017:6)

As shown in figure 26, in 1990 the total number of banking institutions was 21. The number included six commercial banks, four merchant banks, three building societies, five finance houses, two discount houses and one savings bank. The total number of banks improved in 2003 to reach a figure of forty-two total number of banking institutions before declining to 28 in 2009. In 2015 the number of banking institutions further declined to only 19. Table 7 gives the architecture of the financial sector in Zimbabwe as at December 2015. It shows the number of banking institutions and other formal financial institutions like microfinance institutions and development finance institutions.

Table 6: Architecture of the financial sector in Zimbabwe

Type of Institutions	Number of institutions
Commercial Banks	13
Merchant Banks	1
Building Societies	4
Savings Banks	1
Total Banking Institutions	19
Credit Only Microfinance Institutions	153
Deposit Taking Microfinance Institutions	2
Development Finance Institutions	2

Source: ZINFIS, (2016:4)

As shown in table 7, the latest Reserve Bank of Zimbabwe (RBZ) figures show that the financial sector in Zimbabwe comprised of 19 banking institutions, 153 credit only microfinance institutions (MFIs), two deposit MFIs and finally two development finance institutions as at January 2016 (ZINFIS, 2016). Table 8 shows the total number of branches of all the financial institutions listed in table 7 above for the same period. Examples of banks in Zimbabwe are Agricultural Development Bank of Zimbabwe, Banc ABC Zimbabwe, First Capital Bank Limited, CBZ Bank Limited, Ecobank Zimbabwe Limited, FBC Bank Limited, Nedbank Zimbabwe Limited, Metbank, NMB Bank Limited, Stanbic Bank Zimbabwe Limited, Standard Chartered Bank Zimbabwe Limited, Steward Bank, ZB Bank Limited. All these are commercial banks, on merchant banks, there is Tetrad Investment Bank Limited, while Building Societies we have CABS, FBC Building Society, National Building Society, ZB Building Society. Savings Banks there is People's Own Savings Bank and lastly development institutions we have Infrastructure Development Bank of Zimbabwe and Small and Medium Enterprises Development Corporation.

Table 7: List of branches and access channels in Zimbabwe

Product/Service Type	Total
Main Branches	406
Sub-branches	22
Agencies	3, 075
High net worth centres	24
Satellite branches/mobile units	2
Automated Teller Machines	472
Total	4, 001
Microfinance Institutions branches	495
Grand Total	4, 496

Source: ZINFIS (2016:5)

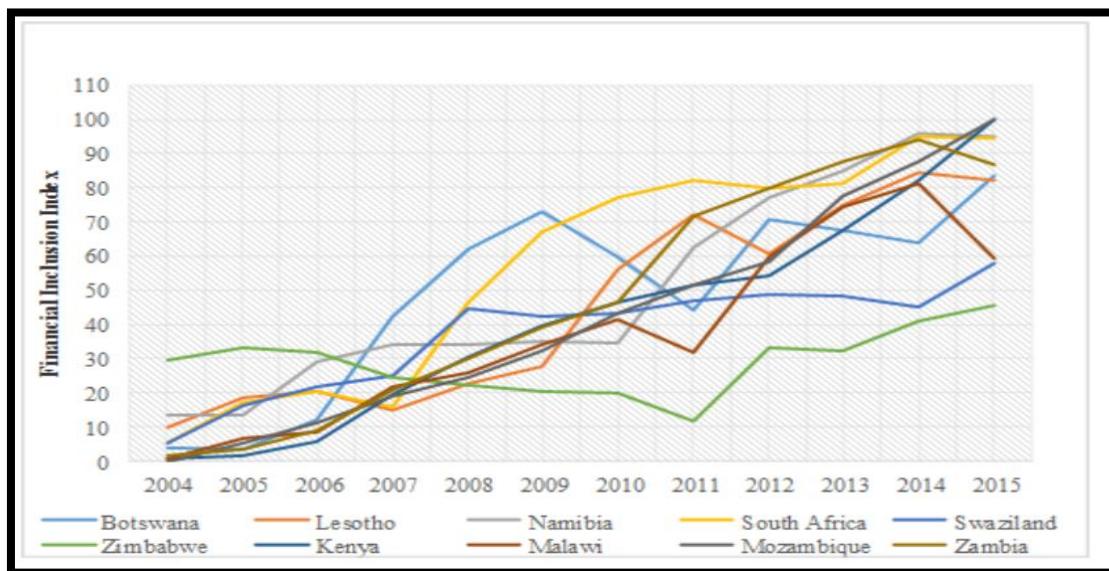
The country has a total of 4,496 access channels which comprise of branches, sub-branches, agencies, high net worth centres, satellite/mobile units, automated teller machines as well as microfinance institution branches (ZINFIS, 2016:5). Main bank branches were 406 with 22 sub-branches. The number of agencies was high at 3 075 while high net worth centres were 24. There were only two satellite branches or mobile units and automated teller machines were 472. The tables and figures in this section give the general picture of the financial sector in Zimbabwe. The section which follows will show the state of financial inclusion in the country.

4.14 STATE OF FINANCIAL INCLUSION IN ZIMBABWE

The government of Zimbabwe is putting in a lot of effort to ensure that there is an improvement in the level of financial inclusion in the country as a whole. In 2016, the government came up with a target to achieve 90 percent level of financial inclusion in 2020 (ZINFIS, 2016). Although effort is applied to promote financial inclusion, the ZINFIS (2016) indicated that Zimbabwe still needs to put more emphasis on products and services that are tailor-made to satisfy the needs of women, youth, small businesses, the rural population and the smallholder agricultural farmers. The gravity of the country's financial sector challenges and the

degree of financial inclusion becomes clearer when financial inclusion indices are compared with other African countries. Figure 27 shows how Zimbabwe progressed in terms of financial inclusion compared with other African countries.

Figure 27: Within country indices of financial inclusion for ten African countries



Source: World Bank (2017:7)

Figure 27 shows that Zimbabwe had significant losses in terms of financial inclusion from 2004 to 2011. Over the same period and beyond to 2015, other countries in the region like South Africa, Kenya and Botswana among others progressed significantly well, gaining milestones in terms of financial inclusion. These findings were supported by the survey carried out by Finscope in 2014 which discovered almost seven million adults of 18 years and above were not active financially. Expressed in percentage terms, the figure was close to fifty percent of the adult population which was not active financially. The Fin Mark survey concurred with the survey by Finscope by estimating that more than 40 percent of the adults in Zimbabwe were not financially active (FinScope, 2014; ZINFIS, 2016).

In 2016, the ZINFIS reiterated that the levels of financial inclusion are very low in Zimbabwe. The ZINFIS (2016:10) indicated approximately 70 percent of the total population in Zimbabwe is not active financially, that is, they are excluded from the formal financial services market. Table 8 summarises the key financial inclusion indicators for 2011 and 2014.

Table 8: Key financial inclusion indicators in Zimbabwe among the adult population

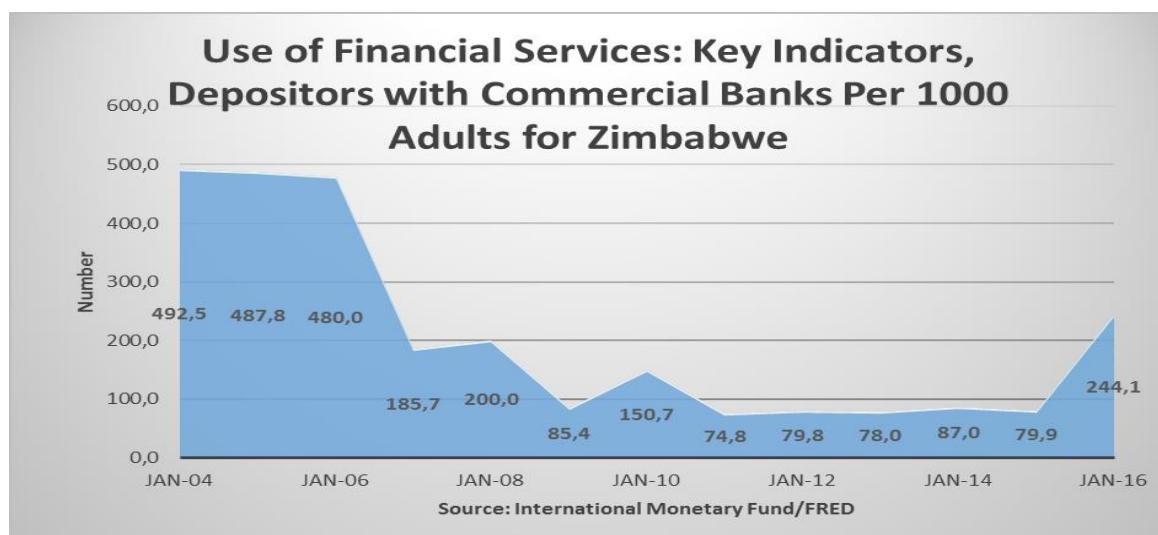
Indicator	2011	2014
Financially excluded	40%	23%
Formally served	38%	69%
Percentage population relying on exclusively informal financial products or services	22%	7.8%
Percentage population relying on exclusively bank products	8%	1%
Percentage population relying on exclusively non-bank products	6%	23%
Number of banked adults	1.45 million	2.17 million
Cell phone banking adults	40 000	560 000
Number of people registered for cell phone banking		3.15 million

Source: ZINFIS (2016:10)

Table 9 shows the number of adult people excluded from the formal financial services in 2011 and 2014 in Zimbabwe. In 2011, 40 percent were financially excluded and in 2014, 23 percent were financial excluded. The percentage of formally served in 2011 was 38 percent and in 2014 the figure improved to 69 percent. The number of banked adults compared to the number of registered for cell phone banking in 2014 was 2.17 million adults banked against 3.15 million adults registered on cell phone banking. This means that, in Zimbabwe, many people were registered on cell phone banking compared to those who banked in the formal banking institutions.

On the other hand, the 2014 Finscope survey, showed that financial inclusion levels are not balanced between rural dwellers and those residing in urban areas. It was recognised that, despite the fact that 70 percent of the population in Zimbabwe are staying in the rural areas, the level of financial inclusion in rural areas is 62 percent compared to 89 percent of urban dwellers. It was also revealed that only 14 percent of micro, small and medium enterprises (MSME) owners are banked. This shows that the majority of MSMEs owners are not using formal financial institutions for banking purposes. The Finscope survey estimated that 50 percent of business owners (approximately 1.4 million people) use informal mechanisms to manage their business finances (ZINFIS, 2016:13; Masiyandima 2017). Figure 28 indicates the number of depositors per 1000 adults in Zimbabwe from January 2004 to January 2016.

Figure 28: Number of depositors with commercial banks per 1000 adults for Zimbabwe

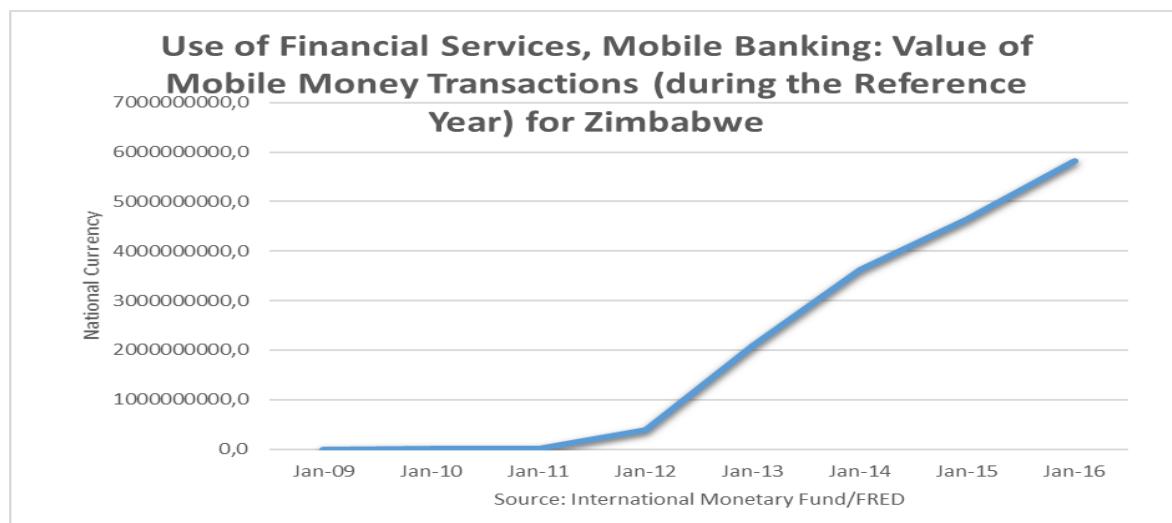


In figure 28, the number of depositors has been falling from 2004 up to 2016. As shown above, almost 492.5 per 1000 adults were using financial services but the figure dropped to 74.8 per 1000 adults in 2011 before increasing to 244.1 per 1000

adults in 2016. This is showing the picture that many adults in Zimbabwe do not use formal financial services like depositing money.

The other important factor to consider in Zimbabwe where financial services are concerned is the fact that many adult Zimbabweans rely on informal savings channels. The FinScope survey indicated that in 2014 only 20 percent of the adult population made use of formal savings channels, while 23 percent were using informal channels (ZINFIS, 2016). There is also more evidence that many Zimbabweans are opting for mobile money transactions as opposed to formal banking services. For instance, Eco Cash, a mobile money company owned by Econet Wireless mobile company in Zimbabwe, revealed that in 2017 Eco Cash had 6.7 million registered users, compared with 2.17 million conventional bank account holders in the country. During the first six months of 2017, Eco Cash processed over \$23 billion. This implies that, in Zimbabwe, adults do not favour formal financial institutions for saving and other general transactions compared to mobile money. Figure 29 shows that the value of mobile money transactions has been increasing since 2009.

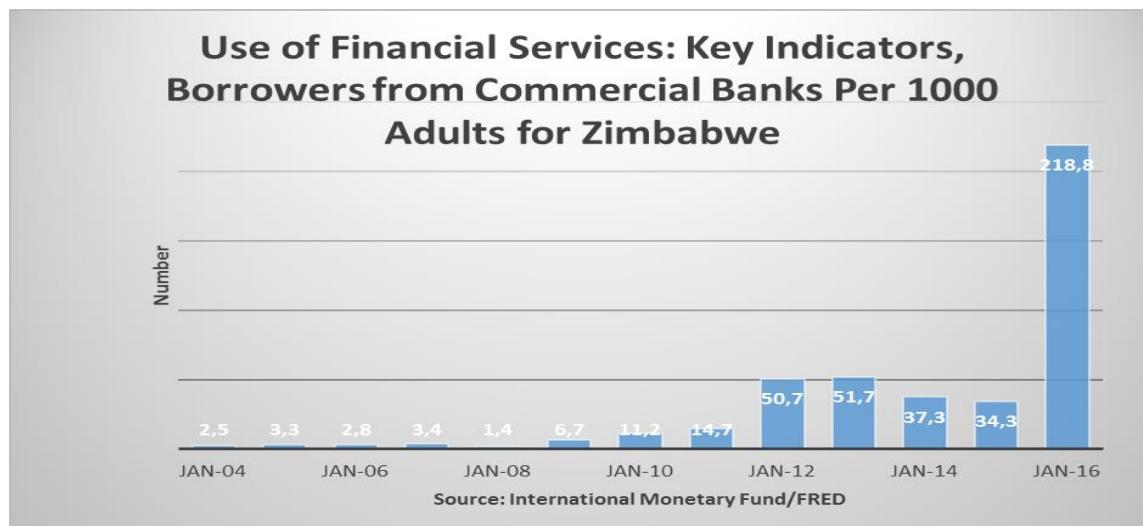
Figure 29: Value of mobile money transactions for Zimbabwe



In figure 29 above the value of mobile money transactions started to rise rapidly in the year 2011. During this period the formal banking users were falling to approximately 74.8 adults per 1000. The mobile money transactions rose to nearly 6 billion in 2016.

Besides savings, the Finscope also showed that adults in Zimbabwe do not borrow. It was estimated that almost 58 percent of the adult population do not borrow, but many rely on informal sources of credit which catered for 30 percent of adult borrowings (FinScope, 2014:8). Formal credit accounted for only 13 percent of adult credit in 2014 (FinScope, 2014:8). Figure 24 gives the number of borrowers from commercial banks per 1000 adults in Zimbabwe from January 2004 to January 2016

Figure 30: Borrowers from commercial banks per 1000 adults in Zimbabwe



In figure 30 the number of borrowers from commercial banks per 1000 adults was very low. In January 2004 only 2.5 per 1000 adults were able to borrow. The number of borrowers was low from January 2004 until 2015. In 2016 that's when the number increased dramatically to 218.8 per 1000 adults who were borrowing from formal financial institutions. The Making Access Possible (MAP) diagnostic review of 2015 also showed that the percentage of dormant accounts of deposits increased from

four percent in 2011 to 25 percent in 2014 and the percentage of active accounts also declined from 25 percent in 2011 to nine percent in 2014 in deposits. Deposits also declined from 32 percent in 2011 to 14 percent in 2014. Even though the RBZ is making effort to improve the levels of financial inclusion in Zimbabwe, the reality is that financial inclusion is still low in Zimbabwe. The next section will explain the study area together with the reasons the area was chosen.

4.15 STUDY AREA: MANICALAND PROVINCE

The study was carried out in Manicaland province of Zimbabwe situated in the eastern highlands. Manicaland province is the second populous province after Harare in Zimbabwe with a total population of 1 752 698 as of the 2012 census (ZimStat, 2012:19). This province is among the original five provinces created in the early colonial period of Zimbabwe. There are ten administrative districts in the province with three towns and seven rural districts. The capital city of the province is Mutare. The name of the province was directly derived from the largest ethnic group, the Manyika, a Shona sub-group who speak a distinct dialect, Manyika (Muzondidya and Ndlovu-Gatsheni, 2007:3). The province is bordered by three provinces which include Mashonaland East province, Midlands province and Masvingo province. The province also shares the border with Mozambique to the east.

The total area of the province is almost 9.28 percent of the total area of Zimbabwe, which is 36.459 square kilometres (ZimStat, 2012:19). Among the ten provinces in Zimbabwe, Manicaland Province is the sixth largest and its economy is centred mainly on industry and agriculture. In mining, the province is well known for large deposits of diamonds and gold, while in agriculture there is production of timber, tea and coffee plantations. Tourism is also part of the economic activity in the province. With the decades of economic hardships in the country, agriculture is one

of the economic activities dominating the province, especially smallholder farming (Muzondidya and Ndlovu-Gatsheni, 2007:3).

The people in Manicaland province speak Shona, but there are different sub-dialects in different districts, for instance, Mutasa district uses the Manyika sub-dialect (Mapfumo, 2015:91). Also, in Manicaland there are many places of interest apart from the capital city which act as tourist attraction centres. These places include Trout Beck Manicaland, Nyanga, Vumba, Chimanimani Mountains, Hot springs, Osborne Dam, Marange Diamond Fields, Birchnough Bridge and Mutarazi Falls. Figure 31 shows the capital city of Manicaland Province, Mutare.

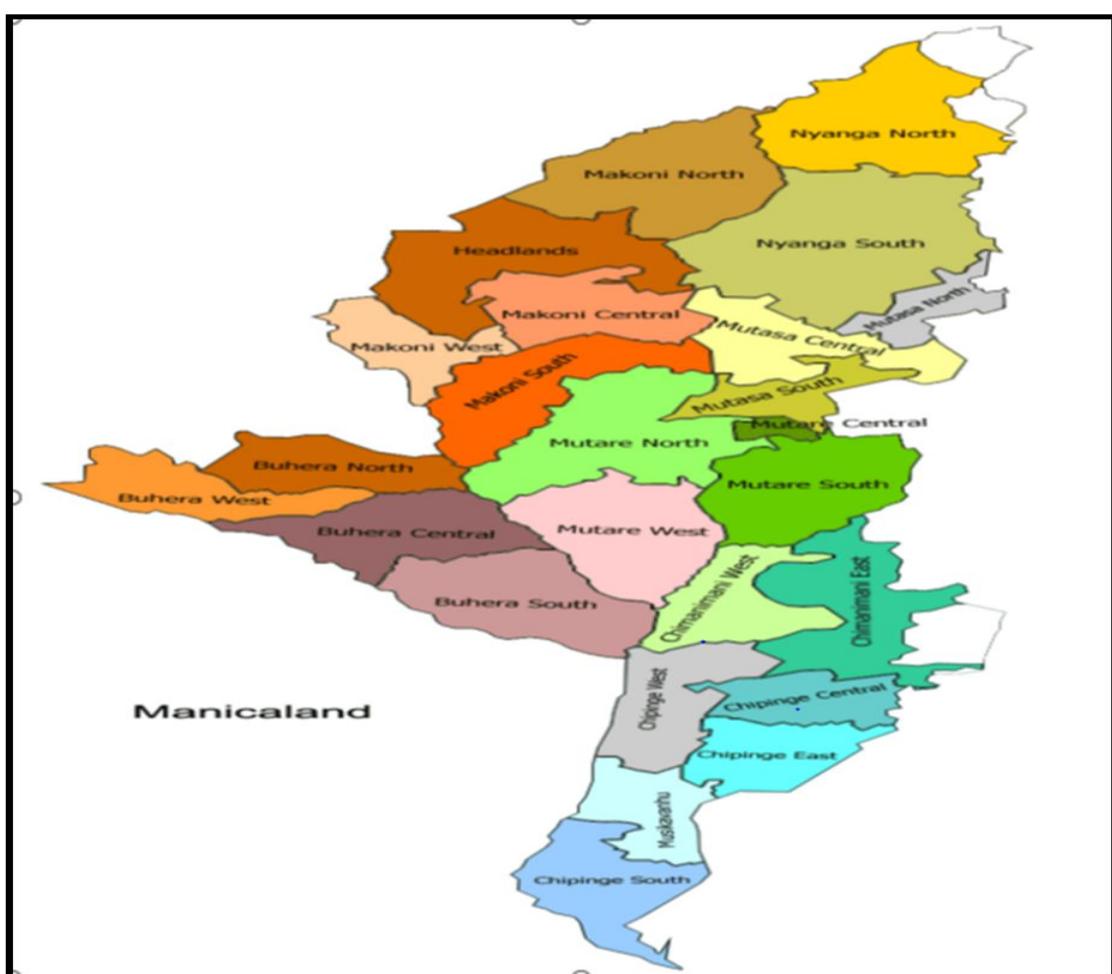
Figure 31: The capital city of Manicaland Province: Mutare



Source: Pindula (2018)

Figure 31 shows a photograph of Mutare city, the capital of Manicaland Province. The city was granted municipality/city status on June 11, 1914 and became the third largest municipality after Salisbury (now Harare) and Bulawayo. Figure 32 shows the map for Manicaland Province to see the structure and the location of the province in Zimbabwe.

Figure 32: Manicaland Province map



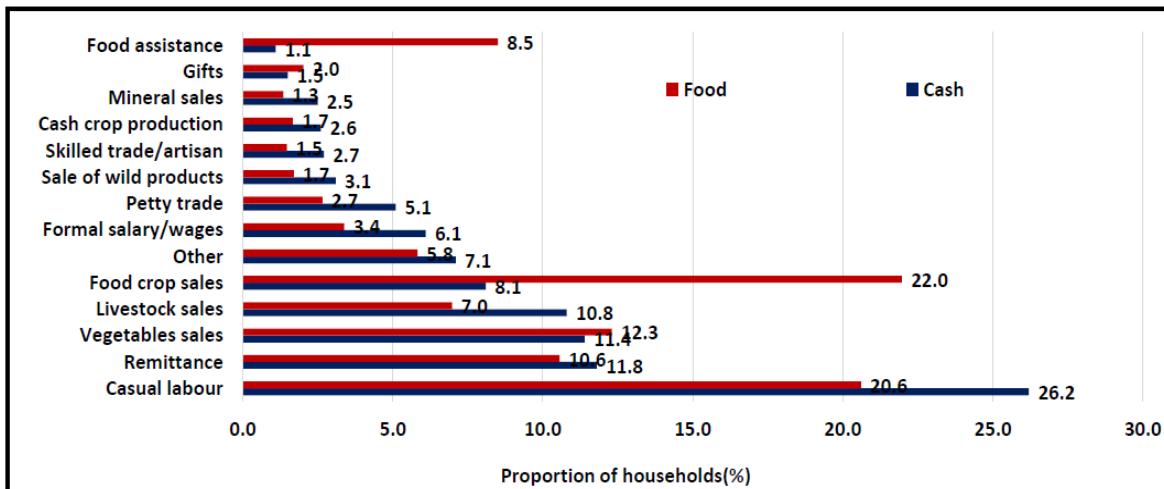
Source Mapfumo (2015: 93)

As shown in figure 32 the province is divided into ten districts which are further divided into many constituencies, for instance, Chipinge district is divided into constituencies like Chipinge South, Chipinge East, Chipinge West and many others. There are seven pure rural districts which include Mutare rural, Chipinge rural, Mutasa, Buhera, Chimanimani, Makoni and Nyanga. The three urban districts include Mutare urban, Rusape urban and Chipinge urban. However, each of the seven rural districts has growth points, for instance, Ruwangwe growth point in Nyanga, Huna growth point in Mutare, and Checheche growth point in Chipinge.

4.15.1 Choice of the area

Manicaland Province is one of the provinces where livelihoods of people are mostly agro-based. The major source of food in the province is own production through agricultural activities and the supply of casual labour (Mapfumo, 2015:56). In addition, Mapfumo (2015:56) noted that farmers in Manicaland own livestock, which acts as a source of income during years of droughts. It is alleged that livelihood strategies are reflected through sources of income for households over time. According to the Zimbabwe Vulnerability Assessment Committee's (ZimVAC) 2016 market assessment report, the dominant source of income by households nationally was casual labour, crop production as well as remittances by order of importance. In Manicaland the major crops grown by small resettled farmers are tobacco, maize, potatoes, groundnuts, roundnuts and wheat (ZimVAC, 2016:36). Figures 33 and 34 show the common household cash income and food sources used by the rural households in Manicaland Province of Zimbabwe in the years 2016 and 2017.

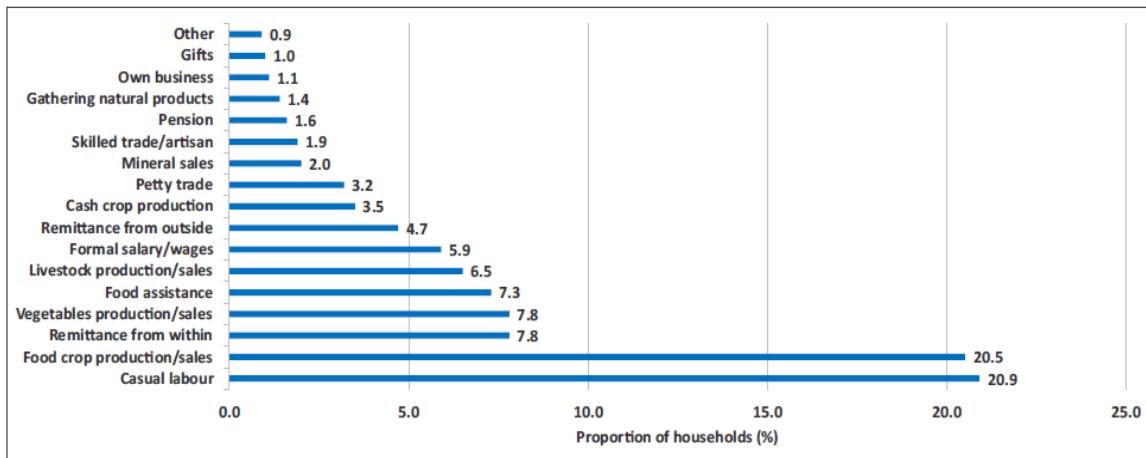
Figure 33: Most common household cash income and food sources used by rural households in Manicaland Province of Zimbabwe in 2016



Source: ZimVAC (2016:69)

From figure 33, food crop production was the most important source of food for about 22 percent of households, and labour exchange contributed food to about 21 percent. Vegetable production contributed food to 12 percent of households and food assistance was the most important source of food to nine percent of the households in the province. Twenty-six percent of households considered casual labour the most important source of cash income. This was followed by 12 percent who considered remittances as their most important source of cash income. More importantly, vegetable and livestock sales were amongst the most important sources of cash income for about 11 percent of rural households. Figure 26 gives the most important sources of income and food for the rural households in Manicaland province of Zimbabwe in 2017.

Figure 34: Most common household cash income sources used by rural households in Manicaland Province of Zimbabwe in 2017

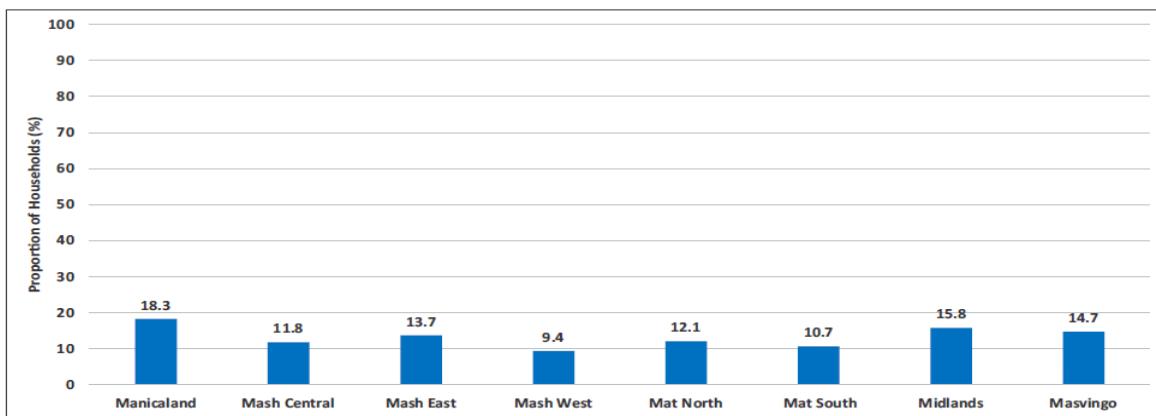


Source: ZimVAC (2017:92)

In 2017 the most important sources of income and food were casual labour and food crop production with 20.9 percent and 20.5 percent respectively. Vegetable production and sales as well as remittances were amongst the most important sources of income for about 7.8 percent of households. From the analysis in the diagrams above, food crop production is one of the most important sources of food as well as cash in Manicaland province of Zimbabwe. Given the fact that the livelihoods of people in Manicaland province are mostly agro-based, the performance of the agricultural sector especially among the smallholder farmers will impact more on their welfare. In other words, the agricultural sector dictates the pace at which the people will get out of the poverty zone or they will fall into poverty.

In addition, ZimVAC (2017) stated that Manicaland province had the highest number of households involved in rotation saving (Mukando group) (ZimVAC, 2017:108). This shows that many households in the province do not use formal financial services in saving. Figure 35 shows the percentages of households who are participating in rotation saving (Mukando) in Zimbabwe's ten provinces.

Figure 35: Rotation saving/mukando group by province in Zimbabwe



Source: ZimVAC (2017:92)

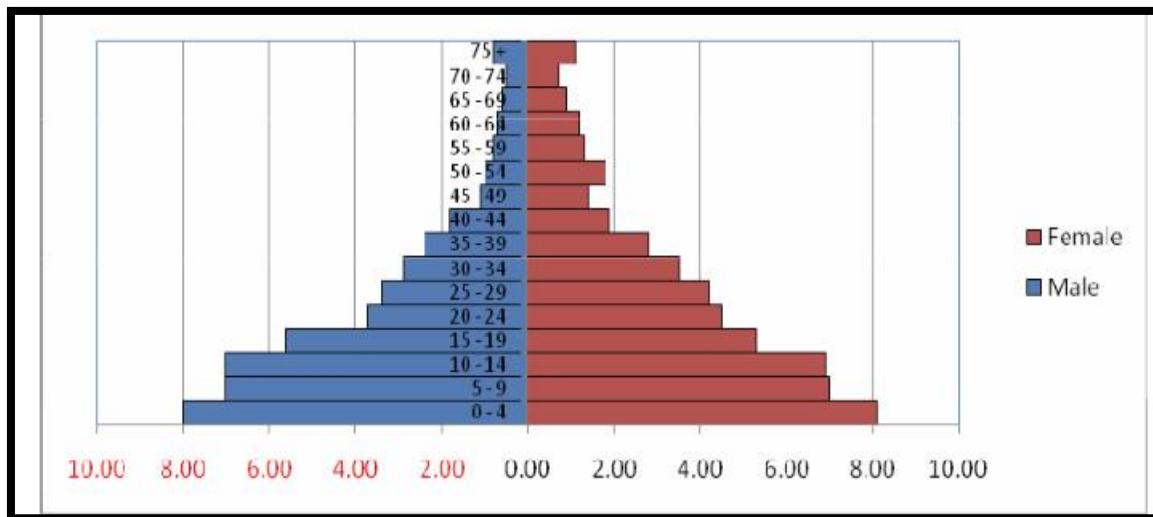
In figure 35, Manicaland had the highest proportion of households in rotation/Mukando group of 18.3 percent, followed by Midlands with 15.8 percent. Mashonaland West had the lowest number with 9.4 percent. The section which follows now exhibits the demographic structure and size of the population in the province. The section explains the main reasons for choosing the study area. Some of the highlighted reasons were the intensity of agricultural activities in the area where the people mainly derive their livelihoods from agricultural activities. The other reason was the highest number of people involved in rotation savings, a sign of limited access to formal financial institutions. Since the study is focusing on smallholder farmers, the sections which follow will also help to show the demographic structure, education and employment, housing conditions and many other aspects which help to describe the province. The section which follows will explain the demographic structure of the province.

4.15.2 Demographic structure and size

The total population of the province from the 2012 census stands at 1 752 698. The distribution of the population was as follows: the province has 830 697 males and 922 001 females (ZimStat, 2012:5). The province has many rural areas compared

to urban areas; urban areas constitute only 17 percent of the total population made up of rural areas. However, in all the districts in the province, at least each district has one urban set-up in the form of a growth point. The distribution of the population is shown in figure 36 below. It shows the population in Manicaland as a percentage of the various age groups from four years to 75 years.

Figure 36: Population pyramid in Manicaland Province 2012 Census



Source: ZimStat (2012:19)

In figure 36 the distribution of the population in Manicaland is such that people of ages ten and below make up the greatest percentage of people in the province. This age group is followed by the youth of ages 30 and below (ZimStat, 2012:19). Old age in Manicaland contributes a small percentage to the total population. In the province the proportion of males is 47 percent while females constitute 53 percent, resulting in a sex ratio of 90 which indicates that the province has more females than males (ZimStat, 2012:19). In other words, the sex ratio is the average of males per 100 females where, a ratio above 100 shows that males are more than females while a ratio below 100 indicates the opposite. In Manicaland the sex ratio indicated that the province has more females than males (ZimStat, 2012:19).

Moreover, the population in the province is relatively young, where 44 percent of the population is of the age below 15 years while three percent comprise of the population of ages 65 years and above. It is further observed that about 26 percent of the population never married. This large percentage may be due to high percentage of young people. Married people constitute 59 percent while those who were divorced, separated or widowed constitute seven percent in the province. In general, the population in the province is mainly rural with few people in the urban areas. The next section will now explain the education status of the province.

4.15.3 Education status and labour force activities

Education status in Manicaland shows that more than fifty percent of the population 3-24 years attends school. For instance, the 2012 census indicated that almost sixty-two percent of the population 3-24 years of age is attending school. There are also reports of pupils of 3-24 years who are not attending school at all and those who never went to school. The 2012 census indicated that about 12 percent of the population of school going age had never been to school while those who left school were about 26 percent (ZimStat, 2012:17). It is also argued that, in the province, more females of school going age leave school before completion compared to males in the province. For instance, in the 2012 census more than 30 percent of females left school compared to 24 percent of males.

There are also reports that many students in Manicaland province are in the labour force. The 2012 census indicated that 44 percent of children who are 10 to 14 years were directly involved in the labour force. The other important aspect in Manicaland is that there are more people employed in the agricultural sector compared to other sectors of the economy. For instance, it was stated that 60 percent of the people in Manicaland were engaged in agriculture related occupations, followed by the services sector with 16 percent (ZimStat, 2012:16).

4.15.4 Housing conditions and energy sources

Housing conditions in Manicaland showed that many households live in their own houses as owners or purchasers. For instance, the 2012 census showed that 73 percent in the province live in their own dwelling units as owners or purchasers. The percentage of households who are lodgers in the province is low which was estimated at 10 percent in the 2012 census. In relation to the type of dwelling units in Manicaland, 67 percent of the households, dwell in traditional type of houses while 28 percent reside in houses which are modern (ZimStat, 2012:16). With regard to energy sources and use, it was revealed that 60 percent of the households are not using electricity and the percentage of households staying in houses without electricity were in the range of 62 percent in Makoni district and 79 percent in Chipinge district.

On the other hand, in urban areas there are many households that are using electricity compared to rural areas. ZimStat (2012) indicated that in Mutare 81 percent of households have access to electricity while in Rusape 84 percent of households had access to electricity (ZimStat, 2012:17). Besides electricity, the province also uses firewood for cooking. It was observed that 81 percent of the households in the province use wood, while about 15 percent of the households use paraffin. The province uses other forms of energy like gas and coal in the province but less than one percent uses these forms of energy.

4.15.5 Sources of drinking water and toilet facilities

Many people in Manicaland have access to safe drinking water for cooking and drinking. The 2012 census indicated that 74 percent of households in the province have access to safe water, either piped or from boreholes or protected wells. The remaining 22 percent in the province use relatively unsafe water from unprotected wells, rivers, streams and dams (ZimStat, 2015b). The percentage of households with water at their premises was 28 percent and 35 percent had water within less

than 500 metres. However, in the province nine percent of the households travel more than one kilometre to get water. In Manicaland province as a whole household in Mutare and Rusape were better off where access to clean water is concerned compared to other districts. The two districts were better off in terms of both quality and distance from the source (ZimStat, 2012:17).

In addition, the 2012 census indicated that a greater proportion of households had no toilet facility at all (ZimVAC, 2017). It was noted that the proportion of households without a toilet facility was highest in Buhera where 50 percent had no toilet facility and lowest in Mutasa where six percent had no toilet facility excluding Mutare Urban and Rusape. In fact, in the whole province only 15 percent of the households use flush toilets, while 29 percent use blair toilets³. Those who were using pit latrines were 29 percent. The district with the lowest proportion of households who use flush toilets was Buhera with only two percent compared to Rusape with 85 percent (ZimStat, 2012:17).

4.15.6 Fertility and mortality rate

Fertility is another aspect of interest in the province. Direct methods were used to assess the estimates of fertility in the whole province using the census data. The fertility rate was estimated to be 4.3 children per woman and it varies with the level of education of mothers. In most cases those educated tend to have a lower fertility rate than the uneducated mothers (ZimStat, 2012:16). In relation to infant mortality rate, the whole province was estimated to have 69 deaths per 1000 births which was relatively higher for males compared to females in all districts in the province.

In fact, it was noted that the infant mortality rate was higher in rural areas than urban areas and the level of education of mothers influences the mortality rate. It

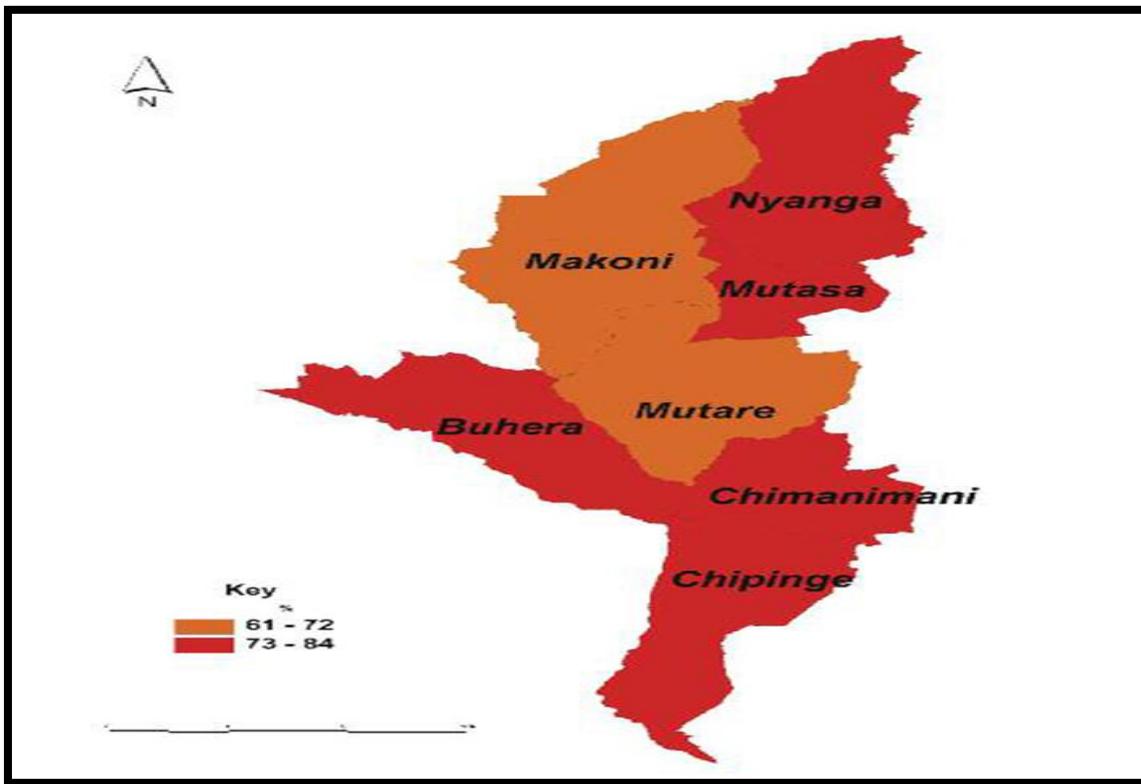
³ The Blair Toilet is a pit toilet designed in the 1970s for large-scale projects to improve rural sanitation in Rhodesia at the Blair Research Institute, and the toilet was further used during the after Zimbabwean Independence.

was noted that when mothers are highly educated, the infant mortality rate was also low (ZimStat, 2012:17). Maternal mortality had variations in all the districts in the province. Using data reported 12 months before the census, it was noted that the province had a maternal mortality ratio of 505 deaths which emanate from maternal causes per 100 000 live births (ZimStat, 2012:17). The next section will explain poverty prevalence in Manicaland province.

4.16 POVERTY PREVALENCE IN MANICALAND PROVINCE

Poverty prevalence for Manicaland Province was estimated at 70.1 percent from the PICES and 71.8 from the small area estimation. Districts most affected with poverty prevalence ranging from 73-84 percent as shown in figure 32 are Nyanga, Mutasa, Buhera, Chimanimani and Chipinge. Areas around Mutare Urban and Makoni had relatively lower poverty prevalence. They were in the range of 61 to 72 percent poverty prevalence rate. In fact, the seven rural districts in Manicaland have the highest poverty prevalence compared to urban districts. Figure 37 shows the poverty prevalence for Manicaland province.

Figure 37: Manicaland poverty prevalence



Source: ZimStat (2015c)

Figure 37 shows the poverty prevalence for Manicaland province. The next section explains poverty prevalence at district level in Manicaland Province.

4.16.1 Poverty prevalence at district levels

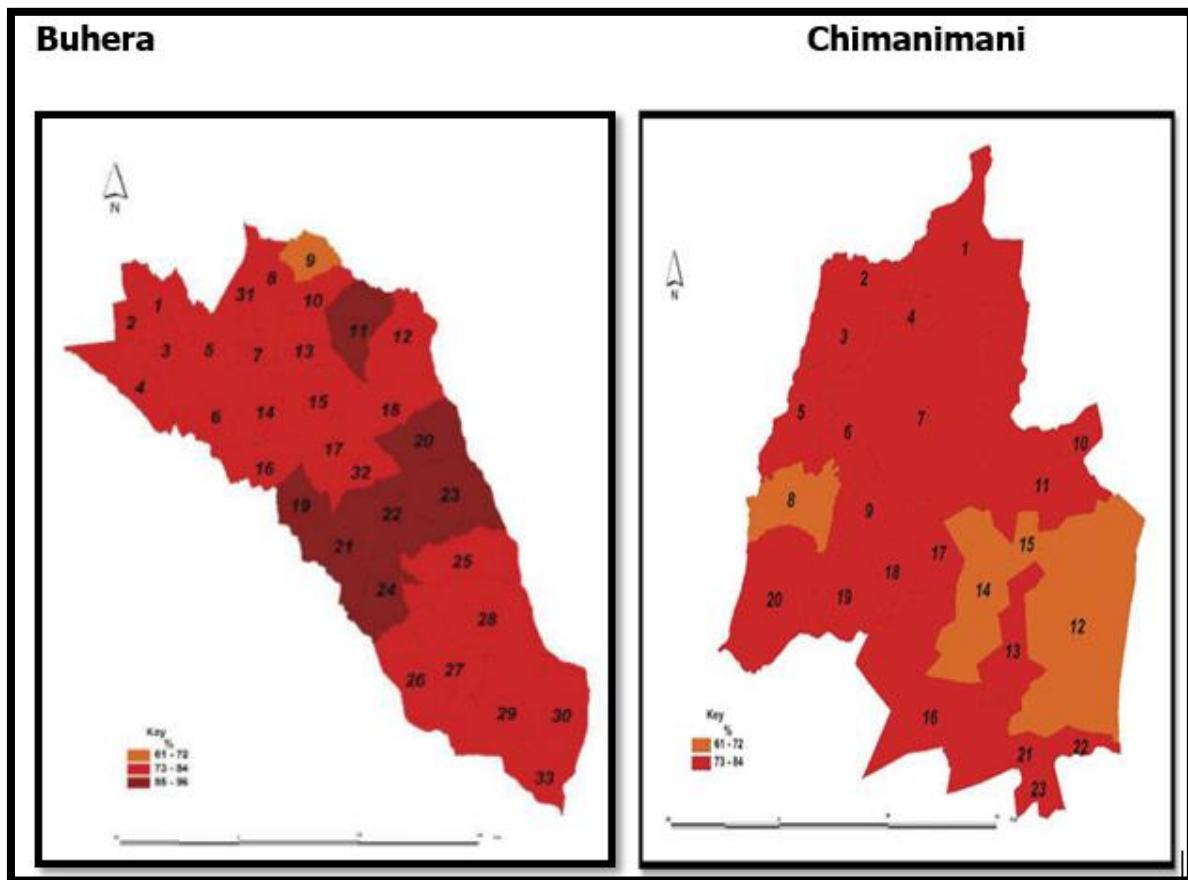
Manicaland Province has ten districts, which are Buhera districts, Makoni districts, Chimanimani districts, and Nyanga districts, Chipinge Rural, Mutare urban, Chipinge urban, Rusape urban, Mutasa and Mutare rural. The section below will give a discussion on the poverty prevalence in the seven rural districts and the three urban districts together with the map showing the areas most affected and the areas which are less affected by poverty. The main purpose of this section is to show the poverty prevalence in the province so as to see the most areas affected by poverty. Poverty prevalence in the province is such that rural districts are more affected than urban

districts showing that poverty in the province is to a larger extent a rural phenomenon. For instance, in Buhera the overall poverty prevalence was 78 percent and the ward most highly affected in the district was ward 22 with the highest poverty prevalence of 83.7 percent while ward 09 had the lowest poverty prevalence of 67.1 percent which is also high in relative terms.

In general, Buhera district has all wards with high poverty prevalence exceeding 65 percent. The ward with the lowest poverty prevalence as noted earlier below 70 percent is due to the fact that the ward is in a peri-urban area (ZimStat, 2015c:19). The main reason cited as to why the district has more poverty prevalence is that the district in general receives low amounts of rainfall and this affects the amount of agricultural output which in most cases pushes quite a number of people into poverty (ZimStat, 2015c:19).

The other district of interest is Chimanimani district with all the wards with high poverty prevalence above 60 percent. The overall poverty prevalence in the district was 76.8 percent with ward 20 being the district with the highest poverty prevalence of 83.8 percent, while ward 15 had the lowest prevalence at 62.8 percent (ZimStat, 2015c:19). Just like Buhera district, Chimanimani district had peri-urban wards as the wards with the lowest poverty prevalence below 72 percent which were wards 08, 12, 14 and 15 (ZimStat, 2015c:19). This scenario prevailed the same in all the districts, but the situation was different for urban districts where poverty prevalence was low compared to rural districts. Figure 38 shows the poverty prevalence in Buhera district and Chimanimani district.

Figure 38: Poverty prevalence in Buhera district and Chimanimani district



Source: ZimStat (2015c)

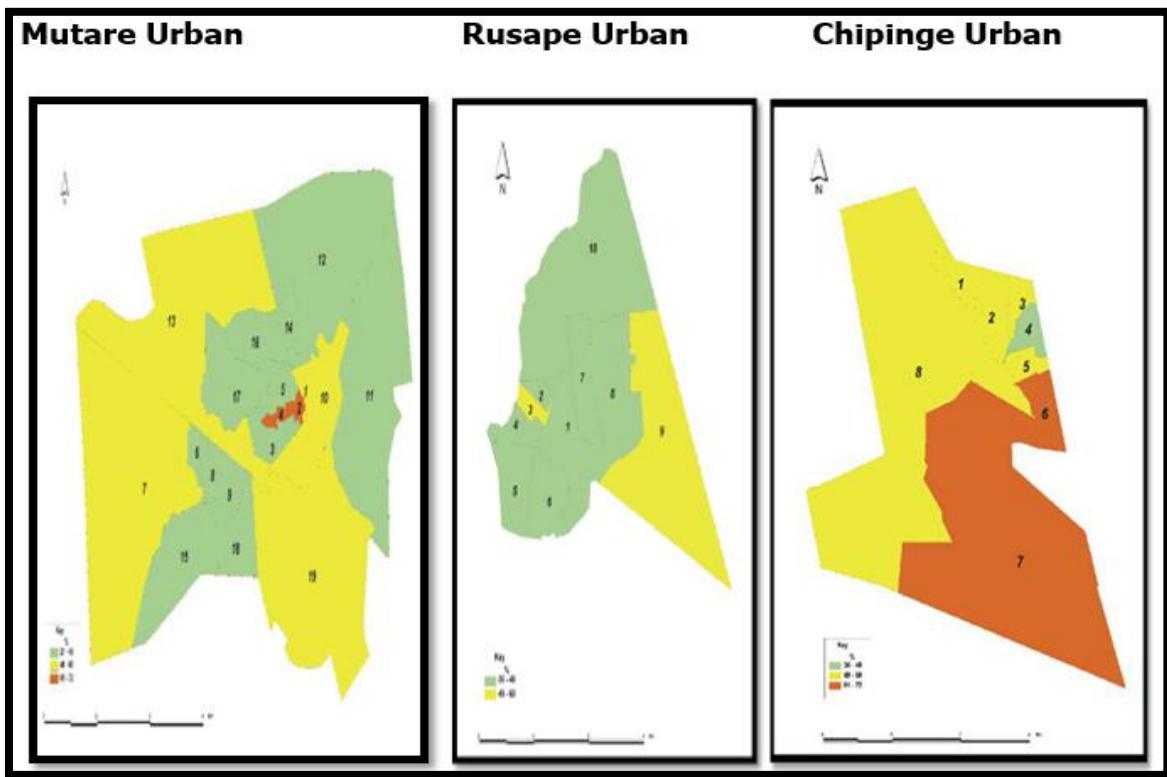
As described earlier on, the two rural districts Buhera and Chimanimani had all the wards with poverty prevalence above 60 percent with Buhera at the top with a poverty prevalence above 70 percent in all the wards. In all the districts, the wards with low poverty prevalence are those in peri urban areas. This situation prevailed in all the districts in the province as highlighted before. Compared to urban districts, rural districts had high poverty prevalence compared to urban ones. The following section shows poverty prevalence in the urban districts of the province.

4.16.2 Poverty prevalence in the urban districts of Mutare, Rusape and Chipinge

In general, the analysis of poverty in Manicaland Province is mainly concentrated in the rural districts compared to urban districts, buttressing the notion that poverty in Zimbabwe is a rural phenomenon. In all the urban districts like Chipinge urban, Mutare urban, and Rusape urban, poverty was generally in the range of 39-49 percent while other districts had a poverty prevalence reaching 61 percent and 72 percent. For instance, in Mutare urban, poverty prevalence was high in ward 02 with 61 percent. This ward was the ward with more poverty prevalence compared to all the wards in Mutare urban district. The ward with the least poverty prevalence was ward 11 with 31.1 percent (ZimStat, 2015c:33).

Most of the wards that had high poverty prevalence rates of above 49 percent in Mutare urban were around the Sakubva high density residential area. In Rusape urban district, poverty was least prevalent at the city centre in ward 1 and more prevalent in ward 9 around the Vhengere high density suburb. Likewise, in Chipinge urban, ward 1 had the highest poverty prevalence of 62 percent while ward 4 had the lowest prevalence of 45.8 percent. The ward that had the highest poverty prevalence is around the Gaza high density residential area (ZimStat, 2015c:37). This shows us that poverty in urban districts is more prevalent in the urban high density suburbs compared to low density residential areas. Figure 39 shows the maps for the urban districts in Manicaland and their respective poverty prevalence.

Figure 39: Poverty prevalence in urban districts of Manicaland



Source: ZimStat (2015c)

Figure 39 above shows the three urban districts in Manicaland province. In all the three districts, all the wards have poverty prevalence at 60 percent. However, Chipinge urban district is the only district with two wards, 6 and 7, with poverty prevalence more than 61 percent but less than 72 percent. In fact, all the districts located in towns have low poverty prevalence as shown in figure 39.

4.17 SUMMARY AND CONCLUSION

This chapter gave a detailed profile of Zimbabwe, the country of study. Aspects which were discussed in this chapter include the history of Zimbabwe, the economy of Zimbabwe, land reform in Zimbabwe, a brief description of agriculture in Zimbabwe, poverty in Zimbabwe, state of financial inclusion in Zimbabwe and finally a detailed description of the study area, Manicaland Province. The purpose of the

chapter was to inform the study on how the crisis and the soaring levels of poverty currently being experienced in Zimbabwe came into being. This chapter is important because it also reveals the study area, the description of the study area and the reasons why the area was chosen as a place to focus the study. The chapter also shed more light on the situation currently existing in the country.

CHAPTER 5

METHODOLOGY

5.1 INTRODUCTION

This chapter presents the methods and procedures undertaken in the analysis of data to generate solutions to the objectives of the study. The research paradigm and philosophical underpinnings will be presented. The presentation will highlight the research design adopted for this study and the related philosophical underpinnings. The research design, the research approach and the pilot study will be presented. The development process of the questionnaire will be presented together with data collection procedures and methods. This will be followed by the presentation of the methods which were used to address the research questions in the study. Econometric models which were used to get the results to be presented in chapter six will be explained clearly. Finally, the ethical considerations will be presented followed by the summary and conclusion of the chapter.

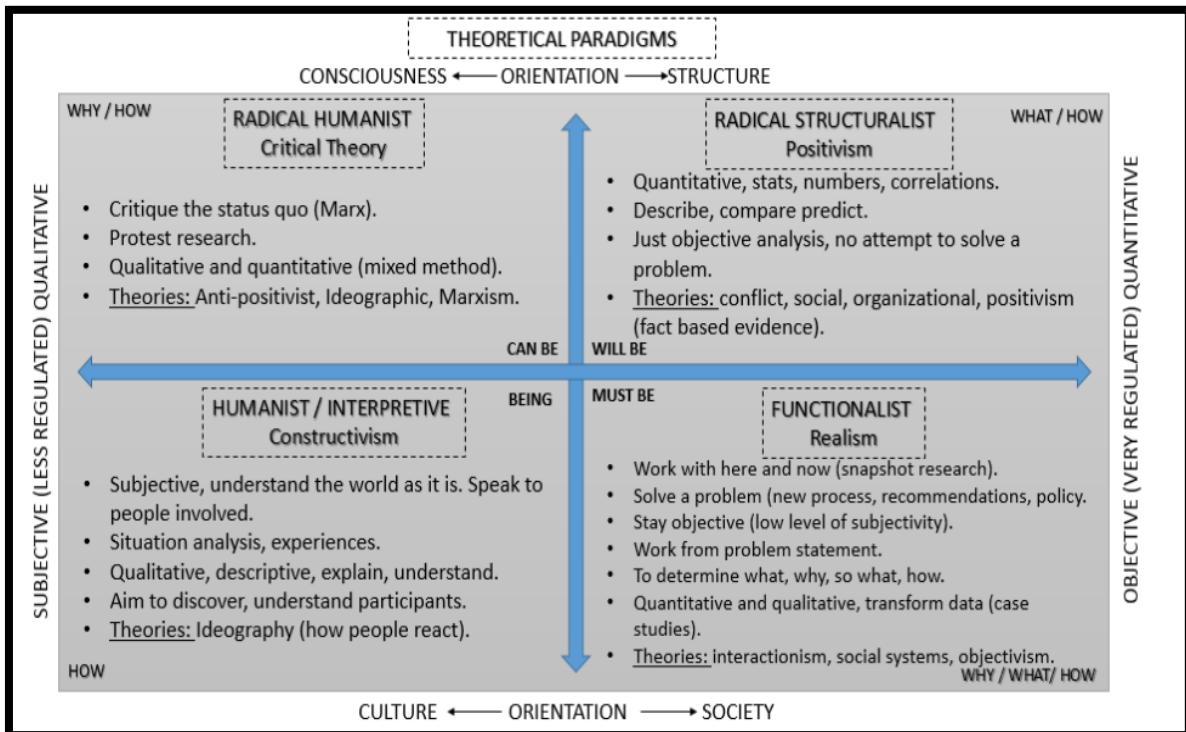
5.2 RESEARCH PARADIGM AND PHILOSOPHICAL UNDERPINNINGS

Research is an important aspect of theory development which can result in the creation of new ways of doing things in an industry and having the correct philosophical foundation is as crucial as utilizing the correct methodology (Meyer, 2018:153). Philosophy is defined as the value, judgement, standards, norms, frame of reference, world view and/or perspective one may have on a given phenomenon (Meyer, 2018:153). In addition, philosophy involves issues to do with ideologies, theories and acceptable procedures that control or influence the thinking and, ultimately, the actions of people (Mafini, 2015:94). Philosophy in research may also be described by explaining different research paradigms (Mafini, 2015:94).

A paradigm acts as a framework or foundation that assists in the provision of appropriate answers to a set of research questions (Meyer, 2018:155). In research there are many paradigms premised on different theoretical foundations, for instance there is a paradigm related to the positivist, experimental or empirical all based on the quantitative approach and the qualitative paradigm based on the normativism approaches (Jemna, undated:10). According to Jemna (undated) the debate among researchers on the topic of some research paradigms, for instance the positivist and the normativism simply put as the quantitative and qualitative approaches, has been on for a long time. The two approaches are different and it is prudent to show how they are different. The quantitative research approach uses figures, statistical analysis methods and numerical measuring of some aspects specific to the phenomenon under study (Wilson, 2008, Jemna, undated). The quantitative approach is premised on the positivist, experimental or empirical paradigms (Wilson, 2008). Qualitative research on the other hand aims at meticulously describing events or social occurrences (Meyer, 2018:154).

In order to comprehend the philosophical underpinning which is suitable to a specific study, one needs to understand the different theoretical paradigms. Figure 40 shows the different sub-categories associated with theoretical paradigms which include radical structuralism (positivist paradigm); functionalist (realist paradigm); humanist (interpretivist/constructivist paradigm) and the radical humanist (critical theory paradigm) (Meyer, 2018:154). A study may fit in one paradigm or a combination of the paradigms which is normally referred to as a mixed method study.

Figure 40: Theoretical paradigms



Source: Meyer (2018:156)

The figure above shows the different paradigms which can be adopted in research which include the radical, functionalist, and the humanist.

The radical structuralism or positivism paradigm assumes that independent facts of the real world can be measured quantitatively and researchers are assumed to be independent from the study. They do not have any direct or indirect influence on the study (Healy and Perry, 2000:100). In this paradigm, researchers have as one of their main beliefs that in a research a cause and effect relationship must be formed (Meyer, 2018). In this paradigm, again, scientific methods are used to make predictions which removes the bias of researchers due to the fact that researchers act as independent observers in the study (Mack, 2010:7). Also, through the positivism paradigm, results from the analysis are generated in an objective manner and these results are unbiased and do not change when being observed. Lastly, the

positivism paradigm mainly puts emphasis on numerical quantitative data and statistical analysis to obtain results in the study (Mack, 2010:8).

Proponents of the functionalist realist paradigm have a belief that there is a real world to discover. This paradigm mainly focuses on reality research, especially on how individuals with a system operate independently from one another (Meyer, 2018:155). In this paradigm researchers strive to gain new knowledge through theoretical experiments and researchers have a belief that there is a reality to discover which exists independently from the researcher (Pring, 2004:7). In this paradigm many methods are used in gathering data which include unstructured and semi-structured in-depth interviews as well as case studies (Pring, 2004:7). The main aim or goal of research in this paradigm is to come up with solutions originating from a variety of philosophical contexts (Mack, 2010:9).

Researchers in the humanist/constructivism/interpretivist paradigm believe that research is generated from a specific belief which is part of an explicit framework (Meyer, 2018:155). In this paradigm researchers are highly regarded as participants in the study under investigation and emphasis is placed on the capability of researchers to come up with meaningful conclusions. Usually, researchers seek to have an understanding of the topic rather than an explanation of it (Mack, 2010:9). The world viewed by individuals mainly influences the research findings leading to several constructed realities. The different perspectives individuals have about reality may have an impact on the quality of solutions obtained from the research which cannot be judged from a set benchmark (Mack, 2010:9).

Lastly on the list is the radical humanist paradigm which puts more emphasis on social realities with an addition of historical events in the research. The main objective of researchers is to criticise the ideals from the social, economic, cultural, gender, political and ethnic perspectives as well as changing the social world (Healy and Perry, 2000:120). Action orientation is part of the activities of researchers who are less concerned about discovering new information. According to Healy and Perry

(2000) in the radical humanist paradigm, both researchers and participants are fully involved in research. Studies in this paradigm are generally long term in duration and involve ethnographic processes which are historic in nature. Generally, findings from the researches are subjective which are subject to criticism by other researchers (Healy and Perry, 2000:199).

With a firm consideration of the empirical and the theoretical objectives of the current study, its theoretical underpinnings directly originate from the positivist paradigm. This is because this study makes use of empirical data gathered in an objective manner and interpreted using statistical and scientific procedures (Meyer, 2018:156). The use of this paradigm will permit inferences to be made, that is, the analysis of the influences of the independent variables to the dependent variable using a specific procedure (Lincoln and Guba, 1985:289). It is also argued that, with a positivist paradigm, facts can be scientifically proven and statistical procedures can be used to test relationships and hypotheses (Lincoln and Guba, 1985:289).

5.3 RESEARCH DESIGN

Research design is described as a process which provides guidance to the researcher through data collection and analysis procedures with the aim of achieving the objectives of the study (Malhotra, 2010). It can also be referred to as the blue print which explains the research process to be followed to achieve the objectives of the study (Malhotra, 2010). The researcher must come up with a clear research design which ensures that the objectives of the study are achieved. On the other hand, research may be defined as a process that involves procedures and steps that must be followed to come up with new knowledge and solutions to research questions. In addition, research can be classified in two ways which are the exploratory and conclusive research (Meyer, 2018:157).

Exploratory research is described as the process of research done in circumstances where the knowledge obtained through the findings of the study are relatively novel. The main goal of this type of research is to get clarity on a topic under study. This type of research design is assumed to be less rigid compared to other forms of research designs. In addition, this type of research design assists in the formulation of hypotheses and research questions that may later be tested using conclusive research (Hair et al., 2012). In short, this research design aims to investigate new ideas in an exploratory manner using the qualitative approach in most cases. In-depth interviews, focus groups and projective techniques are used (Bhattacherjee, 2012:7).

Conclusive research on the other hand is a research design with the main aim of examining specific relationships and testing of hypotheses which include descriptive and causal research (Malhotra, 2010). The major objective of this research design is to investigate the cause and effect relationships between variables, independent and dependent variables (Malhotra, 2010). In this research design descriptive research mainly describes the characteristics of groups, individuals and environments. This type of research can be longitudinal or cross-sectional in nature, where the longitudinal design is defined as a process of repeating the same measures on the same sample over a period of time (Meyer, 2018).

Cross-sectional research design on the other hand involves getting a measurement from a sample which may be a single cross-sectional design or a sample which is a multiple cross-sectional design (Malhotra, 2010; Meyer, 2018). In this current study the focus was to investigate the impact of financial inclusion on poverty as well as to develop an index to measure financial inclusion together with their determinants among smallholder farmers. To do this a descriptive single-sample cross-sectional design was followed. This design involved using a structured questionnaire to collect data from a sample once only. The following section will describe the research approach for the study.

5.4 RESERCH APPROACH

Research approach is described as the procedure for which the data for the study is collected, analysed and interpreted (Wei, 2010). In most cases research approaches are different from one study to the other because of differences in research questions and hypothesis formulation. The most common research approaches are the quantitative, qualitative or mixed method approaches (Wei, 2010). The quantitative research approach has been favoured until the twentieth century because it includes epistemological, methodological and ontological principles. The qualitative approach gained fame at the turn of the twentieth-century, before a move to combine the two approaches. This led to the introduction of the mixed method approach in the 1960s (Onwuegbuzie and Collins, 2007). The research design and the research paradigm of the study influenced the research approach of the study.

The qualitative research approach mainly provides answers to why and how questions. It is investigative in nature and sometimes may be viewed as unstructured (Leech and Onwuegbuzie, 2009) and it is related to the gathering and analysis of textual data from interviews, observations and surveys (Meyer, 2018:158). The major difference between the qualitative approach and the quantitative approach is the fact that the qualitative approach makes use of non-numerical data to interpret and better understand the individuals or a study under investigation (Meyer, 2018). However, researchers when using the qualitative approach must be cautious of influencing the results by their own views and to avoid subjective understanding of issues due to the exchange of ideas between researchers and participants (Leech and Onwuegbuzie, 2009).

Conversely, the quantitative approach uses numerical calculation and observations to test the relationship between different economic variables (Meyer, 2018). The quantitative approach is appropriate to be used in conditions where the researcher

is gathering data from large samples. With the quantitative approach it is possible for the researchers to assess whether the results can be applied with different population samples (Borrego et al., 2009; Meyer, 2018). Quantitative research approach has the advantage that, due to the fact that it uses many statistical approaches, it contributes information objectively to the study. The third approach which is the mixed-method uses elements of both the qualitative approach and quantitative approaches during data collection and analysis in one study (Borrego et al., 2009). To achieve the objectives of the study, a distinct approach should be selected. In this study the quantitative approach premised on the positivist or empirical paradigm was used to measure the different hypotheses stated in chapter 1. In the current study the hypotheses to be tested emanate from the following empirical objectives: Determine the determinants of financial inclusion among smallholder farmers in Zimbabwe and analyze the impact of financial inclusion on poverty in Zimbabwe among smallholder farmers.

The study hypothesizes that education level and land size influence financial inclusion positively, while gender, age, household size, off-farm income, agricultural extension service, transaction cost, distance from the financial institution, financial literacy influences smallholder farmers' participation in the formal financial market either positively or negatively, and informal credit participation affects financial inclusion of smallholder farmers negatively. The second hypothesis of the study was that financial inclusion of smallholder farmers is associated with a negative impact on poverty. In other words, poverty will decline with a rise in financial inclusion. The following section will explain the sampling procedure or strategy used in the study.

5.5 SAMPLING PROCEDURE AND DATA COLLECTION

Sampling is a process of choosing a sub-group of individuals from a population to participate in the study; in such a way that the individuals selected represent the population from which they were selected (Schirrmann and Domsch, 2011). The

two major sampling procedures in research are the probability and non-probability sampling procedures (Schirrmann and Domsch, 2011). Firstly, probability sampling is a technique where everyone has an equal chance of being selected. The four basic types of sampling procedures related to the probability sampling technique are simple random sampling, systematic, stratified as well as cluster sampling. On the other hand, non-probability sampling is used when the population may not be defined appropriately and when it is not necessary to draw inferences from the sample to the population (Kellerhals and Bray, 1971). One advantage of using non-probability sampling procedure is that it is less expensive and quick to implement compared to the probability sampling (Dupačová et al., 2000). Some examples of non-probability purposive, snowball, convenience and quota sampling procedures (Kellerhals and Bray, 1971; Dupačová et al., 2000).

The current study used the non-probability convenient sampling to select the sample for the study. The sample unit in the current study was a household head who is either a farmer or not a farmer during the time of the research. The households selected were those who were part of the formal financial market or not part of the market before and during the time of the survey. The formula by Slovin (1960) was used to find the sample size. The formula to calculate the sample size is given as follows: $n = \frac{N}{1+Ne^2}$, where, n is the sample size, N is the population size and e is error of tolerance of the confidence interval which is 95%.

5.5.1 Calculation of the sample size

Using the formula by Slovin (1960) the sample size is calculated as follows:

$$n = \frac{N}{1 + Ne^2} \quad \dots \dots \dots \quad (3)$$

According to the ZimStat (2012) population census the total population in Manicaland Province (N) is 1 752 698. Therefore, the sample size (n) is calculated as follows:

$$n = \frac{1\ 752\ 698}{(1+1\ 752\ 698)(0.05)(0.05)} = 399.999772$$

Therefore, the value of the sample size from the formula was 400 correct to one significant figure. Following the works of Meyer (2018), Fowler Jr (2013), Noordzij et al. (2010) and the recommendations by Kemal Avkiran (1994), a sample size of 200 to 500 should be used when undertaking statistical analysis, especially when multivariate analysis is involved. However, as the study was undertaken in an area with a mixture of farmers and those who were not farmers, the sample size was increased to 600. This sample size is deemed appropriate since it is above that recommended by Kemal Avkiran (1994) of 200 to 500. The sample size shows a group of participants selected from the population which is less in number but represents the population from which it is drawn. The selection of adequate sample size is to ensure that true inferences about the population are made from the results obtained (Kemal Avkiran, 1994; Fowler Jr, 2013).

In addition, the study should include enough subjects in order to ensure that results are generalized to the population since the sample will fully represent the target population (Fowler Jr, 2013). Likewise, if the study uses more than the required sample size, more people will be at risk of intervention making the study unethical together with a waste of resources and the researchers' time (Cochran, 1963). As a result, calculating an appropriate sample size is an important stage of every research to ensure that an adequate number of subjects are selected in order to arrive at ethical and scientifically valid results. In this study a sample size of 600 participants was used. The population included households who were farmers and those who were not farmers to ensure that true inferences as well as comparisons between farmers and non-farmers could be made.

5.5.2 Data sources

The primary data sources were household heads both male and female who were stratified into those practising farming and those who were not into farming during the survey. The researcher went on to interview households who were not farmers so as to do comparisons of results between farmers and non-farmers. The A1 and A2 households were interviewed. The A1 settlement model in Zimbabwe is the farming model in the form of communal subsistence farming either as a villagised or self-contained model variant (Goebel, 2005). The villagised variant is where people will settle in villages and the state will provide services. This is much like the old model in Zimbabwe before land reform, the Model A family farm model. The self-contained variant is where farmers will settle in self-contained plots and be largely responsible for the infrastructural development of their farms (Goebel, 2005). The commercial model A2 has variants of small, medium, large and peri-urban farm models (Chigumira, 2010a). For the commercial model A2, only small-scale farm models were targeted and interviewed.

5.6 DATA COLLECTION INSTRUMENT

The structured questionnaire was prepared to collect quantitative data for the study. The development of the questionnaire was necessitated by the fact that household data on financial inclusion is limited and many studies which investigated the determinants of financial inclusion as well as the impact of financial inclusion on poverty used macro or country level data, for instance, Demetriades and Hussein (1996); Beck et al., (2009); Beck et al., (2007) and Demirgüç-Kunt and Klapper (2013). Usually, using country level data, to investigate the behaviour of economic variables at household level poses risks of omission, generalization and over simplification of reality. For instance, Sarma (2008); Sarma (2012); Sarma (2015) and Chakravarty and Pal (2010) developed indexes of financial inclusion using the country level data. The use of their indexes of financial inclusion, though they can

be used to measure the level of financial inclusion in the country, make it very difficult to clearly measure financial inclusion at household level.

As a result, this study used household data to investigate the determinants of financial inclusion and to assess the impact of financial inclusion on poverty as well as to develop the index to measure financial inclusion. The use of household data was necessitated by the need to get the true picture of the level of financial inclusion at household level. The fact that country level data mostly originates from the household means using household data will help to avoid oversimplification of reality. The questionnaire was developed in line with the aim of fulfilling the demands of the objectives of the study. The developed questionnaire went through the ethical clearance as outlined in the university policy and rules for research ethics. The ethics clearance number obtained from the university is NWU-00354-19-2A

5.6.1 The layout of the questionnaire

The layout of the questionnaire and the position taken by each question in the questionnaire is an important part of the design process (Meyer, 2018). In a way to avoid confusion and promote a deep understanding of the topic under investigation, it is vital to position the different sections in the questionnaire appropriately. The response rate always improves when the questionnaire is designed properly (Malhotra, 2010). In a questionnaire it is also generally argued that questions which relate to a specific subject matter must be grouped to avoid misunderstanding and confusion in the questionnaire. Mostly questions should be structured in a simple and clear manner so that participants can clearly see the demands of each question. In relation to the recommendations of many authors like Malhotra (2010); Meyer (2018) and Matsekoleng and Mapotse (2018), the layout of the questionnaire was designed in a professional, systematic and well-structured manner. The questionnaire has 11 sections and the layout is shown in Annexure A. Table 10 below shows the summarised layout of the questionnaire.

Table 9: The layout of the questionnaire

Section	Number of questions	Construct	Purpose
A	9	Background Information	The purpose of this construct to get background information of the household both farmers and non-farmers to get the characteristics of the households
B	15	Household composition and head of the household information	The purpose of this construct is generate information about the composition of the household and information about the head of the household. This information is very useful for analysing the determinants of financial inclusion
C	20	Farmer's characteristics	This construct is useful to get information about the farmer that is the characteristics of the household who is a smallholder farmer. The construct provides information on issues to do with the size of land, output produced and many more.
D	2	Income in United States dollars per month	This construct is there to estimate the amount of income generated by the household per month in United States dollars. The purpose of this construct is to be able to measure the level of poverty of each household.
E	11	Assets	The construct is useful to get the amount of assets owned by the household apart from the income they accumulate per month. This will help to calculate the asset index for the household.
F	9	Lived Poverty Index(LPI)	The construct provides the assessment of basic needs for the households so as to calculate the level of household poverty.
G	13	Poverty Perceptions	The purpose of the construct was to get the perceptions of households about their poverty.
H	9	Household food insecurity access scale(HFIAS)	The purpose of the construct was to get the food insecurity access scale with the idea of investigating the impact of financial inclusion on food insecurity
I	12	Types of food	The purpose of the construct was to assess the types of food the household eat during the day and or at night. The idea is to assess the influence of financial inclusion on the type of food consumed
J	13	Means of survival	The purpose of the construct is to assess the means of survival by households in relation to their financial inclusion status
K	27	Financial inclusion	The purpose of the construct is to develop a measure of financial inclusion for the households

Source: Mhlanga (2019)

The questionnaire had a cover letter which outlined the background information, the purpose of the study and contact details of the researcher and the promoters.

5.6.2 Pre-testing and pilot testing of the questionnaire

Pre-testing of the questionnaire follows after successfully designing the questionnaire. This aspect of pre-testing the questionnaire is an important phase of the questionnaire design phase (Wilson and Laskey, 2003; Meyer, 2018). The process of pretesting the questionnaire should be done in such a way that, participants selected are a direct representative of the main study who are drawn from the same population sample. In addition, participants must be in possession of the knowledge and background of the study (Wiid and Diggines, 2010, Meyer, 2018). When a comprehensive pre-test is conducted, errors, irrelevant and confusing questions will be removed from the questionnaire before conducting the final study (Meyer, 2018). This process also improves the questionnaire in relation to layout of the questionnaire, phrasing of questions and the determination of the amount of time taken to complete the questionnaire (Meyer, 2018).

The process of pre-testing the questionnaire was conducted in two successful ways. Firstly, an academic peer review process was undertaken under the Economic and Management Sciences Research Ethics Committee (EMS-REC). This committee comprised of 16 faculty member who are expert academics in various fields which include economics, statistics, English, agriculture and finance. After their review, the committee referred the questionnaire to a higher committee for a second peer review process. The committee that reviewed the questionnaire for the second time was the North West University Education, Management and Economic Sciences, Law, Theology, Engineering and Natural Sciences Research Ethics Committee (NWU-EMELTEN-REC). This committee was comprised of ten academic experts with one lawyer, a statistician, an academic expert with deep knowledge about Zimbabwe, an expert in English and various academic experts in many disciplines

of economics and agricultural economics. Upon the advice of the experts, the questionnaire was adjusted accordingly. The layout of the questionnaire improved, some sections which proved to be a threat to the privacy of participants were removed and many questions were phrased to remove confusion and misunderstanding by the participants. The number of questions in some sections were reduced while in other sections the questions were increased.

The second phase of the pre-test was done to assess the time taken to complete the questionnaire and to ensure content validity, obviously influenced by the works of Synodinos (2003) and Meyer (2018). The second phase of the pre-test was also done to ensure that the questionnaire was readable and the questions were feasible as well as consistent in a correct appropriate format. In the pre-test, three smallholder farmers were given the time to complete the questionnaire. Two of the farmers spent 40 minutes to complete the questionnaire while the other one took 30 minutes to complete the questions when the interviewer was asking the questions. The farmers were the well experienced farmers who had been farming in Zimbabwe since soon after independence in 1980 and one started farming soon after the land reform in Zimbabwe of 2000. Just like the peer review process, this phase assisted in reducing the number of unclear questions and sections. Annexure c shows the final version of the questionnaire used in the study. The next section will explain the pilot testing of the questionnaire which was done in Nyanga district of Manicaland province.

5.6.3 Pilot testing of the questionnaire

Pilot testing of the questionnaire is an important phase which follows after the pre-testing to further refine the questionnaire if there is still need (Meyer, 2018; Hungler et al., 1997). The main reason for undertaking the pilot study is to ensure that the questionnaire is reliable as well as to assess the convergent and discriminant validity measures (Pallant, 2013; Meyer, 2018). The pilot study is similar to the main study,

but the only difference is that the pilot study is conducted on a small sample that should be a representative of the target population. However, the members of the small sample should not be included in the final study (Hair et al., 2012). The pilot study was done in Gauteng Province of South Africa. Even though the number of smallholder farmers in South Africa is small, effort was made to contact 36 smallholder farmers across the Gauteng province who voluntarily participated in the study. No incentives were given to the participants who voluntarily agreed to be part of the pilot study. The province was chosen because of proximity to the researcher and to reduce costs of travelling to far places. The other reason was to avoid inclusion of participants who participated in the pilot study in the main study. The following section will explain how internal consistency in the variables will be measured.

5.6.4 Cronbach's alpha

The Cronbach's alpha is used to test internal consistency and how closely related a set of items are as a group (Nunnally, 1978; Malhotra, 2010). The Cronbach's alpha is viewed as a measure of scale reliability (Malhotra, 2010; Meyer, 2018). Technically, Cronbach's alpha is not a statistical test, but it is a coefficient of reliability which tests consistency (Tavakol and Dennick, 2011; Malhotra 2010). For conceptual purposes, the formula for the Cronbach's alpha is shown below:

From the formula, N is equal to the number of items, \bar{c} is the average inter-item covariance among the items and \bar{v} equals the average variance. A rise in the average inter-item correlation, Cronbach's alpha also rises holding the number of items constant. The table below shows the details of the pilot study.

Table 10: The details of the pilot study

Items	Construct Name	Number of items	Mean	Standard deviation	Cronbach alpha	Average inter-item correlation
A1-A9	Background Information	9	4.808	0.780	0.867	0.519
B1-B15	Household composition and head of the household information	15	5.725	0.745	0.677	0.412
C1-C20	Farmer's characteristics	20	4.500	0.976	0.887	0.635
D1-D2	Income in US \$ per month	2	4.732	0.743	0.888	0.456
E1-E11	Assets	11	5.802	0.856	0.888	0.308
F1-F9	LPI	9	4.771	0.890	0.855	0.523
G1-G13	Poverty Perceptions	13	4.671	0.981	0.788	0.391
H1-H9	HFIAS	9	4.661	.0890	0.844	0.400
I1-I12	Types of food	12	4.035	0.880	0.863	0.350
J1-J13	Means of survival	13	4.555	0.571	0.897	0.479
K1-K27	Financial inclusion	27	5.671	0.570	0.956	0.350

Pilot Survey (2019)

As shown in the table 11 above, the questionnaire had many sections which ranged from A to K with 12 constructs. Nunnally (1978) posits that the coefficient of the Cronbach alpha may be below 0.7 to be acceptable but not lower than 0.6. On the other hand, Malhotra (2010) and Meyer (2018) also state that, taking into consideration the nature and purpose of the study and scale, a minimum Cronbach alpha which is above 0.6 is recommended. In relation to convergent and discriminant validity, the inter-item correlation values show the convergent and discriminant validity of the constructs. Generally, it is believed that average inter-item correlation values below 0.15 are indicators of lack of convergent validity. While values which exceed greatly exceed 0.5 show a move towards lack of discriminant

validity (Meyer, 2018:180; Gliem and Gliem, 2003; Tavakol and Dennick, 2011). In this study, as shown in the table above, the acceptable Cronbach Alpha of above 0.6 was achieved on all the constructs with many exceeding 0.7 level. Also, the many average inter-item correlation values were between the recommended 0.15 to 0.50 levels with only three constructs exceeding 0.5. Based on the results of the pilot study from the 36 respondents, the questionnaire was not adjusted as the measures of internal-consistency reliability and the convergent and discriminant validity were deemed acceptable.

5.6.5 Administration of the questionnaire

The collection of the data for the study was done during a three-month period in 2019. The intention of the survey was to collect data from Manicaland province of Zimbabwe in an efficient manner. As a result, a number of resources were used in the process. The survey made use of three field workers who went through a training process to get knowledge about the study. The services of local chiefs, local authorities and farmers' organizations was used to reach out to many households in the shortest time period. Some questionnaires were distributed to individual farmers who are members of different farmers' organisations for them to complete the questionnaires at their own convenient time while other questionnaires were distributed by the field workers and the researcher. The farmers' organisations included the Commercial Farmers Union (CFU), the Zimbabwe Farmers Union (ZFU) and the Zimbabwe Commercial Farmers Union (ZCFU).

5.7 DIAGNOSTIC TESTS

Data used in research is very difficult to conform to the theory underlying the model (Green and Silverman, 1993). As a result, different diagnostic tests should be done before proceeding with estimating the regression equations. The study tested multicollinearity, heteroscedasticity and fitness of the model.

5.7.1 Multicollinearity

Multicollinearity is defined as the existence of linear relationships or near linear relationships among independent variables (Koustoyannis, 1973). Koutsoyiannis (1973) indicated that multi-collinearity is mostly present in sample data. For that reason, the degree of its severity in independent variables has to be tested. The variables that are highly correlated will be matched or one of them dropped from the model. The Variance Inflation Factor (VIF) can be used to test for multicollinearity. According to Gujarati (1995) a VIF which is more than 10 in conditions where the value of R^2 is more than 0.90, the variable is said to be highly collinear. On the other hand, Kennedy (1985) contests that, for variables that are not continuous, a value of 0.8 or more in absolute terms in one of the correlation coefficients indicates a high correlation between two independent variables. The study used the contingency coefficients to test multicollinearity.

5.7.2 Heteroscedasticity test

Heteroscedasticity is a condition in econometrics where the disturbances are varying with some or all of the explanatory variables (Kennedy, 2003). According to Greene (2003) parameter estimates become inefficient in independent variable prediction if the constant variance assumption of the disturbance term is violated. The rule of thumb when testing heteroscedasticity is to reject H_0 when the p value is greater than 0.05. The same rule of thumb was used in the study to test for heteroscedasticity.

5.7.3 Model specification test

The number and nature of parameter estimates included in the model are important in making the estimates efficient. When unimportant variables are included or when omitting important variables, parameter estimates may become inefficient. Testing for specification will help to ensure that omitted variables are detected which will

help to ensure that the correct functional form of the model is used (Green and Silverman, 1993). The computed likelihood ratio and the linear predicted values are the test which can be used to test for the specification of the model. The other method to test for specification is the Ramsey Regression Equation Specification Error Test (RESET) (Ramsey, 1969). Model specification will be tested to ensure that the correct functional form and correct variables are included in the model.

5.8 DEMOGRAPHIC STATISTICS OF THE SAMPLE

After carrying out diagnostic tests a description of the demographic statistics of the sample are presented. This section presents the age distribution of the population, gender distribution of the population and many other demographic statistics in the data from the sample. This description is important because it enhance the multivariate analysis and econometric analysis of the study.

5.9 ECONOMETRIC MODELLING, DEFINITION AND JUSTIFICATION OF THE VARIABLES USED IN THE STUDY

Definition and justification of variables used in the study is important because it provides the road map on how the objectives of the study are fulfilled. This study has the following five objectives which are:

- Profile the poverty and financial inclusion among the smallholder farmers in the sampled area.
- Develop an index to measure financial inclusion.
- Determine the determinants of financial inclusion among smallholder famers in Manicaland Province of Zimbabwe.
- Analyse the impact of financial inclusion on poverty in Manicaland Province of Zimbabwe among smallholder farmers.

- Investigate the perceptions of poverty from the households in Manicaland Province of Zimbabwe.
- Make recommendations as to how financial inclusion can be used to deal with poverty in Zimbabwe.

This section will assist to a larger extent in the description and justification of the dependent and independent variables which will assist in the fulfilment of the objectives stated above. The following section will explain how poverty is measured as well as provide a detailed description of how financial inclusion is measured.

5.9.1 Measuring financial inclusion

This section will help to show how financial inclusion is measured in order to meet the objectives of the study listed in section 5.8 above. As seen in chapter two on the literature on financial inclusion, attempts to develop the index or measure of financial inclusion was done using selected dimensions using macro level data in almost all the cases. For example, Arora (2010); Sarma (2008, 2012); Demirguc-Kunt and Klapper (2013); Amidzic et al., (2014); Camara and Tuesta (2014); Mojica and Mapa (2015); Cyn-Young Park and Mercado, Jr (2018); and Chattopadhyay (2011) as explained in chapter three.

A detailed description of how Sarma (2008); Camara and Tuesta (2014) and Cyn-Young Park and V. Mercado, Jr (2018) developed the index of financial inclusion was important to inform the current study on the methodology to employ. Sarma (2008) and Cyn-Young Park and V. Mercado, Jr (2018) used access, availability, usage, cost and quality dimensions of financial inclusion to develop the index. In these studies, each indicator for all the dimensions was computed as:

$$X_{i,d} = \frac{x_i - m_i}{M_i - m_i} \dots \dots \dots \quad (5)$$

Where x_i is the real value of indicator i , m_i is the lowest value of indicator i , M_i is the maximum value of dimension i^4 . $X_{i,d}$ is the standardized value of indicator i of dimension d . Principal component analysis was used by Park and Mercado Jr (2018) and Camara and Tuesta (2014) to aggregate each indicator to a dimension index. According to Park and Mercado Jr (2018), the study denoted $\lambda_i (j = 1, \dots, p)$ as the j^{th} eigenvalue, subscript j refers to the number of principal components that also coincides with the number of standardized indicators p . There was an assumption that $\lambda_1 > \lambda_2 > \dots > \lambda_p$ and $P_k (k = 1, \dots, p)$ was denoted as the k^{th} principal component just like Park and Mercado Jr (2018). Then then each dimension index was derived according to the weighted averages as:

Where D_d dimension is d index and $P_k = X\lambda_i$. λ_i represents the variance of the k^{th} principal component (weights) and X is the indicators matrix. The weights attached to all the components were declining, so that the greater proportion of the variation in each dimension was explained by the first principal component and so on (Park and Mercado Jr, 2018). According to Camara and Tuesta (2014) and Park and Mercado Jr (2018), there was need to account for 100 percent of the total variation in the dimension indices to prevent avoid disposing information that was supposed to provide an estimation of the overall household financial inclusion index. After calculating the dimension indices, the studies ran another principal component analysis to derive the dimension weights for the overall financial inclusion as in equation (8).

Where IFI_i is the aggregate financial inclusion index for individual i . $P_k = X\lambda_j$, λ_j represents the variance of the k th principal component (weights of each dimension)

⁴ Following the work of Park and Mercado, Jr (2018) as well as Sarma (2015), the study will set the value of each indicator to zero

and X is the dimensions matrix. The weights given to each component are also declining and account for 100 percent of the total variation in the IFI. Equation 8 can also be written as:

Where ω are the weights derived from principal component analysis and D_i are the dimensions. Equation (9) states that the index of financial inclusion for the sample of households is a weighted average of individual dimensions. Applying all the equations on the list of indicators outlined above will imply financial inclusion for households which ranges from 1 to 100 percent, where low percentages are associated with low financial inclusion while high percentages like 100 percent imply high financial inclusion for the households.

Informed by the works of Sarma (2008), Camara and Tuesta (2014) and Cyn-Young Park and V. Mercado, Jr (2018) as clearly highlighted above, the present study attempted to measure financial inclusion by taking into account many dimensions and indicators so as to get a comprehensive measure of financial inclusion. This measure builds on the dimensions and indicators that have been considered so far by various authors which include access, availability, usage, cost and quality dimensions of financial inclusion. The measure also used household data to investigate the level of financial inclusion at household level. In fact, any effort applied to measure financial inclusion needs to include many dimensions of financial, and the measure must in a way use household level data because macro level data has weaknesses of oversimplifying what is happening at household level.

This new measure of financial inclusion developed in this study is based on the household data collected through a survey from 600 households who were smallholder farmers and those who were not in farming. The idea to construct the index was to get the level of financial inclusion at household level, with the overall objective of establishing whether financial inclusion has an impact on poverty.

From the different dimensions of financial inclusion used in this study, different indicators were derived. The indicators used include but were not limited to the following: number of adults having an account with a formal financial institution, share of adults who saved and borrowed using a formal account, shares of adults with credit/debit cards, and share of adults who used internet banking and those with insurance. These indicators were captured in the questions asked in the structured questionnaire in section k. The following 11 questions were used to generate the different indicators:

- Do you have a bank account?
- Can you provide the best reason for opening a bank account?
- How many members of your household have bank accounts?
- Have you saved with any of the formal financial service providers?
- Have you saved with any of the formal financial service providers other than the bank?
- Have you applied for a loan from a formal financial institution?
- Do you use internet banking?
- Do you have an ATM card?
- Do you have insurance with any formal financial institution?
- Do you receive remittances through the bank?
- Do you normally perform financial transactions through bank agents?

From the 11 questions a scale was developed ranging from 0 to 11 where 0 represents weak financial inclusion and 11 represents strong financial inclusion. In the questions, a 'yes' represented strong financial inclusion while a 'no' represented weak financial inclusion. From the scale an index of financial inclusion was developed. The index developed was used to investigate the determinants of financial inclusion as well as the impact of financial inclusion on poverty. It is also important to note that an additional analysis was performed to investigate the determinants of financial inclusion using bank account ownership as a proxy of

financial inclusion. The additional analysis was done to ensure that comparisons could be made between results obtained when the index was used and bank account ownership as a proxy of financial inclusion.

The use of household data and the additional analysis allowed the study to be more current and reflective of the initiatives that are currently being advocated for by governments, banks and Non-Governmental Organisations (NGOs) to improve the level of financial inclusion. Also, the use of household survey data permitted the measure of financial inclusion to be more indicative of the extent of financial inclusion at district, provincial and country level. When comparisons are made between the current measure of financial inclusion and other measures computed so far, evidence is there that the current measure highlighted the more impactful dimensions among the existing dimensions of financial inclusion used for calculation of the different measures of financial inclusion. In addition, the use of household survey data was useful to identify strong areas that needed improvement in relation to financial inclusion. In relation to the impact of financial inclusion on poverty, different analysis was done in that regard to establish the correct information on the impact of financial inclusion on poverty using the different measures of poverty.

The following section will explain how poverty was measured in this study.

5.9.2 Measuring poverty

This section describes how poverty was measured for purposes of analysing the relationship or impact of financial inclusion on poverty. In this study the measures of poverty took different forms as we had different theories of how poverty is measured as explained in chapter two. In effect, when poverty is measured, the number of people who are regarded as poor are different from one measure to another depending on the dimensions of poverty considered. The number of poor people increases with the increase in dimensions of poverty assumed by the poverty measure (Davids, 2010, Davis, 2014). For instance, when using the absolute poverty

line as a measure of poverty, the number of poor people are different when using the asset plus income index which includes an additional dimension of assets. In order to get comprehensive results of the impact of financial inclusion on poverty, especially when looking at smallholder farmers, it was prudent to have many different measures of poverty. For instance, if the study was to use the absolute poverty line which uses income as a measure of poverty, many smallholder farmers were to be regarded as poor, but the use of the income plus assets index helped the researcher to have a different explanation on the poverty associated with the smallholder farmers. As a result, the use of different measures of poverty, like the poverty line and the income plus assets measure assisted the current study to compare the number of people deemed poor from each measure and to have a comprehensive analysis of the impact of financial inclusion on poverty.

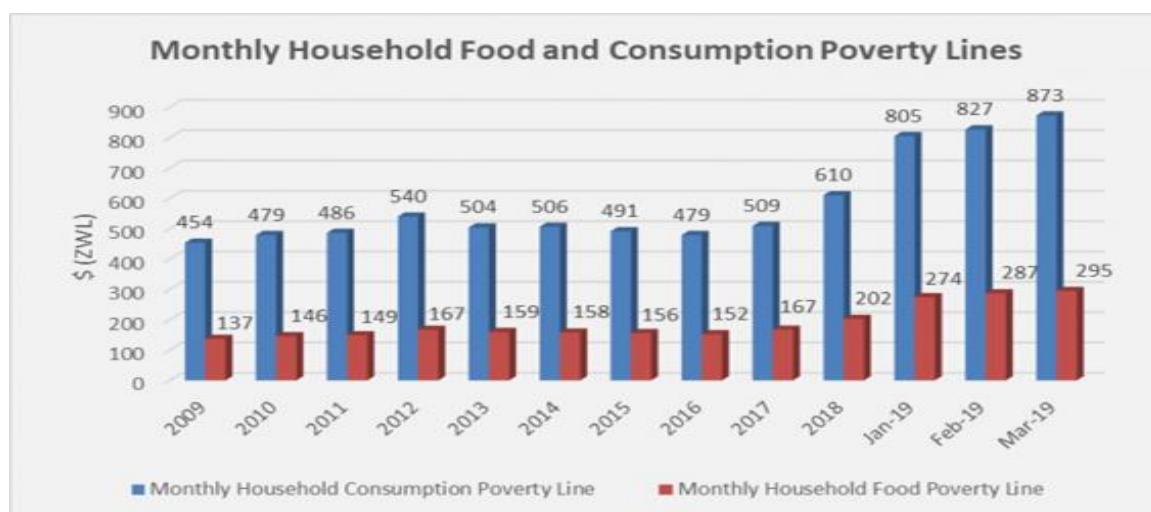
5.9.3 First Measure of poverty: the absolute poverty line (APL)

As explained in chapter two an explanation of how poverty was measured using information from different theories was given. One class of the measures of poverty was the money metric approach. The money metric approach for measuring poverty advocates for the poverty line as a measure of poverty. According to Dunga (2014: 45) and Townsend (1979) the absolute poverty line is premised on the amount of money needed to acquire the goods and services that satisfy the stated absolute minimum. On the other hand, Davids (2010: 27) posits that an absolute poverty line is a line which measures the condition of failure to meet the bare essentials of physical existence, as explained in chapter two sections 2.10. In working out a poverty line, the unit of measure must be clearly defined and adjustments taken into consideration if need be and there are steps to be taken to come up with the line.

The first step is to determine the line and this can be done through calories requirements in terms of the food poverty line, or basic requirements in general

(Dunga, 2014:45; Townsend, 1979). The second step in working out the poverty line through gathering data on characteristics of the household needed to come up with the line. Usually income and expenditure are the characteristics used when the household is the unit of measure (Dunga, 2014:45). As argued by Ravallion (1998) the absolute poverty line internationally has been \$1 per day. The \$ per day was revised to \$1.08 per day in 1993, but still the \$1 has been used more widely. However, studies have started to use \$2 per day as a feasible absolute poverty line (Dunga, 2014, Ravallion, 1998). In this study, a total consumption line of \$175 per month was used as stipulated by ZimStat (2019). The study decided to use the figures for March 2019 due to the fact that, during this period, the figures were still valued in US\$ even though the RTGs \$⁵ used during that time was pegged at 1:0.4 with the US. This line was used to determine the poverty level of the different households in the sample area since the study took the household as a unit of measure.

Figure 41: Monthly household food and consumption poverty lines



Source: ZimStat (2019)

⁵ The RTGS Dollar, nicknamed zollar, is a currency in Zimbabwe which was introduced on 21 February 2019 and came into effect after the February 2019. The currency is made up of bond coins, bond notes and RTGS balances

Figure 41 above shows the monthly household food and consumption lines for Zimbabwe from 2009 to March 2019. For the current study a food poverty line of \$175 was used which was \$873 for a family of five.

The common characteristic used in measuring is the income of the household. The information was collected using the structured questionnaire with the question which was written as: what is your estimated total household income per month inclusive of all sources? If the household was unable to answer the above question, there was a follow up question which said: If you are not able to answer the above, in which category would you locate yourself (Monthly)? \$0-100, \$101-300, \$301-500, \$501-1000, \$1001-5000. As indicated earlier, using the absolute poverty line was not going to provide a true and clear picture of the actual poverty status of the smallholder farmers as many of them do not have a predetermined level of income. The study also used the income plus asset measure to investigate the poverty levels for the households. Moreover, the study also involved households who were not farmers during the time of survey so that, comparisons between the two classes of households (farmers and non-farmers) were possible so as to discover where poverty was more concentrated. The next section explains the second measure of poverty, the income plus asset index.

5.9.4 The second measure of poverty: income plus assets index (IPA)

As outlined in chapter two, section 2.10, the poverty line was criticized by Townsend because of its rigidity together with its inability to have a link with the welfare in a society (Davis and Sanchez-Martinez, 2015; Davis, 2014; Townsend, 1979). The relative approach supports the notion of relative deprivation. The relative deprivation associates poverty to other factors more than the amount of cash income because other basics like assets, land, education, and access to services are regarded as important. According to Dunga (2014:46):

"the amount of material needs and the extent of social deprivation in comparison to income is the basis for the measure of relative deprivation".

In this study, data to develop this measure was obtained from the survey using the structured questionnaire. There was one question in the questionnaire pertaining to the household assets. The question in the questionnaire in relation to assets was written as: is the household in possession of the following assets where the respondent was to answer yes or no. Some assets were proxies of other assets which were not easy to list in the questionnaire. Some of the assets indicated were a house (either farm house or house in town), low density, medium density, high density, car, tractor, plough (tractor), ox-drawn plough, refrigerator, washing machine, microwave, stove, computer/laptop, radio.

An aggregate of the income of the household and the assets were used to measure if the household was poor or not compared to the total income that is the poverty datum line in Zimbabwe. The next section explains the different econometric models used in the study.

5.10 ECONOMETRIC MODELS

This section shows the different econometric models used to generate results for the different objectives of the study which include: profile the poverty and financial inclusion among the smallholder farmers in the sampled area; developing a measure of financial inclusion; determine the determinants of financial inclusion among smallholder famers in Manicaland Province of Zimbabwe; analyze the impact of financial inclusion on poverty in Manicaland Province of Zimbabwe among small holder farmers; investigate the perceptions of poverty from the households in Manicaland Province of Zimbabwe and make recommendations as to how financial inclusion can be used to deal with poverty in Zimbabwe.

5.10.1 Modelling of the first objective

The first objective pertains to profiling poverty and financial inclusion among the smallholder farmers in the Manicaland Province of Zimbabwe. As highlighted in the introduction, the first objective does not use models; instead, descriptive statistics and multivariate analysis were used. Tables, pie charts and graphs show the profile of poverty and financial inclusion in Manicaland Province the province from the collected data. The statistics to be displayed include the number of households with bank accounts, who saved, who borrowed, and who had insurance with formal financial institutions. The statistics can also be displayed which shows the proportion of households with mud floors, those with thatched roofs and many other descriptions.

5.10.2 Modelling of the second to the fourth objective

As stated above the objectives which used econometric models were objectives two to four. In this way, some objectives used more than one econometric model while others used one econometric model. The use of two econometric models in some objectives was to ensure that the results were comprehensive and comparisons could be done accordingly. This was also necessitated by the desire to carry out experiments in the process by comparing results from one model to the other.

5.10.3 Econometric modelling of objective 3: determine the determinants of financial inclusion among smallholder farmers in Zimbabwe

The modelling of the third objective which determined the determinants of financial inclusion among the smallholder farmers used two models separately in order to fully get the factors that influence financial inclusion. These are the linear regression, (Ordinary Least Squares (OLS)) method, the binary logistic regression,

logit and multinomial logistic regression model. The following section will explain the OLS model.

5.10.4 Linear regression: OLS

Linear regression models are used for different kinds of uses to solve real-life problems. In econometrics, the OLS method is widely used in the estimation of parameters for a linear regression model (Gujarati, 2009; Koutsoyiannis, Green and Silverman, 1993). When using linear regression OLS to be specific, it is important to know its assumptions which include but not limited to the following: the model is linear in parameters, observations are random sampled, absence of multicollinearity among other assumptions like normal distribution of the errors, homoscedasticity and absence of autocorrelation (Gujarati, 2009).

5.10.5 The Econometric model

The linear regression was used to investigate the determinants of financial inclusion. This model is shown by the equations below.

$$Y = \beta_0 + \sum_i^n \beta_i X_i + \varepsilon \dots (9)$$

Where Y is the dependent variable in this case is the index of financial inclusion explained in section 5.9.2. While β_0 is the intercept term, which is the value of Y when X is zero. $\beta_{i..n}$ are the slope coefficients for each corresponding experimental variable, $X_{i..n}$ represents the independent variables which in this case are the various demographic and socio-economic factors which can influence financial inclusion.

Dependent variable

The dependent variable is the index of financial inclusion explained and measured in section 5.9.1. In this case the dependent variable was a continuous variable

measured on a scale of 0-11 where 0 represents weak financial inclusion and 11 represents strong financial inclusion.

5.10.6 Description and justification of independent variables

Level of education (LEDUC): Level of education is measured by the number of school years achieved by the household head. Education represent an asset to the household as human capital which later determines efficiency of the household (Gershon et al., 1998). Arene (1992) and Njoku (1997) indicated that the ability of the household head who is a farmer to adopt new technology depends on the farmer's knowledge and level of education. Musebe et al., (1993) went on to indicate that access to formal financial services usually improves with the level of formal education. Therefore, education is expected to have a positive influence on financial inclusion.

Gender (GENDHH) Gender of the head of the household is a dummy variable that takes two values. Gender will be 1 if the household head is male and 0 otherwise. McSweeney (1979) and Dey (1981) argued that, gender is crucial in explaining the economic role of people in the rural areas especially in Africa. This was supported by Baydas et al., (1994) who argued that, women in many cases suffer from discrimination in the formal sectors of the economy like the formal financial markets. This discrimination sees a lot of women failing to fully participate in the formal economy. Buvinic et al., (1979) also indicated that, the economic role of women in society makes them to be out of control of economic resources due to the constraints which limit them from fully participate in the mainstream economy. The apriori expectation for gender dependents on the reference category of the dummy. In this study gender is either positive or negative depending on the reference category.

Age (AGEHH): Age is defined as the number of years of the head of the household. This variable is a continuous variable which is crucial in this study as the head of the household is the one who makes important decisions in the house or farm. Buckley (1997) indicated that age is crucial in determining the demand for financial products. Buckley (1997) argued that the young demand more financial products and services compared with old people. The reason put forward was that the young have little wealth compared to the old, so they need more finance to accumulate more wealth (Nguyen, 2007; Buckley, 1997). Feder (1988) and Diagne and Zeller (2001) came forth with an opposite view where they argued that more experience of older people in economic activities increases the confidence of lenders on them, which then increases the probability of them demanding more financial services? Old people are more privileged to get financial products like credit, but less demanders of these services compared to the young who are more risk but high demanders of credit. That apriori expectation for age is ambiguous: it can be either positive or negative.

Size of household (HSIZE): The size of the household was described as the number of people in one household residing in one house. Bizoza and Ortmann (2007) posit that household size shows the amount of labour in the country and in a household. The study went on to show that the bigger the labour force, the higher the probability of making more income. (Bizoza and Ortmann, 2007). Schreiner and Nagarajan (1997) supported the argument by Bizoza and Ortmann (2007). Schreiner and Nagarajan (1997) argued that, when households have more income, credit risks will be overcome which later improves the ability to participate in the financial markets. The expected sign for household size is positive or negative.

Off-farm income (OFF-FARMI): Off-farm income is described as the income that a household gets from other activities which are not related to farming. In Zimbabwe farmers usually do other activities like formal work, others are into mining while others own retail shops. Sharma and Zeller (1997) posits that the amount of income

the farmer has apart from his normal farming activities reduces his or her risk when applying for credit. As a result, farmers with more off farm income tend to participate more in credit markets than farmers without the income. However, Diagne (1999) and Morduch and Johnston (2007) argued that an increase in income can reduce the household participation in the credit market when the household has enough. On the other hand, the authors argued that an increase income raises the collateral needed when accessing credit, hence raising the probability of participating in the formal financial market. However, if a household is not a farmer, in the study, off-farm income is taken as the total income of the household. *A priori* expectation of off-farm income is either negative or positive.

Agricultural extension service (AGREXTSERV): This variable is a dummy variable which assumes two values where 1 is when the household is participating in informal credit and zero 0 otherwise. Kiiza and Pederson (2001) indicated that farmers who participate in agricultural extension services produce more yields which improve their chances of getting credit. Farmers who receive extension services are more likely to participate more in the formal financial market than those who do not participate.

Distance (DISTANCE): Distance is described as the number of kilometres a household has to travel to reach the formal financial institution. Penetration of formal financial institutions in the rural areas influences the chances of households to participate in the formal markets. Kiiza and Pederson (2001) as well as Oboh and Kushwaha (2009) pointed out that nearness to the financial institution influences the probability of households, especially rural households, participating in the formal financial markets. The *a priori* expectation for distance in the current study is positive or negative.

Transaction costs (TRANSCOSTS): Transaction costs are described as all the charges on products and services provided by financial institutions from the opening

of the account. According to Kempson et al., (2004) transaction costs reduce the likelihood of households participating in the formal financial market. Transaction costs include bank account opening charges, bank withdrawal charges and many more transactional accounts. The variable is expected to be positive or negative.

Financial literacy (FINLIT): Financial Literacy is the knowledge about the different financial products and services by the households. Financial literacy focuses on the ability of an individual household to manage personal finance matters in an efficient manner. The variable takes the values in the scale 0 and 1 where 1 entails the individual has knowledge about the financial products and 0 doesn't have any information about finance. Financial literacy can have a positive or negative influence on financial inclusion.

Marital status (MT): Marital status in this study is a dummy variable which takes the value of 1 if the household head is married and 0 otherwise. The variable was recorded because in the data collected from the field marital status was a categorical variable which takes the value 1 when the household is married, 2 when the household is divorced and 3 when the household is widowed. In the Zimbabwean culture marriage is associated with responsibility. Married people are viewed as people who can take responsibility for different activities. In some jobs they even require married people because they view them as people who are dependable. In the financial sector in some instances people who are married are taken as relatively less risk people than the divorced and widowed. Divorce in Zimbabwe is associated with stigma of people who are not organised and responsible. In this case, the variable marital status can be negative or positive. Married people are more likely to participate in the formal financial market, while if the household is divorced and widowed the chances of participating are slim. The table below shows the variables to be included in the logit and multinomial logistic regression models.

Table 11: Independent variables

Variable	Unit	Expected Sign
Education level	Number	+
Gender of Household head	Male =1, Female = 0	+/-
Age of household head	Number	+/-
Household size	Number	+/-
Off-farm income	United States Dollars	+/-
Agricultural Extension Service	Dummy Variable : Participation = 1 Non-Participation = 0	+/-
Transaction cost	Cost of withdrawal, opening an account	+/-
Distance from the financial institution	Distance in Kilometres	+/-
Financial Literacy	Knowledge about Financial Products Yes=1, 0 otherwise	+/-
Marital Status	Married=1,0 otherwise	+/-

Source: Mhlanga (2019)

The model will be specified as shown below:

$$IFI = \beta_0 + \beta_1 EDUCL + \beta_2 GENDHH + \beta_3 AGEHH + \beta_4 HSIZE + \beta_5 OFF - FARMI + \beta_6 LANDSIZE + \beta_7 INFINPART + \beta_8 AGREEXTSERVI + \beta_9 DISTANCE + \beta_{10} TRANSCOSTS + \beta_{11} FINLIT + \beta_{12} MT + \varepsilon \dots \dots \dots \quad (10)$$

Where IFI is the dependent variable which is the index of financial inclusion well explained. $\beta_0 - \beta_{11}$ are coefficients to be estimated with β_0 representing the constant or intercept term. While EDUCL, GENDHH etc are variables that will be considered as determinants of financial inclusion. The following section will explain the logit model where the dependent variable is now taken as bank account ownership as argued and supported by different authors (Sanderson et al., 2018; Masiyandima et al., 2017).

5.10.7 Logit model

The logistic regression model is used when the dependent variable of financial inclusion is binary where it takes values of 0 and 1. Following the works of Sanderson et al., (2018); Masiyandima et al., (2017); Demirguc-Kunt et al., (2018) who are argued that it is a possibility that financial inclusion can have a proxy of bank account ownership by households, this study sought to investigate the determinants of financial inclusion using account ownership as a proxy of financial inclusion. This was done in order to compare with the determinants of financial inclusion found after running the multiple regression with the index of financial inclusion used as a dependent variable.

5.10.8 Advantages of the logistic regression

The response variable in this case was binary in nature, as a result the logit model was used. There are four different procedures which can be undertaken to determine determinants of financial inclusion. These procedures fall in the class of discrete choice models that include the linear probability model, the logit model, the probit model and the multinomial logit model. The logit model was used because of the following advantages

The advantages of the logit model over the probit model are that the logit model is simple to calculate and interpret for the first order conditions and the distribution of the error term is asymptotic compared to the probit model (Cameron and Trivedi, 2005; Gujarati, 2009). In addition, the logit model is most appropriate in studies that use survey data. The current study used survey data that fits better with the logit model than the probit model which is more appropriate normally when experimental data is used. Moreover, the probit model assumes a normal distribution of the probability of the event, whereas the logit model assumes a log distribution (Cameron and Trivedi, 2005; Gujarati, 2009). The diagram showing the

scenario described above is shown in Appendix B, which clearly outlines the logit and probit models diagrammatically.

Logit analysis is used in many ways whenever the response is a categorical variable. The study did not adopt the OLS because Green and Silverman (1993) as well as Maddala et al. (2001) argued that using the OLS results in a linear probability model. Equation 10 below shows the linear probability model.

$$Y_i = \alpha + \beta_i X_i + \mu_i \text{ where } Y_i = (1, 0) \dots \quad (11)$$

From the equation 10 above, Y_i assumes two values 0 and 1. Y_i is described as the probability that an individual has a bank account, performed transactions, saved or borrowed, has insurance or not, given X_i . In this case, X_i shows the independent variables to be estimated while α and β_i are parameters to be estimated and μ_i is the error term. The OLS has some disadvantages arising from the fact that, in some situations when the dependent variable is binary, one aspect of the dependent variable may be observable but sometimes it may not be observable.

Using the OLS model will lead to omissions of unobservable variables. In addition, using the linear probability model results in the following problems: non-normality of errors, heteroskedastic errors, fallacious predictions and a downward bias in the R^2 . Non-normality of errors arises from the fact that, since the errors are the complement to unity of the conditional probability, they follow a Bernoulli distribution, not a normal distribution. The expected value of the error term in some circumstances will not be necessarily zero.

In addition, using the linear probability model will result in fallacious predictions and inconsistent parameter estimates. By definition, a probability is always in the unit interval between 0 and 1. However, using the OLS does not guarantee this condition. Predictions may lie outside the bound 0 and 1. Also the marginal effect is constant, since $P = E(Y|X)$ grows linearly with X . This is not very realistic. Figure 44

shows how fallacious predictions appear. Lastly, using the linear probability model will lead to downward bias in the R². Comparing predicted with observed variables, the goodness of fit as assessed by the R² is systematically low.

The model

The problems highlighted when using the linear probability model and the OLS can only be solved by using different ways which include increasing the sample size, use of robust estimators as well the use of the Maximum Likelihood Estimation Technique (MLE) (Greene, 2003; Wooldridge, 2000). The MLE results in a model shown in equation 11 below (Pindyck and Rubinfeld, Greene, 2003, Maddala et al., 2001).

$$Y_i = \begin{cases} 1 & \text{if } Y_i > 0 \\ 0 & \text{otherwise} \end{cases} \dots \quad (12)$$

The equation (11) presented above shows us that the unobserved variable of Y_i will become a latent variable given as Y_i^* . Y_i^* is shown in equation 12 below:

$$Y_i^* = \beta_0 + \sum_{j=1}^k \beta_j X_{ij} + \mu_i \dots \quad (13)$$

The distribution of μ_i will tell whether equation 12 is logit or probit. As a result, equation 12 can either be a probit or logit model. In this study the logit model was used. The probit model was not used due to the existence of one of its restrictive assumption that the error term should be normally distributed (Maddala et al., 2001; Johnston, 1997; Hosmer and Lemeshow, 1989). Due to that restriction, the study used the logit model. The logit model was estimated shown in equation 14 below.

$$P_i = F(Z_i) = F(\alpha + \sum_{i=1}^n \beta_i X_i) = \frac{1}{1+e^{-Z_i}} \dots \quad (14)$$

Where P_i is the probability that an individual has an account, saved, borrowed, has insurance or not given X_i . X_i shows the i^{th} independent variables where the total number of independent variables is represented by n. In this case e represents the

base of natural logarithms estimated to be equal to 2.718. β_i and α are parameters to be estimated.

The logit model can be expressed in odds and log of odds to allow researchers to interpret the coefficients. The odds ratio shows the ratio of the probability P_i that an individual will choose an alternative while $(1 - P_i)$, indicates the opposite that the individual will not choose it (Hosmer and Lemeshow, 1989). $(1 - P_i)$ will be expressed as:

Then following that, the odds ratio will be written as:

Taking the natural logarithms of equation 15 above will give the logit model given in equation 17 below (Hosmer and Lemeshow, 1989; Greene, 2003).

Equation 18 shows us that, as P moves from 0 to 1, the logit moves from $-\infty$ to ∞ indicating that the logit is not so bounded even if the probabilities lie between 0 and 1 (Gujarati, 2009; Hanushek et al., 1974). Taking disturbance term μ_i into account, the equation 18 is transformed into equation 18 below:

The econometric model in equation 18 was the one used to investigate the determinants of financial inclusion among the smallholder farmers and these households who were not farmers.

The model used in the study will be specified as follows: The decision to use financial services pivots on a concealed variable FI^* which is determined by a set of exogenous variables included in vector X^I so that:

$$FI_i^* = X_i^I \beta + u_i \dots \quad (19)$$

Where β is a row vector of parameters and X_i^I is a column vector of the variables that affect FI_i^* . u_i is the error term. Using the logit model has the advantage of extreme flexibility as highlighted earlier. Therefore, financial inclusion represents a combination of the four dimensions or indicators and will be given as:

$$FI^* = \sum(Y_1^*; Y_2^*; Y_3^*; Y_4^*) \dots \quad (20)$$

The model specification used in the study can now be specified as follows:

Financial Inclusion expressed:

$$\begin{aligned} P(FI(1/x)) = & G(\beta_0 + \beta_1 EDUCL + \beta_2 GENDHH + \beta_3 AGEHH + \beta_4 HSIZE + \beta_5 OFF \\ & - FARMI + \beta_6 LANDSIZE + \beta_7 INFINPART + \beta_8 AGREEXTSERVI \\ & + \beta_9 DISTANCE + \beta_{10} TRANSCOSTS + \beta_{11} FINLIT + \beta_{12} MT + \varepsilon) \end{aligned}$$

Where:

$P(FI=1/X)$ is the probability that the household will seek an account to perform different transactions, to save and finally to borrow: in short, to participate in the formal financial market that is financial inclusion, given the vector of the observable characteristics. $G(z)$ is the logistic function where, $G(z) = \frac{e^z}{1+e^z} = P(Financial\ Inclusion = 1/x)$

$\beta_0 - \beta_{11}$ are coefficients to be estimated with β_0 representing the constant. The following section explains the multinomial logit model.

5.11 MULTINOMIAL LOGIT MODEL

Since financial inclusion is multidimensional, the study further investigated the determinants of financial inclusion in terms of factors that influence the household to choose different services and products offered by financial institutions. In this case financial inclusion did not assume one dimension but it took more than one dimension. The study investigated the factors that influence household to choose among the various services offered by financial institutions such as account ownership, savings account or credit account and insurance. As a result, the dependent variable of financial inclusion had more than two categories. The dependent was financial inclusion (FINICLN) with three categories, transaction account, savings/credit account, and insurance. Multinomial logistic regression was used to estimate the determinants of financial inclusion from the three category dependent variable.

The multinomial (polytomous) logistic regression is the binomial logistic regression model extensively used in situations where the dependent variable has more than two nominal or unordered categories. Multinomial logistic regression uses maximum likelihood estimation like the logistic regression to evaluate the probability of categorical membership (Madhu et al., 2014; Hanushek and Jackson, 2013).

In relation to this study, the multinomial logit regression model highlighted key household attributes like education and gender that differentiated households that accessed financial services from various financial institutions. The assumption was to identify the determinants behind household decisions to choose among the various financial services in a given period. A rational household head chooses among the three mutually exclusive financial service that made the household derive maximum utility. In our case the three services included transaction account, credit account and insurance. Following the work of Greene (2003) for the i^{th} respondent faced with j choices, the utility choice j is expressed as:

Assuming the respondent makes choice j , then U_{ij} will be the maximum utility the respondent could obtain from the j utilities. As a result, the statistical model will be derived by the probability that choice j is made, which is given as:

$$\Pr(U_{ij} > U_{ik}) \text{ for all other } K \neq j \dots \quad (22)$$

Where U_{ij} is the utility, to the i^{th} respondent, from financial service j and U_{ik} is the utility to the i^{th} respondent from financial service k . As propounded by Brown and Brown (2006) and Mapfumo (2015), the household's choice is the optimal allocation of its asset endowment if the i^{th} respondent's utility is maximised as a result of the selected livelihood strategy. Consequently, the decision of the i^{th} household can ultimately be modelled as maximizing the expected utility by selecting the j^{th} financial service among j discrete financial services as shown in the equation:

With an outcome variable with J categories, the j^{th} livelihood strategy that the i^{th} household chooses to maximize its utility could take the value of 1 if the i^{th} household choose j^{th} financial service and 0 otherwise. Therefore, the probability that a household with characteristics x chooses the financial service j , P_{ij} can be modelled as:

Applying the requirement that $\sum_{j=0}^J P_{ij} = 1$ for any i . Where P_{ij} = probability representing the i^{th} respondent's chance of falling into category j . X = predictors of response probabilities. β_j = covariate effects specific to the j^{th} response category with the first category as the reference. To remove an indeterminacy in the model,

appropriate normalization that is to be carried out should assume that this arises because probability sum to 1, so only J parameter vectors are needed to determine the $j+1$ probability, so that, $\exp(X'_i\beta_j) = 1$ (Greene, 2003; Mapfumo, 2015). This will imply that the generalization equation (21) above is equivalent to:

$$\Pr(y_i = j | X_i) = P_{ij} = \frac{\exp(X'_i \beta_j)}{1 + \sum_{j=1}^J \exp(X'_i \beta_j)}, \text{ for } j = 0, 1, \dots, J \text{ and } \Pr(Y_i = j) = \frac{e^{\beta_j x_i}}{\sum_{k=0}^J e^{\beta_k x_i}}, j = 0, 1, \dots, J. \quad (25)$$

Where, β_i = a vector of coefficients on each of the household attributes, β_k = the vector of coefficients of the base alternative and j denotes the specific one of the $j+1$ possible livelihood choices. This model was used to investigate the determinants of financial inclusion among the households. The findings were compared with the findings from the logit model results where financial inclusion assumed 1 for bank account ownership and 0 otherwise and well as results from the developed index of financial inclusion. The model used the same independent variables explained in section 5.10.6. The following section explains the modelling of objective 4.

5.12 ECONOMETRIC MODELS FOR INVESTIGATION THE IMPACT OF FINANCIAL INCLUSION ON POVERTY

To establish the impact of financial inclusion on poverty a variety of analyses was done. The analysis done depends on how poverty is measured. Simple regression models were used to investigate the impact of financial inclusion on poverty using the absolute poverty line, income plus assets index.

5.12.1 Dependent variable: poverty

The dependent variable in this case is poverty which takes four different forms. The two different ways in which poverty is measured helps us to generate the two dependent variables. The two dependent variables were given as follows: Absolute

Poverty Line (APL) and the Income plus Asset Index (IPAI). Two poverty measures were used in this case because sometimes smallholder farmers may not have a prescribed amount of income per month compared to households who are working in industries other than farming. As a result, using the poverty datum line alone as a measure of poverty was not going to give the true poverty status of smallholder farmers, hence the study used more than one measure. Also, the number of poor people were different from the two measures. Using the different measures of poverty also assisted the study to do comparisons of the impact of financial inclusion on poverty from the two measures. In actual fact, the study carried out experiments to find which poverty measure is influenced more by financial inclusion. The following section explains the independent variable that was used in investigating the impact of financial inclusion on poverty.

5.12.2 Independent variable

The independent variable in this case was financial inclusion that was represented as (IFI) meaning the index of financial inclusion as measured in section 5.9.1. Financial inclusion was expected in this study to have a negative impact on poverty. That is, if financial inclusion was high, poverty was expected to be low; if financial inclusion was low, poverty levels were also expected to be high. This was supported by Chibba (2009); Bruhn and Love (2009); Lal (2018) and Park and Mercado Jr (2018). Table 13 gives a description of the variables included in the models.

Table 12: Table of variables

Dependent Variables	Independent Variables	Description	Expected Sign
	IFI	Index of Financial Inclusion(Financial Inclusion)	-
APL		Absolute Poverty Line	
IPAI		Income Plus Assets Measure Index	

Source: Mhlanga (2019)

5.12.3 Econometric model on the impact of financial inclusion on poverty measured by the APL

The study used different measures of poverty because poverty in its own right is multidimensional and the number of poor people are different when using the different measures of poverty.

The linear regression model was used to investigate the economic impact of financial inclusion on poverty measured by the absolute poverty line.

$$Y = \beta_0 + \sum_i^n \beta_i X_i + \varepsilon \dots \quad (26)$$

Where Y is the dependent variable - in this case it is poverty measured by the absolute poverty line. $\beta_{i..n}$ are the slope coefficients for each corresponding independent variable? $X_{i..n}$ represents the independent variables which in this case is financial inclusion.

This can also be represented as:

$$APLPoverty = \beta_0 + \sum_i^n \beta_i IFI_i + \varepsilon \dots \quad (27)$$

Where APL Poverty is the dependent variable representing absolute poverty as measured by the absolute poverty line. IFI is the index of financial inclusion. The section which follows will describe the econometric model measuring the impact of poverty using the income plus asset index.

5.12.4 Econometric Model on the Impact of Financial Inclusion on Poverty Measured by the IPAII

The third econometric model was used to find the impact of financial inclusion on poverty measured by the asset plus income index. The analysis was done in order

to get the true picture of the impact of financial inclusion on poverty. The model used appears as shown below:

$$Y = \beta_0 + \sum_i^n \beta_i X_i + \varepsilon \dots \quad (28)$$

This can also be written as:

$$IPAIPoverty = \alpha + \sum_i^n \beta_i IFI_i + \varepsilon \dots \quad (29)$$

Where IPAIPoverty is poverty measured by the income plus asset index, α is the intercept, β is the slope and ε the constant. IFI is the index of financial inclusion as in equation 27 above. The idea of estimating equation 29 was for the study to compare with the results obtained in equation 27. Equation 27 estimates the impact of financial inclusion on poverty measured by the absolute poverty line. In addition, equation 29 was estimated in order to gather more evidence on the impact of financial inclusion on poverty.

5.13 MULTIPLE REGRESSION OF THE IMPACT OF ACCESS TO FINANCIAL SERVICES ON POVERTY

In order to understand the impact of access to various services (indicators) of financial inclusion on poverty, an econometric analysis was done among the various financial services of financial inclusion and poverty. The other reason was to see the number financial services that have a strong impact on poverty. One best way to model this is to use the multiple regression technique, following the works of Kidwell and Brown (1982); Tobias (1995) and Ismail and Principe (1996).

The dependent variable used was poverty measured by the absolute poverty line. Independent variables were the various indicators of financial inclusion. In this case

the study sought to discover the indicators which have an influence on the various measures of poverty in order to influence policy makers, governments and development partners on the indicators of financial inclusion to target most. The analysis helped to highlight the most significant indicators of financial inclusion.

5.13.1 Description and justification of independent variables

The independent variables in this section chosen among the various indicators of financial inclusion are account ownership, saving, borrowing and insurance.

Account ownership (ACCNTOWNSP) Owning an account with any of the formal of the financial institutions whether. Data on this is captured by the question which asks respondents whether they have bank accounts. As explained in previous sections, account ownership is a binary variable which takes the value of one if the individual has a bank account and zero (0) if the individual does not have a bank account. Account ownership can either be positive or negative.

Saving (SAVING) Savings in this study is the amount on money kept at a formal financial institution in order to earn interest and for future use. The data is captured by the question which asked respondents whether they have saved with any of the formal financial institutions. As a result, saving is also a binary variable which takes the value of one (1) if an individual has saved with a formal financial institution and zero (0) if the individual did not save. Since saving encourages investment, more investment will increase profits hence disposable income improves which will automatically lower poverty levels. The variable can either be positive or negative.

Credit (CREDIT) Credit is any form of borrowing from the formal financial institutions for smallholder farmers. It is either cash or inputs. Credit is a binary variable which takes the value of one (1) if the individual has borrowed from the formal financial institution during the past three months and zero (0) otherwise. This variable is expected to be either negative or positive. When credit is high,

poverty tends to be decline because farmers will have the ability to do more business which will increase their disposable income. However, when credit is low poverty tends to rise.

Insurance (INSURANCE) Insurance is binary in nature, which takes the value of one (1) if the individual has insurance and zero (0) otherwise. Appropriate econometric models were used to model the determinants.

Table 13: Variables to be included in the model

Variable	Unit	Expected Sign
Account Ownership(ACCNTOWNSP)	Dummy Variable:1 =account ownership and 0 otherwise	+/-
Saving(SAVING)	Dummy Variable: 1=Saved with formal financial institution and 0 otherwise	+/-
Credit (CREDIT)	Dummy variable: 1=borrowed and 0 otherwise	+/-
Insurance (INSURANCE)	Dummy variable: 1= with insurance and 0 otherwise	+/-

Source: Mhlanga (2019)

5.13.2 Model specification

The multiple regression model was used. The model is shown below.

$$Y = \beta_0 + \sum_i^n \beta_i X_i + \varepsilon \dots (30)$$

The model can further be written as:

$$Y = \beta_0 + \sum_i^n \beta_i ACCNTOWNSP + \beta_2 SAVING + \beta_n X_n \dots (31)$$

Where Y is the dependent variable - in this case it is poverty measured by the absolute poverty line. $\beta_{i..n}$ are the slope coefficients for each corresponding independent variable? $X_{i..n}$ represents the independent variables which in this case were the indicators of financial inclusion such as saving, account ownership etc. The above model was used to investigate the impact of saving, borrowing, insurance on poverty levels at any given time.

5.14 ETHICAL CONSIDERATIONS

The study strictly followed the academic research ethical guidelines. The study was conducted in a responsible and professional manner to provide the society with new information related to the topic under investigation, and to come up with reasonable results, conclusions and recommendations related to the topic under investigation. Identities of participants were highly protected together with their interests. Strict adherence to ethical and technical guidelines made it possible for the study to reduce incidents of plagiarism and fabricated data reporting. All the data and information received from the participants was handled confidentially throughout the study period. The ethical clearance and approval was obtained from the NWU-EMELTEN-REC ethical committee before commencement of the data collection under the ethical number NWU-00354-19-A2.

The questionnaire was strictly peer reviewed and it did not extract any sensitive information from the respondents. Participation of all the respondents was voluntary and the anonymity of their information was guaranteed. The questionnaire included a section where information about the study was clearly explained and room was given to all the participants to air their concerns and any questions arising from the research through the researcher's contact numbers which were provided. Information that participation was voluntary and that participants were free to withdraw from the study any time was given in a clear manner to the respondents.

5.15 SUMMARY AND CONCLUSION

The chapter presented the methods and procedures undertaken in the analysis of data. Methods, procedures and data analysis tools were clearly articulated. The first section presented the research paradigm and philosophical underpinnings of the study, research design and research approach. The sampling procedure, data collection instrument, its layout, pre-testing and pilot testing of the instrument were also explained in this chapter. The chapter also explained the methodology used to determine the determinants of financial inclusion, and the impact of financial inclusion on poverty. The chapter also highlighted how the dependent variables used in the study were developed, i.e. poverty and financial inclusion. Modelling of all the models presented was also explained in the chapter together with the ethical considerations.

CHAPTER 6

RESULTS AND DISCUSSION ON FINANCIAL INCLUSION AND POVERTY REDUCTION

6.1 INTRODUCTION

This chapter presents the results based on the empirical objectives of the study on financial inclusion and poverty reduction in Zimbabwe. The objectives were presented separately in their own sections. Data used for the empirical objectives were collected by the researcher through administering a questionnaire in Manicaland Province of Zimbabwe. Multistage sampling technique was used in the study to collect data from a total of 600 households. In order to ensure that the data was comprehensive the researcher was assisted by three field workers to collect data from 600 farmers. A total of 650 questionnaires were distributed for the survey. Some questionnaires were sent to individual farmers who are members of various farmer organisations in Zimbabwe such as the ZFU and the CFU. Out of the 650 questionnaires, 611 questionnaires were returned with information; however, 11 questionnaires were removed because they had missing information and missing pages making a total of 600 questionnaires being used for the study. The 600 households comprised who were farmers full time and non-farmers.

The study used household data in order get a clear picture of the profile of poverty and financial inclusion at household level. The majority of measures used in literature to measure financial inclusion use macro level data, for instance Sarma (2008); Honohon (2007). The use of household level data gave weight to the current study. The econometric models used in the regression process to come up with the results were presented fully in chapter five. A discussion making reference to the results is presented as part of each objective. The study had the following

objectives: to profile the poverty and financial inclusion among the smallholder farmers in the sampled area; to develop an index to measure financial inclusion as well as to determine the determinants of financial inclusion among smallholder famers in Zimbabwe; to analyse the impact of financial inclusion on poverty in Zimbabwe among small holder farmers; and, finally, to make recommendations as to how financial inclusion can be used to deal with poverty in Zimbabwe.

Each of the objective above has a corresponding research question to be answered. The research questions all feed into the overarching research question of what is the impact of financial inclusion on poverty reduction in Zimbabwe. In this chapter each objective is dealt with separately using the models specified in chapter 5.

6.2 DEMOGRAPHIC CHARACTERISITCS OF THE SAMPLE

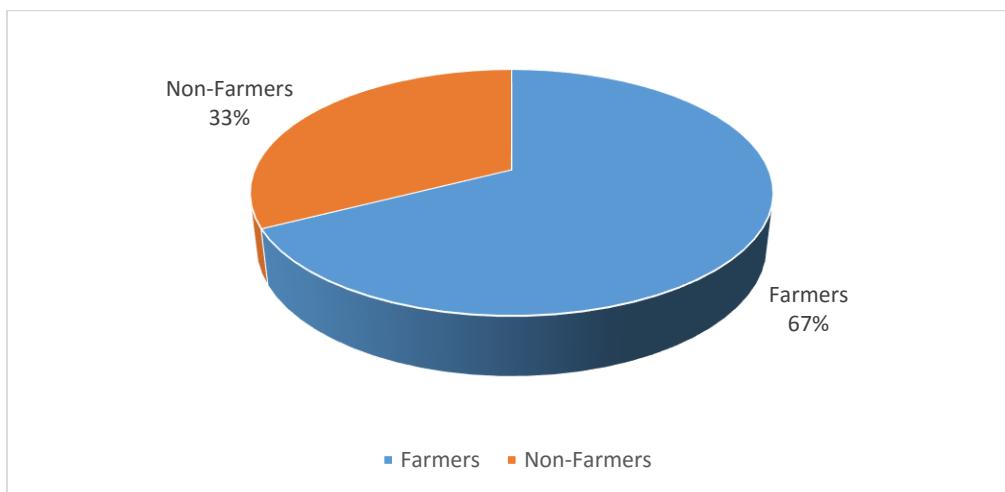
This section provides the demographic characteristics of the households interviewed by the researcher. The demographic characteristics of the sample that will be described in this section are gender composition of the sample, farmers and non-farmers interviewed, age composition and size of the family. Some other characteristics of the household are discussed under the heading of financial participation and way of life of the households in the sample.

6.2.1 Farmers and non-farmers interviewed

The number of farmers and non-farmers interviewed was important in this study, since the main objective of the study was to investigate the impact of financial inclusion on the smallholder farmers. It was important to clearly establish the number of individuals who were in farming full time and those who were not farming. This knowledge helped to enrich the results and findings of the study as room was given to clearly articulate the differences in the impact of financial inclusion on poverty among farmers and households who were not in farming. Studies discussed so far have confirmed that financial inclusion has an impact on

poverty reduction; however, many authors like Sarma and Pais (2008); Park and Mercado (2015); Chibba (2009) did not investigate the impact of financial inclusion specifically on smallholder farmers. So the inclusion of farmers and non-farmers in this study was to be able to compare the impact of financial inclusion on these two groups. This also helped to compare the current study with other studies such as the ones highlighted before, Sarma and Pais (2008); Park and Mercado (2015); and Chibba (2009). Figure 42 below gives the proportion of farmers and non-farmers interviewed.

Figure 42: Farmers and non-farmers interviewed



Source: Mhlanga (2019)

Figure 42 above indicates the farmers and non-farmers who were in the sample. Households who indicated that they were farmers at the time of interview were 405 out of the 600 households interviewed translating to 67 percent. On the other hand, 33 percent of the households indicated that they were not involved in farming, translating to 195. From the observation and conversations of the interviewees and the researcher, it was noted that a greater proportion of households who indicated that they were not involved in farming were households who were staying in towns and growth points, many of them with a stable job like teaching. However, some households in the rural areas did indicate that they were not farming. More than 50

percent of the households who indicated that were not farming had a rural home even if they were not engaged in farming activities. The statistics also indicated that, from the total number of households interviewed, a greater proportion were of farmers (67 percent) compared to those households who were not farming (33 percent) during the time of the interviews. The following section describes the gender composition of the sample in the household.

6.2.2 Gender composition of the households in the sample

Gender composition of the households is an important aspect to understand because in its own right it influences the financial participation and hence financial inclusion (Chaia et al., 2009; Beck et al., 2009). There is an argument that understanding gender composition helps to shape the nature of policies to be implemented to address the socio-economic ills affecting a community, region, or nation (Beck et al., 2009). In reality it is also possible to get the group that needs more attention between males and females when gender composition of the sample is known. Table 15 below shows the gender composition of the households in the sample.

Table 14: Percentages of females and males interviewed

Gender composition of the households in the sample		
Female	210	35%
Males	390	65%
Total	600	100%

Source: Mhlanga (2019)

The statistics in the table 15 above show that out of the 600 households interviewed, 65 percent of them were males and 35 percent were females. This indicates that, in Manicaland Province, there were few households who were headed by females

compared to males. These results of 65 percent males and 35 females interviewed as shown above indicate that many households who are in the province are male headed. The statistics forced the researcher to conclude that many families who are in farming and those who are not in farming in the province are male headed households compared to female headed. This set up supports the existing culture in Zimbabwe that men are in most cases the heads of the household (Manjengwa et al., 2016; Chimhowu et al., 2010). The 35 percent females interviewed also shows that there are households who are female headed - either widowed, divorced or a household in situations where the husband is not staying with the family as he has work commitments. This result appears mostly with households who were in farming where the head of the household is engaged in off-farm activities. In this case, in many of these households the mother was the one responsible for farming and taking care of the children.

6.2.3 Family size of the households in the sample

The size of the family usually is seen as the number of people who make common provision of food, accommodation and meet other important essential needs and wants for survival (Lanjouw and Ravallion, 1995). A deep understanding of the size of the family is important in poverty analysis. It is generally believed that households with large families have a higher risk of being poor (Klebanov et al., 1994; Lanjouw and Ravallion, 1995). Lanjouw and Ravallion (1995) went on to state that large family sizes are associated with high levels of family poverty. Table 16 below shows the family sizes for households in the sample.

Table 15: Family sizes for households in the sample

Family sizes of the household in the sample				
	Farmers		Non-Farmers	
Family of one	2%	8	3%	6
Family of two	10%	41	6%	12
Family of three	24%	97	27%	53
Family of four	14%	57	40%	78
Family of more than five	50%	202	24%	46
Total	100%	405	100%	195

Source: Mhlanga (2019)

Smallholder farmers

In the sample, more than 50 percent of the families had families of more than five people in the household. This shows that, generally, farmers had large families especially those who reside in rural areas. Family of three had 24 percent with family of one and four with 2 percent and 14 percent respectively. The statistics in the table 16 above indicates that generally the families in the farming sector had big families. Table 16 also showed the family sizes of households who were not in farming. The discussion for family sizes of households who were not in farming is given below.

Non-farmers

In order to see how other households who were not in farming survive, the study also collected statistics of these families. In table 16 above, families of four were dominating with 40 percent, meaning more households who were not in farming during the time of the interviews were those with families of four people in the household. This group was followed by the family of three with 27 percent, then the family of more than five people with 24 percent and family of one had 3 percent.

Even though the family of four dominated, generally households in the sample had big families. The other important aspect to analyse is the age composition of the households in the sample. The section that follow shows the age composition of the sample.

6.2.4 Age composition

Age of the household is an important variable in poverty analysis. The WBG (2016) and WBG (2018a) indicated that poverty is normally influenced by age. The WBG (2016) argues that children are more likely to live in poverty when compared to adults of ages 18 to 64 years. When middle aged people of 18 to 60 years are compare with the elderly of 61 years and above, those who are of the ages 61 and above are more likely to be in poverty compared to ages between 18 to 60 years.

Table 16: Age composition of households in the sample

Age composition of the households in the sample		
21-30 Years	66	11%
31-40 Years	95	16%
41-50 Years	216	36%
51-60 Years	198	33%
60 and above	25	4%
Total	600	100%

Source: Mhlanga (2019)

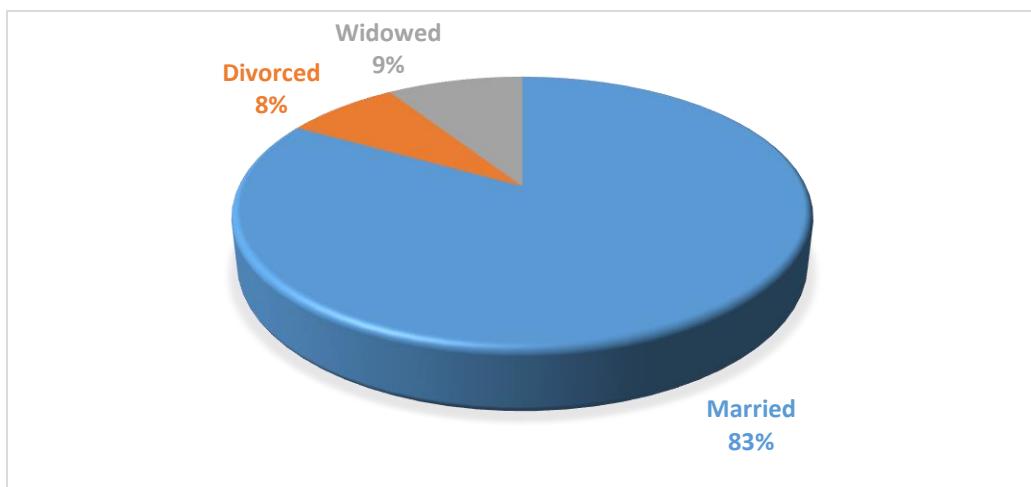
The age composition of households in the sample were such that individuals of the ages 51-60 years had 33 percent representation, age group of 41-50 years had 30 percent representation followed by the age group of 31-40 years with a 16 percent representation in the sample. The least in the sample were of the age group of 60 and above who had 10 percent representation. The youth in the age group of 21-30 years had 11 percent. These statistics show us that, in Zimbabwe Manicaland province, many people who do farming in the province are the elderly and middle

aged people. Even though the youth are in farming the numbers are limited, especially in the age group 21-30 years. This is in line with the arguments by Moyo (2005); Moyo (2006); Chimhowu et al., (2010) and Chigumira (2010b) who argued that the land allocation in Zimbabwe was in such a way that the youth were excluded from access to land with the majority of farm allocations given to adults of ages 41-60 years. The next section will describe the characteristics of the households in relation to marital status of the households.

6.2.5 Marital status

Marital status of the household is one of the important variables which influences financial inclusion and poverty levels of the household. Soumaré et al., (2016) and Anyanwu (2014) discovered that poverty is sometimes influenced by marital status of the household with being a widow increasing the probability of being poor. Figure 43 shows the marital status of the households in the sample.

Figure 43: Marital status of the households



Source: Mhlanga (2019)

As we study the marital status of the sample, figure 43 indicates that, 83 percent of the households were married while 9 percent of the households were widowed and 8 percent were divorced. The statistics further indicates that, Manicaland Province

is dominated by married people compared to the divorced and widows. Apart from age, gender and marital status, the study went on to discuss the characteristics of the households in terms their way of life such as the education level, the nature of dwelling etc.

6.3 HOUSEHOLD CHARACTERISTICS IN RELATION TO THE WAY OF LIFE

This study is premised on the analysis of poverty where the impact of financial inclusion on poverty is investigated. As a result, a deep understanding of the way of life of the households is more important. This section will describe the characteristics of the household in relation to the life they live. The characteristics of the households to be discussed in this section include the level of education of the households, nature of dwelling, floor type of the dwelling, roofing type and many more features that are important in poverty analysis. The first part describes the educational level of the households.

6.3.1 Level of education

Level of education in this study refers to the number of years and level attained in terms of primary, secondary, diploma as well as degree levels and so on. In financial inclusion and poverty analysis this is important as education is seen as a determinant of both poverty and financial inclusion. Tuesta et al., (2015) in a study carried out in Argentina, discovered that the level of education influences the financial inclusion of households as well as the poverty status of the households. The level of education influences the income stream of the households which will allow the households to live above or below the poverty line. When households are educated the risk of being poor is minimised. Table 18 summarises the level of education of households from the sample.

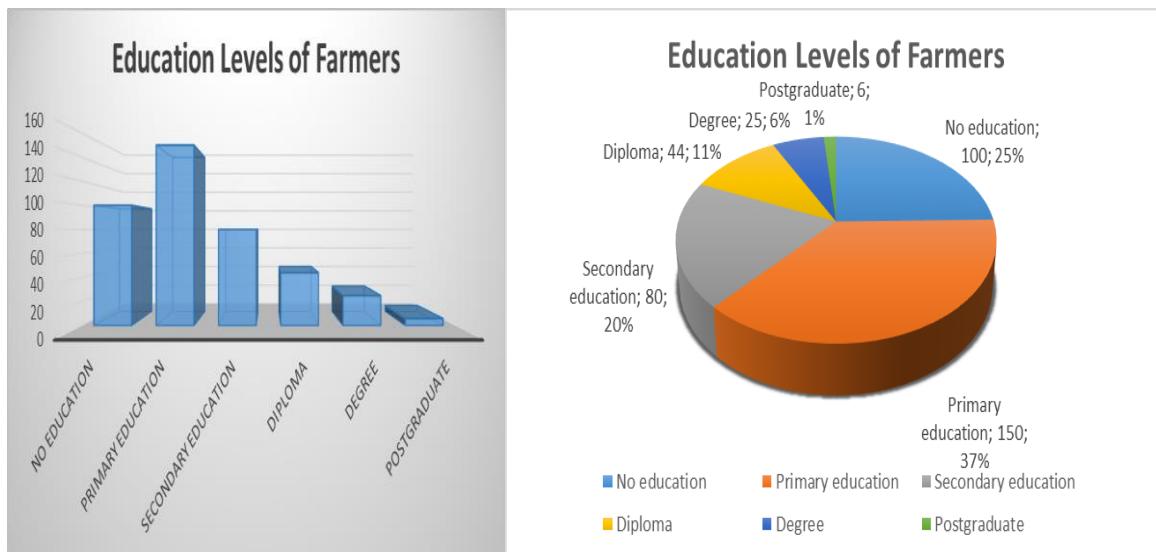
Table 17: Education levels of households

Level of education	Number	Percentage
No education	50	8%
Primary education	133	22%
Secondary education	275	46%
Diploma	75	13%
Degree	60	14%
Postgraduate	7	1%
Total	600	100%

Source: Mhlanga (2019)

In table 18, the number of households without education was 50, expressed in percentages as 8 percent of all the households interviewed. Households where the head had primary education only were 22 percent, that is, 133 heads of households interviewed. From the statistics, a greater percentage of heads of households had secondary education, which was 46 percent, that is, 275 of households out of those interviewed. In Zimbabwe, secondary education is the education level where individuals attain ordinary level education or advanced level education. Advanced level is a university entry qualification while ordinary level entitles one to proceed to advanced level or to enrol for a diploma or certificate. In fact, many households in Manicaland were headed by individuals with secondary level education. Households with a diploma or a degree were at 13 and 10 percent respectively while those with a postgraduate qualification were at 1 percent. Very few households had postgraduate qualifications which was only 1 percent or just 7 out of the 600 households interviewed. Figures 44 and 45 give the actual percentages and differences between education levels for households who are farmers and non-farmers.

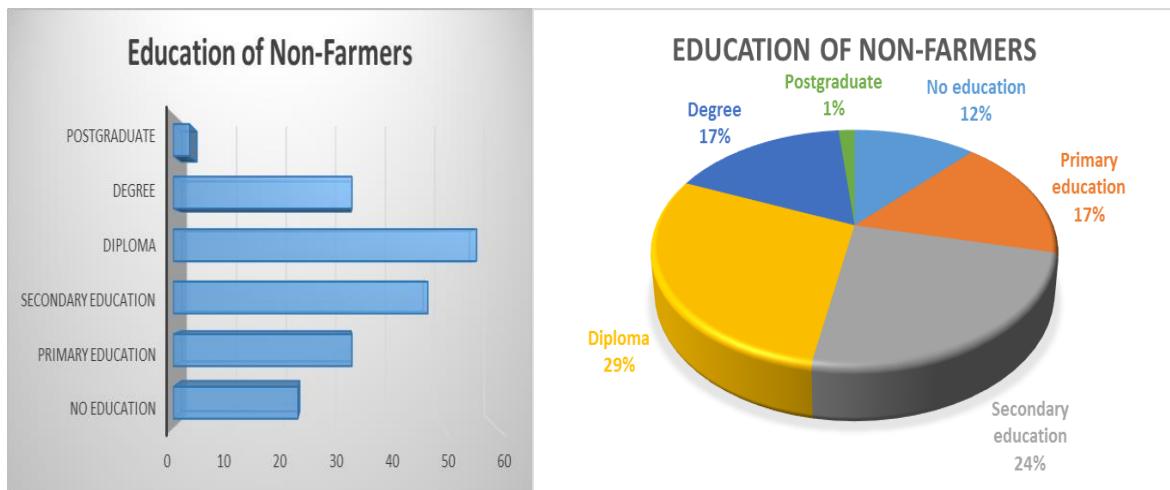
Figure 44: Education of households who are farmers



Source: Mhlanga (2019)

In terms of education level for households who were into farming, 37 percent of the households had primary education. In Zimbabwe, primary education is a secondary entry level of education. In terms of secondary level, only 20 percent of the households had secondary level education which is the university entry level of education. The surprising information from the survey showed that 25 percent of the households had no education at all. This reality did not go in line with the high literacy rate reported for Zimbabwe. From the survey, districts like Buhera, part of Mutare rural, and Chipinge, areas that share the border with Mozambique, were the areas highly affected by the low levels of education. This is in line with the details about education in the province explained in chapter 4 section 4.15.3. However, the statistics were slightly different when non-farmers were concerned. Figure 45 shows the education levels of households who indicated that were not in farming.

Figure 45: Education of households who are non-farmers



Source: Mhlanga (2019)

For the households who were not engaged in farming the statistics were more in line with the status of Zimbabwe with regard to high literacy rate. Households with a diploma were 29 percent while those with secondary education were 24 percent. The other interesting fact was that 17 percent of the households' heads were degreed individuals. The issue of place of residence influenced the statistics so much. Most of the people who indicated that they were not into farming were the individuals who were residing in growth points and cities employed in different white collar jobs like teaching, banking, and various other occupations. The next section shows the nature of dwelling of households in Manicaland Province in terms of renting, mortgaging and ownership of their dwellings.

6.3.2 Nature of dwelling

In order to understand the welfare of the households in poverty analysis, it is important to understand the nature of dwelling whether owned, rented or mortgaged. The relativist theory of poverty measurement stresses that the poverty status of an individual is premised on the conditions of other people in the community where they reside (Vos and Garner, 1991). As a result, the nature of

dwelling can be a good factor that can help to measure whether households are poor or not compared to others in society. According to McLachlan (1983) the view of Townsend was that some people may be able to afford their basic necessities but when compared to others they may be regarded as poor. The following table shows the nature of dwelling of households in Manicaland Province in terms of renting, mortgaging and ownership of their dwellings.

Table 18: Nature of dwelling of households

Nature of Households	Number	Percentage
Households who rented	154	26%
Households who owned	430	72%
Households who mortgaged	16	2%
Total	600	100%

Source: Mhlanga (2019)

In table 19, 154 households were renting their dwellings translating to 26 percent of the total households interviewed. However, the majority of households standing at 72 percent were owners of their dwellings. In fact, many households who indicated that were renting their dwellings were those households who were residing in towns and growth points, the majority of whom were not farmers but employed in other sectors of the economy by the time of the survey. On the other hand, the majority of households who indicated that they owned their dwellings were households who were residing in the rural areas who stay on their farms and villages. The households who mortgaged their dwellings were only 2 percent. In short, the majority of households in the province were owners of their land, especially farmers who stayed on their farms. Apart from ownership, in line with the relativist theory, it is also important to understand the type of roofing material for the dwellings of the households. The following section explains the roofing

material used by the households. The person may own the house, but the roofing and floor material is important when analyzing the welfare of the households. The following section explains the roofing material used by the households followed by floor type.

6.3.3 Roofing and floor material for the dwelling of the households

In the same manner, just like the nature of the dwelling, the roofing material and floor type of the households is an important factor that can be used to measure the welfare of the households (McLachlan, 1983; Vos and Garner, 1991). As noted before, using the relative approach to poverty measurement, it is possible to compare roofing or floor material of the household as a factor to measure whether the household is poor or not by way of comparison, that is comparing one household to another. Table 20 shows the roofing material of households in the sample.

Table 19: Roofing materials of households in the sample

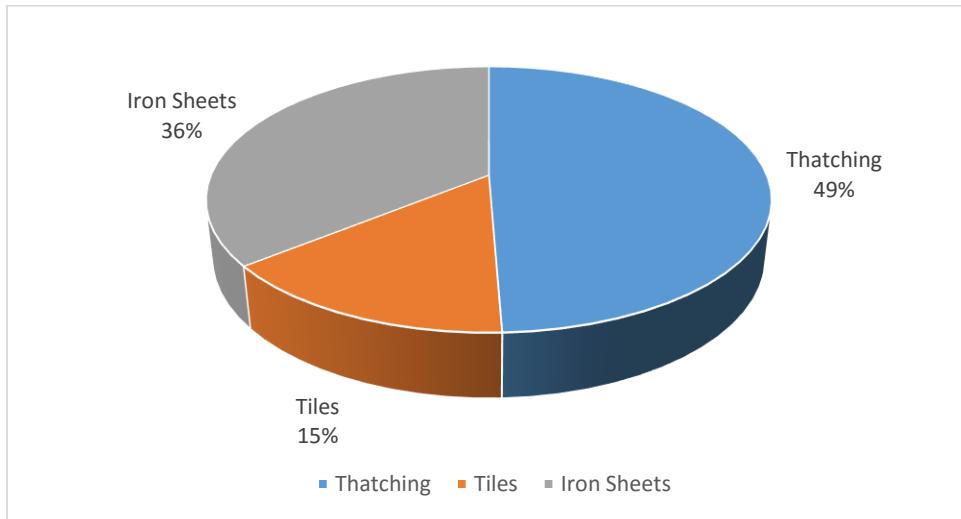
Roofing Material for Households in the Sample		
Tiles	102	17%
Iron Sheets	246	41%
Thatching	252	42%
Total	600	100%

Source: Mhlanga (2019)

In table 20 above, 42 percent of the households had thatching as the roof material of their dwelling. The majority of these households were those who reside in the rural areas, especially those who stay on farms, plots and in villages. Asbestos and iron sheets were taken to mean the same thing in this study. Households with iron sheets were 31 percent while households with tiled houses were only 17 percent. From these statistics many farmers - especially those who are doing subsistence

farming in the rural areas - had their dwelling with thatched roofs. However, farmers who reside in growth points and towns had roofs with either iron sheets or tiled roofs. This is shown in the diagram below.

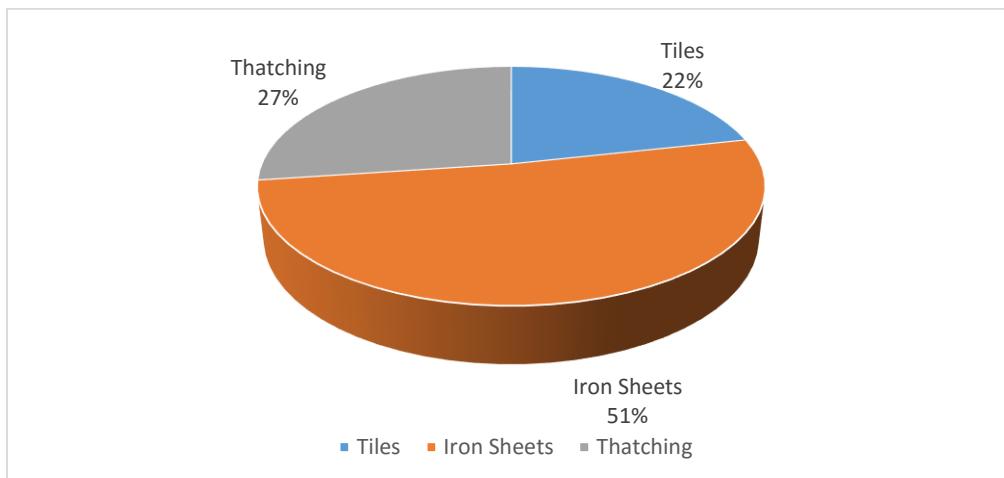
Figure 46: Roofing material for farmers' houses



Source: Mhlanga (2019)

As discussed before, many households who were in farming had their dwelling thatched, and in some households a mixture of thatching and iron sheets were witnessed in the research. However, the unfortunate part was that, in most cases, the head had his/her dwelling thatched. At times one or two houses with iron sheets belonged to the child or another relative. Households with iron sheets were 36 percent while those with tiles constituted 15 percent. In general, households in farming had their roofs either thatched or had iron sheets roofs with a few having tiled roofs. Households with asbestos roofs were equated with those with iron sheets in the research. Figure 47 shows the roofing material for households who are not farmers.

Figure 47: Roofing material for Non-Farmers



Source: Mhlanga (2019)

Of the households who indicated that they were not in farming, 51 percent of them had their houses with iron sheets while 27 percent had their houses with thatching as the roofs of their dwelling. On the other hand, 22 percent of the households had tiles as their roofs. In this class households with iron sheets were more compared to households who were smallholder farmers. The possible reason the researcher noted for the differences was location of the households. Many households who are in farming reside in the rural areas, while many of the households not in farming reside in towns and growth points. Table 21 shows the households who had mud, tiles and cement floors from all the households interviewed.

Table 20: Floor type in households' dwelling

Nature of floor	Number	Percentage
Tiles	50	8%
Mud	366	61%
Cement	184	31%
Total	600	100%

Source: Mhlanga (2019)

As shown in table 21 the number of households with mud floors constituted 61 percent which is 366 households out of the 600 households who participated in the survey. On the other hand, 31 indicated that they had houses with cement floors and only 8 percent indicated they had tiled floors. Households who were residing in the rural areas are those contributing more to the number of those with mud floors compared to non-farmers who were staying in growth points and towns during the time of the survey. Households who had many challenges in terms of access to financial institutions, food and health care and other important amenities were rural farmers who reside on their farms in the rural areas of Manicaland Province. Manjengwa et al., (2016) argued at one time that, in Zimbabwe, households who stay in urban areas and growth points with an urban set-up are less affected, especially in terms of access to health care facilities, education facilities and other important amenities such as financial access points than their rural counterparts. However, households who reside in high density suburbs have more challenges compared to those who reside in urban low density suburbs. The overall conclusion about the household characteristics of the sample is discussed in the section that follow.

6.4 CONCLUSION ON HOUSEHOLD CHARACTERISTICS AND THEIR WELFARE

The size of the family influences the likelihood of the households to fall in and out of poverty. In the sample, households who were in the group of smallholder farmers had more than 50 percent with family sizes of more than 5. Taking from the conclusions and arguments of Klebanov et al., (1994) and Lanjouw and Ravallion (1995) that the size of the family may influence the likelihood of households to fall in the poverty bracket. From the presentation in section 6.2 and 6.3, households who were fully in farming 50 percent of them had households with more than five individuals while households who were not in farming, only 24 percent had

households with more than five people. Therefore, the researcher can conclude that, households who are fully into farming in Zimbabwe were more likely to fall in the poverty bracket compared to households who were not in farming who had relatively smaller families. When age is concerned, it was discovered that, generally, age was mixed, the young and the old. However, in the agricultural sector, it was discovered that, there was an imbalance where the youth were not fully represented. This reality may put pressure on the youth, pushing them into poverty due to the lack of access to the means of production.

On marital status, more households indicated that were married. Taking from the arguments and conclusions of Anyanwu (2014) who discovered that, poverty is sometimes influenced by marital status of the household with being a widow increasing the probability of being poor, it shows that, in terms of marital status, households in the province does not run the risk of being poor (Anyanwu, 2014; Glennerster, 2002). However, the households who indicated that, were widows and those who are divorced run the risk of being in poverty in the province.

Analysing the levels of education of the households from the sample, majority of the households in the sample had secondary education, the university entry qualification followed by primary education, degree, no education then postgraduate. A deep analysis of the statistics also indicated that, farmers in the sample had primary, secondary and diploma level of education and quite a number of them without education. Ellis and Lemma (2010) indicated that when people have education which translates to financial education can help households to borrow, start businesses which in effect help to fight poverty. In addition, Ellis and Lemma (2010) argued that, people who are highly educated borrow, save and invest more than individuals with less education which assists them to reduce poverty.

In terms of nature of dwelling, the relativist theory of poverty measurement stresses that, the poverty status of an individual is premised on the conditions of other people

in the community they reside (Vos and Garner, 1991). As a result, the nature of dwelling can be a good factor that can help to measure whether households are poor or not compared to others in society. Looking at households who were in farming and those who were not, many households in the rural areas who were in farming indicated that they owned their dwelling compared to households who were staying in towns who indicated that were renting their dwelling. Using the relativist approach, holding all other factors constant, households in the rural areas were better than households in towns in terms of ownership of their dwelling.

In terms of roofing material of the households in the sample, 41 percent of the households had roofs with iron sheets while 42 percent had roofs with thatching. The considerable number of households with iron roofs is a positive indicator of the standards of living of the households holding all other factors constant. Even though there were other households with thatching, but looking at those with iron sheets and tiles, it shows that, in terms of roofing material the households were better off. However, in terms of farmers and non-farmers, farmers had more with thatching compared to non-farmers. Looking at the floor type, households in the sample were worse off, because they had more with mud floor, indicating that, some households with iron sheets had mud floor in their dwelling. The group that was highly affected were households in the rural areas who resides in plots and villages. The households of families that reside in rural areas had more with mud floor. Households with cement floor were mostly located in towns and growth points. In short, the findings of the statistics presented above shows that, the households who were affected more were those residing in the rural areas in terms of the likelihood of falling into poverty.

6.5 FINANCIAL PARTICIPATION OF THE HOUSEHOLDS IN THE SAMPLE

Financial participation is a strong component of this current study. The level of participation in its own right helps to show the levels of financial inclusion of the households. In order to assess the impact of financial inclusion on poverty it is important to understand financial participation of the households. This section describes the level of financial participation by the households in the sample in terms of the number of households with bank accounts, those who borrowed, saved etc, among the famers and non-farmers interviewed. The following section shows the households with bank accounts in the sample.

6.5.1 Households with bank accounts

Bank account ownership is one of the important factors in the study of financial inclusion. Many studies even take account ownership as a proxy of financial inclusion (Honohan, 2008; Honohan and Beck, 2007). In this way, the number of individual households with at least one member with a bank account is assumed to be financially included. However, Sarma (2008) and Cámara and Tuesta (2014) view financial inclusion as a multidimensional concept. Understanding the number of households with bank accounts is critical in this study as bank account ownership acts as a foundation for all other dimensions of financial inclusion such as quality, cost, usage and so on (Cámara and Tuesta, 2014; Sarma, 2012). Table 22 shows the percentage of households with bank accounts from the sample.

Table 21: Households with bank accounts

Account ownership		
	Number	Percentage
With bank account	320	53%
Without bank account	280	47%
Total	600	100%

Source: Mhlanga (2019)

In table 22 above, the number of households interviewed who indicated that they had bank accounts was 53 percent and those without bank accounts was 47 percent which is a high and worrying figure considering the high number of farmers in the sample. The 53 percent of households with bank accounts shows that at least more than 50 percent of households, in one way or another, are part of the financial system, which is a positive sign of financial inclusion. However, the worrying factor was that a greater percentage of households who indicated that they do have bank accounts were not in farming. Table 23 and table 24 explain this phenomenon. The high number of households with bank accounts on the other hand is also explained by the status of the economy of Zimbabwe, characterised by massive cash shortages where people are forced to open bank accounts to perform transactions, that is, receiving and making payments through cash transfers.

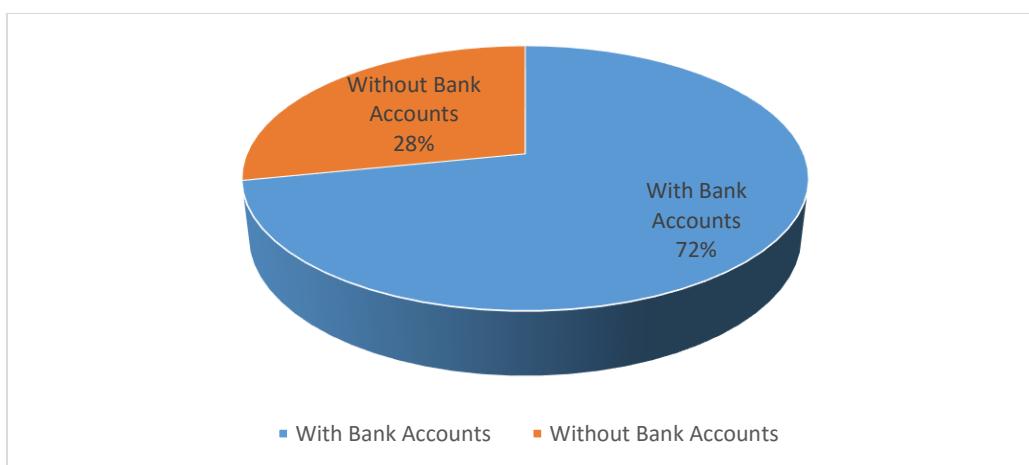
Table 22: Proportion of farmers with bank accounts

Farmers with a Bank account		
	Number	Percentage
With Bank Account	180	44%
Without Bank Account	225	56%
Total	405	100%

Source: Mhlanga (2019)

As indicated in the table above, 44 percent of smallholder farmers interviewed had bank accounts while 56 percent of the farmers had no bank accounts. Many farmers did not have bank accounts because many of them reside in the rural areas where they travel long distances to get to the bank or financial institution. This was supported by Akileng et al., (2018); Sanderson et al., (2018) and Soumaré et al., (2016) who found out that place of residence and distance to the financial institution are among the determinants of financial inclusion. The other factor was many farmers who were part of the survey were subsistence farmers who rarely sell part of their produce. Financial literacy was also a factor. Many smallholder farmers disagreed to the question that information provided by financial institutions about products is enough. This had an influence on the level of participation in the financial sector as articulated by Zulfiqar et al., (2016) who discovered that financial inclusion is influenced in a way by the level of literacy of the households. In short, the statistics show us that there is a small number of farmers who had access to formal financial institutions compared to households who were not in farming during the time of the interviews. The statistics for bank account ownership for non-farmers is shown Figure 48 below.

Figure 48: Proportion of non-farmers with bank accounts



Source: Mhlanga (2019)

In the figure above, 72 percent of households who were not farmers had bank accounts compared to 26 percent who did not have bank accounts. This shows us that more non-farmers had bank accounts compared to households who were in farming in the sample. Most of the households who were not farmers by the time of the interviews were residing in towns and growth points with urban set-ups compared to the majority of farmers who were residing in the rural villages and plots. This could be one of the reason these households had more bank accounts compared to farmers as shown by Zulfiqar et al., (2016); Sanderson et al., (2018) and Soumaré et al., (2016) who argued that place of residence influences the financial inclusion of the households. The next section shows the proportion of households who saved with the formal financial institutions from the sample.

6.5.2 Households who saved money with formal financial institutions

In the analysis of financial inclusion, saving behaviour of the households is a critical component as it helps to show usage of the products and services of the financial providers. The usage dimension is important indicator of financial inclusion because households can have bank accounts without actually using them (Arora, 2010; Chakravarty and Pal, 2013; Kainth, 2013). Table 24 gives the percentages of households who saved with formal financial institutions.

Table 23: Households who saved money with formal financial institutions

Households who saved money with formal financial Institutions		
	Number	Percentage
Households who saved	151	25%
Households who did not save	449	74%
Total	600	100%

Source: Mhlanga (2019)

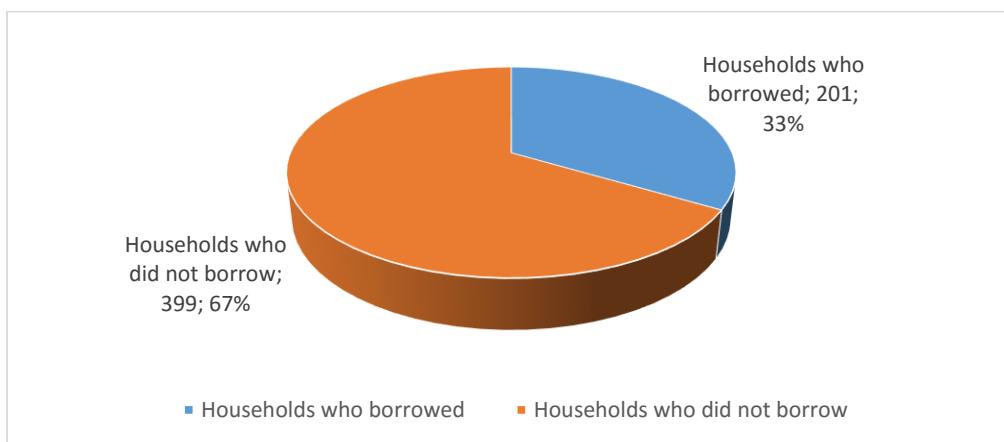
In table 24 above, 74 percent of the households in the sample indicated that they did not save with formal financial institutions which is worrying, especially when financial inclusion is concerned. It shows that even if households have bank accounts, they are not using the accounts to save. The RBZ, through the ZIPRSP (2016) indicated that in terms of usage of financial products and services, the central bank and other financial institutions need to put in a lot of effort to increase the confidence of individuals that was lost when Zimbabwe went through the hyper-inflation period of 2008. In fact, it can be assumed that people no longer feel confident to use the various financial products like savings due to the problems they faced when they lost their savings in the banks when the country dollarized.

In the sample only 26 percent of households indicated that they saved with formal financial institutions. However, more of the households who saved were non-farmers during the time of interviews. Almost 90 (60 percent) households who were not in farming indicated that they saved compared to only 60 (40 percent) of households who were in farming during the time of interviews. One major factor discovered by the research as to why smallholder farmers are not saving was that many smallholder farmers were into subsistence farming, where they sold only the surplus of their produce usually through barter trade and not through the bank. Among the farmers who indicated that they saved were those farmers who were in tobacco production, since tobacco production is part of commercial farming in Zimbabwe. Sanderson et al., (2018) and Zamasiya et al., (2014) discovered that distance from the financial market can prevent households from participating in that particular market, especially if households are many kilometres away from the service provider. The next section presents the number of households who borrowed from formal financial institutions.

6.5.3 Households who borrowed from formal financial institutions

Borrowing and saving are important indicators of financial inclusion especially showing how accessible are the financial institutions and how costly are the transactions. It also gives information on usage, ease of transaction and the cost of dimension (Gupte et al., 2012; Arora, 2010). Figure 49 shows the number of households who borrowed.

Figure 49: Households who borrowed



Source: Mhlanga (2019)

In figure above only 201 households managed to borrow from financial institutions which can be expressed as 33 percent of the 600 households interviewed. On the other hand, the number of households who did not borrow were 399 households translating to 67 percent. This pattern of the borrowing behaviour of households is more or less the same as the saving behaviour of the households in the sample described earlier on.

However, the irony of these statistics is that, among the households who borrowed, households who were not farmers who borrowed were 89 (44 percent) out of the 201 households who borrowed from formal financial institutions. The number of farmers who indicated that they borrowed were 112 (56 percent) of all the

households who borrowed. Among the 405 farming households who were interviewed, 112 is a small number which is only 28 percent of farmers who managed to borrow from formal financial institutions. One of the greatest hindrances discovered by the research was the issue of collateral security. Many farmers in Zimbabwe, especially small-scale farmers, do not have title deeds to their land. They have 99 year leases (Chimhowu et al., 2010; Chigumira, 2010b). The 99 year leases are not bankable, i.e. farmers are not able to use them as collateral security which is a major obstacle when it comes to borrowing. The same conditions also prevailed even when it comes to households with insurance. The following section explains the households with insurance from formal financial institutions.

6.5.4 Household with insurance from formal financial institutions

The knowledge of households with insurance is as important as having the knowledge of households with bank account - those who saved and those who borrowed. Insurance is one indicator which shows usage of financial products and services (Gupte et al., 2012; Goel and Sharma, 2017). Knowledge of the number of households with insurance can help to measure the level of financial inclusion, especially to assess bank penetration (Goel and Sharma, 2017). Table 25 shows the proportion of households with insurance.

Table 24: Proportion of households with insurance

Households with insurance from formal financial institutions		
	Number	Percentage
Households with insurance	192	32%
Households without insurance	408	68%
Total	600	100%

Source: Mhlanga (2019)

The table above shows that 32 percent of the households from the sample had insurance with formal financial institutions while 68 percent of the households had no insurance at all. A deep understanding of households with insurance, together with other indicators like borrowing, saving and account ownership, gives the general idea on the level of financial inclusion, since financial inclusion is multidimensional in nature (Sarma, 2012; Sarma, 2015). Low levels of households with insurance is a testimony that there is a direct problem on the usage dimension. Households are not using the products provided by financial service providers. In fact, low levels of households with insurance is testimony that financial inclusion is a challenge in the province, especially among the smallholder farmers. Financial inclusion is multidimensional; households can have bank accounts without really using the services from financial institution like insurance. With the information on households with bank accounts, households who saved and households who borrowed will help to show the level of financial inclusion in the area. Table 26 gives the number of farmers with insurance.

Table 25: Farmers with insurance

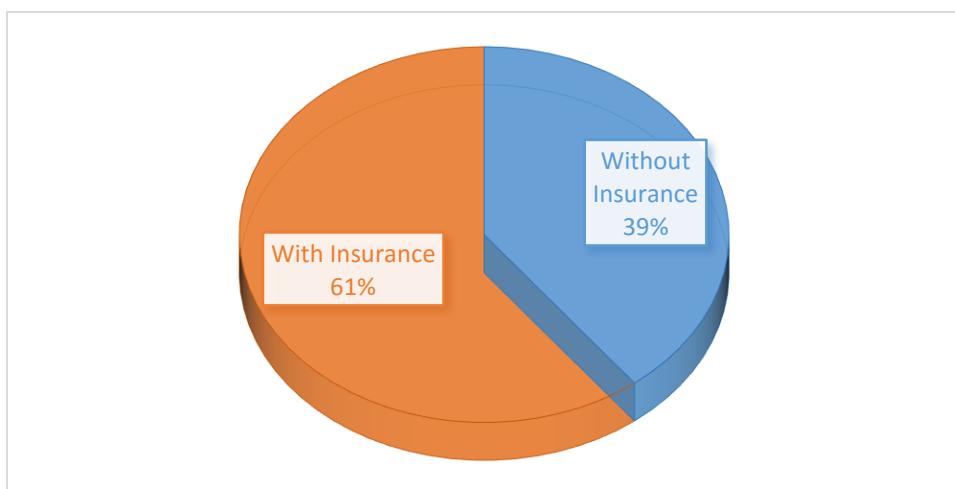
Farmers with insurance		
	Number	Percentage
Households with insurance	73	18%
Households without insurance	332	82%

Source: Mhlanga (2019)

As shown in table 26, farmers had a very low number of households with insurance - only 18 percent compared to 82 percent who had no insurance during the time of the interviews. The most notable reason farmers had challenges in accessing insurance was distance from the service providers. It is generally argued that distance from the service provider can encourage usage of the services or

discourage the same (Sanderson et al., 2018; Akileng et al., 2018). The situation was different for the households who were not in farming. The number of households with insurance was 61 percent compared to 39 percent of households without insurance. Most people who indicated that they were not in farming during the time of interview were households staying in growth points and towns near financial institutions. This may be the reason for them to have more with insurance. The argument that usage of financial products is associated with distance proved to be correct in Manicaland Province among the farmers and non-farmers. Figure 50 describes the number of non-farmers with insurance.

Figure 50: Non-farmers with insurance



Source: Mhlanga (2019)

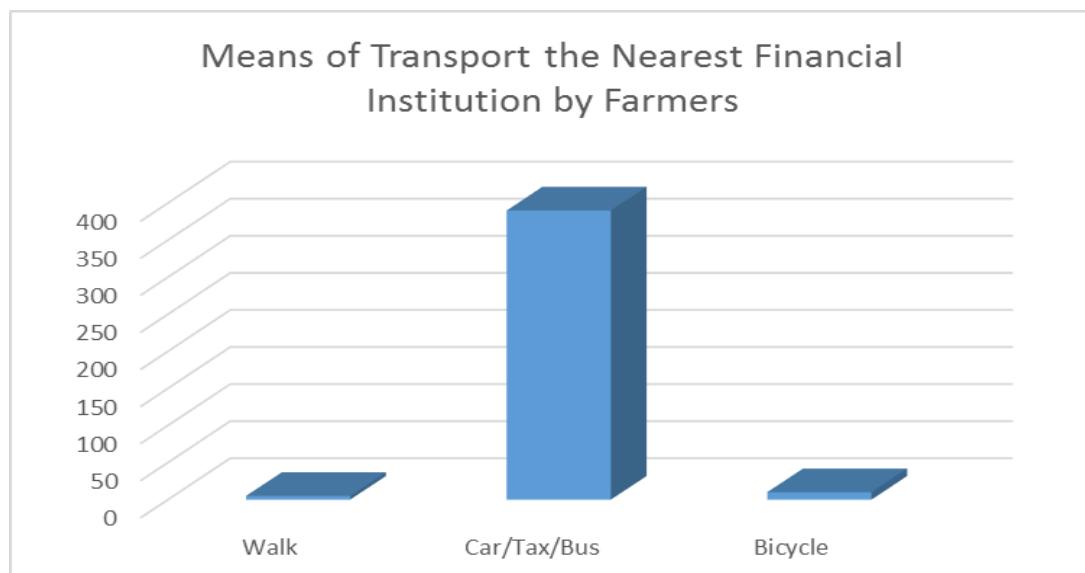
Figure 50 shows us that 61 percent of households who were not in farming from the sample had insurance while 39 percent of the households did not have insurance. As indicated before, distance was among the major obstacles affecting the use of financial products by farmers compared to non-farmers. Many households who were farmers travelled long distances to reach a financial service provider compared to non-farmers. The following section describes the distance and means

of transport to the nearest financial institution by different households in the sample, farmers and non-farmers.

6.5.5 Distance and means of transport to the nearest financial access point

Distance to the nearest financial access point has been viewed as one of the barriers to financial inclusion. Yakubu et al., (2017) discovered that distance is one of the factors influencing financial inclusion in Northern Ghana using discriminant analysis. Identically, in Ghana Akudugu (2013) also discovered that distance to the nearest financial institution is a significant factor of financial inclusion. Figure 51 shows the means of transport to the nearest financial institution by households who were farmers.

Figure 51: Farmers means of transport to the nearest financial institution

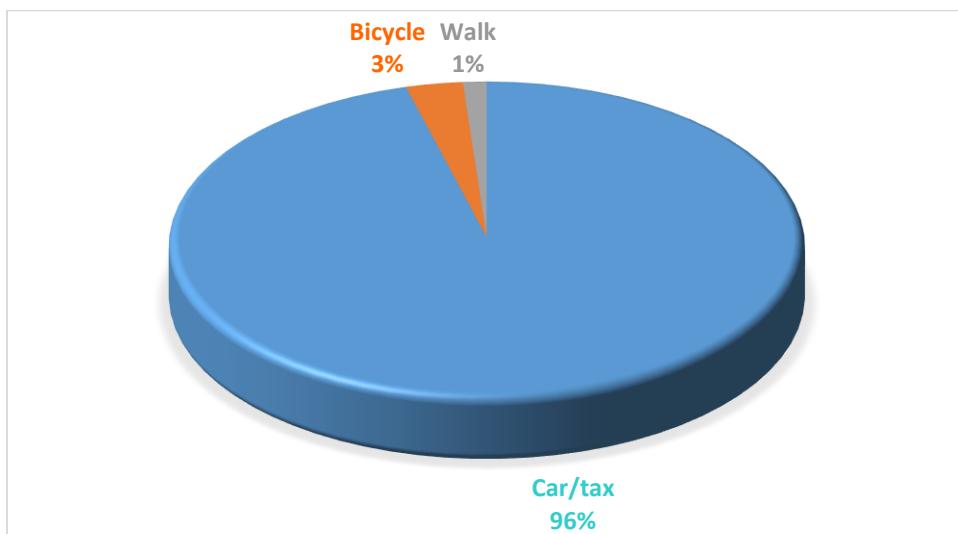


Source: Mhlanga (2019)

As indicated in figure 51 we have more farmers who use cars, taxis or buses to reach the nearest financial institution compared to those who walk and those who

use bicycles. Figure 52 gives the percentage number of households who walk, those who use bicycles and those who use cars and taxis.

Figure 52: Farmers means of transport to the nearest financial institution



Source: Mhlanga (2019)

In figure 52, 96 percent of households who were in farming use buses, taxis or cars to go to the nearest financial institution compared to 3 percent and 1 percent who walk to the nearest financial institution. When farmers are compared to non-farmers, we had more farmers travelling long distances to get to the nearest financial institution compared to non-farmers as shown in table 27 below. This result indicates that many smallholder farmers reside in areas where financial institutions are not easily accessible. According to Sanderson et al., (2018); Sebatta et al., (2014) and Akileng et al., (2018) distance from the financial institution affects financial participation of the household. Sebatta et al., (2014) even went on to state that farmers who stay long distances from the nearest financial institution are compromised in many cases from fully participating in the financial market.

In this case 96 percent of farmers who use taxis to get to the nearest financial access point affect their desire to participate in the financial market. The ZINFIS

(2016) indicated distance and time taken to reach the nearest financial institution in Zimbabwe need attention. Distance has been noted as one of the many obstacles that prevent households from using financial services and products provided by financial institutions in Zimbabwe. Compared to non-farmers, it was shown that, even though many of non-farmers use cars or taxis, the number was less than farmers. Table 27 shows the percentage of non-farmers who use taxis/cars and bicycles and those who walk to the nearest financial institution.

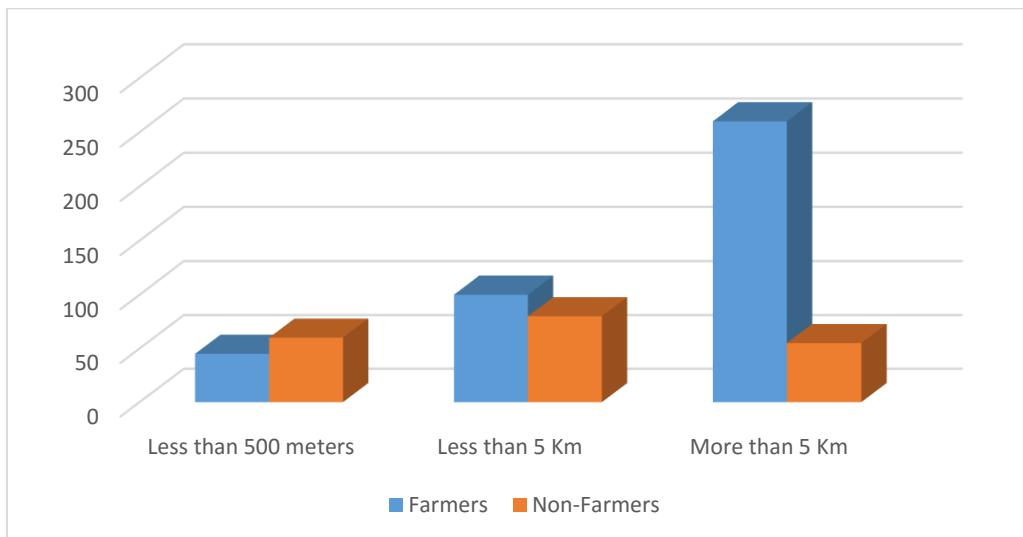
Table 26: Means of transport to the nearest financial access point by non-farmers

Means of transport to the nearest financial institution by non-farmers		
	Number	Percentage
Walk	51	26%
Bicycle	45	23%
Car/tax	99	51%

Source: Mhlanga (2019)

Means of transport to the nearest financial institution for non-farmers is shown in the figure above. The number of households who use cars and taxis to reach the nearest financial institution for non-farmers was 51 percent which was less than the 96 percent of farmers. Households who walked to the nearest financial institution were 26 percent while those who use bicycles were 23 percent. Non-farmers in general are less affected by distance to the nearest financial institution compared to farmers. Non-farmers who walk to the nearest financial institutions were 26 percent compared to 1 percent of farmers. The means of transport used by households shows the distance travelled by the household to the nearest financial institution. The figure 53 below shows the distance to the nearest financial institution for households.

Figure 53: Distance to the nearest financial access point for households in the sample (farmers and non-Farmers)



Source: Mhlanga (2019)

Distance to the nearest financial institution shows how easy it is for households to reach the nearest financial institution. Distance and means of transport are related showing how easy it is for households and individuals to have access to the nearest financial institution. Figure 53 shows the distance travelled by farmers and non-farmers to get to the nearest financial institution. From the graph, it clear that households who reside in the rural areas and plots travel long distances to get to the nearest financial institution. The majority of non-farmers travel less than one kilometre to arrive at the nearest financial institution. This is true considering the above statistics which show that many households who are farmers are travelling by car/tax to the nearest financial institution.

More than 200 smallholder farmers stay more than 5 km from the nearest financial institution compared to less than 50 households who were non-farmers. In fact, from the statistics in the survey, many households who were not in farming were staying in growth points and towns, while the number of households who were not

in farming who were staying in pure rural areas was very small. Households who also indicated that they were farmers staying in towns was also small. Table 28 shows the actual distance travelled by farmers and non-farmers to reach the nearest financial institution.

Table 27: Distance to the nearest financial access point by farmers

Distance to the nearest financial access point for farmers		
	Number	Percentage
Less than 500m	45	11%
Less than 5Km	101	25%
More than 5 Km	259	64%
Total	405	100%

Source: Mhlanga (2019)

Farmers in general travel long distances to get to the nearest financial institution. Almost 64 percent of the households who were farmers travel more than 5 km to get to the nearest financial institution. Households who travel less than 5 km were 25 percent, a figure which is also high considering the number of farmers interviewed. It means that more than 100 households who were in farming travel less than 5 km to reach the nearest financial institution.

In this way, only 11 percent of households were travelling less than 500 metres that is less than 45 households who were in farming were travelling less than 500 meters to access the nearest financial access point. This shows that many farmers had many challenges as far as access to financial points is concerned. Compared to non-farmers, farmers were at a disadvantage when accessing financial services since many of them travel long distances to get to a financial access point. The distance travelled by non-farmers is shown below.

Table 28: Distance to the nearest financial access point for non-farmers

Distance to the nearest financial access point for non-farmers		
	Number	Percentage
Less than 500m	60	31%
Less than 5 Km	80	41%
More than 5 Km	55	28%
Total	195	100%

Source: Mhlanga (2019)

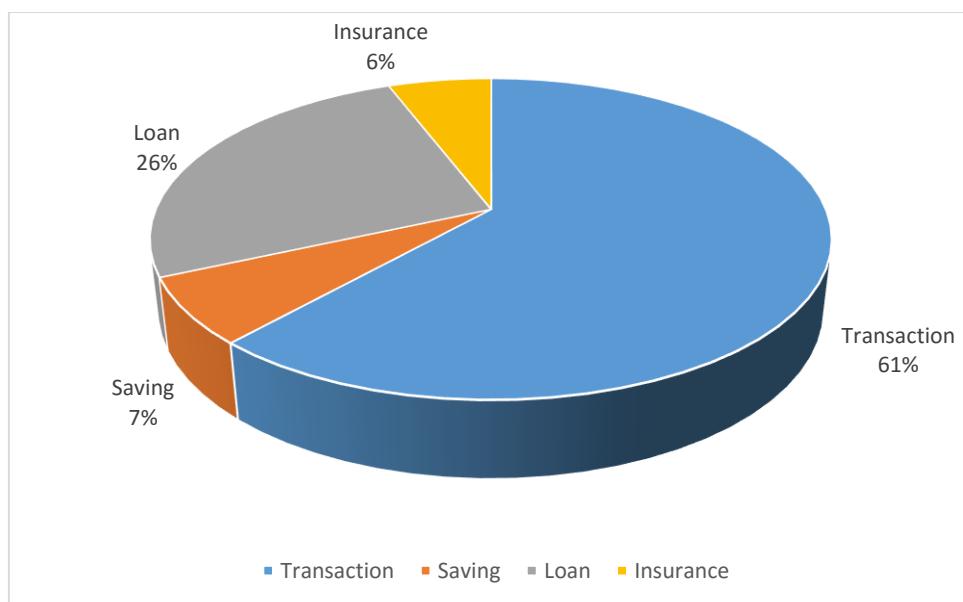
In the diagram below, we have only 28 percent of households who were not in farming who travel more than 5 km to reach a financial access point. This figure is much lower compared to households who were farmers who travel more than 5 km. The households who travel less than 5 km who were in farming were 41 percent. This implies that more households who indicated that they were not in farming travel less than 5 km to access the financial institution. From the survey, all households who indicated that they travel less than 5 km paid less than two dollars in costs. This means that more households who were not in farming pay less than two dollars to reach the nearest financial access point compared to households who indicated that they were in farming where more (64 percent) of them travel more than 5 km paying more than two dollars to reach the nearest financial access point.

The other interesting statistic from non-farmers was that almost 31 percent of the households who were not in farming travel less than 500 metres to get to the nearest financial institution. This shows that more households who are not in farming find it easy to reach the financial access point due to their geographical location.

6.5.6 Reason for having a bank Account

In order to get the views of the households on the reason for possessing a bank account, the study had a question to households on why they open a bank account. This information was important because it helped to understand the views of the people on financial inclusion. Enimu (2018) who carried out a study in Cross River State in Nigeria indicated that barriers to financial inclusion can come from the supply side or the demand side. Enimu (2018) went on to show that obstacles facing farmers in accessing credit can be high interest, lack of collateral and short repayment periods. When farmers reveal the best reasons for opening an account it is easy for one to deduce some barriers of access to financial institutions by farmers.

Figure 54: Reason for opening a bank account



Source: Mhlanga (2019)

One of the question asked in the survey was on the best reason for opening a bank account. In the sample a greater percentage (61 percent) of households indicated that they opened a bank account in order to perform transactions followed by

households who indicated they open bank accounts for loans (26 percent). Households who indicated that they open a bank account to invest in insurance and saving were the least in the sample. Due to the liquidity crisis currently affecting the country, many households are forced to open bank accounts to receive payments in most cases. The researcher concluded that this could be the reason for a greater percentage of households who indicated that they open accounts to transact. Figure 72 above is showing the percentages of households who indicated their true and best reason for opening bank accounts.

In the sample, 61 percent of households interviewed indicated that they open accounts in order to do transactions. As highlighted earlier on, the researcher was forced to conclude that, since the liquidity crisis has been affecting Zimbabwe and through the massive use of RTGS dollars, households were forced to open bank accounts in order to perform transactions. This has been shown also with a relatively high proportion of households with bank accounts compared to those who saved, borrowed and those with insurance. In Zimbabwe, the movement of notes and coins is limited so many households perform their transactions through bank transfers and mobile money transfers. The following section presents the regression results and the interpretation.

6.6 RESULTS AND DISCUSSION

This section presents the results from the econometric modelling of the objectives of the study. In some instances, multivariate analysis was used in the analysis. Results presented in this section pertain to the following objectives: profile of poverty and financial inclusion among the smallholder farmers in the sampled area, determine the determinants of financial inclusion among smallholder farmers in Zimbabwe, analyse the impact of financial inclusion on poverty in Zimbabwe among smallholder farmers and make recommendations as to how financial inclusion can

be used to deal with poverty in Zimbabwe. The results of the various diagnostic tests undertaken in the study are presented as well.

6.6.1 Hypotheses of the study

In this study, the hypotheses to be tested is presented below:

H_0 : The various socio-economic factors like age, education level and off-farm income do not influence financial inclusion in Manicaland Province

H_1 : The various socio-economic factors such as age, education level and off-farm income influence financial inclusion in Manicaland Province

H_0 : The various socio-economic factors like age, off-farm income and education level do not influence the household in choosing the numerous financial services offered by financial institutions

H_1 : The various socio-economic factors like age, off-farm income and education level do influence the household in choosing the different financial services provided by financial institutions

H_0 : Financial inclusion doesn't have an impact on poverty in Manicaland Province

H_1 : Financial inclusion has an impact on poverty in Manicaland Province

H_0 : Financial services like credit, transaction account and insurance do not affect poverty

H_1 : Financial services such as credit, transaction account and insurance have an impact on poverty

6.6.2 Diagnostic tests results

This section presents the various tests undertaken to test the reliability of the variables used in the study.

6.6.3 Multicollinearity test results

Multicollinearity is defined as the existence of linear relationships or near linear relationships among independent variables (Koustoyiannis, 1973). Tables below show the Pearson correlation matrix used to test multicollinearity of the variables used in the study. In order to get comprehensive and detailed information on the diagnostic tests, the study tested continuous variables alone and a combination of both. Table 30 presents the results of the correlation matrix for continuous variables.

Table 29: Pearson correlation matrix for continuous variables for farmers

INDEPENDENT VARIABLES	HSIZE	OFF-FARMI	AGEHH	EDUCL	DISTANCE	TRANSCOSTS
HSIZE	1					
OFF-FARMI	.336	1				
AGEHH	.399	-.084	1			
EDUCL	.014	.280	-.168	1		
DISTANCE	.142	-.051	-.124	-.177	1	
TRANSCOSTS	.182	.301	-.021	.054	.261	1

Source: Mhlanga (2019)

As shown in the table above, the Pearson correlation matrix was used to test multicollinearity among the continuous independent variables in the sample. The rule of thumb used when testing multicollinearity is the use of the correlation coefficient. When variables have a correlation coefficient greater than 0.8 or less

than -0,8, the variable is viewed to be highly correlated and should be dropped. As shown in the table above, the continuous variables do not have multicollinearity among them. None of the variables had correlation coefficient of more than 0.8 or -0.8. As a result, no variable was dropped in the process (Annexure D has more detail). In table 31 the correlation matrix test multicollinearity of all the variables is shown.

Table 30: Correlation matrix for farmers all variables

	GEND HH	AGE HH	HSI ZE	OFF-FAR M	EDU CL	AGREXTS ERV	DISTANCE	MARITALST ATUS	FINL IT
GENDHH	1								
AGEHH	.054	1							
HSIZE	.023	.399	1						
OFF-FARM	.036	- .084	.336	1					
EDUCL	.009	- .168	.014	.280	1				
AGREXTSER V	.053	- .038	- .069	.236	- .137	1			
DISTANCE	.180	- .124	.142	.051	.177	- .085	1		
MARITALST ATUS	.005	.025	.014	.046	.086	.018	.062	1	
FINLIT	.017	.032	.046	.046	.003	.022	.044	.007	1

Source: Mhlanga (2019)

As indicated in the analysis above, the correlation coefficient values greater than 0.8 and less than -0.8 show us that the variables have a problem of multicollinearity. In the table above all the variables show that there is no problem of multicollinearity. As a result, all the variables were retained and none were dropped. Even looking at the households who indicated that were not in farming, the correlation coefficient

values show that there is no problem of multicollinearity. Tables below shows the results for the Pearson correlation coefficient for non-farmers.

Table 31: Pearson correlation matrix Continuous variables for non-farmers

	AGEHH	HSIZE	OFFFARMI	DISTANCE	TRANSCOSTS	EDUCL
AGEHH	1					
HSIZE	.436	1				
OFFFARMI	-.084	.354	1			
DISTANCE	-.120	-.015	.011	1		
TRANSCOSTS	.020	.149	.316	.260	1	
EDUCL	.113	.138	.432	-.087	.135	1

Source Mhlanga (2019)

As shown in the table above, the Pearson correlation matrix was used to test multicollinearity among the continuous independent variables in the sample for households who were non-farmers. The rule of thumb used when testing multicollinearity is the use of the correlation coefficient. When variables have a correlation coefficient greater than 0.8 or less than -0.8, the variable is viewed to be highly correlated and should be dropped. As shown in the table above, the continuous variables do not have multicollinearity among them. None of the variables had correlation coefficient of more than 0.8 or -0.8. As a result, no variable was dropped in the process. The table below also shows the Pearson correlation matrix for all the variables continuous and non-continuous for non-farmers.

Table 32: Correlation matrix data for non-farmer households

	GEND HH	AGE HH	HSI ZE	OFF - FAR M	EDU CL	AGREXTS ERV	DISTAN CE	MARITALST ATUS	FINL IT
GENDHH	1								
AGEHH	.052	1							
HSIZE	.013	.436	1						
OFF-FARM	.029	- .084	.35 4	1					
EDUCL	-.050	- .113	.138	.43 2	1				
AGREXTSER V	-.028	- .060	- .058	.23 3	-.232	1			
DISTANCE	.160	- .120	- .015	.01 1	-.087	-.035	1		
MARITALST ATUS	.074	.057	- .018	.01 0	.084	-.028	.114	1	
FINLIT	-.092	.113	- .005	.09 0	.046	.014	.011	-.057	1

Source Mhlanga (2019)

The table above show that, even when continuous variables are combined with non-continuous variables, the correlation coefficient values were less than 0.8 and -0.8 indicating that the variables had no problem of multicollinearity. As a result, all the variables were retained and none were dropped.

6.7 PROFILE OF POVERTY AND FINANCIAL INCLUSION AMONG THE SMALLHOLDER FARMERS IN THE SAMPLED AREA

Section 6.2 and 6.3 articulated the household characteristics of the sample in terms of financial participation, demographic characteristics and the way of life of the

households (welfare of the households). It is therefore important to discuss some of the findings and conclusions from the discussions.

6.7.1 Findings and conclusions on financial inclusion of the households

Financial inclusion is defined in Zimbabwe as: *the effective use of a wide range of quality, affordable and accessible financial services by all Zimbabweans, provided in a fair and transparent manner through formal or regulated entities* (ZINFIS, 2016:15). From this definition, it is clear that financial inclusion is multidimensional in nature. Each dimension of financial inclusion has indicators such as the number of bank accounts per 1000 adult persons (Sarma, 2012; Sarma, 2015). In section 6.3, some of the important indicators were presented.

Financial participation on account ownership was relatively positive in the statistics presented. The statistics showed the number of households with bank accounts per 600 households interviewed. The results showed that 53 percent of the households had bank accounts compared to 47 percent of the households who indicated that they had no bank accounts. Informed by Honohan (2008); Honohan and Beck (2007) and Sarma (2008) it is possible to get a picture on the level of financial inclusion by looking at the indicators of financial inclusion. However, the indicators should not be analysed individually, but as a group. Holding all other factors constant, looking at the number of households with bank accounts one can conclude that the province is at an advantage to improve the levels of financial inclusion because the foundation for financial inclusion has been established already. Even though it is not enough to say there is high financial inclusion by looking at the number of households with bank accounts, it is possible to say the province stands a chance of improving financial inclusion since more households indicated that they do have bank accounts.

In the analysis of financial inclusion, the saving behaviour of the households is a critical component that can show usage, accessibility and availability of financial products and services provided by financial providers. From the statistics, savings were too low in the sample. More than 70 percent of households did not save which shows that, even though the households had bank accounts, the full usage of financial services was too low. Households, in fact, were using the accounts for transaction purposes since the country is highly affected by liquidity crisis. Households who were not fully into farming were the group with a relatively high number of individuals who saved compared to farmers. One conclusion the researcher confirmed was that the income stream of many households who were in farming was low and this could have influenced their saving behaviour.

Similarly, the number of households who borrowed and those with insurance, just like saving, are important indicators of financial inclusion, especially showing usage, accessibility, and availability of financial products and services. The number of households who indicated that they did not borrow were more than households who admitted that they borrowed. In the same way, households who indicated that they had insurance were fewer than households who indicated that they had insurance. This together with the number of households who indicated that they saved and borrowed indicated that, in the province, financial inclusion is very low. Less than 50 percent of the households did indicate that they saved, borrowed and had insurance with formal financial institutions. This was coupled by the idea that more than 60 percent of the households in the sample did indicate that they open bank accounts in order to perform transactions while a few did cite loans, savings and insurance.

Moreover, distance and means of transport to the nearest financial access point has been viewed as one of the indicators of financial inclusion. In this manner, short distances imply that the household is near the financial access point, showing that the financial institutions are accessible by the households. The same applies to the

means of transport: the fare paid only shows the distance travelled by the household to the nearest financial institution. In the sample, more households use a taxi or car to get to the nearest financial access point. More households in the sample also travel more than five kilometres to get to the financial access point. In fact, financial institutions are not easily accessible in the province, looking at the statistics. This shows the difficulties of financial inclusion in the sample. In fact, a lot of effort needs to be applied in the province to reduce the distance from the nearest financial access point for households in order to improve the level of financial inclusion. In the next section results on poverty status are presented.

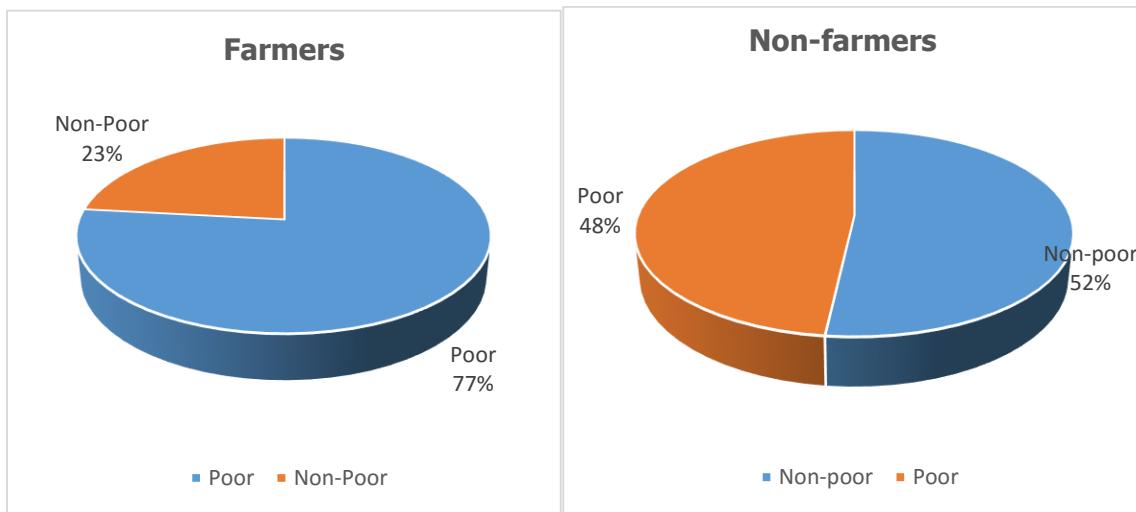
6.7.2 Poverty status of smallholder farmers and non-farmers from the measures of poverty used in the study

This section presents the poverty status from the measures of poverty used in the study which include the following: the absolute poverty line and the income plus asset poverty measure.

6.7.3 Poverty status from the absolute poverty line

The poverty line shows the aggregate value goods and services considered necessary on the basis of an agreed standard/threshold to satisfy the basic needs of an individual household (Davids, 2010). The use of the poverty line has a link to the definition of poverty and those who advocate for this approach usually measure poverty in absolute terms (Davids, 2010:27). Figure 55 shows the proportion of households who were deemed poor from the absolute poverty line. The analysis gave the number of poor people in the two classes of farmers and non-farmers so as to get a clear picture of the group that was affected more by poverty.

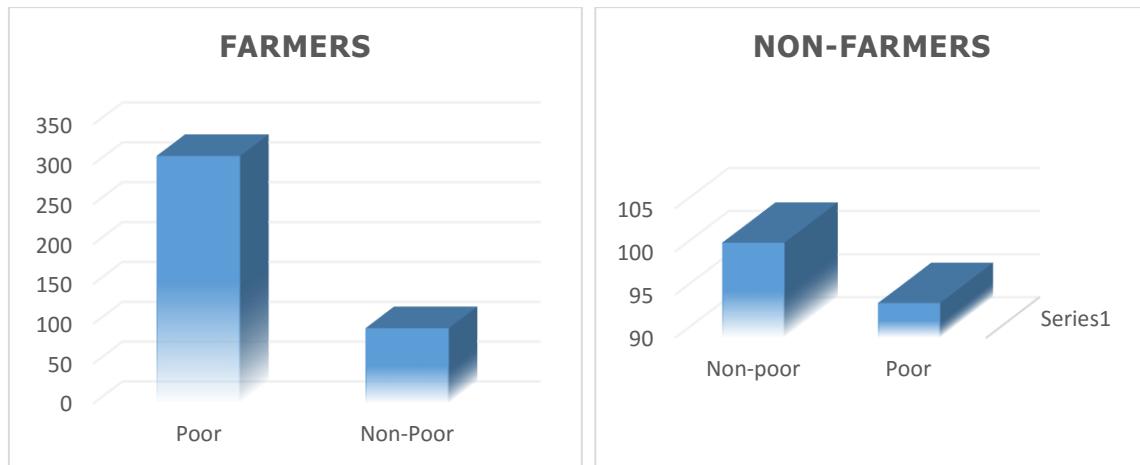
Figure 55: Poverty status for farmers and non-farmers (APL)



Source: Mhlanga (2019)

The same information presented in figure 55 above is shown clearly in figure 56 below. This was done to show clearly the poverty status of the households using the absolute poverty line.

Figure 56: Poverty status for farmers and non-Farmers(APL)



Source: Mhlanga (2019)

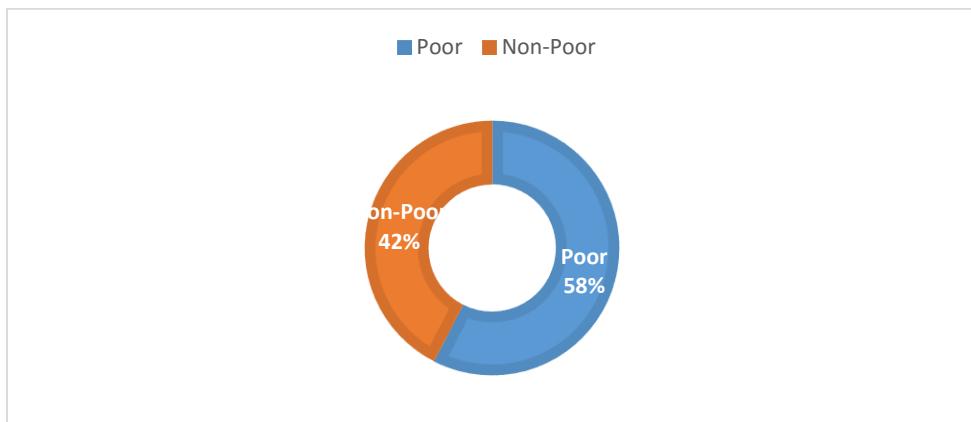
In the diagrams above, using the absolute poverty line, almost 77 percent of the households were deemed poor while only 23 percent of the households were not

poor. If farmers are compared with non-farmers, non-farmers who were poor were fewer than farmers, however, in general households who were poor using the absolute measure were more than 50 percent. Poor households in the group of non-farmers were 48 percent which is a high figure considering the nature of people who were in the non-farming group. This only stands to show that poverty levels in Zimbabwe are high. This is in line with the conclusion and statistics shown in chapter four where it was revealed that, since 1995, the proportion of individuals with income less than the TCPL was estimated to be high figure which is above 70 percent. The high proportion of poor households among the rural farmers was also in line with the conclusions in chapter four where the PICES, 2011/2012, indicated that 92 percent of the extremely poor population and 91 percent of the extremely poor households reside in rural areas of Zimbabwe (ZIPRSP, 2016).

6.7.4 Poverty status from the income plus asset index

Poverty is a multidimensional phenomenon which is not dealt with in isolation. Most policies target poor people from a multidimensional understanding. Therefore, the current study decided to come up with a multidimensional measure of poverty that included the income of households and the assets they have. In this way, the income plus asset index was computed to measure the poverty status of the households. An aggregate of the income of the households and their assets was used to measure if the households were poor or not. The aggregate of income and assets was measured against a critical threshold in this case, the study used the food poverty line as a proxy for the threshold. This allowed the study to compare the results on poverty status from the absolute poverty measure and the asset plus income measure.

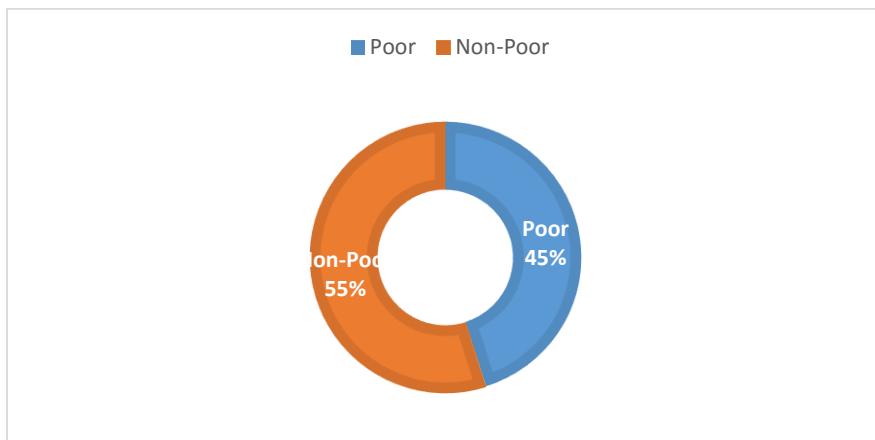
Figure 57: Poverty status for farmers (IPAI)



Source: Mhlanga (2019)

The results of the poverty status of farmers using the income plus asset index shows that after adding the value of assets a household possesses, the number of poor households declined from 77 percent of households considered poor from the absolute poverty measure to 58 percent when the assets plus income measure was used. The fall in the number of poor people was a considerable decline considering the numbers from the absolute poverty line. This indicates that, using total income alone, or the absolute poverty measure, some households were considered to be poor while others were deemed non-poor. The addition of assets changed the picture as the households who were considered to be poor declined, while households who were non-poor increased from 23 percent to 42 percent which is a meaningful increase considering the nature of households who were interviewed, majority of which were subsistence rural farmers. In order to have robust conclusions, the poverty status of households who are not in farming was also analysed. Figure 58 below shows the poverty status of households who were not in farming.

Figure 58: Poverty status of non-farmers (IPA)



Source: Mhlanga (2019)

The results, from the income plus asset index indicated that households who were deemed poor were 45 percent, but when the absolute measure was used the number of poor households was 48 percent. This indicates that, for households who are not purely into farming, when assets are taken into account, some households who were poor from the absolute poverty measure were actually not poor. The number of non-poor rose from 52 percent when the absolute poverty line was used to 55 percent from the income plus asset index. This shows that, using income alone as a dimension of poverty, gives incomplete information when poverty is concerned. This is in line with the conclusion given by Dunga (2014) who argued that poverty is multidimensional and it should not be dealt with in isolation, that is looking at one dimension, but look at it from different dimensions

6.8 RESULTS FROM ECONOMETRIC MODELLING

This section presents the results of the various econometric models used in this study to model the results of the various objectives of the study which include determining the determinants of financial inclusion, investigating the impact of financial inclusion in Manicaland Province of Zimbabwe.

6.8.1 Measuring financial inclusion

As explained in chapter five, financial inclusion was measured from the 11 questions on a scale that was developed ranging from 0 to 11, where 0 represents weak financial inclusion and 11 represent strong financial inclusion. In the questions, a 'yes' represented financial inclusion while a 'no' represented financial exclusion. From the scale an index was developed. The index was then used in the modelling of the impact of financial inclusion on poverty.

6.8.2 Measuring poverty

As explained in chapter five, poverty was measured using two measures: the absolute poverty line and the income plus asset index. The purpose of using the two measures was due to the fact that poverty is multidimensional in nature, and when using the two measures, the chances are high that the number of people differ from one measure to the other. This was shown in section 6.5.3 and 6.5.4 where the percentage of poor people was different from one measure to the other, the absolute and the income plus assets measure. Hence, to achieve robustness in the modelling and to obtain reliable results, two poverty measures were adopted.

6.8.3 Results and discussion on the determinants of financial inclusion through multiple regression (smallholder farmers)

This section presents the results from the multiple regression of the determinants of financial inclusion using the developed index of financial inclusion explained in chapter five. This part is the first stage of investigating the determinants of financial inclusion using multiple regression. The second stage will be the investigation of the determinants of financial inclusion using the logit and the multinomial logit model.

Table 33: Model summary: determinants of financial inclusion through multiple regression (farmers)

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.590a	.348	.335	1.84774				

a Predictors:(Constant), AGEHH, MARITALSTATUS, TRANSCOSTS, FINLIT, AGREEXTSERV, GENDHH, EDUCL, DISTANCE, HSIZ, OFF-FARMI.

Source: Mhlanga (2019)

The model summary above shows that R was 0,590, which represents the simple correlation. This value shows that the degree of correlation was not too high. R squared was 0.348 while adjusted R squared was 0,335. The adjusted R squared indicates that 33.5 percent of the variation in the dependent variable was explained by the independent variables. The ANOVA table below is important as it shows how well the regression equation fits the data and how the regression predicts the dependent variable.

Table 34: ANOVA table: Determinants of financial inclusion through multiple regression (farmers)

ANOVAa						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	723,026	8	90,378	26,472	.000b***
	Residual	1352,001	396	3,414		
	Total	2075,027	404			

a. Dependent Variable: Financial inclusion

b. Predictors:(Constant), AGEHH, MARITALSTATUS, FINLIT, AGREEXTSERV, GENDHH, EDUCL, DISTANCE, HSIZ, OFF-FARMI (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The ANOVA table above indicates that the regression model predicts the dependent variable (financial Inclusion) significantly well, since the regression shows that the regression model is statistically significant. Here, $p < 0.0005$ which is less than 0.05. This indicates that the model is a good fit for the data. The model statistically significantly predicts the outcome variable of financial inclusion. The coefficient table below provides information needed to predict the influence of the various factors like age and gender on financial inclusion.

Table 35: Results of the determinants of financial inclusion through multiple regression (farmers)

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.488	.602		-4.135	.000
	OFF-FARMI	.205	.050	.396	4.109	.000***
	EDUCL	.077	.102	.033	.758	.049**
	AGREXTSERV	.309	.196	.067	1.577	.116
	DISTANCE	-.249	.047	.228	5.307	.000***
	HSIZE	.609	.057	.334	4.308	.676
	MARITALSTATUS	-.051	.186	-.011	-.272	.786
	TRANSCOSTS	.033	.024	.074	.860	.238
	FINLIT	1.023	.185	-.005	-.127	.039**
	GENDHH	.118	.188	.026	.626	.532
	AGEHH	.081	.007	.469	11.189	.000***

a Dependent Variable: Financial inclusion (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The results of the regression equation in table 36 show that off-farm income, education level, distance, financial literacy and age of the household were the significant variables in explaining the determinants of financial inclusion among the smallholder farmers in Manicaland Province of Zimbabwe. On the other hand, distance was the only variable with a negative influence on financial inclusion. The results further indicate that off-farm income was significant at 1 percent level of significance (P-value, .000). The variable off-farm income had a positive influence

on financial inclusion. In this way a unit change in off-farm income leads to a 0.205 increase in the level of financial inclusion. This result is logically sensible in that the increase in the amount of income an individual has somehow influences the desire for an individual to either invest or keep the money in the bank. This result was supported by a number of studies that found similar results that the amount of income an individual has influences the individual to participate in the formal financial institution (Sanderson et al., 2018; Musabanganji et al., 2015; Chandio et al., 2017).

In addition, the level of education of the household was also a determinant of financial inclusion. The variable was significant at 5 percent level of significance (P-value, .049). The results show that there was a positive relationship between education and financial inclusion. The coefficient of education of .077 implies that a unit change in the level of education leads to a .077 increase in the level of financial inclusion. In this way, the education level of the households influences the income stream of the households which will influence them to do different forms of investment. When that happens, financial inclusion will improve as the households invest in various financial products. This finding concurred with the findings of Masiyandima et al., (2017); Sanderson et al., (2018); Akileng et al., (2018) and Uddin et al., (2017) who also revealed that the level of education or literacy level influences financial inclusion of the households.

On the variable agricultural extension service, though not significant, its positive influence on financial inclusion was supported by many scholars and the a priori expectation of the study. Gani and Hossain (2015) and Sebatta et al., (2014) supported this finding. Bangladesh Gani and Hossain (2015) examined the decision to participate in the credit market by smallholder farmers using the probit estimation model. One of the variables found to have a positive influence on credit market participation by smallholder farmers was agricultural extension service. This was supported by Sebatta et al., (2014) in Zambia who also found that the level of

education of the household head gained either through extension services influenced the decision to have access to finance. However, in this model agriculture extension was not a significant determinant of financial inclusion (P-value, 0.116).

The results in table 36 also show that distance to the nearest financial institution was a significant variable in influencing financial inclusion at 1 percent level of significance (P-value, .000). With distance, a unit change in distance from nearest financial institution decreases the level of financial inclusion among the smallholder farmers by 0.249. These results were supported by various scholars (Musabanganji et al., 2015; Chandio et al., 2017). The scholars argued that long distances from the nearest financial access point can be a barrier to participation in the financial sector and hence reducing the chance of financial inclusion. Also, in section 6.3.5, the statistics showed that of the many households who were in farming in Manicaland Province almost 96 percent used a car or taxi to reach the nearest financial access point while on the other hand, 51 percent of non-farmers travelled by car or taxi to reach the nearest financial access point. The negative sign on distance was in line with these statistics presented before.

In addition, the regression results reveal that financial literacy had a positive influence on financial inclusion. The variable was significant at 5 percent level of significance (P-value, .039). The results indicate that financial knowledge on the various products provided by the bank can act as a motivation for households to use these services. This was supported by Kodongo (2018) who examined the connection between financial regulation and financial inclusion. The study revealed that agency banking regulations and financial literacy were factors which can improve financial inclusion.

Moreover, the variable age of the household was also significant in influencing financial inclusion at 1 percent level of significance with a P value of .000. The results indicated that a unit change in the age of the individual is associated with a

0,081 increase in the level of financial inclusion. The study by Uddin et al., (2017) in Bangladesh supported the findings where age was a determinant of financial inclusion. Also, Tuesta et al., (2015) and Chithra and Selvam (2013) supported the findings. Chithra and Selvam (2013) supported the findings in the study that investigated the determinants of financial inclusion in India using the index of financial inclusion by Sarma (2012). Tuesta et al., (2015) investigated the factors influencing financial inclusion using Argentina as a case study. The study found that the individual's level of education, income level and age of the household were the determinants of financial inclusion. The summary of the findings was that the level of off-farm income, financial literacy, age of the household and education level had a positive significant relationship with financial inclusion while distance had a negative relationship with financial inclusion with an increase in distance leading to a decline in the level of financial inclusion.

6.8.4 Results and discussion on determinants of financial inclusion through multiple regression results (non-farmers)

In order to have clear and robust results, regression of households who were non-farmers was also done in the study to compare the results between the two groups. The tables below present the results from the multiple regression performed.

Table 36: Model summary: determinants of financial inclusion through multiple regression (non-farmers)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.403a	.363	.332	1.77935

Predictors: (Constant), FINLIT, DISTANCE, AGREXTSERV, MARITALSTATUS, AGEHH, GENDHH, OFFFARMI, EDUCL, TRANSCOSTS

Source: Mhlanga (2019)

The model summary above shows that R was 0,403, which represents the simple correlation. This value shows us that the degree of correlation was low - less than 50 percent. R squared was 0.363 while adjusted R squared was 0,332. The adjusted R squared shows that 33.2 percent of the variation in the dependent variable was explained by the independent variables. The table below explains the analysis of variance.

Table 37: ANOVA table: determinants of financial inclusion for non-Farmers through multiple regression

ANOVAa						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	334.254	9	37.139	11.730	.000b***
	Residual	585.726	185	3.166		
	Total	919.979	194			

a Dependent Variable: Financial inclusion(INDEXFINAICL), b Predictors: (Constant), FINLIT, DISTANCE, AGREXTSERV, MARITALSTATUS, AGEHH, GENDHH, OFFFARMI, EDUCL, TRANSCOSTS (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The ANOVA table above indicates that the regression model predicts the dependent variable (financial inclusion) significantly well, since the regression indicates that the model is statistically significant. Here, $p < 0.0005$ which is less than 0.05, showing that the model is a good fit for the data. The model statistically and significantly predicts the outcome variable of financial inclusion. The coefficient table below provides information needed to predict the influence of the various socio-economic factors like age, gender and income level on financial inclusion.

Table 38: Results of the determinants of financial inclusion through multiple regression (non-farmers)

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.970	.870		-2.263	.025
	GENDHH	.050	.261	.012	.193	.847
	AGEHH	2.072	.010	.495	8.196	.000***
	OFFFARMI	1.004	.001	.383	5.576	.000***
	EDUCL	.124	.159	.052	.781	.043**
	AGREXTSERV	.409	.196	.077	2.087	.126
	DISTANCE	-2.41	.087	.030	.473	.037**
	HSIZE	.708	.057	.334	4.308	.776
	TRANSCOSTS	-1.023	.024	.074	.960	.038**
	MARITALSTATUS	-.046	.260	-.011	-.178	.859
	FINLIT	.372	.265	-.085	-1.403	.062*

a Dependent Variable: Financial inclusion (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The results of the regression equation presented in the table above show that age of the household, income level of the household head, education level, distance, transaction costs and financial literacy were the significant variables in explaining the determinants of financial inclusion among non-farmers in Manicaland Province of Zimbabwe. Distance to the nearest financial institution was the only variable with a negative influence on financial inclusion. These results for households who were non-farmers concurred with the results of households who were farmers except for transaction costs.

The results indicated that the variable age of the household was significant in influencing financial inclusion for non-farming households at 1 percent level of significance with a P value of .000. The results indicate that a unit change in the age of the individual is associated with a 2,072 change in the level of financial inclusion. The study by Uddin et al., (2017); Tuesta et al., (2015) and Chithra and

Selvam (2013) supported the results. Chithra and Selvam (2013) supported the findings in the study that investigated the determinants of financial inclusion in India using the index of financial inclusion by Sarma (2008) and Sarma (2012). Tuesta et al. (2015) in the study that investigated the factors influencing financial inclusion using Argentina as a case study also found age as a determinant of financial inclusion.

The regression results further indicate that income of the households was significant in influencing financial inclusion at 1 percent level of significance (P-value, .000). The variable had a positive influence on financial inclusion. In this way a unit change in income was associated with a 1.004 change in the level of financial inclusion. The direct meaning of the result was that the increase in the amount of income an individual has somehow influences the desire for that individual to either invest or keep the money in the bank. This result was supported by many studies that found out that the amount of income of an individual influences the individual to participate in the formal financial institutions (Sanderson et al., 2018; Musabanganji et al., 2015; Chandio et al., 2017).

The other factor found to be significant in influencing financial inclusion was the level of education of non-farming households. The variable was significant at 5 percent level of significance (P-value, .043). The results show that a unit change in the level of education was associated with a 0.124 change in the level of financial inclusion. In this way, the education level of the households influences the income stream of the households which will influence the households to save and invest. When households invest and save, the level of financial inclusion will improve. This finding was supported by Masiyandima et al., (2017); Akileng et al., (2018) and Uddin et al., (2017) who revealed that the level of education or the literacy rate of the households influence financial inclusion of the households.

Distance to the nearest financial institution was also a significant variable in influencing financial inclusion at 5 percent level of significance (P-value, .037). With distance, a unit change in distance from nearest financial institution was associated with a decrease in the level of financial inclusion among the smallholder farmers by 2.41. These results were supported by various scholars that included Musabanganji et al., (2015) and Chandio et al., (2017) among others. The scholars argued that long distances from the nearest financial access point can be a barrier to financial inclusion. In Zimbabwe this could be as a result of poor road networks compounded by the fact that buses in rural areas are no longer servicing the routs as they used to as a result of the economic meltdown. Also costs associated with travelling to financial institutions could also contribute to the decline in the level of financial inclusion with distance.

The results went on to indicate that transaction costs had a negative significant influence on financial inclusion among the non-farmers. The variable was significant at 5 percent level of significance (P-value, .038). In this way a unit change in transaction costs results in a 1.023 fall in the level of financial inclusion. This was supported by a number of scholars who found out that when transaction costs are high, it can act as a barrier to financial inclusion (Kalunda, 2014; Saqib et al., 2018; Musabanganji et al., 2015; Chandio et al., 2017).

In addition, the regression results reveal that financial literacy had a positive influence on financial inclusion. The variable was significant at 10 percent level of significance (P-value, .062). The results indicate that financial knowledge on the various products provided by the bank can act as a motivation for households to use the services. This was supported by Kodongo (2018) who examined the connection of financial regulation and financial inclusion. The study revealed that agency banking regulations and financial literacy were factors which can improve financial inclusion.

In short, distance to the nearest financial institution, age of the household, income of the household, off-farm income, education level, and financial literacy were determinants of financial inclusion despite the households being a farmer or not. However, households who were not in farming had an extra determinant which was transaction costs. The study discovered that using one model alone was not sufficient to fully investigate the determinants of financial inclusion. In the following section, the study went on to use the logit and multinomial logit models to further investigate the determinants of financial inclusion using different dependent variables. The multinomial logit was used to investigate the determinants of financial inclusion in terms of factors that influence households to choose the different financial services provided by financial institutions.

6.8.5 Results and discussion on determinants of financial inclusion through the logistic regression (farmers)

This section presents the second stage of the investigation of the determinants of financial inclusion using the logit model as a follow-up of the previous investigation on the determinants of financial inclusion using the index of financial inclusion where the dependent variable is binary in nature, defined as 1 having a bank account and 0 not having a bank account, as explained before in the methodology chapter. The logit model was used following the works of Sanderson et al., (2018); Masiyandima et al., (2017); Demirguc-Kunt et al., (2018) and Honohan (2008). The following table presents the findings of the determinants of financial inclusion among the smallholder farmers from the logit model.

Table 39: Logit model results for smallholder farmers

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
GENDHH(1)	-.036	.231	.025	1	.875	.964
AGEHH	.060	.012	26.631	1	.000***	1.062
HSIZE	-.289	.065	19.840	1	.000***	.749
OFF-FARMI	.003	.001	14.506	1	.000***	1.003
EDUCL	.371	.239	2.409	1	.121	1.450
AGREEXTSERV(1)	-.768	.308	6.215	1	.013**	.464
DISTANCE	.101	.061	2.758	1	.097*	1.106
TRANSCOSTS	-.105	.023	21.333	1	.000***	.900
MARITALSTATUS(1)	.273	.250	1.201	1	.273	1.315
FINLIT(1)	.126	.224	.316	1	.574	1.134
Constant	-2.113	.930	5.163	1	.023	.121

Omnibus test: Step, model and block: Chi-square (79.961) df (10) Sig (0.000). -2 log likelihood (478.103a) Cox and Snell R Square (0.179), Nagelkerke (0.240) (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The results as they are presented in table 40 show that, using the logit model, financial inclusion among farmers was influenced by age of the household, household size, off-farm income, agricultural extension service, distance and transaction costs. The results concurred with the previous findings of the determinants of financial inclusion among smallholder farmers using the index of financial inclusion as a determinant of financial inclusion. The findings from the logit model reveal that age of the household, off-farm income and distance to the nearest financial access point had a positive influence on financial inclusion. On the other hand, household size, non-participation in agricultural extension service and transaction costs had a negative influence on financial inclusion.

The results of the regression model revealed that age of the household positively influences financial inclusion. The variable was significant at 1 percent level of significance (P-value, .000). The odds ratio was 1.062. The implications of the significance of age was that age increases the probability of a household to use financial services. A unit change in the age of a household head - in this case a

farmer - increases the odds of having a bank account by 1.062. As people grow older they tend to understand the importance of financial products and services compared to the young. This will lead them to use more of these services and products. This was supported by a number of studies. For instance, Uddin et al., (2017) in Bangladesh examined the determinants of financial inclusion and found out that age was one of the determinants of financial inclusion.

The results also indicated that household size was a significant variable at 1 percent level of significance (P-value, .000). In this case the size of the household had a negative influence on financial inclusion with an odds ratio of 0.749. The results indicated that a one unit change in the size of the household leads to a 0.749 fall in the odds of financial inclusion or the use of financial services. In a way size of the household decreases the probability of demand for financial services such as having a bank account. The results were in line with the arguments put forward by many scholars who argued that it is generally believed that households with large families have a higher risk of being poor, due to the large numbers of people in the household (Klebanov et al., 1994; Lanjouw and Ravallion, 1995). When the family size is big, the likelihood of the income being committed to consumption with little on saving is very high. This could be the reason of the negative influence on financial inclusion.

The results also show that the amount of off-farm income a household possess influences the probability of financial inclusion positively. The variable off-farm income was significant at 1 percent level of significance (P-value, .000). The odds ratio was 1.003. This result implies that, with a one-unit increase in the amount of income an individual has, the odds to demand or use financial products will increase by 1.003. So, off-farm income increases the probability of use of financial products and services. This result was supported by a number of studies that found out that the amount of income an individual has influenced their participation in formal financial institutions (Nwaru et al., 2011; Musabanganji et al., 2015; Chandio et al.,

2017; Baiyegunhi and Fraser 2014). These results were also consistent with those that were found when the index of financial inclusion was used; off-farm income had a positive influence on financial inclusion.

Moreover, the results indicated that agricultural extension service had a negative influence on financial inclusion. The variable decreases the probability of an individual using financial services like having a bank account. The variable was significant at 5 percent level of significance (P-value, 0.013). The odds ratio was 0.464. The results indicated that households who participate in agricultural extension services had less probability of using financial services like having a bank account compared to households who do not take part in agricultural extension service. The odds of demand or use of financial products and services was 0.464 less for households who participate in agricultural extension service than households who do not participate. In fact, the results showed that households who did not participate in agricultural extension services had a greater probability of financial inclusion than households who participate in agricultural extension services. This could be because most farmers are uneducated as shown in section 6.3.1 where 25 percent of the households in farming had no education while 37 percent had primary education and many farmers are involved in subsistence farming and are the ones who require the services of the extension workers, while educated farmers are not involved, and education has an association with high income levels and hence financial inclusion

In addition, distance to the nearest financial institution was also a significant variable at 10 percent level of significance (P-value, .097) in explaining financial inclusion among the smallholder farmers. The variable was discovered to have a positive influence on financial inclusion. The result supports the *a priori* expectation that short distance to the nearest financial institution can influence financial inclusion positively. Kiiza and Pederson (2001) as well as Oboh and Kushwaha (2009) pointed out that nearness to the financial institution influences the

probability of households, especially rural households, participating in the formal financial markets. When the distance to the nearest financial institution is short, usually more people will find it easy to have access to financial services, increasing financial inclusion, as articulated by Soumaré et al., (2016) and Zulfiqar et al., (2016). However, the result was different when the index of financial inclusion was used, where it was discovered that distance had a negative influence on financial inclusion.

Lastly, the other variable that was significant in influencing financial inclusion was transaction costs. Transaction costs had a negative significant influence on financial inclusion. The variable was significant at 1 percent level of significance (P-value, .000). The odds ratio was 0.900. A unit change in the transaction costs leads to a decline in the odds of usage of financial services by 0.900 for households in farming. In short, transaction costs decrease the likelihood of households to participate in the financial market which affects the level of financial inclusion. The results were supported by Uddin et al., (2017); Soumaré et al., (2016) and Oyelami et al., (2017) who found high transactions costs to have a negative effect on financial inclusion especially when they are high. Moreover, a separate analysis was done to further understand the determinants of financial inclusion among the non-farming households, in a way to understand the distinction between the two groups, farmers and non-farmers. The following section presents the determinants of financial inclusion among the non-farmers.

6.8.6 Results and discussion on determinants of financial inclusion through the logit model (non-farmers)

Further investigation was done to get the determinants of financial inclusion using the logit model among the households who were not in farming. The purpose of this analysis was to assess whether the factors that influences financial inclusion among smallholder farmers are the same with the factors that influence financial

inclusion among non-farmers. The comparison is important especially when formulating policies targeting farmers and non-farmers. Table 41 below shows the results from the logit model.

Table 40: Logit model results for non-farmers

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
GENDHH(1)	-.034	.332	.011	1	.918	.966
AGEHH	.046	.015	9.245	1	.002**	1.047
HSIZE	-.283	.098	8.300	1	.004**	.754
OFFFARMI	.004	.001	11.677	1	.001**	1.004
EDUCL	.104	.199	.270	1	.603	1.109
DISTANCE	.247	.115	4.650	1	.031**	1.280
TRANSCOSTS	-.134	.035	15.085	1	.000***	.874
MARITALSTATUS(1)	-.180	.328	.302	1	.583	.835
FINLIT(1)	-.059	.336	.031	1	.860	.942
Constant	-.652	1.106	.347	1	.556	.521

Omnibus test: Step, model and block: Chi-square (41,895) df (10) Sig (0.000). -2 log likelihood (225,713a) Cox and Snell R Square (0.93), Nagelkerke (0.259) (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The results as they are presented in the table above show that, using the logit model on data provided by non-farmers, financial inclusion was influenced by age of the household, household size, income of the household, distance, and transaction costs. These results for non-farmers concurred with the previous findings on determinants of financial inclusion on smallholder farmers. The results were all in line with the *a priori* expectation and they concurred with the results for farmers found in the previous section. The meaning and explanation given in this case is the same for farmers and non-farmers. This following paragraphs give the full details of the results.

The results indicated that age of the household head had a positive significant influence on financial inclusion. The variable was significant at 1 percent level of significance with a P value of .002, the odds ratio was 1.047. A unit change in the

age of the household head causes the probability of demand for or use of financial products and services to rise by 1.047. Comparing households who are farmers and non-farmers, farmers had a higher probability of demand or use of financial services when age increases by one unit. The odds ratio for farmers was 1.062 compared to 1.042 for non-farmers. Moreover, the results also indicated that the size of the household influences financial inclusion negatively.

The variable household size was significant at 1 percent level of significance with a P value of .004 and odds ratio of 0.754. The variable had a negative significant influence on financial inclusion. Comparing farmers and non-farmers, non-farmers had more likelihood of a decline in the probability of being financially active when the size of the household increases by one unit. The odds ratio for farmers was 0.749 compared to 0.754 for non-farmers. However, it was concluded that both farmers and non-farmers are influenced by the size of the household on the use of and demand for various financial services. Also, the variable income for non-farmers (off-farm income for farmers) was significant in influencing financial inclusion. The variable income had a positive significant influence on financial inclusion at 1 percent level of significance with a P value of .001 and odds ratio of 1.004. The probability of use of financial products and services increases by approximately 1.004 whenever the income of the household rises. The influence of off-farm income for farmers and income for non-farmers was the same. On both farmers and non-farmers, the variables had a positive influence on financial inclusion even though there was a slight difference on the odds ratio for the two variables.

Moreover, the variable distance was also a significant factor at influencing the probability of being financially active for non-farmers. The variable was significant at 5 percent level of significance with a P value of .031 and odds ratio of 1.280. If farmers are taken into consideration, the variable also had a positive influence on financial inclusion. However, for farmers the variable was significant at 10 percent level of significance with an odds ratio of 1.106. In fact, non-farmers had a higher

probability of being financially active when the distance to the financial institutions is shortened compared to farmers. The odds ratio for farmers was 1.106 compared to 1.280 for non-farmers.

The other factor significantly influencing financial inclusion was transaction costs. Transaction costs had a negative significant influence on financial inclusion. The variable was significant at 1 percent level of significance (P-value, .000). The odds ratio was 0.874. A unit change in the transaction costs leads to a decline in the probability of usage of financial services by 0.874 for non-farmers. In short, transaction costs decrease the likelihood of households to participate in the financial market which affects the level of financial inclusion negatively. In terms of farmers and non-farmers, for both transaction costs had a negative influence on financial inclusion. The study went on to investigate the determinants of financial inclusion in terms of factors that influence households to choose among the different services provided by financial institutions like saving, borrowing and insurance. The analysis is explained in the section below where the multinomial logit model was used.

6.8.7 Results and discussion on the determinants of financial inclusion through the multinomial logistic regression model (farmers)

In order to fully unravel the determinants of financial inclusion, the study went on to investigate the factors that influence individuals to choose between the different services offered by financial institutions. These services are in a way the indicators of the various dimensions of financial inclusion. The investigation was on factors that influence an individual to open a transaction account, to borrow or to get credit and to have insurance with formal financial institutions. The knowledge of these factors will help on policy formulation. Policy makers will have more information on which factors to emphasise on the different services they offer. The following table gives the results from the multinomial logistic regression of the data for farmers.

Table 41: Multinomial logistic regression results for farmers

Variable	B	Std. Error	Wald	Df	Sig.	Exp(B)	95% Confidence Interval Exp(B)	
Transaction Account								
Intercept	.509	1.057	.231	1	.631		Lower Bound	Upper Bound
HSIZE	.378	.115	10.859	1	.001***	1.459	1.166	1.827
TRANSCOSTS	.082	.036	5.229	1	.022**	1.085	1.012	1.165
AGEHH	-.029	.016	3.114	1	.078*	.972	.941	1.003
DISTANCE	-.089	.100	.791	1	.374	.915	.753	1.113
OFF-FARMI	-.002	.001	1.986	1	.159	.998	.996	1.001
GENDHH	.378	.370	1.044	1	.307	1.460	.707	3.014
AGREXTSERV(1)	.845	.481	3.086	1	.079*	2.328	.907	5.974
MARITALSTATUS (1)	-.370	.355	1.086	1	.297	.690	.344	1.386
FINLIT	-.211	.355	.351	1	.553	.810	.404	1.625
Credit Account								
Intercept	-.903	1.029	.770	1	.380			
HSIZE	.108	.112	.933	1	.334	1.114	.895	1.388
TRANSCOSTS	-.030	.035	.742	1	.389	.970	.905	1.040
AGEHH	.026	.016	2.719	1	.099*	1.026	.995	1.058
DISTANCE	.003	.097	.001	1	.975	1.003	.829	1.213
OFF-FARMI	.003	.001	6.657	1	.010**	1.003	1.001	1.005
GENDHH	.335	.362	.857	1	.355	1.398	.688	2.842
AGREXTSERV(1)	.085	.454	.035	1	.852	1.088	.447	2.652
MARITALSTATUS (1)	-.198	.346	.327	1	.568	.820	.416	1.617
FINLIT(1)	-.228	.347	.431	1	.512	.796	.403	1.573
Reference Category Insurance								

Model Fitting Information -2 Log Likelihood Intercept Only (709.498), Final (617.880) Chi-Square

(91.619) df (18) Sig. (0.000) Goodness-of-FitChi-SquarePearson578.343 Deviance570.793df (372)

Sig. (0.000) Pseudo R-Square, Cox and Snell.202, Nagelkerke.238 McFadden.119(significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The multinomial logit model results, with insurance as the reference category, indicated that the size of the household, transaction costs, gender and agricultural extension service were the factors influencing the demand for a household to open

a transaction account, while off-farm income, marital status, financial literacy, distance and age had a negative influence on the demand for a transaction account. The significant factors influencing financial inclusion in terms of demand for a transaction account were household size, transaction costs, age of the household and agricultural extension service.

The results further indicated that the size of the household was a significant factor at 1 percent level of significance (P-value, .001). The variable had a positive influence on the probability of a household to have a transaction account with an odds ratio of 1.459. In this case, the increase in the size of the household by a unit usually influences the probability of demand for a transaction account by 1.459. The positive impact of household size to the demand for a transaction account was in line with the results found when the index of financial inclusion was used to get the determinants of financial inclusion. This result was in line with the *a priori* expectation in this study. The size of the household can have a positive or negative influence on the demand for a transaction account. In terms of farming, large households tend to have more labour at their disposal. This has a direct effect of increasing the output produced. In some instances, more output will lead to more income which forces households to use the services of banks. The positive influence of household size on access to a transaction account was supported by Chandio et al., (2017) and Evans (2016).

The results further reveal that transaction costs were significant in influencing the demand for a transaction account. The variable was significant at 5 percent level of significance (P-value, .022) with an odds ratio of 1.085. The *a priori* expectation of the study was that transaction costs can either decrease or increase the probability of demand for a transaction account depending on the level of the costs. If the costs are high, transaction costs tend to decrease demand for financial services like a transaction account and the opposite is true. This was supported by a number of scholars who found that high transaction costs discourage households to demand

products and services provided by financial institutions, while low transaction costs can encourage the use of financial products (Oyelami et al., 2017; Kodongo, 2018).

In addition, the results also indicated that age of the household was a significant factor at 10 percent level of significance (P-value, .078) and odds ratio of 0.972. The variable has a negative influence on the demand for a transaction account. The results also indicate that, when age of the household increases by a unit, the probability demand for a transaction account declines by approximately 0.972. As people grow they tend to understand the importance of financial products and services more compared to the young, and this will lead them to use more of these services and products up to a point where the demand starts to decline with old age. This was supported by a number of studies (Sanderson et al., 2018; Masiyandima et al., 2017; Kodongo, 2018; Evans, 2016). Sanderson et al. (2018) discovered that age can have a positive influence on financial inclusion up to a certain period (age) beyond which it will become negative.

Moreover, agricultural extension service had a positive significant influence on financial inclusion in terms of access to a transaction account. The variable was significant at 10 percent level with a significant P value of 0.079. The variable agricultural extension service was a dummy variable where participation in the agricultural extension service assumes a value of 1 and 0 otherwise. The meaning of the result was that households who receive agricultural extension services on how to use chemicals and how to plant have more chances of having a transaction account compared to households who did not participate in agricultural extension services. Participation made it possible for households to receive high yields which in effect influences the desire to use financial products and services (Akudugu, 2013; Yakubu et al., 2017).

On the other hand, the results further show that, in terms of demand for credit, transaction costs, marital status and financial literacy had a negative influence on

financial inclusion while household size, age of the household head, distance to the nearest financial access point, off-farm income, gender and agricultural extension service had a positive influence on financial inclusion in terms of demand for credit by the households. However, off-farm income and age of the household were the only two factors significantly influencing households to borrow.

The variable age of the household was significant at 10 percent with a P value of 0.099 and the odds ratio was 1.026. Age of the household had a negative influence on demand for a transaction account while on the demand for credit the variable had a positive influence. This is in line with the explanations given before, that is, age of the household can have a negative or positive influence on financial inclusion. Nguyen (2007) believes that at a young age demand for credit increases especially among the youth due to little wealth. In order to increase wealth, the youth tend to borrow more up to a point where the demand declines (Nguyen, 2007; Buckley, 1997). In this way, age increases the probability of demand for credit among the smallholder farmers.

The results further reveal that off-farm income had a positive significant influence on the probability of households to borrow or to have credit. The variable was significant at 1 percent level of significance with a P value of 0.010. The odds ratio was 1.003. A unit change in the income of a household, is associated with a 1.003 increase in the probability of demand for credit. This result was supported by a number of scholars who found out that the amount of income an individual has influences the individual to participate in the formal financial institution (Musabanganji et al., 2015; Chandio et al., 2017; Kodongo, 2018). This result concurred with the result found using the index of financial inclusion and the logit model that off-farm income positively encourages households to participate more in the formal financial institution. The multinomial logistic regression was also done on the data of households who indicated that were not in farming so as to see the

variables that agree with the data on farmers. The following section gives the multinomial logistic regression results for non-farmers.

6.8.8 Results and discussion on the determinants of financial inclusion through the multinomial logit model (non-farmers)

This section shows the difference between factors that influence the decision to choose different services offered by financial institutions among the farmers and non-farmers. Since these services are assumed to be the indicators of the dimensions of financial inclusion, knowing these factors is more like knowing the determinants of financial inclusion. This part is important in that policy makers will know what to emphasise when dealing with the different groups in terms of factors that influence households to choose between different services offered by financial institutions. The following table shows the results of the multinomial logistic regression from the data for non-farmers.

Table 42: Multinomial logit model results (non-farmers)

Variable	B	Std. Error	Wald	Df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Transaction Account								
Intercept	1.128	.875	1.662	1	.197			
HSIZE	.246	.084	8.606	1	.003**	1.279	1.085	1.507
TRANSCOSTS	.044	.028	2.479	1	.115	1.045	.989	1.103
AGEHH	-.026	.013	4.031	1	.045**	.974	.949	.999
DISTANCE	-.171	.076	5.058	1	.025**	.843	.726	.978
OFF-FARMI	-.001	.001	2.353	1	.125	.999	.997	1.000
GENDHH	.304	.298	1.039	1	.308	1.355	.755	2.432
MARITALSTATUS (1)	-.206	.291	.504	1	.478	.814	.460	1.438
FINLIT(1)	-.103	.290	.126	1	.722	.902	.511	1.592
Credit Account								
Intercept	-.312	.843	.137	1	.711			
HSIZE	-.012	.082	.022	1	.883	.988	.842	1.159
TRANSCOSTS	-.054	.028	3.822	1	.051*	.947	.897	1.000
AGEHH	.024	.013	3.616	1	.057*	1.024	.999	1.050
DISTANCE	-.024	.069	.121	1	.728	.976	.852	1.118
OFF-FARMI	.203	.001	10.865	1	.001***	1.003	1.001	1.005
GENDHH	.094	.287	.106	1	.744	1.098	.625	1.929
MARITALSTATUS (1)	-.058	.282	.043	1	.836	.943	.543	1.638
FINLIT(1)	-.238	.282	.712	1	.399	.788	.453	1.370
Reference Category Insurance								

Model Fitting Information -2 Log Likelihood Intercept Only (809.498), Final (717.880) Chi-Square (91.619) df (18) Sig. (0.000) Goodness-of-FitChi-SquarePearson578.343 Deviance470.793df (272)

Sig. (0.000) Pseudo R-Square, Cox and Snell.302, Nagelkerke.238 McFadden.119 (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

In the table above, taking insurance as the reference category, in terms of access to a transaction account, the following factors had a positive influence: household size, transaction costs, gender and agricultural extension service, while age of the household head, distance to the nearest financial access point, off-farm income, marital status and financial literacy had a negative influence on demand for a transaction account. The significant factors that influence access to a transaction

account were household size, age of the household and distance to the nearest financial institution.

The results indicated that the size of the household was a significant factor at 1 percent level of significance (P-value, .003). The variable had a positive influence on the probability of a household to have a transaction account with an odds ratio of 1.279. On the other hand, the variable household size for farmers had an odds ratio of 1.459 which was greater than the odds ratio for non-farmers. In this case, farmers had a greater probability of demand for a transaction account compared to non-farmers. The increase in the size of the household by a unit usually influences the probability of demand for a transaction account by 1.459 for farmers and 1.279 for non-farmers. In addition, the variable household size was significant at 1 percent level of significance for both farmers and non-farmers. The positive impact of household size to the demand for a transaction account was in line with the results found when the index of financial inclusion was used to get the determinants of financial inclusion.

In addition, the results also indicated that age of the household was a significant factor at 5 percent level of significance (P-value, .045) and odds ratio of 0.949. The variable had a negative influence on demand for a transaction account. On the other hand, for farmers the variable had a negative influence as well, with an odds ratio of 0.972 and the variable was significant at 10 percent level of significance. In this case, age of the household influences the decline in the probability of demand for a transaction account more for farmers compared to non-farmers. This may be due to the high number of middle aged and elderly people in the sample who indicated that they were in farming since the demand for financial products was said to decline with the age of an individual. The results also indicate that, when age of the household increases by a unit, the probability demand for a transaction account declines by approximately 0.949 for non-farmers compared to 0.972 for farmers.

The variable distance was a significant factor influencing demand for a transaction account for non-farmers negatively. The variable was significant at 5 percent level with a P value of 0.025 and odds ratio of 0.843. A unit change in distance to a financial institution, the probability of demand for a transaction account decline by approximately 0.843. However, for households who were in farming distance was not significant. It is generally argued that long distances from the nearest financial access point can be a barrier to financial inclusion (Musabanganji et al., 2015; Chandio et al., 2017). In section 6.3.5 it was discovered that many households in Manicaland Province travel long distances to reach the nearest financial access point irrespective of being a farmer or non-farmer. In the results it was shown that 96 percent of households who are in farming and 51 percent of those who are not in farming use a bus or tax to reach the nearest financial access point. So the negative sign on distance makes a lot of sense in this case.

Also in terms of access to credit, age of the household head, income and gender had a positive influence on financial inclusion while household size, transaction costs, distance, agricultural extension service, marital status and financial literacy had a negative influence on financial inclusion. The significant factors were transaction costs, age of the household and income of the household. Transaction costs were significant in influencing the demand for a transaction account negatively. The variable was significant at 5 percent level of significance (P-value, .051) with an odds ratio of 0.947. The *a priori* expectation of the study was that transaction costs can either decrease or increase the probability of demand for credit depending on the level of the costs. If the costs are high, transaction costs tend to decrease demand for financial services like credit, and if they are low, demand for credit goes up. This was supported by a number of scholars who found that high transaction costs discourage households to use financial products and services provided by financial institutions, while low transaction costs can encourage the use of financial products (Oyelami et al., 2017; Kodongo, 2018).

The variable age of the household was significant at 10 percent with a P value of 0.057 and the odds ratio was 1.024. Age of the household had a positive influence on demand for credit while on demand for a transaction account the variable had a negative influence. This is in line with the explanations given before that age of the household can have a negative or positive influence on financial inclusion. Nguyen (2007) believes that young people demand more credit due to the fact that they have little wealth. In order to increase wealth, the youth tend to borrow more up to a point where the demand declines with age when they accumulate more wealth (Nguyen, 2007; Buckley, 1997). In this way, age increases the probability of demand for credit among the non-farmers.

The variable income had a positive significant influence on financial inclusion at 1 percent level of significance with a P value of .001 and odds ratio of 1.003. The probability of use of financial products and services such as credit increases by approximately by 1.003 whenever the income of the household rises. These results were the same with those found for farmers where off-farm income was found to have a positive significant influence on the probability of households to borrow or to have credit. In summary, the results reveal that, regardless of being a farmer or a non-farmer, financial inclusion was influenced by the size of the household, age of the household, transaction costs, income and off-farm income. These factors influence financial inclusion in terms of access to a transaction account and access to credit taking insurance as the reference category. This section was mainly responsible for investigating the determinants of financial inclusion in relation to the factors that influence households to choose the different services offered by financial institutions. The next section will investigate the impact of financial inclusion on poverty.

6.9 RESULTS AND DISCUSSION ON THE IMPACT OF FINANCIAL INCLUSION ON POVERTY

This section is one of the important sections for this study as it tries to investigate the link between financial inclusion and poverty reduction using various econometric models. In essence, the section tries to show whether financial inclusion has an impact on poverty or not. The model used in this section as explained in chapter five was the simple linear regression model to establish whether financial inclusion has an impact on poverty. The study used more than one model because of the fact that poverty is multidimensional in nature. As a result, poverty is not dealt with in isolation. Most policies target poor people from a multidimensional understanding hence the need for more than two measures of poverty which led to the use of more than two econometric models in the study.

6.9.1 Results and discussion on the impact of financial inclusion on poverty using the absolute poverty line (farmers)

The absolute poverty line in this study is the first measure of poverty followed by the asset plus income poverty index and the lived poverty index. According to Dunga (2014:45) the absolute poverty line is based on the total amount of money required to purchase the goods and services that satisfy the prescribed absolute minimum. On the other hand, Davids (2010:27) posits that an absolute poverty line is a line which measures the condition of failure to meet the bare essentials of physical existence. Using the same reasoning, poverty status for the households was calculated using the absolute poverty line. The tables below show the results on the impact of financial inclusion on poverty using the absolute poverty line.

Table 43: Model Summary: the impact of financial inclusion on poverty (farmers)

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.394a	.155	.153	.43306

a Predictors: (Constant), Financial Inclusion

Source: Mhlanga (2019)

The model summary above shows that R was 0.594, which represents the simple correlation. This value shows us that the degree of correlation was not too high which was slightly above 50 percent. R squared was 0.455 while adjusted R squared was 0.453. The adjusted R squared shows that 45.3 percent of the variation in the dependent variable was explained by the independent variable. The ANOVA table below shows how well the regression equation fits the data and how the regression predicts the dependent variable.

Table 44: ANOVA table: the impact of financial inclusion on poverty

ANOVAa						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	13.864	1	13.864	73.927	.000b***
	Residual	75.578	403	.188		
	Total	89.442	404			

a Dependent Variable: Poverty b Predictors: (Constant), Financial inclusion (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The ANOVA table above indicates that the regression model predicts the dependent variable (poverty) significantly well, since the regression indicates that the model is statistically significant at 1 percent level of significance. Here, $p < 0.0005$ which is less than 0.05, indicating that the model is a good fit for the data. The model

statistically and significantly predicts the poverty outcome variable. The coefficient table below provides information needed to predict the impact of financial inclusion on poverty reduction.

Table 45: Results of the impact of financial inclusion on poverty reduction: farmers

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.431	.046		9.363	.000
	INDX	-2.082	.250	-.394	-8.328	.000***

a Dependent Variable: Poverty (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

In the table above, using the unstandardized coefficients, the regression equation will be written as follows: Poverty= 0431-2.082 Financial Inclusion. The results of the regression equation show that financial inclusion has an impact on poverty reduction. The interesting result from the analysis was that the results were in line with the *a priori* expectation that financial inclusion has a negative impact on poverty depending on the value and level of financial inclusion. For instance, a rise in financial inclusion leads to a decline in the level of poverty. In essence the results show that financial inclusion has a negative significant impact on poverty. A unit change in the level of financial inclusion will lead to a decline in poverty by approximately 2.08 which is a significant impact. These results were supported by quite a number of scholars who investigated the impact of financial inclusion on poverty before. Sarma and Pais (2008) gave a detailed explanation of how financial inclusion can help to fight poverty.

Sarma and Pais (2008:1) stated that:

"an inclusive financial system has several merits. It facilitates efficient allocation of productive resources and thus can potentially reduce the cost of capital. In addition, access to appropriate financial services can significantly improve the day-to-day management finances. An inclusive financial system can help in reducing the growth of informal sources of credit (such as money lenders), which are often found to be exploitative. Thus, an all-inclusive financial system enhances efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services."

These arguments by Sarma and Pais (2008) indicates how important is financial inclusion in fighting poverty, as well as improving the growth of the economy. Mehrotra et al., (2009) supported the arguments by Sarma and Pais by arguing that, when people have access to banking services, it enables them to save their money, leading to more investment, high inclusive economic growth through the multiplier effect and, finally, poverty reduction. In order to get full support for the argument that financial inclusion has an impact on poverty, the study went on to investigate the impact of financial inclusion on poverty using the data for households who were not in farming. The following section explain the impact of financial inclusion on poverty using the household data for individuals who were not in farming at the time of the interview.

6.9.2 Results and discussion on the impact of financial inclusion on poverty (non-farmers)

This analysis is equally important because it marks the focus of this study, to investigate the impact of financial inclusion on poverty. Analysing the impact of financial inclusion on poverty on smallholder farmers only may seem one sided. An additional analysis on the impact of financial inclusion on households who are not

in farming may act as a support for the findings. The tables below show the results of the impact of financial inclusion on poverty reduction among the non-farmers.

Table 46: Model summary: the impact of financial inclusion on poverty (non-farmers)

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.394a	.255	.253	.43306				

a Predictors: (Constant), Financial inclusion

Source: Mhlanga (2019)

The model summary above shows us that R was 0.394, which represents the simple correlation. This value shows us that the degree of correlation was low below 50 percent. R squared was 0.255 while adjusted R squared was 0.253. The adjusted R squared shows us that 25.3 percent of the variation in the dependent variable is explained by the independent variable. The next thing is to explain the analysis of variance. The ANOVA table below is important as it shows how well the regression equation fits the data and how the regression predicts the dependent variable.

Table 47: ANOVA table: the impact of financial inclusion on poverty (non-farmers)

ANOVAa						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.315	1	5.315	20.086	.035b**
	Residual	50.808	192	.265		
	Total	56.124	193			

a Dependent Variable: Poverty b Predictors: (Constant), Financial inclusion (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The ANOVA table above indicates that the regression model predicts the dependent variable (poverty) significantly well, since the regression shows us that the model is statistically significant. Here, $p < 0.035$ which is less than 0.05, indicating that the model is a good fit for the data. The model statistically and significantly predicts the outcome variable poverty. The coefficient table below provides information needed to predict the impact of financial inclusion on poverty reduction among the non-farmers.

Table 48: Results of the impact of financial inclusion on poverty reduction (non-farmers)

Coefficients a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.879	.055		15.966	.000
	INDX	-.524	.240	-.113	-2.183	.035**

a Dependent Variable: Poverty (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

In the table above, using the unstandardized coefficients, the regression equation will be written as follows: Poverty = -0.879Financial Inclusion. The results of the regression equation show that financial inclusion has an impact on poverty reduction even among the households who were not in farming. The interesting result from the analysis was that the results were in line with the *a priori* expectation that financial inclusion has a negative impact on poverty depending on the level of financial inclusion. For instance, a rise in financial inclusion will lead to a fall in the level of poverty. The results in essence show that financial inclusion has a negative influence on poverty. A unit change in the level of financial inclusion will lead to a 0.524 decline in the level of poverty.

This result was supported by many scholars who also found that financial inclusion has an impact on poverty reduction. For instance, Lal (2018) examined the impact of financial inclusion through cooperative banks on poverty reduction. The research concluded that access to financial products and services by the poor helps them to live decent lives through fighting poverty. It was argued that access to loans, insurance and savings helps the poor to make informed economic decisions which will later influence their income generation and management, hence the reduction of poverty. In addition, Banerjee and Newman (1993) discovered that finance is a critical factor for people to run away from poverty. The authors argued that productivity can help to fight poverty if it is accompanied by financial inclusion. Supporting the conclusions by Banerjee and Newman (1993), Binswanger and Khandker (1995) contended that the rural bank expansion in India assisted in lowering the levels of rural poverty and there was a sharp increase in non-agricultural employment.

6.9.3 Results and discussion on the impact of financial inclusion on Poverty using the income plus asset index (farmers and non-farmers)

The purpose of adding this section was due to the fact that the study had different measures of poverty and each measure gives a different result from the other. The number of people deemed poor were different from the two measures. This was shown in section 6.7.3 and 6.7.4 where the number of poor people as measured by the absolute poverty line was different from the number of poor people measured by the income plus asset index. Also, in order to get the real impact of financial inclusion on poverty and to compare the results, the study went on to add the income plus asset index as a measure of poverty.

Table 49: Model summary: the impact of financial inclusion on poverty (farmers)

Model Summary	Farmers				
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.570a	.537	.535		.46093

a Predictors: (Constant), Financial Inclusion

Source: Mhlanga (2019)

Table 51 shows the model summary for the impact of financial inclusion on poverty for non-farmers.

Table 50: Model Summary: the impact of financial inclusion on poverty (non-farmers)

Model Summary	Non-Farmers				
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.590a	.684	.679		.53128

a Predictors: (Constant), Financial Inclusion

Source: Mhlanga (2019)

The model summaries above show us that, for households who were fully into farming, R was 0.570, while those who were not in farming, R was 0.590 which represents a simple correlation. This value shows us that the degree of correlation among the variables in the models was not too high. R square for households who indicated to be in farming was 0.537 while for those who were not in farming was 0.684. Adjusted R squared was 0.535 and 0.679 for farmers and non-farmers respectively. The adjusted R squared shows us that 53.5 and 67.9 percent of the variation in the dependent variables of our models are explained by the independent variables which is a good picture of our models. The next table now explains the analysis of variance for farmers and non-farmers. The ANOVA tables below are

important as they show how well the regression equation fits the data and how the regression predicts the dependent variable.

Table 51: ANOVA table: the impact of financial inclusion on poverty (farmers)

ANOVAa	Farmers					
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	13.580	1	13.580	63.920	.000b***
	Residual	85.620	403	.212		
	Total	99.200	404			

a Dependent Variable: Poverty, b Predictors: (Constant), Financial Inclusion (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

Table 53 shows the ANOVA table for the impact of financial inclusion on poverty for non-farmers.

Table 52: ANOVA table: the impact of financial inclusion on poverty (non-farmers)

ANOVAa	Non-Farmers					
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	5.011	1	5.011	17.753	.000b***
	Residual	54.476	193	.282		
	Total	59.487	194			

a Dependent Variable: Poverty

b Predictors: Financial Inclusion (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The ANOVA tables above indicate that the regression models predict the dependent variable (poverty) significantly well, since the regressions show that the models are statistically significant. Here, $p < 0.0005$ which is less than 0.05 in all the models,

indicating that the models are a good fit for the data. The models statistically and significantly predict the outcome variable poverty. The next step is the description of the coefficients from the models. The coefficient tables below provide information needed to predict the impact of financial inclusion on poverty reduction using the income plus assets index.

Table 53: Results of the impact of financial inclusion on poverty reduction (farmers)

Coefficients	Farmers					
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.987	.801		1.232	.000
	INDX	-1.181	.5010	-.370	-2.357	.000***

a Dependent Variable: Poverty (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The next table shows the results of the impact of financial inclusion on poverty for non-farmers.

Table 54: Results of the impact of financial inclusion on poverty reduction (non-farmers)

Coefficients	Non-farmers					
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.412	.082		5.029	.000
	INDEXFINAICL	-.474	.108	-.290	-4.389	.000***

a Dependent Variable: Poverty (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

In the tables above the variable financial inclusion is significant at 1 percent level with a P value of 0.000. When the unstandardized coefficients were used, the regression equations for the models were written as follows: Poverty = 0.987-1.081Financial inclusion for households who were in farming while for non-farmers the equation appears as Poverty = 0.412-0.474Financial inclusion. The results of the regression equation show that financial inclusion has an impact on poverty reduction. In this case, financial inclusion impacts negatively on poverty reduction both for households who were in farming and those who were not in farmers. For instance, a rise in financial inclusion leads to a decline in the level of poverty. In essence the results indicate that financial inclusion has a negative influence on poverty reduction. A unit change in the level of financial inclusion will lead to a decline in poverty by approximately 1.18 for households in farming and 0.47 for non-farmers which is a significant impact on poverty reduction. In short, financial inclusion has a strong impact on poverty for farmers compared to non-farmers.

Apart from the support given by Sarma and Pais (2008); Lal (2018) also noted that financial inclusion has an impact on poverty. In addition, Park and Mercado Jr (2018); Ellis and Lemma (2010) and Anwar et al., (2008) also indicated that financial inclusion really has an impact on poverty reduction. For instance, Ellis and Lemma (2010) argued that financial inclusion can help to fight poverty by arguing that, when households are able to access financial services, it will allow them to save and invest in projects which can improve their incomes hence leading to a reduction in poverty in the long run. As part of the study to see the direct and indirect impact of financial inclusion on poverty, the study went further to analyse the impact of financial inclusion on poverty but this time assessing the impact of the various indicators of financial inclusion such as having a bank account, borrowing, insurance and saving on poverty reduction. The following section explains the relationship between poverty and the indicators of financial inclusion.

6.10 RESULTS AND DISCUSSION ON THE IMPACT OF ACCESS TO FINANCIAL SERVICES ON POVERTY REDUCTION

The purpose of this section is to investigate the influence of access to various financial services of financial inclusion on poverty reduction. This is important because it helps policy makers to know the services that are more important in poverty alleviation. Lal (2018) in a study done India investigated the influence of financial inclusion on poverty alleviation through cooperative banks. The study revealed that access to services such as saving, credit and insurance through financial inclusion can impact positively on the lives of the people in poverty and help them to come out of poverty. This section was added in this study to investigate the impact of access to various financial services on poverty. In this analysis there was no separation; the analysis was done for all the households in the data set.

Table 55: Model summary: financial Inclusion Indicators and Poverty Reduction

Model Summary					
Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	.779a	.436	.415		.53506

a Predictors: (Constant), INSRNCE, SAVING, BRRWING, PERTRN

Source: Mhlanga (2019)

The model summary above shows that R was 0,779, which represents the simple correlation. This value shows us that the degree of correlation among the variables was high above 50 percent. R square was 0.436 while adjusted R squared was 0.415. The adjusted R squared shows that 41.5 percent of the variation in the dependent variable was explained by the independent variables. The next section explains the analysis of variance.

Table 56: ANOVA table: financial inclusion indicators and poverty reduction

ANOVAa						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.015	4	.504	1.760	.039b**
	Residual	54.109	189	.286		
	Total	56.124	193			

a Dependent Variable: PSTATUS, b Predictors: (Constant), INSRNCE, SAVING, BRRWING, PERTRN
(significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

The ANOVA table above is important as it shows how well the regression equation fits the data and how the regression predicts the dependent variable. In the table, the regression model predicts the dependent variable poverty significantly well, since the regression shows that the regression model is statistically significant at 5 percent level of significance. Here, $p < 0.039$ is less than 0.05. This shows us that, the model is a good fit for the data. The model is statistically significant and predicts the outcome variable financial inclusion. The coefficient table below provides information on the impact of the various financial services through financial inclusion on poverty.

Table 57: Results of the impact of financial inclusion indicators on poverty reduction

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.834	.052		16.178	.000
	SAVING	-.122	.157	-.010	-.778	.090*
	PERTRN	-.211	.101	-.153	-2.093	.038**
	BRRWING	-.137	.086	-.115	-1.595	.112
	INSRNCE	-.006	.111	-.004	-.057	.954

a Dependent Variable: Poverty (significant at 1 percent***, 5 percent**, 10 percent*)

Source: Mhlanga (2019)

In the table above, all the financial services provided by banks, saving, account ownership, borrowing and insurance had a negative influence on poverty reduction. However, only two variables were significant in influencing poverty, saving and having a transaction account. The results indicate that access to saving for households has a negative influence on poverty and the value was significant at 10 percent level of significance (P-value .090). The negative sign on saving implies that, when households save more and invest more, poverty will fall in the process. A unit change in savings is associated with a fall in poverty by 0.122. As highlighted before, Lal (2018) in the paper, *The Impact of Financial Inclusion on Poverty Alleviation through Cooperative Banks* supported the findings by revealing that:

"access to basic financial services such as savings, loans, insurance and credit through financial inclusion generated a positive impact on the lives of the poor by helping them to come out of the clutches of poverty."

The results also showed that the ability to perform transactions, that is, having a transaction account, was significant at 5 percent level of significance (P-value, 0.03)

with a negative influence on poverty reduction. In this case, a unit change in the level of transaction leads to a 0.211 decrease in the level of poverty. This result tells more about the importance of financial inclusion on poverty reduction. Sarma and Pais (2008) argued that financial inclusion is important in the fight against poverty because it assists individuals and households in financial management, consumption smoothening and proper risk management.

On the other hand, Morawczynski (2009), also supported the idea that owning a transaction account by households contributes a lot to the improvement of their incomes. The author discovered that usage of mobile money transfer (MPESA) in Kenya contributed more to the improvement of the incomes of the rural households through receiving remittances among other services like sending and receiving money, paying bills, and so on. The other important factor cited was that having a mobile money transaction account and the use of a mobile money transfer platform resulted in higher savings by the household.

The variables borrowing and insurance, though not significant in influencing poverty, the negative sign on these variables were in line with the *a priori* expectation. The ability of households to borrow and to have insurance on their various products can go a long way in fighting poverty. When households, farmers in this case, are able to borrow more from the various financial institutions, this allow them to invest more, increasing their incomes and hence leading to poverty reduction. When households are able to insure their products against all forms of risks, this prevents the households from falling into risks and shocks hence the risk of falling into the clutches of poverty are prevented. In general, the negative sign of these factors stands to show that financial inclusion is important in fighting poverty.

All the models used in the analysis were tested for heteroscedasticity, results from the Breusch Pagan/Cook-Weisberg test indicated that there was no problem of

heteroscedasticity. For instance, the logistic regression had the Chi-Square (1) of 0.02 with the probability value of 0,8750 indicating that it is impossible to reject the null hypothesis and concluded that there was no evidence showing that there was heteroscedasticity. The models were also tested for misspecification and the results from the Ramsey Regression Error Specification Test (RESET) done to test the validity of the models or misspecification of the model showed that omitted variables did not explain all the models. This stands to attest to the fact that there was no model misspecification. For instance, the logistic regression model produced the following results: Chi Square obtained from the research was 2.41 where the p value obtained was 0.1205. This showed that the model was correctly specified. The next section below will give the summary of the results and findings of the chapter.

6.11 SUMMARY AND CONCLUSION OF THE RESULTS AND DISCUSSION CHAPTER

This chapter presented the results and discussion of the study in line with the empirical objectives of the study in an attempt to address the overarching aim of the study. The aim of the study was to investigate the impact of financial inclusion on poverty reduction among other objectives of coming up with an index of financial inclusion to investigate the various socio-economic factors that influence financial inclusion in Zimbabwe. In order to achieve this objectives, data was collected from the smallholder farmers and households who were not in farming in Manicaland Province. Since the overarching aim of the study was to investigate the impact of financial inclusion on poverty reduction, the first step taken was to assess the profile of poverty and financial inclusion using the data collected.

The data on financial inclusion showed that financial inclusion is still a problem in the province even though there was significant number of households in the sample with bank accounts. When looking at the saving and borrowing behavior of the households, the data showed that savings were too low in the sample. More than

70 percent of households did not save which further indicates that, even though more households had bank accounts, full usage of financial services was too low when saving, borrowing and insurance is concerned. The number of households who indicated that they did not borrow were more than households who admitted that they borrowed. In the same way, the number of households who indicated that they had insurance was less than households who indicated that they did not have insurance. Putting this together with the number of households who indicated that they saved and borrowed showed that, in the province, usage of financial services was low.

Less than 50 percent of the households did indicate that they saved, borrowed and had insurance with formal financial institutions. This was coupled with the idea that more than 60 percent of the households in the sample did indicate that they opened bank accounts in order to perform transactions while a few did cite loans saving and insurance as the reason for opening bank accounts. Moreover, distance and means of transport to the nearest financial access point has been viewed as one of the indicators of financial inclusion. In the sample, more households use taxis or cars to get to the nearest financial access point, meaning financial institutions are far from the households. In summary, the various indicators presented above show that financial inclusion in the province is still very low.

On the profile of poverty, the study used the various welfare indicators and two measures of poverty, the absolute poverty line and the income plus asset index to assess the profile of poverty in the province. The poverty status using the two measures of poverty showed that poverty was generally high in the province, especially among the smallholder farmers compared to those who were not in farming residing in the urban areas and growth points. The study went on to assess the determinants of financial inclusion using various models. The factors found to influence financial inclusion from all the models were off-farm income, education level, distance, financial literacy, age of the household, distance, transaction costs

and financial literacy, agricultural extension service and size of the household. The study used different models to investigate the factors influencing financial inclusion and a separate analysis was done for households who were not part of agriculture so as to compare with households who were part of the agricultural system.

The study found that, when using the multiple regression to investigate the determinants of financial inclusion among the smallholder farmers, the determinants were off-farm income, education level, distance, financial literacy and age of the household. On the other hand, the determinants of financial inclusion among the non-farmers were age of the household, income of the household, education level, distance, transaction costs and financial literacy. The difference between farmers and non-farmers was on transaction costs, and financial inclusion for non-farmers was further influenced by transaction costs and the costs charged by financial institutions to perform various transactions.

The study went on to use the logit model with bank account ownership as a proxy of financial inclusion to investigate further the determinants of financial inclusion so that the results obtained could be compared with those obtained from multiple regression. The analysis showed that there was not much difference in terms of factors influencing financial inclusion from the two analysis. Using the logit model, the study found that age of the household, household size, off-farm income, agricultural extension service, distance and transaction costs were the factors influencing financial inclusion while, for households who were not in farming, financial inclusion was influenced by age of the household, household size, off-farm income, agricultural extension service, distance and transaction costs. Closely looking at the results there is not much difference. Only agricultural extension service was the additional factor influencing financial inclusion when using the logit model. Even among the farmers and non-farmers there was not much difference.

The study went on to investigate the factors influencing households to use different financial services offered by financial institutions like access to saving, credit and insurance. Using the multinomial logistic regression for smallholder farmers, the study found that household size, transaction costs, age of the household and agricultural extension service were the factors influencing demand for a transaction account, while off-farm income and age of the household were the factors influencing households to borrow. When households who were not in farming were taken into account, the factors significantly influencing access to a transaction account were household size, age of the household and distance, while borrowing or credit was influenced by transaction costs, age of the household and income. Looking closely at the factors for farmers and non-farmers, there was no significant differences in the factors influencing access to different financial services.

The chapter also investigated the impact of financial inclusion on poverty using the index of financial inclusion. The analysis was done separately for the two measures of poverty, the absolute poverty line and the income plus asset measure. Also, the analysis was done for households who were into farming and those households who indicated that they were not directly involved in farming. For both farmers and non-farmers, the results indicated that financial inclusion had an impact on poverty. An additional analysis was done to investigate the impact of various financial services like saving, borrowing, performing transactions and insurance on poverty reduction. The results indicated that having a transaction account and saving were the variables significant in influencing poverty reduction in Zimbabwe. Other variables were not significant, but the negative sign on each of the factors supported our *a priori* expectation that performing the various services like insurance and access to credit can reduce the level of poverty.

CHAPTER 7

SUMMARY AND CONCLUSION OF FINANCIAL INCLUSION AND POVERTY REDUCTION IN ZIMBABWE

7.1 INTRODUCTION

The poverty and financial inclusion status of Zimbabwe as presented in chapter four and as shown from the data proved to be serious and requires maximum attention. The study on financial inclusion and poverty reduction in Zimbabwe sought to investigate the impact of financial inclusion on poverty among the smallholder farmers in Zimbabwe, even though the study went on to provide comparisons between those who were farmers and those who were not in farming. This chapter presents a conclusion of the study, starting with the problem statement, the objectives, the methodology and the models used, the results and the implications of the results. The expectation of the study was to come up with results which could act as reference for other developing countries, especially on how financial inclusion is measured and its impact on poverty whether direct or indirect.

Specifically, the study had several objectives formulated to guide in the quest for investigating the impact of financial inclusion on poverty in Zimbabwe. Theoretically the study intended to address the following objectives: review literature on theories of poverty and their applicability to Zimbabwe. This objective was intended to discover the theoretical arguments with regard to the causes of poverty as well as to see the applicability of these theories to developing countries like Zimbabwe. The other objective was to review measures of poverty and their applicability to developing countries context-specifically Zimbabwe. This objective was necessary because poverty is multidimensional. As a result, a review of theories on how it is

measured was absolutely necessary to inform the study on how poverty was going to be measured.

Since the study was investigating the link between financial inclusion and poverty, it was also important to review theoretical literature on the measures of financial inclusion. Since financial inclusion is also multidimensional just like poverty, it was absolutely necessary to review literature on how financial inclusion is measured. The fact that financial inclusion is relatively new in the literature, the study on measures of financial inclusion was biased towards the empirical literature on the different measures of financial inclusion. Since the study also sought to analyse the socio-economic factors which influence smallholder farmers to participate in the formal financial market, the study had to review and analyse theoretical framework on the determinants of financial inclusion. Finally, on theoretical literature review, a review of theoretical literature on the relationship between financial inclusion and poverty was done. This was done in order to appreciate the various channels through which financial inclusion impacts poverty.

The empirical section of the study was intended to look at various objectives of the study hypothesised from the theoretical literature. The following objectives were pursued using the data collected from Manicaland Province of Zimbabwe:

- Profile the poverty and financial inclusion among the smallholder farmers in the sampled area.
- Develop an index to measure financial inclusion.
- Determine the determinants of financial inclusion among smallholder farmers in Zimbabwe
- Analyse the impact of financial inclusion on poverty in Zimbabwe among small holder farmers.
- Make recommendations as to how financial inclusion can be used to deal with poverty in Zimbabwe.

This conclusion chapter is organized as follows: Section 7.1 presents the introduction of the chapter. Section 7.2 presents a brief conclusion on the theoretical foundation of the study. Section 7.3 gives a summary of the empirical literature, while section 7.4 presents a summary of the profile of Zimbabwe the study country. A summary of the methodology of the study is also presented in section 7.5. The summarized conclusions are presented in section 7.6. Section 7.7 makes a number of policy recommendations. Limitations of the study were presented in section 7.8 and areas for further study are discussed in section 7.9

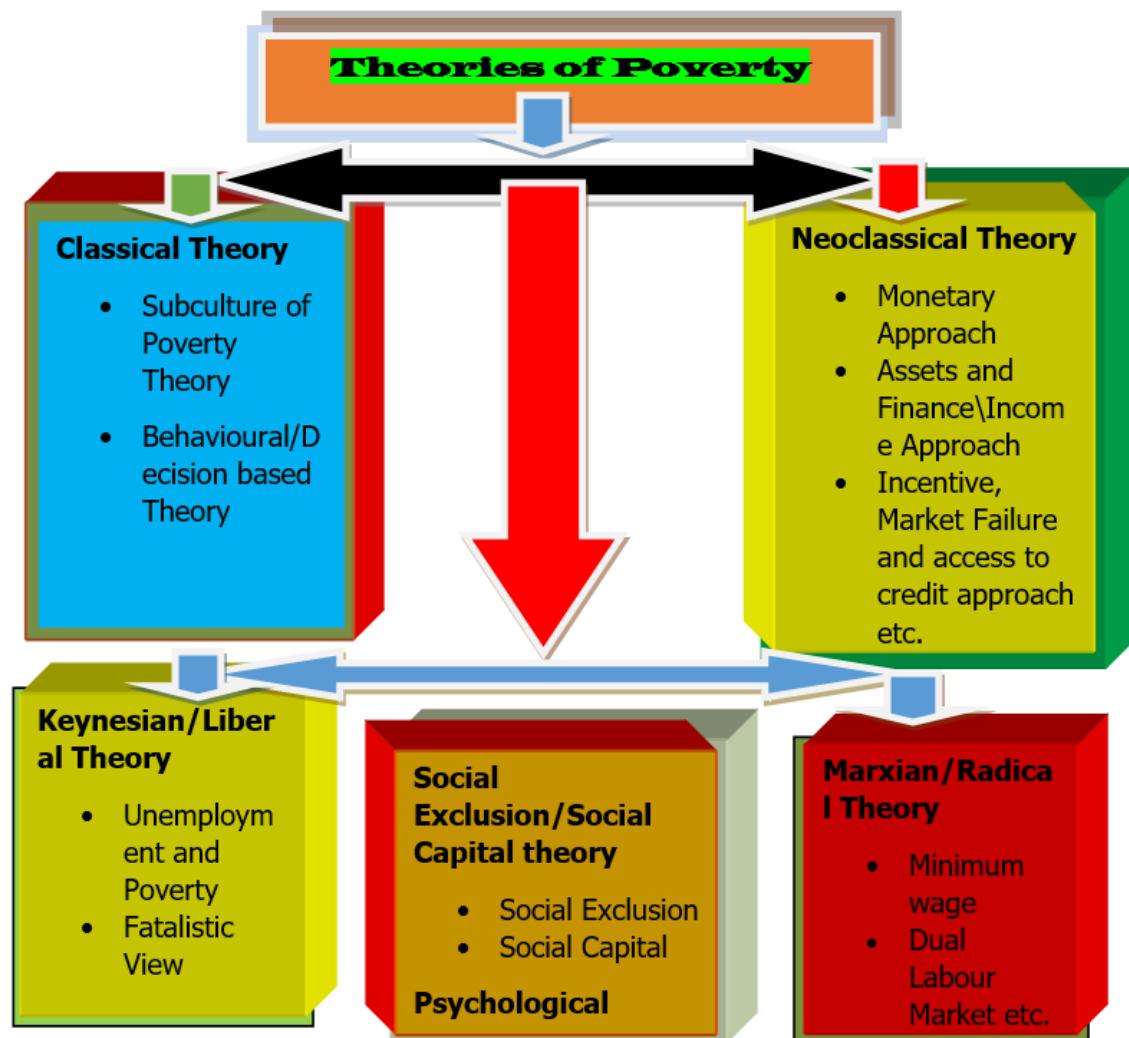
7.2 THEORETICAL FOUNDATION OF THE STUDY

The study reviewed theories of poverty, measures of poverty, theories of financial inclusion and theories on the link between financial inclusion and poverty. Figure 59 helps to summarise the theoretical framework which shows the theories of poverty discussed in this study. This framework shows the progression of the theory of poverty from the main schools of economics to other theories which are divorced from economics. The theories consider many aspects and ideas which arise from many different disciplines like sociology and psychology - not only economics. The discussion started by describing the broad economic frameworks from which each of the theories about the causes of poverty originated. These broad economic frameworks are Classical and the Neoclassical schools (Davis and Sanchez-Martinez, 2015; Davis, 2014).

Then the theories that unfolded from the assumptions, hypotheses and conclusions derived from the Classical economists were discussed as well. Within these group of theories, there are theories that agree and disagree with the arguments of the Classical economists. However, these theories introduced several other theories namely the economic liberals such as Keynes and the radical economic theorists, such as Marxian economists. Finally, theories that cover the diverse theoretical

approaches that deviate from the core theories of economics were also discussed. All these theories are shown clearly in the theoretical framework in figure 59.

Figure 59: Theoretical framework on theories of poverty



Source: Mhlanga (2019)

Figure 59 summarises all the theories of poverty discussed in the study starting from Classical theory which subscribes to the subculture of poverty and the behavioural perspective to poverty. Accordingly, in Classical economics, poverty is caused by poor choices of individuals in poverty for example poor people lack self-control which affects productivity. However, the Classical economists also admit that

differences in genetic abilities among the people are also potential causes of poverty (Bradshaw, 2007; Davis, 2015). Classical economics views the wrong choices made by individuals as the factors leading them into poverty or the welfare trap (Davis, 2014). In addition, the Neoclassical theory is premised on the Classical tradition. This theory argues that unequal talent endowments, skills and capital were the factors responsible for poverty. Lack of any of the above skills will compromise the productivity of an individual in the market which will push the individual in poverty. Since these factors help in determining the productivity of an individual in a competitive economic market (Davis, 2014; Bradshaw, 2007). The Neoclassical economics also attributes poverty to failure of the market for instance, the existence of negative externalities, moral hazard and information asymmetry. In other words, market failure contributes more in causing poverty due to the fact that poor individuals are more prone to shocks which affect negatively their well-being (Davis Martha, 2007; Davis, 2014).

This discussion was followed by the causes of poverty under the Keynesians, the Marxist and the social exclusion theories as well as the psychological theories that attribute poverty to many different factors. For instance, the Keynesians attribute poverty to unemployment and many other factors. Secondly, theories on measures of poverty were also discussed. This was done to give the current study information on how poverty is measured. The measures of poverty discussed are the money metric approaches to poverty, for instance the absolute poverty line. There was also a discussion on the relative approach to measuring poverty, the capability approach, social exclusion approach and the multidimensional approach.

The review of these measures of poverty helped to analyse their applicability to the contexts of developing countries, specifically Zimbabwe. The third section analysed the theoretical framework on the determinants of financial inclusion. This informed the current study on the factors which may influence smallholder farmers to participate in the formal financial market. The fourth section highlighted the

theoretical argument on the relationship between financial inclusion and poverty. This was important because, as it is the focus of the current study, this helped to discover the various channels available on the impact of financial inclusion on poverty.

7.3 EMPIRICAL LITERATURE ON THE DETERMINANTS OF FINANCIAL INCLUSION, MEASURES OF POVERTY AND THE IMPACT OF FINANCIAL INCLUSION ON POVERTY

This literature review chapter provided an analysis of empirical literature on the following objectives: determining the determinants of financial inclusion among smallholder farmers, and the impact of financial inclusion on poverty in Zimbabwe among smallholder farmers among other objectives such as developing an index to measure financial inclusion. The review of empirical literature on the determinants of financial inclusion was done and it was revealed that studies which investigated the determinants of financial inclusion among the smallholder farmers are there but limited. Most of the studies in this area focused on the determinants of financial inclusion at macro level or country level without specifically focusing on smallholder farmers.

In addition, there was also literature on the determinants which influence access to credit among the smallholder farmers without looking at financial inclusion as a whole. In general, literature on determinants of financial inclusion among smallholder farmers is still scarce. A review of the determinants of financial inclusion was important for the study because it equipped the study with the various socio-economic factors which influence households to be financially active. In this chapter there was also a review of empirical literature on the various measures of financial inclusion. This review was significant because it provided the road map on how financial inclusion was measured in the study. In the reviewed literature, many

measures of financial inclusion developed measured financial inclusion at macro level, that is country level. Very few studies managed to develop a measure of financial inclusion which can measure the level of financial inclusion at household level. Finally, empirical literature on the impact of financial inclusion on poverty was also reviewed. The review indicated that many studies which tried to highlight the impact of financial inclusion on poverty mainly targeted the influence of financial development on economic growth, development and inequality. However, few studies managed to show the influence of financial inclusion on poverty. This review was important to the study because information on the possible scenarios, ways and channels in which financial inclusion can help to reduce poverty were clearly highlighted.

7.4 PROFILE OF ZIMBABWE

Zimbabwe is one of the countries in Southern Africa and the country is generally regarded as a low income nation and it is a landlocked nation sharing borders with Mozambique, Botswana, Zambia and South Africa. The population in Zimbabwe is approximately 14 million as articulated in the 2018 country review produced by Country Watch (2018). The total area occupied by Zimbabwe is approximately 390 757 square kilometres according to Chifurira and Chikobvu (2010). Moreover, almost two thirds of the population in Zimbabwe, estimated to be 67 percent, reside in the rural areas.

The country has a total of ten provinces. The provinces include Manicaland, Harare, Bulawayo, Mashonaland Central, Mashonaland East, Mashonaland West, Masvingo, Matabeleland North, Matabeleland South and Midlands Province. Each province has an urban area; however, Harare and Bulawayo are solely urban provinces on their own. In fact, the country has five major cities which include the following: Harare, Bulawayo, Chitungwiza, Gweru and Mutare. Among the five major cities, Harare is the capital city (Chirisa et al., 2018; Patel, 1988). Settler colonialism and racism

ended after the armed struggle which gave birth the 1980 Zimbabwe independence (Nyoni, 2018). Immediately after enjoying independence, in 1980 Cannan Banana became the first President of Zimbabwe until his retirement in 1987 when Mr Mugabe took over. Furthermore, statistics for growth of the economy under Mugabe administration showed that the economy was growing at an average of 0.97, before deteriorating into hyperinflation where in early 2005 inflation was around 135 percent and peaked at 500 billion percent in December 2008 (Coomer and GsTraunThaler, 2011). The major trigger of the hyperinflation and the deterioration of the economy was the land reform programme. The fast track land reform in Zimbabwe, which started in the year 2000, caused major changes to the way land was used in Zimbabwe (Chigumira, 2010a). In addition, the land reform transferred approximately over seven million hectares of land to both small scale units also named the A1 model in Zimbabwe and larger scale farms also called the A2 model (Chigumira, 2010).

The land reform had both negative and positive impact on the economy of Zimbabwe. Todd Moss of CDG estimated the negative impact of the land reform at \$96 billion dollars from the year 2000 to 2012. In Zimbabwe, the agricultural sector is one of the central sectors in the economy, to the extent that it is referred to as the backbone of the economy of Zimbabwe which greatly supports the economic, social and political livelihoods of the people (Gadiel, 2018; Mpofu, 2018). The land reform changed the way the sector was performing pushing quite a number of individuals into poverty. Even though poverty in Zimbabwe is caused by many factors, the ZIPRSP (2016) argued that poverty in Zimbabwe has the face of agriculture, where poverty is associated with the inability to have access to means of production and survival, inability to have access to resources for sustenance and many other factors.

In Manicaland Province, poverty prevalence was estimated at 70.1 percent from the PICES and 71.8 from small area estimation. Districts most affected with poverty

prevalence ranging from 73-84 percent were Nyanga, Mutasa, Buhera Chimanimani, and Chipinge. Areas around Mutare Urban and Makoni had relatively lower poverty prevalence. They were in the range of 61 to 72 percent poverty prevalence rate. In fact, the seven rural districts in Manicaland Province had the highest poverty prevalence compared to urban districts. In addition, the financial sector in Zimbabwe comprise of many players who provide wide range of financial products and services for instance, insurance, banking, pensions, capital markets, payment systems and microfinance.

According to the ZINFIS (2016) the country has a total of 4.496 access channels which comprise of branches, sub-branches, agencies, high net worth centres, satellite/mobile units, automated teller machines as well as microfinance institutions. There were 406 main bank branches and 22 sub-branches. The number of agencies was too high at 3 075 while high net worth centres were 24. There were only two satellite branches or mobile units and 472 automated teller machines (ZINFIS, 2016:5). Among the ten provinces, Manicaland Province was chosen because the province is one where livelihoods of people are mostly agro-based. The major source of food in the province is own production through agricultural activities and supply of casual labour (Mapfumo, 2015:56).

In addition, Mapfumo (2015:56) noted that farmers in Manicaland own livestock, which acts as a source of income during years of drought. It is alleged that livelihoods strategies are reflected through sources of income for households over time. According to ZimVAC 2016 market assessment report, the dominant source of income by households in Manicaland was casual labour, crop production as well as remittances by order of importance. In Manicaland the major crops grown by small resettled farmers were tobacco, maize, potatoes, groundnuts, roundnuts and wheat (ZimVAC, 2016:36).

7.5 METHODOLOGY

The chapter on methodology presented the methods and procedures undertaken in the analysis of data. Methods, procedures and data analysis tools were clearly articulated. The research paradigm and philosophical underpinnings of the study, research design and research approach were discussed fully and clearly. The sampling procedure, data collection instrument, its layout, pre-testing and pilot testing of the instrument were also explained in the methodology chapter. The chapter also explained the methodology used to determine the determinants of financial inclusion and the impact of financial inclusion on poverty. The chapter also highlighted how the dependent variables were developed (poverty and financial inclusion). All the models used in the study were presented in the chapter together with the ethical considerations.

7.6 CONCLUSION OF THE STUDY

The study was set to investigate the impact of financial inclusion on poverty reduction among the smallholder farmers in Zimbabwe, Manicaland Province. The foundation for coming up with the title was premised on the fact that Zimbabwe came up with a land reform exercise in 2000 where approximately 7.6 million hectares of land were transferred to both small scale units named A1 model in Zimbabwe and larger sale farms called the A2 model (Chigumira, 2010). However, despite owning land many households in the farms, villages and plots are still poor. Since 1995, the data available from the 2012 census indicated that the proportion of individuals with income less than the TCPL was estimated to be high above 70 percent in Zimbabwe (ZIPRSP, 2016:27; ZimVAC, 2017). The PICES of 2011/2012 also indicated that 92 percent of the extremely poor people and 91 percent of the extremely poor households stay in rural areas of Zimbabwe. The proportion of poor households in rural areas was also high - estimated to be 78 percent (ZIPRSP, 2016:28; ZimVAC, 2017).

The study also sought to understand the various socio-economic factors driving financial inclusion in Zimbabwe. The research problem emanated from the fact that literature shows a strong relationship between financial development, economic growth and economic development which leads to poverty reduction. The study was premised on finding out whether financial inclusion can lead to poverty reduction among the smallholder farmers. In order to do comparisons, the study further added a portion of households who were not directly involved in farming to assess whether financial inclusion also leads to poverty reduction among them. The problem statement pointed out in the problem statement that many studies that tried to investigate poverty in Zimbabwe looked at the causes of poverty without looking at the impact of financial inclusion on poverty reduction. The literature also highlighted that many studies undertaken to investigate the determinants of financial inclusion concentrated on the determinants of financial inclusion in without targeting smallholder farmers. There were no studies that investigated factors which influence farmers' participation in formal financial markets.

In other words, there was limited information in literature on the determinants of financial inclusion. In addition, the term 'financial inclusion' or 'financial exclusion' is still a relatively new concept and literature in Zimbabwe is also limited. Studies which were conducted in Zimbabwe were concentrating on determinants of financial inclusion, the overview of financial inclusion and exploring the profile of poverty, without assessing the direct and indirect impact of financial inclusion on poverty (Manjengwa et al., 2012; Chitiga et al., 2005; Masiyandima et al., 2017; Chitokwindo et al., 2014) among others. The level of analysis was one of the unique features of the study. Instead of concentrating on the macro level analysis that utilises the sample of the country as a whole, the study utilised household data to come up with a measure of financial inclusion which was used to investigate the determinants of financial inclusion and its impact on poverty at household level.

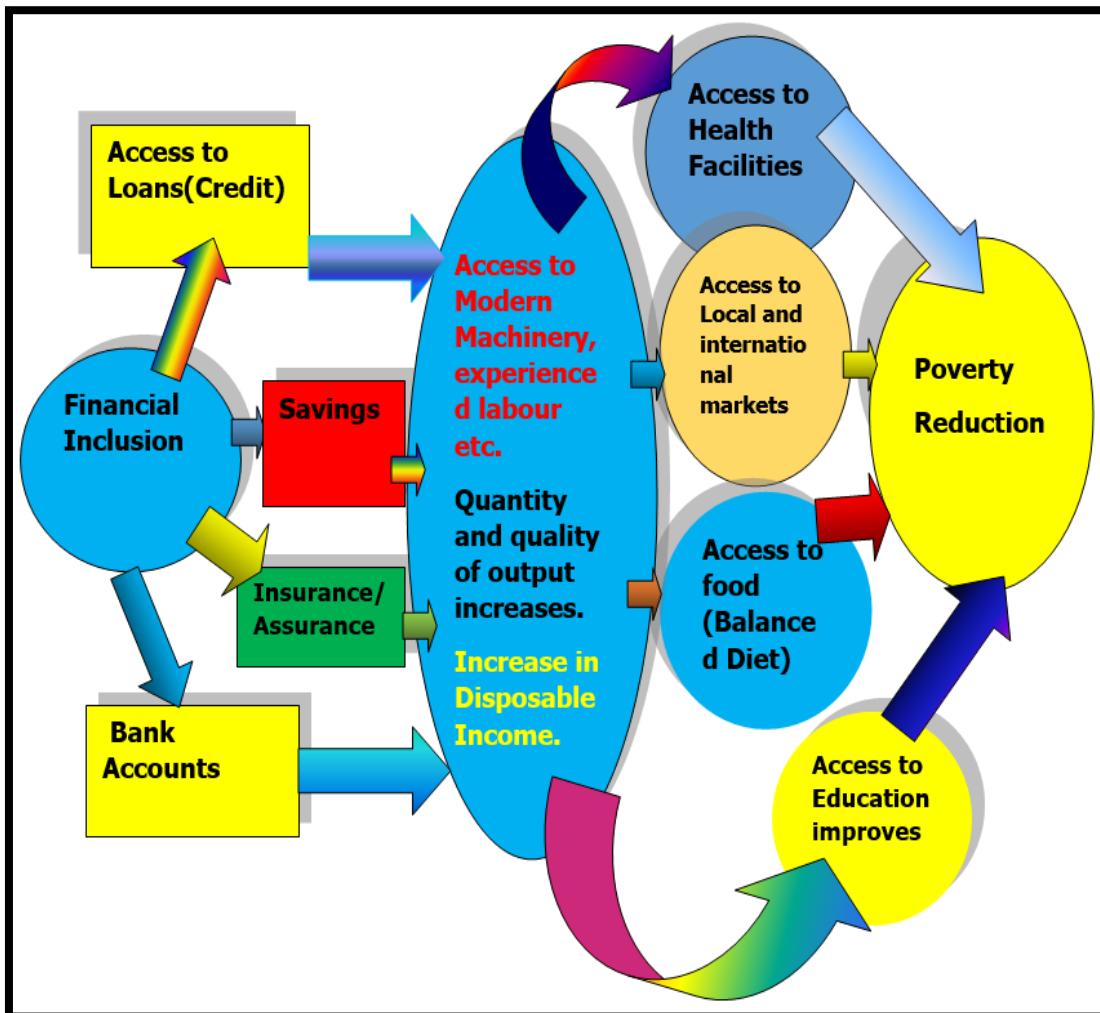
In addition, the study used two measures of poverty, agreeing with the fact that poverty is multidimensional in nature. The interesting part of poverty measurement was that, from the two measures of poverty, the number of people regarded as poor was different for each measure. Moreover, the analysis done was targeting smallholder farmers and additional analysis was done for households who were not in farming so as to do comparisons. Also, more than one model was used to assess the determinants of financial inclusion and impact of financial inclusion on poverty. It was found that off-farm income, education level, distance, financial literacy, age of the household, transaction costs and financial literacy, agricultural extension service and size of the household were the factors significantly influencing financial inclusion among the smallholder farmers and non-farmers. Though there were some differences between households who were in farming and those who were not involved in farming, generally the differences were insignificant in terms of the determinants of financial inclusion and demand for different financial services.

The study found out that factors that influence financial inclusion among the smallholder farmers were more or less the same with factors that influence financial inclusion among the non-farmers. For instance, using the multiple regression, the results indicated that determinants of financial inclusion among the smallholder farmers were off-farm income, education level, distance, financial literacy and age of the household. On the other hand, the determinants of financial inclusion among the non-farmers were age of the household, income of the household, education level, distance, transaction costs and financial literacy. The difference between farmers and non-farmers was on transaction costs only. Financial inclusion for non-farmers was further influenced by transaction costs, the costs charged by financial institutions to perform various transactions.

In terms of the impact of financial inclusion on poverty, the study found that financial inclusion has a strong impact on poverty reduction both for households who were in farming and households who were not in farming, and in relation to

the impact of the various financial services or indicators of financial inclusion on poverty reduction the study ascertained that saving and ability to perform financial transactions or having a transaction account had an impact on poverty reduction with all other services having a negative impact on poverty thus agreeing with our *a priori* expectation on their relationship with poverty. The study showed that financial inclusion can help to fight poverty among the smallholder farmers and those households who were not in farming. The figure below summarises the interconnection and possible avenues available between financial inclusion and poverty reduction as developed by the author from the results presented in chapter six.

Figure 60: The Interconnection between Financial Inclusion and Poverty Reduction



Source: Mhlanga (2019)

The framework presented in figure 60 above was arrived at from the results and the literature presented in chapters two, three and six. The framework presents the channels through which financial inclusion can lead to poverty reduction. Sarma and Pais (2008) stated that financial inclusion facilitates efficient allocation of productive resources and reduces the cost of capital. In addition, the management of capital can improve with financial inclusion and informal sources of capital cannot grow when there is financial inclusion. In short, Sarma and Pais (2008:1) argue that: *an*

all-inclusive financial system enhances efficiency and welfare by providing avenues for secure and safe saving practices and by facilitating a whole range of efficient financial services.

The information provided by Sarma and Pais (2008:1) helps to summarise the framework in figure 60 which shows that financial inclusion allows people to save, borrow, to access insurance, to make payments and all other important financial services. When farmers, for instance, get access to credit, this will allow them to invest in modern machinery in production. This will also lead them to produce quality output that can be sold at high prices even at international markets and thereby increasing their incomes in the process. High disposable income in the hands of households will allow them to have access to quality healthcare, quality food, quality education and many other essential services and amenities. The end result is improvement in the standards of living. According to the money metric approach in measuring poverty, the high incomes will entail that households will live above the income threshold popularly known as the poverty line (Atkinson, 1987; Glennerster, 2002).

7.7 POLICY IMPLICATIONS OF THE STUDY RESULTS ON ZIMBABWE

Policy implications on Zimbabwe from the study results are in three dimensions, the dimension of financial inclusion, the poverty aspect and policies on the relationship between poverty and financial inclusion. Looking closely at the profile of financial inclusion in Manicaland Province, it was clear that financial inclusion was still a challenge especially among the smallholder farmers. Looking at the number of households with bank accounts, the statistics showed that 53 percent of the households indicated that they had bank accounts. This figure is quite a positive indication of financial participation. However, the number of households who

indicated that they save, borrow and have insurance was too low, indicating that many households open bank accounts just to send and receive money.

For instance, 67 percent and 74 percent of the households did not borrow and save respectively. One reason that has been cited as the barrier for households not to save their money was lack of confidence. Since the adoption of the multicurrency regime many households lost their savings, so from that time they now have negative perceptions about banks. People only use bank accounts to perform transactions, that is, to send and receive money. Therefore, it is the duty of the government and financial institutions to educate and instil confidence in the minds of the people through coming up with services that make it possible for people to save and borrow without stringent requirements.

The results also indicated that, on the question asking households on the best reason for opening a bank account, in the sample a greater percentage (61 percent) of households indicated that they open bank account to perform transactions followed by households who indicated they open bank accounts for loans (26 percent). Households who indicated that they open a bank account to invest in insurance and saving were the least in the sample. These statistics indicate the reason for a low number of households who save, borrow and those with insurance. This motivates the researcher to conclude that, due to liquidity challenges experienced in Zimbabwe, households were forced to open bank accounts. Therefore, it is important for the government and financial institutions to come up with other services that will motivate households to use the account more. For instance, looking at farmers, many farmers are finding it difficult to access loans due to lack of collateral security, so banks need to devise services that allow households to borrow at easy so that they encourage them to use the services more and more. These services will also encourage them to use the bank services quite often.

The results also showed that, regardless of the household being a farmer or not, generally households travel long distances to reach the financial institution. Households mostly use taxis or cars to reach the nearest financial institution. These long distances are part of the barriers to the full use of financial services by households. Therefore, it is the duty of the government to ensure that the distance to the nearest financial institutions is shortened. The government should make it a policy that banks open financial access points at growth points and filling stations and even in major supermarkets so that people can have access to the financial institutions with ease. The reduction in distance will make it easy for households to participate in the financial sector.

In addition, the national statistical office should revisit the method they use to measure poverty. The study used two separate methods to measure poverty, the absolute poverty line and the income plus asset index. The results indicated that, when using the two measures, the number of people regarded a poor are different, with one measure - the absolute poverty line - over estimating the number especially among the smallholder farmers. As a result, the national statistical office should make sure that assets are included when measuring poverty.

Moreover, the results from the regression analysis for the determinants of financial inclusion indicated that, for households who were in farming and those who were not, financial inclusion is influenced by off-farm income, education level, financial literacy, age of the household, distance, transaction costs and financial literacy, agricultural extension service and size of the household. Looking at the results on the determinants of financial inclusion, distance was found to have an influence on financial inclusion. It is generally important to ensure that the government and financial service providers shorten the distances to the nearest financial institutions through establishing access points near the households for instance at growth points, filling stations and major supermarkets as highlighted before. The results also highlighted that transaction costs affect the households from using the various

financial services. It is the duty of financial services providers to review their charges periodically because it is one of the variables that can prevent households from using financial services.

The results also indicated that education level of the household influences financial inclusion. From the demographic statistics it was shown that the majority of households who were in farming had secondary education as their highest level of education. It is important to ensure that, from time to time, the government remind households about the need to educate themselves to obtain more qualifications since the level of qualification influences financial inclusion. Moreover, financial literacy was also viewed as an important determinant of financial inclusion. It is important that households are educated about the various financial products provided by various financial institutions. This initiative can be accomplished by coming up with public private partnerships where the government partners with the private sector - especially financial institutions - to educate the farmers about the products available.

Since agricultural extension service was found to be one of the important determinants of financial inclusion, it is vital to ensure that the government continue to fund agricultural extension services providers so that farmers continue to receive these services. Age of the household was found to be an important factor that influences financial inclusion. In the demographic statistics presented in chapter six, it was found that the age distribution for households in farming was such that the youth were not fully represented. The government should come up with programmes that will ensure that the youth participate in agricultural activities as they are viewed to be the people who participate more in the financial sector due to the fact that their wealth levels are very low (Nguyen, 2007).

Having discussed the determinants of financial inclusion, it is important to highlight that the study also discovered that financial inclusion has a strong impact on poverty

reduction both for households who are farmers and those who are not in farming. For the government to tackle poverty especially among the smallholder farmers it is important to ensure that farmers do participate in the financial sector through saving, borrowing and taking out insurance among other services. The TWC (2018) argued that, in order to achieve the goals of financial inclusion such as poverty reduction:

"the needs that should be met include saving, transacting, making and receiving payments, receiving credit, and insurance. The products and services have to be affordable and useful to the target population so that the desired goals can be met."

The information provided in the quotation above clearly indicates that financial inclusion can help to fight poverty. It is also believed that the economic benefits of financial inclusion are not only realised through direct access to or use of financial services, but also through indirect yet positive effects that financial inclusion has on low income households through access to labour markets, consumption smoothening and being cushioned from economic shocks and even natural disasters (Cámara and Tuesta, 2014; Chibba, 2009). Empirically, Chibba (2009) argued that traditional approaches used to fight poverty were not sufficient without coming up with proper policies which embrace financial inclusion as an initiative to address poverty and inequality. So, it is important for the government of Zimbabwe to fully implement policies that encourage financial inclusion as highlighted before like making sure that farmers find it easy to access financial institutions and encouraging financial institutions to review transaction costs like charges periodically because it one of the variable that can prevent households from using financial services.

7.8 LIMITATIONS OF THE STUDY

The study suffered from financial constraints. As a result, it was impossible to do national and international analysis because the study was concentrated on one province of Zimbabwe instead of covering the ten provinces as well as extending to other countries in the region. It could have been a more academically extremely through undertaking to extend the analysis done on Zimbabwe to other developing countries with the same economic conditions.

7.9 AREAS OF FURTHER STUDY

There is need to further explore the impact of financial inclusion on poverty reduction on sub-Saharan Africa. The absence of adequate household data on financial inclusion and poverty makes it difficult to explore this avenue. However, if countries invest in data gathering in this area, it can help in focusing on poverty reduction policies. The other potential area of study is a cross country analysis of financial inclusion and poverty reduction so as to make comparisons of the impact of financial inclusion on poverty from one country to the other.

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ANNEXURES

Annexure A index of financial inclusion by Sarma (2008)

This annexure shows the formula used by Sarma (2008) in developing the index of financial inclusion.

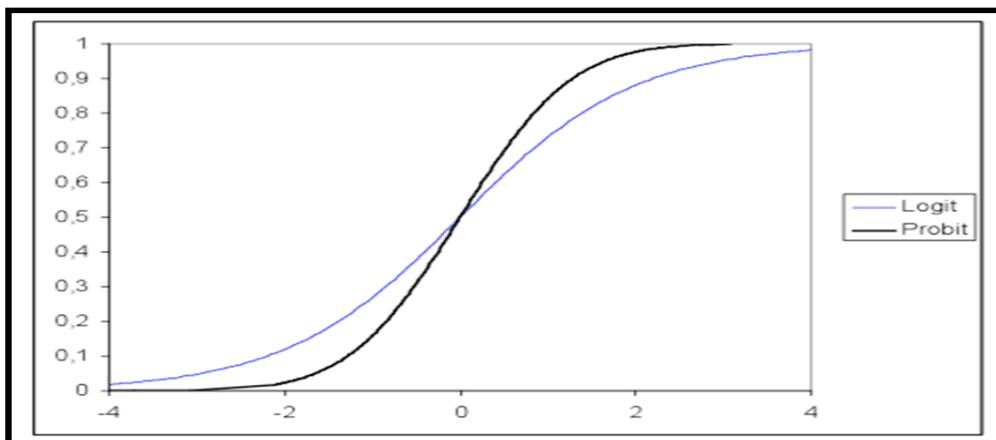
$$X_1 = \frac{\sqrt{d_1^2 + d_2^2 + \dots + d_n^2}}{\sqrt{(w_1^2 + w_2^2 + \dots + w_n^2)}}$$
$$X_2 = 1 - \frac{\sqrt{(w_1 - d_1)^2 + (w_2 - d_2)^2 + \dots + (w_n - d_n)^2}}{\sqrt{(w_1^2 + w_2^2 + \dots + w_n^2)}}$$
$$IFI = \frac{1}{2}[X_1 + X_2]$$

According to Sarma (2008) the variables X1 and X2 in the index of financial (IFI) are described as follows:

X₁ gives the normalized Euclidean distance of X from the worst point O, normalized by the distance between the worst point O and the ideal point W. The normalization is done to make the value of X1 lie between 0 and 1. Higher value of X1 implies more financial inclusion. From Annexure A again, X₂ in equation 2 gives the inverse normalized Euclidean distance of X from the ideal point W. In this, the numerator of the second component is the Euclidean distance of X from the ideal point W, normalizing it by the denominator and subtracting by 1 gives the inverse normalized distance. The normalization is done in order to make the value of X₂ lie between 0 and 1 and the inverse distance is considered so that higher value of X₂ corresponds to higher financial inclusion. The IFI formula 2 is a simple average of X₁ and X₂, thus incorporating distances from both the worst point and the ideal point (Sarma 2008)

Annexure B probit and logit models

This annexure shows how the logit and probit models appear since the logit model was used instead of the probit model.



Annexure C: Questionnaire used in the study and the ethical clearance letter.



Faculty of Economics and Management Sciences
Department of Economics

North West University: Vaal Triangle Campus

My name is David Mhlanga am a PhD student under the direction of Professor S.H Dunga and Professor D.F Meyer in the Department of Economics at North West University. I am conducting a research study entitled Financial Inclusion and Poverty Reduction: Evidence from Small Scale Agricultural Sector in Manicaland Province of Zimbabwe. The purpose of this study is the fulfillment of the requirements for the Doctor of Philosophy Degree in Economics. The information gathered from this survey will only be used for such. Your participation will take either filling in your responses at your own convenient time or answering the questions as asked by the interviewer and should only take 40 minutes to 50 minutes of your time.

Your involvement in the study is voluntary, and you may choose not to participate or to stop at any time. The results of the research study may be published, but your name will not be used. Your identity will not be associated with your responses in any published format. The finding from the project will provide information to government, policy makers and development partners on the impact of financial inclusion on poverty with no cost to you other than the time it takes for the

survey. If you have any questions about this research, feel free to call me on +27610173914 and/or my promoter on +27833703127. You can send email on dmhlanga67@gmail.com and or Steve.Dunga@nwu.ac.za

Thanks for your consideration

Sincerely,

David Mhlanga

 NWU®		HOUSEHOLD QUESTIONNAIRE 2019		
<i>NB: The information in this questionnaire will be treated confidentially</i>				
Questionnaire #		Date		
Please note that the head of the household should preferably answer the questionnaire (Mark with an X or ✓)				
A BACKGROUND INFORMATION				
1 What is the position of the respondent in the household?				Head (0) <input type="checkbox"/> Spouse(1) <input type="checkbox"/>
2 Marital status of the household head		Married(1) <input type="checkbox"/>	Divorced(2) <input type="checkbox"/>	Widowed(3) <input type="checkbox"/>
3 Record one main material used for the roof of the dwelling				
Iron sheets(0) <input type="checkbox"/>		Tiles(1) <input type="checkbox"/>	Thatching(2) <input type="checkbox"/>	Plastic(3) <input type="checkbox"/> Other(4) <input type="checkbox"/>
4 What is the nature of the dwelling/house?		Rented <input type="checkbox"/>	Mortgaged <input type="checkbox"/>	Owned <input type="checkbox"/>
5 What is the amount of income which goes to rent or mortgage? \$ <input type="checkbox"/>				
6 Which floor does your house have?		Mud/dung floor <input type="checkbox"/>	Cement floor <input type="checkbox"/>	Tile <input type="checkbox"/>
7 How many people stay permanently on the site? Specify <input type="checkbox"/>				
8 What language do you mostly speak at home?				
English (0) <input type="checkbox"/>		Shona (1) <input type="checkbox"/>	Ndebele (2) <input type="checkbox"/>	Other (3) : <input type="checkbox"/>

9	How long have you (respondent) stayed in this area? (years)	<input type="text"/>					
B HOUSEHOLD COMPOSITION AND HEAD OF HOUSEHOLD INFORMATION							
<i>Please provide the following information:</i>							
1	Number of people in the household	<input type="text"/>					
2	Number of children	<input type="text"/>					
3	Age of household head (years)	<input type="text"/>					
4	Gender (1 female , 0 male)	Male(0) <input type="text"/>	Female (1) <input type="text"/>				
5	Size of land occupied (hectares)	<input type="text"/>					
6	Years of schooling	All members of the household managed to complete at least one year of schooling		Yes(0) <input type="text"/>	No(1) <input type="text"/>		
7	Child school attendance	Do you have any school-aged children who is (are) not attending school up to the age at which they would complete class seven?		Yes(0) <input type="text"/>	No(1) <input type="text"/>		
8	Highest education of household head	No education (1) <input type="text"/>	Primary (2) <input type="text"/>	Secondary (3) <input type="text"/>	Diploma (4) <input type="text"/>	Degree (5) <input type="text"/>	Post Grad(6) <input type="text"/>
9	Number of years schooling	<input type="text"/>					
10	Employment status of head of household apart from farming	Informal (1) <input type="text"/>	Employed (2) <input type="text"/>	Self-employed (3) <input type="text"/>	Unemployed (4) <input type="text"/>		
11	Distance to the nearest financial institution (in kilometers)	<input type="text"/>					
12	Costs incurred to visit financial Institution? (US\$)	<input type="text"/>					
13	Means of transport to the nearest financial institution	Walk (1) <input type="text"/>	Car/Taxi(2) <input type="text"/>	Bicycle (3) <input type="text"/>			
14	If respondent answered 'walk' in 13, indicate the distance (in kilometers)	<input type="text"/>					

15	Do you participate in informal financial markets like informal credit or informal savings groups	Yes (0) <input type="text"/>	No (1) <input type="text"/>
C FARMERS CHARACTERISTICS			
1	Are you a farmer?	Yes (0) <input type="text"/>	No(1) <input type="text"/>
1 Page			

2	If yes, what is the size of the land? (hectares)	<input type="text"/>		
3	Do you stay on the farm?	Yes (0) <input type="text"/>	No(1) <input type="text"/>	
4	If no, how far is your farm from home? (in kilometers)	<input type="text"/>		
5	Do you have access to labour during production?	Yes(0) <input type="text"/>	No (1) <input type="text"/>	
6	If yes, what kind of labour do you use for your farm operations?	Hired(1) <input type="text"/>	Family(2) <input type="text"/>	Others(3)
7	Do you pay your workers through the bank?	Yes(0) <input type="text"/>	No (1) <input type="text"/>	
8	Are you connected to the internet?	Yes (0) <input type="text"/>	No(1) <input type="text"/>	
9	Approximately how much output do you produce?	kg <input type="text"/>		
10	Do you sell part of the produce?	Yes(0) <input type="text"/>	No(1) <input type="text"/>	

11	If yes, how much do you earn per season?	Amount US\$	<input type="text"/>
12	Do you receive payment through the bank?	Yes(0) <input type="text"/>	No(1) <input type="text"/>
13	How did you acquire land for farming?	Hired (1) <input type="checkbox"/> Purchased (2) <input type="checkbox"/> Inherited (3) <input type="checkbox"/> Government allocation (4) <input type="checkbox"/> Family (5) <input type="checkbox"/> Other (6)	
14	Are you a member of any farmer organizations?	Yes (0) <input type="text"/>	No (1) <input type="text"/>
15	If yes, do you receive any assistance from these farmer organizations, for instance training?	Yes (0) <input type="text"/>	No (1) <input type="text"/>
16	Do you receive education and advice from agricultural extension workers' technical assistance/training?	Yes (0) <input type="text"/>	No (1) <input type="text"/>
17	Did you receive credit in 2017/18?	Yes (0) <input type="text"/>	No (1) <input type="text"/>
18	If yes, in what form did you access the credit?	Cash (1) <input type="checkbox"/> Inputs (2) <input type="checkbox"/> Other (3)	
19	Did you engage in an off-farm employment activity?	Yes (0) <input type="text"/>	No (1) <input type="text"/>
20	If yes, how much approximately do you receive from the activities? (US\$)	<input type="text"/>	
D	INCOME (US\$) per month		
1	What is your estimated total household income per month inclusive of all sources? \$.....		
2	If not able to answer the above, in which category would you locate yourself(Monthly)?		
	\$0-100	<input type="text"/>	
	\$101-300	<input type="text"/>	
	\$301-500	<input type="text"/>	
	\$501-1000	<input type="text"/>	
	\$1001-5000	<input type="text"/>	

E	ASSETS (Amount of assets owned by the household)		
	Is the household in possession of the following assets:		
		Yes (0) <input type="text"/>	No (1) <input type="text"/>
1	House: farm house	<input type="text"/>	<input type="text"/>
	: house in town : low density	<input type="text"/>	<input type="text"/>
	: medium density	<input type="text"/>	<input type="text"/>
	: high density	<input type="text"/>	<input type="text"/>
2	Car	<input type="text"/>	<input type="text"/>
3	Tractor	<input type="text"/>	<input type="text"/>
4	Plough (tractor)	<input type="text"/>	<input type="text"/>
5	Ox-drawn plough	<input type="text"/>	<input type="text"/>
6	Refrigerator	<input type="text"/>	<input type="text"/>
7	Washing machine	<input type="text"/>	<input type="text"/>
8	Microwave	<input type="text"/>	<input type="text"/>
9	Stove	<input type="text"/>	<input type="text"/>
10	Computer/laptop	<input type="text"/>	<input type="text"/>
11	Radio	<input type="text"/>	<input type="text"/>

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F	LIVED POVERTY INDEX (Basic needs assessment)						
Over the past year, how often, if ever, have you and your family gone without:							
		Never during the last year	Just once or twice during the last year	Several times (once or twice monthly)	Many times (once weekly)	Always (on a daily basis)	Don't know
1	Enough food to eat?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
2	Enough clean water for home?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
3	Medicines or medical treatment?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
4	Electricity in your home?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
5	Enough fuel to cook your food?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
6	A cash income?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
7	Decent housing accommodation (additional)?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
8	Decent clothing (additional)?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
9	Access to schooling, education or skills training (additional)?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>
G	POVERTY PERCEPTIONS: Poor people are poor because ... [probe for strength of opinion]. Mark with a Tick/X						
		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	
1	They lack the ability to manage money.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
2	They waste their money on inappropriate items.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
3	They do not actively seek to improve their lives.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
4	They are exploited by rich people.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
5	The society lacks social justice.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
6	Distribution of wealth in the society is uneven.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	

7	They lack opportunities due to the fact that they live in poor families.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
8	They live in places where there are not many opportunities.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
9	They have bad fate.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
10	They have bad luck.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
11	They have encountered misfortunes.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
12	They are not motivated because of welfare.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
13	They are born inferior.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	
H	Household Food Insecurity Access Scale(HFIAS)						
(Rarely: once or twice; Sometimes: 3 to 10 times; Often: more than 10 times in the last four weeks). NB: All the questions apply to the last four weeks.							
1	Did you worry that your household would not have enough food to eat If answer is no, skip to Q2.					Yes:0 <input type="checkbox"/>	No:1 <input type="checkbox"/>
1a	How often did this happen?	Rarely:1 <input type="checkbox"/>	Sometimes: 2 <input type="checkbox"/>	Often: 3 <input type="checkbox"/>			
2	Were you or any household member not able to eat the kinds of foods you preferred because of a lack of resources? If answer is no, skip to Q3.					Yes:0 <input type="checkbox"/>	No: 1 <input type="checkbox"/>
2a	How often did this happen?	Rarely:1 <input type="checkbox"/>	Sometimes:2 <input type="checkbox"/>	Often:3 <input type="checkbox"/>			
3	Did you or any household member have to eat a limited variety of foods due to a lack of resources? If answer is no, skip to Q4.					Yes:0 <input type="checkbox"/>	No:1 <input type="checkbox"/>
3a	How often did this happen?	Rarely:1 <input type="checkbox"/>	Sometimes:2 <input type="checkbox"/>	Often:3 <input type="checkbox"/>			
4	Did you or any household member have to eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food? If answer is no, skip to Q5.					Yes: 0 <input type="checkbox"/>	No: 1 <input type="checkbox"/>
4a	How often did this happen?	Rarely:1 <input type="checkbox"/>	Sometimes: 2 <input type="checkbox"/>	Often: 3 <input type="checkbox"/>			
5	Did you or any household member have to eat a smaller meal than you felt you needed because there was not enough food? If answer is no, skip to Q6.					Yes: 0 <input type="checkbox"/>	No: 1 <input type="checkbox"/>
5a	How often did this happen?	Rarely:1 <input type="checkbox"/>	Sometimes:2 <input type="checkbox"/>	Often:3 <input type="checkbox"/>			

6	Did you or any other household member have to eat fewer meals in a day because there was not enough food? If answer is no, skip to Q7.			Yes: 0 <input type="checkbox"/>	No: 1 <input type="checkbox"/>
6a	How often did this happen?	Rarely: 1 <input type="checkbox"/>	Sometimes: 2 <input type="checkbox"/>	Often: 3 <input type="checkbox"/>	
7	Was there ever no food of any kind to eat of in your household because of a lack of resources to obtain food? If answer is no, skip to Q8.			Yes: 0 <input type="checkbox"/>	No: 1 <input type="checkbox"/>
7a	How often did this happen?	Rarely: 1 <input type="checkbox"/>	Sometimes: 2 <input type="checkbox"/>	Often: <input type="checkbox"/>	
8	Did you or any household member go to sleep at night hungry because there was not enough food? If answer is no, Skip to Q9.			Yes: 0 <input type="checkbox"/>	No: 1 <input type="checkbox"/>
8a	How often did it happen?	Rarely: 1 <input type="checkbox"/>	Sometimes: 2 <input type="checkbox"/>	Often: 3 <input type="checkbox"/>	
9	Did you or any household member go a whole day and night without eating anything because there was not enough food?			Yes: 0 <input type="checkbox"/>	No: <input type="checkbox"/>
9a	How often did this happen?	Rarely: <input type="checkbox"/>	Sometimes: 2 <input type="checkbox"/>	Often: 3 <input type="checkbox"/>	
I Now I would like to ask you about the types of food that you and or anyone else in your household ate yesterday during the day and or at night. (Mark with an X or ✓)					
		Yes(0)	No(1)		
1	Any bread, rice, noodles, biscuits or any other food made from sorghum, maize, rice or wheat?	<input type="checkbox"/>	<input type="checkbox"/>		
2	Any potatoes, cassava or any other roots, etc.?	<input type="checkbox"/>	<input type="checkbox"/>		
3	Any vegetables?	<input type="checkbox"/>	<input type="checkbox"/>		
4	Any fruits?	<input type="checkbox"/>	<input type="checkbox"/>		
5	Any beef, pork, lamb, goat, chicken, liver, kidney, heart, etc.?	<input type="checkbox"/>	<input type="checkbox"/>		
6	Any eggs?	<input type="checkbox"/>	<input type="checkbox"/>		
7	Any fresh or dried fish, etc.?	<input type="checkbox"/>	<input type="checkbox"/>		
8	Any foods made from beans, peas, or nuts?	<input type="checkbox"/>	<input type="checkbox"/>		
9	Any cheese, yoghurt, milk or other milk products?	<input type="checkbox"/>	<input type="checkbox"/>		
10	Any foods made with oil, fat or butter?	<input type="checkbox"/>	<input type="checkbox"/>		
11	Any sugar or honey?	<input type="checkbox"/>	<input type="checkbox"/>		
12	Any other foods, such as condiments, coffee, tea?	<input type="checkbox"/>	<input type="checkbox"/>		

J	Have you adopted any of the following means for survival?					
		Daily	3-6 days per week	1-2 days per week	Not more than once per week	Never
1	Rely on less expensive commodities	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2	Purchase food on credit	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3	Skip meals	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4	Limited portion at meal times	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5	Buy necessities	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6	Stick to budget	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7	Maintain food garden	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
8	Borrowed food, or rely on help from friends	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
9	Sent household members to eat elsewhere	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
10	Restricted adults from eating in order for smaller children to eat	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
11	Sent household members to beg	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
12	Gathered wild vegetables	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
13	Other (Describe)					
K	Financial Inclusion Mark with a Tick/X					
1	Do you have a bank account?	Yes (0) <input type="checkbox"/>		No(1) <input type="checkbox"/>		
2	Can you provide the best reason for opening a bank account?	Transactions (1) <input type="checkbox"/>	Saving (2) <input type="checkbox"/>	Loans (3) <input type="checkbox"/>	Insurance (4) <input type="checkbox"/>	

3	How many members of your household have bank accounts?					
4	Have you saved with any of the formal financial service providers?	Yes(0)		No(1)		
5	Have you saved with any of the formal financial service providers other than the bank?					
6	Have you applied for a loan from a formal financial institution?					
7	Do you use internet banking?					
8	Do you have an ATM card?					
9	Do you have insurance with any formal financial institution?					
10	Do you receive remittances through the bank?					
11	Do you normally perform financial transactions through bank agents?					
Select one Answer on all the Questions		Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
12	Distance from the bank can be a barrier to open a bank account.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Lack of documentation can be the reason for not opening an account.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Cost of transactions, i.e. opening charges one of the barriers to opening a bank account	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Lack of trust is one reason for not opening a bank account.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	Information about products offered by banks is enough.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	It is possible to visit the bank five times a month.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	It is possible to make at least five financial transactions, i.e. in the last six months such as paying bills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	The time spent waiting in a queue the last time you went to a financial institution branch was reasonable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Felt mistreated by staff of a financial institution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	Fees and charges for financial transactions are expensive.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22	Financial institutions provide sufficient information about financial products.	<input type="checkbox"/>					
23	It is possible to use internet banking at least five times per month.	<input type="checkbox"/>					
24	It is possible to use the ATM card more than twice a month.	<input type="checkbox"/>					
25	People have enough knowledge about cellphone banking.	<input type="checkbox"/>					
26	It is possible to use cellphone banking at least more than twice a month.	<input type="checkbox"/>					
27	It is possible to perform at least three withdrawal operations in at least six months.	<input type="checkbox"/>					

Ethical clearance letter



Private Bag X1290, Potchefstroom
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Research Ethics Regulatory Committee
Tel: 018 299-4849
Email: nkosinathi.machine@nwu.ac.za

16 July 2019

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the North-West University Education, Management and Economic Sciences, Law, Theology, Engineering, and Natural Sciences Research Ethics Committee (NWU-EMELTEN-REC) on 12/07/2019, the North-West University Education, Management and Economic Sciences, Law, Theology, Engineering, and Natural Sciences Research Ethics Committee hereby approves your study as indicated below. This implies that the North-West University Research Ethics Regulatory Committee (NWU-RERC) grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Financial inclusion and poverty reduction: Evidence from small scale agricultural sector in Manicaland Province of Zimbabwe.

Study Leader/Supervisor (Principal Investigator)/Researcher: Prof SH Dunga

Student: D Mhlanga

Ethics number:

N W U - 0 0 3 5 4 - 1 9 - A 2

Institution Study Number Year Status

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Application Type: Single Study

Commencement date: 16/07/2019

Risk Category: Medium

Expiry date: 15/07/2020

Approval of the study is initially provided for a year, after which continuation of the study is dependent on receipt and review of the annual (or as otherwise stipulated) monitoring report and the concomitant issuing of a letter of continuation.

Special in process conditions of the research for approval (if applicable):

•

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:

- The study leader/supervisor (principle investigator)/researcher must report in the prescribed format to the NWU-EMELTEN-REC:
 - annually (or as otherwise requested) on the monitoring of the study, whereby a letter of continuation will be provided, and upon completion of the study; and
 - without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.

- The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the study leader/researcher must apply for approval of these amendments at the NWU-EMELTEN-REC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.
- Annually a number of studies may be randomly selected for an external audit.
- The date of approval indicates the first date that the study may be started.
- In the interest of ethical responsibility, the NWU-RERC and NWU-EMELTEN-REC reserves the right to:
 - request access to any information or data at any time during the course or after completion of the study;

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- to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;
- withdraw or postpone approval if:
 - any unethical principles or practices of the study are revealed or suspected;
 - it becomes apparent that any relevant information was withheld from the NWU-EMELTEN-REC or that information has been false or misrepresented;
 - submission of the annual (or otherwise stipulated) monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and / or
 - new institutional rules, national legislation or international conventions deem it necessary.

- NWU-EMELTEN-REC can be contacted for further information or any report templates via Ethics-EMHS@nwu.ac.za or 018 299 4707.

The NWU-EMELTEN-REC would like to remain at your service as scientist and researcher, and wishes you well with your study. Please do not hesitate to contact the NWU-EMELTEN-REC or the NWU-RERC for any further enquiries or requests for assistance.

Yours sincerely

Prof Lukas Meyer
Chairperson NWU Education, Management and Economic Sciences, Law, Theology, Engineering, and Natural Sciences Research Ethics Committee

Annexure D selected original results

Correlation results for farmers

Correlations						
	HSIZE	OFF-FARMI	AGEHH	EDUCL	DISTANCE	TRANSCOSTS
HSIZE	Pearson Correlation	1	.336**	.399**	.014	.142**
	Sig. (2-tailed)		.000	.000	.773	.004
	N	405	405	405	405	405
OFF-FARMI	Pearson Correlation	.336**	1	-.084	.280**	-.051
	Sig. (2-tailed)	.000		.093	.000	.306
	N	405	405	405	405	405
AGEHH	Pearson Correlation	.399**	-.084	1	-.168**	-.124*
	Sig. (2-tailed)	.000	.093		.001	.013
	N	405	405	405	405	405
EDUCL	Pearson Correlation	.014	.280**	-.168**	1	-.177**
	Sig. (2-tailed)	.773	.000	.001		.000
	N	405	405	405	405	405
DISTANCE	Pearson Correlation	.142**	-.051	-.124*	-.177**	1
	Sig. (2-tailed)	.004	.306	.013	.000	
	N	405	405	405	405	405
TRANSCOSTS	Pearson Correlation	.182**	.301**	-.021	.054	.261**
	Sig. (2-tailed)	.000	.000	.668	.278	.000
	N	405	405	405	405	405

**. Correlation is significant at the 0.01 level (2-tailed).
 *. Correlation is significant at the 0.05 level (2-tailed).

Original correlation output for non-farmers

Correlations						
	AGEHH	H SIZE	OFFFARMI	DISTANCE	TRANSCOSTS	EDUCL
AGEHH	Pearson Correlation	1	.436	-.084	-.120	-.020
	Sig. (2-tailed)		.000	.244	.096	.780
	N	195	195	195	195	195
H SIZE	Pearson Correlation	.436	1	.354	-.015	.149
	Sig. (2-tailed)	.000		.000	.840	.037
	N	195	195	195	195	195
OFFFARMI	Pearson Correlation	-.084	.354	1	.011	.316
	Sig. (2-tailed)	.244	.000		.878	.000
	N	195	195	195	195	195
DISTANCE	Pearson Correlation	-.120	-.015	.011	1	.260
	Sig. (2-tailed)	.096	.840	.878		.000
	N	195	195	195	195	195
TRANSCOSTS	Pearson Correlation	-.020	.149	.316	.260	1
	Sig. (2-tailed)	.780	.037	.000	.000	
	N	195	195	195	195	195
EDUCL	Pearson Correlation	-.113	.138	.432	-.087	.135
	Sig. (2-tailed)	.114	.054	.000	.229	.060
	N	195	195	195	195	195

Original logit model results for farmers

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	GENDHH(1)	-.036	.231	.025	1	.875
	AGEHH	.060	.012	26.631	1	.000
	HSIZE	-.289	.065	19.840	1	.000
	OFF-FARMI	.003	.001	14.506	1	.000
	EDUCL	.371	.239	2.409	1	.121
	AGREEXTSERV(1)	-.768	.308	6.215	1	.013
	DISTANCE	.101	.061	2.758	1	.097
	TRANSCOSTS	-.105	.023	21.333	1	.000
	MARITALSTATUS(1)	.273	.250	1.201	1	.273
	FINLIT(1)	.126	.224	.316	1	.574
Constant						
-2.113						
5.163						
1						
.023						
.121						
.749						
1.003						
1.450						
.464						
1.106						
.900						
1.315						
1.134						
.121						
a. Variable(s) entered on step 1: GENDHH, AGEHH, HSIZE, OFF-FARMI, EDUCL, AGREEXTSERV, DISTANCE, TRANSCOSTS, MARITALSTATUS, FINLIT.						

Original logit results for non-farmers

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	GENDHH(1)	-.034	.332	.011	1	.918
	AGEHH	.046	.015	9.245	1	.002
	H SIZE	-.283	.098	8.300	1	.004
	OFFFARMI	.004	.001	11.677	1	.001
	EDUCL	.104	.199	.270	1	.603
	AGREEXTSERV(1)	-1.323	.461	8.227	1	.004
	DISTANCE	.247	.115	4.650	1	.031
	TRANSCOSTS	-.134	.035	15.085	1	.000
	MARITALSTATUS(1)	-.180	.328	.302	1	.583
	FINLIT(1)	-.059	.336	.031	1	.860
Constant						
-.652						
1.106						
.347						
1						
.556						
.521						
a. Variable(s) entered on step 1: GENDHH, AGEHH, HSIZE, OFFFARMI, EDUCL, AGREEXTSERV, DISTANCE, TRANSCOSTS, MARITALSTATUS, FINLIT.						

Original multinomial logit results for farmers

Parameter Estimates									
		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B)	
								Lower Bound	Upper Bound
FFEE ^a	Transaction account	Intercept	.509	1.057	.231	1	.631		
		HSIZE	.378	.115	10.859	1	.001	1.459	1.166 1.827
		TRANSCOSTS	.082	.036	5.229	1	.022	1.085	1.012 1.165
		AGEHH	-.029	.016	3.114	1	.078	.972	.941 1.003
		DISTANCE	-.089	.100	.791	1	.374	.915	.753 1.113
		OFF-FARMI	-.002	.001	1.986	1	.159	.998	.996 1.001
		GENDHH	.378	.370	1.044	1	.307	1.460	.707 3.014
		AGREEXTSERV	.845	.481	3.086	1	.079	2.328	.907 5.974
		MARITALSTATUS	-.370	.355	1.086	1	.297	.690	.344 1.386
		FINLIT	-.211	.355	.351	1	.553	.810	.404 1.625
Credit Account	Intercept	-.903	1.029	.770	1	.380			
		HSIZE	.108	.112	.933	1	.334	1.114	.895 1.388
		TRANSCOSTS	-.030	.035	.742	1	.389	.970	.905 1.040
		AGEHH	.026	.016	2.719	1	.099	1.026	.995 1.058
		DISTANCE	.003	.097	.001	1	.975	1.003	.829 1.213
		OFF-FARMI	.003	.001	6.657	1	.010	1.003	1.001 1.005
		GENDHH	.335	.362	.857	1	.355	1.398	.688 2.842
		AGREEXTSERV	.085	.454	.035	1	.852	1.088	.447 2.652
		MARITALSTATUS	-.198	.346	.327	1	.568	.820	.416 1.617
		FINLIT	-.228	.347	.431	1	.512	.796	.403 1.573

a. The reference category is: Insurance.

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Original results multinomial logit non-farmers

Parameter Estimates									
		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp (B)	
								Lower Bound	Upper Bound
FINACIFF ^a	Transaction Account	Intercept	1.128	.875	1.662	1	.197		
		HSIZE	.246	.084	8.606	1	.003	1.279	1.085 1.507
		TRANSCOSTS	.044	.028	2.479	1	.115	1.045	.989 1.103
		AGEHH	-.026	.013	4.031	1	.045	.974	.949 .999
		DISTANCE	-.171	.076	5.058	1	.025	.843	.726 .978
		OFF-FARMI	-.001	.001	2.353	1	.125	.999	.997 1.000
		GENDHH	.304	.298	1.039	1	.308	1.355	.755 2.432
		AGREEXTSERV	.343	.393	.759	1	.384	1.409	.652 3.044
		MARITALSTATUS	-.206	.291	.504	1	.478	.814	.460 1.438
		FINLIT	-.103	.290	.126	1	.722	.902	.511 1.592
Credit Account	Intercept	-.312	.843	.137	1	.711			
		HSIZE	-.012	.082	.022	1	.883	.988	.842 1.159
		TRANSCOSTS	-.054	.028	3.822	1	.051	.947	.897 1.000
		AGEHH	.024	.013	3.616	1	.057	1.024	.999 1.050
		DISTANCE	-.024	.069	.121	1	.728	.976	.852 1.118
		OFF-FARMI	.003	.001	10.865	1	.001	1.003	1.001 1.005
		GENDHH	.094	.287	.106	1	.744	1.098	.625 1.929
		AGREEXTSERV	-.341	.371	.841	1	.359	.711	.344 1.473
		MARITALSTATUS	-.058	.282	.043	1	.836	.943	.543 1.638
		FINLIT	-.238	.282	.712	1	.399	.788	.453 1.370

a. The reference category is: Insurance.

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Annexure E proof of language editing

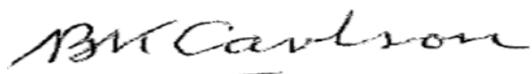
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3 October 2019

TO WHOM IT MAY CONCERN

I hereby confirm that I have undertaken a first edit of chapters 1 to 7 only of the following thesis using the Windows 'Tracking' system to reflect my comments and suggested corrections for the student to action and produce a final draft for examination purposes:

Financial Inclusion and Poverty Reduction: Evidence from Small Scale Agricultural Sector in Manicaland Province of Zimbabwe, by David Mhlanga, a dissertation submitted in partial fulfilment of the requirements for the degree Philosophiae Doctor in Economics at the North-West University.



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Disclaimer: Although I have made comments and suggested corrections, the responsibility for the quality of the final document lies with the student in the first instance and not with myself as the editor.

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