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FACULTY OF COMMERCE

DEPARTMENT OF BANKING AND FINANCE

THE RELATIONSHIP BETWEEN FINANCIAL INCLUSION AND HOUSEHOLD INCOME IN ZIMBABWE (2000- 2020)

BY

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REG NUMBER R182001C

SUBMITTED TO THE MIDLANDS STATE UNIVERSITY

IN PARTIAL FULFILMENT OF THE BACHELOR OF COMMERCE BANKING AND FINANCE HONOURS DEGREE

HBF

HARARE, ZIMBABWE

APRIL 2021

APPROVAL FORM

The undersigned certify that they have supervised the student Memory Chimene dissertation entitled; The relationship between financial inclusion and household income in Zimbabwe (2000 -2020) submitted in partial fulfilment of the requirements of Bachelor of Commerce in Banking and Finance Honours Degree at the Midlands State University.

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DISSERTATION TITLE: The relationship between financial inclusion and household income in Zimbabwe (2000-2020)

DEGREE TITLE: Bachelor of Commerce in Banking and Finance Honours Degree

YEAR THIS DEGREE GRANTED: 2021

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DATE: April 2021

DEDICATION

I dedicate this piece of work to my husband and my loving family who made it possible for me to complete this project.

ACKNOWLEDGEMENTS

Firstly, l would like to give thanks to God for the good health in these trying times. To add on, I want to extend my sincere gratitude to Mr Siziba who has been my supervisor through the course of this project, he has been an oasis of knowledge and his guidance helped me to counter all the challenges faced. I also extend my gratitude to my supportive family who helped me to create the much needed time so that l could commit to this project. Lastly, l also give thanks to my colleagues for providing peer review for my work.

ABSTRACT

This study was motivated by the need to ascertain the relationship between financial inclusion and household income. The sub-objectives of the study were to establish financial indicators that can be used to measure financial inclusion in Zimbabwe and also to ascertain the individual characteristic that determine household income. This study adopted an explanatory research design based on econometric modelling of secondary numeric data. The author collected time-series data from 2000 to 2020. Household income was used as the dependent variable and the explanatory variables were adult account ownership, domestic credit, deposit rates, dependency ratio and the unemployment rate. Amongst the explanatory variables adult account ownership, domestic credit and deposit rates were used to proxy the level of financial inclusion in Zimbabwe. On the other hand, unemployment and the dependency ratio were adopted as the household characteristics which have an impact on household income. The data were tested for multicollinearity, stationarity and the overall model was tested for stability. The diagnostic test results showed that the data was non-stationary at the level and after modification the data series became stationary at first difference. E-views 9 was used to run an Ordinary Least Squares Regression analysis. The results of the study showed that there is a negative and statistically significant relationship between household income and account ownership. To add on, the study also found a positive and statistically significant relationship between household income and the dependency ratio. Domestic credit, deposit rates and unemployment were found to have a statistically insignificant relationship with household income. In this regard, the author concluded that there is a weak relationship between financial inclusion and household income in Zimbabwe. The findings of the study are reflective of the major economic issues that Zimbabwe is facing and these relate to high inflation, liquidity challenges and unavailability of long term credit facilities. The author recommends that the government must firstly achieve price stability to benefit from any programs of financial inclusion.

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AFDB……..African Development Bank

AFI…… Alliance for Financial Inclusion

IMF…….International Monetary Fund

ILO……..…International Labour Organisation

NGO……Non-Governmental Organisation

RBZ…….Reserve Bank of Zimbabwe

G20……..Group of twenty

ATM…….Automated Teller machine

GDP……Gross Domestic Product

CHAPTER 1: INTRODUCTION

1.1 INTRODUCTION

Improving access and promoting the usage of financial services is increasingly viewed as a crucial step towards promoting sustainable economic growth as pointed out by OumaneSeck et al, (2017). The World Bank (2019) confirms that financial inclusion is a core element in promoting economic growth, fostering development and reducing the income inequality gap. In this regard, Nkomazana (2017) states that financial inclusion has become increasingly popular and crucial among policy makers and other financial stakeholders.

Nizam et al (2020) points out that the Group of Twenty (G20) countries and the World Bank led the initiative for increased financial inclusion in developing countries as a way to promote growth and reduce poverty. As such, Non- Governmental institutions like the Alliance for Financial Inclusion (AFI) were set up post the global financial crisis, to provide technical support and coordinate financial inclusion programmes across the world as highlighted by Chivasa and Simbanegavi (2016).

Similarly, the number of studies seeking to investigate the perceived benefits of financial inclusion has also been on an upward trend. The findings of Kapler et al (2016) reveal that financial inclusion is an effective tool in promoting sustainable economic growth as it helps to harness all economic agents in their different capacities to work towards shared prosperity. Moreso, Wait and Ruzive (2016) also pointed out that increasing access to financial services in an economy helps to accelerate economic growth. In this regard, there seems to be little or no debate on the perceived benefits of financial inclusion on economic growth.

Following the global trends, the Zimbabwean government working closely with the Reserve Bank of Zimbabwe has in the past years launched various programmes to promote financial inclusion. Programmes initiated by the central bank to support financial inclusion include availing credit to youth, women and small businesses at lower than market rates set by the RBZ, authorisation of opening of low cost accounts for individuals and also carrying out public campaigns on financial literacy. As such, this study seeks to investigate the effects of financial inclusion on household income in Zimbabwe, given the background that the majority of previous studies have not addressed this area.

1.2 BACKGROUND OF THE STUDY

Global, regional and national level policy-makers are increasingly embracing financial inclusion as an important priority for fostering socio-economic development as pointed out by Cull et al,(2014). The World Bank (2015) states that this realisation has resulted in the adoption of policies and measures aimed at growing global financial inclusion as a means of promoting world economic prosperity. Adding on, the World Bank suggested that the significance of financial inclusion in the economic development agenda has also been supported by the formation of networks and organisations with a specific focus on financial inclusion matters, such organisations and networks include the Alliance for Financial Inclusion and the Global Partnership for Financial Inclusion. In this regard, the G20 established a Financial Inclusion Expert Group (FIEG) which is mandated to spearhead the means to reach out to the households, small micro and medium enterprises, whilst on the other hand, the Alliance for Financial Inclusion's (AFI) mainly focuses on the development of financial inclusion strategies for its member countries as explained by Gupta et al (2017). Venkataramani and Gupta (2012) argued that many countries have adopted varied means to promote financial inclusion. Particularly, in the United States, the Community Reinvestment Act (1997) stipulates that banks should offer credit to all people regardless of their income statuses as a way of encouraging financial inclusion. More so, in France, the Law on Exclusion (1998) has ensured that everyone has the right to have a bank account as highlighted by Gambe and Sandada, (2018).

The World Bank (2017) reported that the implementation of various financial inclusion strategies has resulted in the improvement in the level of access to financial services across the world. The Global Findex Report of 2017 reveals that account ownership is nearly universal in developed countries as the statistics showed that 96% of adults owned an account in 2017 and this figure improved from 84% in 2011. In developing countries account ownership moved from 40% to 51% and then to 63% in 2011, 2014 and 2017 respectively. Also worth noting is that average world account ownership improved from 54% in 2011 to 62% in 2014 and then to 69% in 2017.

In this regard, Chivasa and Simbanegavi (2016) revealed that Africa as a developing region has a lot of challenges that hinder financial inclusion and these include skills shortage, lack of government capacity, political risks, financing and regulatory incapacities. Similarly, Nkomazana (2017) postulated that African economies have high unemployment rates and this translates to high financial exclusion to the extent that informal banking is prevalent as a means to access finance. Evans and Adeoye (2016) also revealed that there are African countries that

have less than 10% of the adult population having a bank account with a formal financial service provider, for instance in the Central African Republic adult account ownership is less than 5% and in Niger, only 2% of the adult population own an account.

In Zimbabwe, the central bank adopted a developmental approach to drive financial inclusion and came up with a framework for financial inclusion in 2007. The framework was based on the need to expand the outreach of established developmental financial institutions such as People's Own Savings bank (POSB), ZIMPOST and Agribank and expanding the outreach of established commercial banks and building societies (RBZ, 2006). According to the Ministry of Finance (2010), this framework has enhanced the provision of micro-finance services through the establishment of micro-finance banks and more importantly the framework also supported the development of physical infrastructure to support financial inclusion.

In 2016 the Reserve Bank of Zimbabwe and the Ministry of Finance jointly introduced the National Financial Inclusion Strategy (2016-2020), to boost financial services access as a way to reduce poverty. According to Danda (2018), the Zimbabwean strategy sought to address barriers to financial inclusion by promoting the setting up and acquisition of necessary infrastructure to improve access to financial services. Low income households, small businesses, women, the youth, the rural population and smallholder farmers are the ones who were found to be most financially excluded as pointed out by RBZ (2016).

Despite the evidence that the central bank has been working to promote financial inclusion, household livelihoods have been deteriorating. The World Bank (2021) revealed that the number of extreme poor in Zimbabwe is estimated to have reached 6,6 million in 2020, which is double the level in 2011. The World Bank statistics further show that extreme poverty stood at 40% of the population in 2019, which is up from 30% in 2017. The worsening levels of poverty have been deepening, although financial inclusion indicators are positive, precisely account ownership improved from 30% in 2011 to 70% in 2020. In this regard this study seeks to establish the relationship between financial inclusion and household income in Zimbabwe.

1.3 PROBLEM STATEMENT

Despite various efforts to improve the livelihoods of the average citizens, economic indicators still show that household poverty remains a major problem in Zimbabwe. To this end, the Zimbabwean government has taken bold steps in promoting financial inclusion as there is international evidence that financial inclusion enhances household income.Despite some

headway in enhancing financial inclusion, it remains unclear whether there are welfare benefits at the household level.

1.4 RESEARCH OBJECTIVES

The primary objective of this study is to understand the relationship between financial inclusion and household income. The other objectives of the study are stated hereunder;

- To establish the financial indicators that can closely measure financial inclusion in Zimbabwe.
- To ascertain the individual characteristics that determine household income .

1.5 RESEARCH QUESTIONS

Deriving from the objectives, this research questions are;

- What is the nature of the relationship between financial inclusion and household income in Zimbabwe?
- What are the financial indicators that can individually or collectively measure financial inclusion in Zimbabwe?
- What are the other individual characteristics which are associated with household income?

1.6 STATEMENT OF HYPOTHESIS

The researcher acknowledged the following comprehensive hypothesis for the study:

H0: There is no relationship between financial inclusion and household income in Zimbabwe

1.7 SIGNIFICANCE OF THE STUDY

Firstly the study will be of importance to policy makers like the government and the central bank. These authorities have been working together in promoting financial inclusion as enunciated in the National Financial Inclusion Strategy of 2016 to 2020. In this regard, this study will provide important insight which can be useful in coming up with future strategies along the same line of promoting financial inclusivity amongst Zimbabweans.

Secondly this study will also provide an updated analysis on the current trends of financial inclusion in Zimbabwe to NGO's like the Alliance for Financial Inclusion, who are solely mandated to ensure a co-ordinated approach towards promoting financial inclusion across various countries.

Lastly, this research will also benefit academics, as this study seeks to investigate a niche of the subject at hand which the author feels that is under researched. Most studies on Zimbabwe have been focusing on the impact of financial inclusion of economic growth and or economic development and as such this study focuses on the relationship between financial inclusion and household income, as such bridging the evident literature gap.

1.8 SCOPE OF THE STUDY

The study is conducted within the following parameters;

- This study will use secondary data to conduct statistical analysis.
- The period of the study runs from the year 2000 to 2020

1.9 ASSUMPTIONS OF THE STUDY

In conducting this study, the following assumptions were made;

- It is practically possible to set up infrastructure that supports the provision of financial services in any part of Zimbabwe irrespective of terrain and other geo-feathers.
- The Reserve Bank of Zimbabwe can adapt to and regulate all new financial innovations that seek to make financial services affordable to all eligible financial service users.

1.10 LIMITATIONS OF THE STUDY

This section presents the limitations of the study;

- This study focused on time series data and not cross-sectional or panel surveys due to the lack of such data at the national level as the Reserve Bank of Zimbabwe does not carry out financial surveys on households. Surveys carried out by the Findex, the arm of the World Bank are at irregular intervals and only one survey was done in Zimbabwe in 2017 and no data captures the developments up to 2020.
- Lack of data on the financial inclusion index of Zimbabwe from 2000 to 2020, the available data is only for recent years.

1.11 ORGANISATION OF THE STUDY

This chapter presented the background of the study by giving an overview of developments around financial inclusion from a global and local perspective. The chapter also articulated the motivation of the study and presented the objectives of the study which led to the development of the research questions and the hypothesis of the study. Also covered by the chapter is the significance of the study, the scope, the assumptions and the limitations of the study.

The rest of the study is organized as follows; Chapter 2 presents the theoretic and empirical literature on financial inclusion and then Chapter 3 presents the methodology of the study as

informed by reviewed empirical studies. Chapter 4 then presents and analyses the results of the study and lastly, Chapter 5 discusses the findings of the study, draws conclusions and presents recommendations to various stakeholders.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

This study seeks to understand the relationship between financial inclusion and household income as such this chapter reviews both theoretical and empirical literature with the aim to shed light on the dynamics of financial inclusion and household income. The literature review also helps to show the research gap, ensures that this study is not a duplication of existing studies and also helps to build up a methodological basis for this study based on existing empirical studies.

2.2 FINANCIAL INCLUSION EXPLAINED

Eton et al (2019) explained financial inclusion as a body of programmes aimed to make financial services accessible both to individuals and businesses without any form of discrimination. Similarly, Balele (2019) described the phenomenon of financial inclusion as a technology based process which seeks to make available all fundamental financial services to the disadvantaged members of the society that is the youth, women, small businesses and the rural population amongst others.

According to Kim et al (2018), financial inclusion is a process that seeks to create a favourable environment that helps to ensure that all eligible and willing entities and households get access to any financial service that suits their needs. Hanning and Jansen (2010) explained financial inclusion as a coordinated policy that seeks to ensure availability, usage and most importantly creation of new financial innovations to match the dynamic needs of various stakeholders at reasonable cost and in a regulated environment to ensure customer protection.

The Reserve Bank of Zimbabwe (2016) summarily, described financial inclusion as a market oriented liberalisation process which aims to attract the unbanked population to adopt and use various financial services through innovations and regulatory interventions. In this regard, for the purposes of this study the author considers financial inclusion as the process of facilitating access to savings, transfer services, credit and insurance to all households and other marginalised groups who have limited or no access to financial services.

2.3 THE ROLE OF THE FINANCIAL SYSTEM IN ECONOMIC DEVELOPMENT

This section reviews literature with the aim to establish the role of the financial system in economic development. Rahman (2017) argued that the fundamental role of the financial system is to mobilise and effectively allocate resources amongst economic agents. Financial institutions capitalise on the trust and level of integrity bestowed upon them to mobilise

resources from surplus units in an economy and lend to the productive sectors as stated by McKinnon, (1973). Households often times hold cash which is in excess and business have new ideas but do not have the capital, as such the banks mobilise the excess funds and allocate them to the businesses and in return earn interest income. In this regard, through intermediation the financial systems support economic growth through financing production.

Chibba (2009) pointed out that another important role played by the financial system is facilitation of international trade. Information sharing and cooperation amongst banks has made international trade less risky and a growing business model. Harley et al (2017) argue that without international trade no economy could survive as the global economies are now inter-connected and over- rely on each other. For example, industries in China need raw materials from Africa and African farmers and miners need equipment from China as such it is clear that at some level economies around the globe rely on each other. However, worth to note is that selling and buying of goods with a counterparty in foreign land has high risk and these risks may include delivering goods and not receiving payment or goods being damaged in transit as highlighted by Bruhn and Love (2009). Chibba (2009) states that banks reduce the risk in international trade by providing credit guarantees, letters of credit and insurance services amongst other key financial services that relate to international trade.

To add on, banks also support economic activity by providing settlement services and supporting the payment system. The infrastructure used by economic agents during the day to day business activity is supported and belongs to the banking system. Banks provide services like cash accounts, credit cards, debit cards, visa cards, wire transfers, point of sale and automated teller machines and these individually and sometimes collectively help in finalising trade through supporting the settlement process as highlighted by Chikoko, (2014).

Onaolapo (2015) added on that banks through their risk assessment models have the capacity to create liquidity through securitisation and this help to free liquidity for further lending and thus supporting economic activities. Lenders through cooperation with other investments bankers have the capacity to bundle and sell loans for immediate cash and this helps to create further credit.

Dixit and Ghosh (2013) also highlighted that financial service providers play a key role as institutional investors. Financial institutions like insurance companies and pension funds regularly collect premiums from customers and they use these funds to invest in the economy. Bakari et al (2019) pointed out that insurance companies are prescribed to buy assets in the

country in which they operate in and in the process these funds are used to support infrastructural developments and in the process employment is created.

Rosmah et al (2020) also revealed that insurance companies play a key role in the economy by safe-guarding businesses and households from adverse activities which are highly likely to result in the deterioration of income if not insured. By providing insurance for catastrophic events for households and firms, insurance companies contribute to economic stability at national and at household level by providing a safety net in form of possible insurance claims.

Summarily, it is beyond no doubt that the financial system supports economic development in various ways. In this regard, enhancing access to financial services is important for the wellbeing of economic agents.

2.4 THEORIES ON FINANCIAL INCLUSION

This section reviews theories on financial inclusion. The major theories considered by this study are the vulnerable group theory, the systems theory and the special agent theory;

2.4.1 THE VULNERABLE GROUPS THEORY

Sarma (2008) narrates that the vulnerable groups theory of financial inclusion is based on the notion that financial inclusion efforts of a country should be targeted to the vulnerable members of the community and not the whole population. The theory identifies the unemployed, the youth, women and small businesses as the most exposed in times of economic shocks. According to Rosmah et 'al (2020), the main strategy under the vulnerable groups theory is provision of regular financial grants to the vulnerable as a way of ensuring that they willingly open formal accounts in anticipation of social grants from government and in the process the government manages to bank the unbanked. Goel and Sharma (2017) pointed out that pursuing the vulnerable groups theory helps to minimise cases of extreme poverty through improvement of sources of income of the vulnerable.

2.4.2 SYSTEMS THEORY OF FINANCIAL INCLUSION

According to Kapler et'al (2016), the systems theory advocates that the approaches being used by financial service providers in conducting business and the attitudes of the customers are a function of the existing systems. In this regard, regulators need to adjust the operational guidelines and regulations to promote innovation and provision of efficient user friendly services. Harley et'al,(2017) points out that existing systems in most developing countries need to be adjusted from fault finding to a more robust system that promote and recognise innovations. However, regulations must not be too relaxed as authorities still need to maintain

financial stability and integrity. The World Bank (2014) emphasises that weak control systems may seem good for innovations but however they expose the whole financial system to both endogenous and exogenous shocks which may have catastrophic effects just like the global financial crisis of 2007.

2.4.3 SPECIAL AGENT THEORY OF FINANCIAL INCLUSION

Zins and Neil (2016) reveal that the special agent theory of financial inclusion states that the delivery of financial inclusion to the marginalised can be hindered by the structural rigidities of the existing distribution channels. As such, the theory argues that specialised channels must be developed to cater for the geographic and other cost related complexities associated with providing financial services to the unbanked. Strategic alliances between fintech companies and financial institutions have proved to work well in ensuring that financial services are delivered at low cost to almost all prospective and eligible financial service customers. According to Bakari et'al (2019), partnerships between banking institutions and mobile telecommunication operators have proven to work very well even in the remotest parts of Africa where there is scarce banking infrastructure like automated teller machines or bank branches as transaction are being done on mobile phones using electronic wallets.

2.5 MEASURING FINANCIAL INCLUSION

Saurez (2010) argued that different indicators have been used by various studies to measure financial inclusion. The reason for the difference from country to country being the level of economic development and the level of financial development. Similarly, Sarma (2008) pointed out that most developing countries are strategizing to promote availability and usage of financial services whereas developed countries are promoting financial deepening and reduction in levels of voluntary exclusion.

In another interesting argument Kabita and Sahu (2013) point out that financial inclusion cannot be easily be reported as a single statistic rather, financial inclusion can be measured three dimensions which are financial service availability, financial service usage and lastly financial service penetration.

Rasheed and Law (2016) argue that banking penetration is the best measure of financial inclusion. The argument being that an inclusive financial system must have as many users as possible. In this regard, the number of people with formal financial accounts are the best measure of financial inclusion. However, Nicole (2009) disagrees with this argument citing

that most new account users often neglect their accounts without making any new deposit or performing any significant economic transaction using the account.

According to Mercado (2016), financial inclusion can be measured using five measures namely ATMS per 100,000 adults, bank branches per 100,000 adults, borrowers from commercial banks per 1000 adults, deposits per 1000 adults and the ratio of domestic credit to total economic activity. The use of these measures aims to capture all the dimensions of financial inclusion that is availability, usage and financial service penetration.

Sarma and Paris (2008) argue that the best way to measure financial inclusion is to use a composite financial inclusion index. Sarma (2010) points out that the use of financial inclusion indicators individually, provides only partial information on the inclusiveness of the financial system and this will lead to misleading conclusions. To add on, Chikoko (2016) revealed that the use of individual factors may lead to biased and inaccurate conclusions. For instance, in Zimbabwe the number of active ATMS and bank branches has been going down owing to cash shortages and the shifting of Zimbabwean banks to virtual banking. Worth to note is that despite the reduction in the number of active ATMs and bank branches, the number of adult account ownership has been on the rise since 2016.

2.6 FINANCIAL INCLUSION STRATEGIES AND LESSONS FOR ZIMBABWE

This section reviews a few selected National Financial Inclusion Strategies with the aim to find the key areas of focus and draw lessons for Zimbabwe. The selected countries are Malaysia and New Guinea and these were strategically selected as one is a more developed country and the other is a developing country, as such experiences from these countries are supposed to be different. Also reviewed is the Zimbabwean Financial Inclusion Strategy, with the aim to assess the effectiveness of proposed strategies and to point out areas that can be improved in the future.

2.6.1 THE NATIONAL FINANCIAL INCLUSION STRATEGY OF MALAYSIA

The Bank of Negara set out an ambitious financial inclusion strategy (2011 to 2020) and this was motivated by the level of economic development in the country and the spill over effects to household level. The strategy framework outlines that adult account ownership was over 92% amongst the adult population. In this regard, the strategy framework aimed to develop a financial system that caters for all members of the society taking into account their varied needs. As a leading objective, the strategy targets to enhance convenience and access through deployment of innovative channels that include agent banking and other technology centred

distribution channels like mobile banking. The central bank also sought to induce high take up of financial services through development of innovative products and services like micro-financing, micro-savings and micro-insurance. To add on, the framework set by Bank Negara also intends to support responsible usage of financial services through effective financial inclusion and infrastructure development and this will be achieved by rolling out structured programmes and national measurement framework and a financial inclusion index. Malaysia also seeks to attain high satisfaction by focusing on the specific needs of the marginalised and this will be achieved by leveraging on the capacity of NGO's and boosting levels of financial literacy.

Having summarised the key areas of the Malaysian strategy, the Zimbabwean government needs to appreciate the key role that NGO's play in rolling out developmental programmes. In this regard, the author argues the local authorities to shift from the current terms that exist between the government and the NGO society in which the government views all bodies as agents of regime change and as such this situation has created an environment which is not conducive for cooperation between NGO's and the Zimbabwean government.

To add on, the government needs to appreciate that supervisory development is key for effective deregulation. Worth to note is that deregulation without capacity to oversee innovations has catastrophic implications and a good case in the global financial crisis and the derivates market saga. Commercial banks in Zimbabwe exhibit monopolistic tendencies as they often times hike service fees and customers have little choice when it comes to switching service providers as such the government needs to induce healthy competition and this will enhance financial innovativeness and translate to affordable services to the end consumers.

2.6.2 THE NATIONAL FINANCIAL INCLUSION STRATEGY OF NEW GUINEA

The Central Bank of Papua New Guinea (2016) reported that 37% of adults had a bank account as at June 2016. The Central Bank statistics also showed that two thirds of the population lack access to any form of financial service. The framework structured by the central bank set out priority areas and these are digital financial services development, micro-insurance, financial education, consumer protection, agriculture finance, SME finance and data collection. The specific strategies include the need to capitalise on digital finance as a way to expand customer access. In the area of insurance, the central bank aims to get 1,5million people under micro-insurance as a way of cushioning household income. The strategy also appreciates the need to

expand financial education to schools from primary level up to tertiary institutions. As a way of ensuring safety the central bank also proposed the need to continually review supervisory regulations in relation to changes in the financial system. Improving access to credit for small scale farmers and other small business enterprises is also a priority for the central bank. Last but not least, the government intends to regularise and improve data collection at micro-level and ensure that all developmental stakeholders and businesses have access to such data in time to make impactful decisions.

The major lesson for Zimbabwe is that the government needs to prioritise timeous data collection and the publication of such as a way to facilitate effective policy and boost confidence amongst potential investors. The current situation in Zimbabwe is such that there are some key areas at micro-level on which no readily available data exists. To add on, data collection pre and post policy implementation will help to assess policy effectiveness and facilitate development of better policies in the future.

2.6.3 THE NATIONAL FINANCIAL INCLUSION STRATEGY OF ZIMBABWE

The Reserve Bank of Zimbabwe set out a National Financial Inclusion Strategy in 2016 and this policy was to be implemented through to the year 2020. The major aims of the policy included banking the unbanked and improving access to credit for the disadvantaged as a way to empower them. The policy introduced low cost accounts which require a few personal documents and a small and affordable deposit amount. However, worth to note is that these low cost accounts are for transacting purposes only and no form of credit is provided under these special accounts. To add on, the policy also availed loans under the following banners; export finance, tobacco facility, business linkages, horticulture, women empowerment, persons with disabilities facility, education facility and microfinance. The total credit to be availed was pegged at a tune of USD430million and these funds were to be provided at wholesale rates to commercial banks by the Reserve Bank of Zimbabwe. However, the rolling out of these facilities was constrained by the regulatory limit on interest rates to be charged, as such in consideration of their overhead costs most commercial banks did not make drawdowns from these facilities. Lack of information amongst targeted groups and the liquidity crisis that hit Zimbabwe along the way collectively contributed to the ineffectiveness of these facilities. To add on, the strategy set by the central bank also sought to encourage formal lenders to use their own funds to advance credit to the marginalised by operationalising a credit guarantee scheme, a credit registry and a collateral registry. However, all these efforts were futile as they were

watered down by the deteriorating economic situation characterised by rising inflation, shortage of liquidity and fading public confidence in the local currency unit.

In this regard, the central bank first needs to achieve stability in the economy with regards to commodity price levels and availability of liquidity before thinking about financial inclusion. To add on, the central bank must ready and capacitate its organs in order to be able to regulate new innovations as they arise. A special mention goes to the banning of the most celebrated network of mobile money agents as they are accused of promoting black market currency activities through unauthorised overdraft facilities on their accounts. Having such kind of activity going on undetected exposes the regulatory incapacities, as such the central bank must be pro-active and hire specialists in areas of new innovations.

2.7 DETERMINANTS OF HOUSEHOLD INCOME

Various studies have been carried out to determine the factors that affect the level of household income and or poverty prevalence. According to Heshmati et al (2019), who did a study in India, the level of education, age of the head of household, gender and the place of residence that is rural or urban have a statistically significant impact on the level of household income.

Bayise and Zwane (2017) did a study in South Africa and their findings were similar to most researches. The results of their study pointed out that the level of education of the household head, the race of the household head, employment status and marital status were significant determinants of household income in South Africa.

Akenele and Adewuyi (2011) also concurred that most studied determinants of household income and poverty are age of the head of the family, form of employment, marital status, size of the household, the dependency ratio and place of residence.

According to Shete (2010), the most relevant explanatory variable of household income is the level of education of the head of the household. The study reveals that the higher the level of education the more smother is the level of income. Similarly, Lazarus (2013) pointed out that the level of education had the highest influence on income level and however pointed out that factors like land ownership and livestock ownership had a significant impact on the level of the rural population in Mali.

2.8 EMPIRICAL LITERATURE REVIEW

Geda et al (2008) used household level data that ranged from 1994 to the year 2000 to ascertain effect of access to financial services on household income. The data was collected from a sample population that represented both rural and urban dwellers. The parsimonious finance

model was applied to access the effect of access to finance on poverty in Ethiopia. The study used access to credit as the measure of financial inclusion. The results showed that financial inclusion helps to smoothen consumption and stabilise household income. In another study in Ethiopia, Berhane and Gardebroek (2011) used household panel data. Their study focused on access to microfinance and the counter impact on household consumption. The study applied a random and a fixed effects model to analyse the data. The results found out that access to microfinance credit had positive effects on household consumption.

Dawood et'al (2019) carried out a study in Indonesia to ascertain if financial inclusion can alleviate household poverty. The study applied a binary logit model on data collected from 300,000 households in 2017. The study revealed that financial inclusion has positive cushioning effects against absolute poverty and also that financial inclusion helps to compensate for lack of bankable assets. The study recommended that the government should prioritise financial inclusion in rural areas as a measure to reduce urban pressures.

In another notable study Ellies et'al (2010) carried out a study to investigate the impact of access to financial services on household savings. The author used data from 2006 and 2009 on surveys carried out in Kenya and Tanzania. Econometric analysis was applied and the study found out that a significant number of households borrow for investment purposes as compared to consumption. The findings also pointed out that those who invested in formal financial assets had a high tendency of borrowing from formal financial institutions and those who borrowed for consumption often borrowed from informal lenders. The study recommended that regulators must intervene to reduce the cost of formal financial services, promote investment into financial literacy programmes and promote the establishment of asset registries to enable the poor to borrow using their assets which are often considered unworthy of being security for borrowing by formal lenders.

Nicole (2009) conducted a study to explore the impact of financial inclusion on the lives of the disadvantaged people in the United Kingdom. The author collected data using qualitative interviews from a sample of 41 people who were employees of a government agency responsible for administering financial inclusion programmes to the poor. Thematic analysis was applied to screen the data collected. The results of the study revealed that many poor people felt that the government policy failed to address structural rigidities that were perpetuating income inequality in the society. To add on, the majority of the low income households considered formal financial institutions as discriminative towards the poor as revealed by their

product pricing, high collateral margin requirements and exorbitant risk premiums charged on the poor.

Debdulal and Quanda (2019) investigated the effects of financial inclusion on household welfare in China. The research applied heteroscedasticity based identification on survey panel data to determine the casual effect of financial inclusion. The results of the study showed that welfare effects of financial inclusion were different between rural and the urban population. The results reflected that financial inclusion generally had positively increased overall household consumption. Notably the magnitude of the change in consumption was high for urban areas as compared to rural areas. The research therefor recommended that the government should universally rollout financial inclusion programmes to both rural and urban population as a means to combat poverty in China.

In a study with contrasting findings, Tita and Aziakpono (2017) carried out a study to analyse the effect of financial inclusion on welfare of Sub-Saharan Africa. The study used Findex data of 2011. The results showed that formal account ownership for business purposes, wire transfers and formal savings instruments have a statistically significant and positive effect on income in-equality. This reflects that financial inclusion is low and also that formal account ownership does not guarantee access to credit in the region. The study revealed that the results are also supported by the fact that banks in the region are reluctant when it comes to lending due to the fact that most people are informally employed and do not have stable sources of income. The author recommends that central banks should work towards promoting financial inclusion and morally persuading formal lenders to advance credit to account-holders rather than holding excess liquidity. In this regard, the study concludes that financial inclusion does not support household welfare in Sub-Saharan Africa.

A notable study deriving from Zimbabwean experience was done by Chivasa and Simbanegavi (2016). The researchers conducted a study to ascertain the barriers to financial inclusion and the relative effects on societal livelihoods. The study applied a qualitative approach and the data was collected primarily from a sample extracted from Matabeleland North, a province in Zimbabwe. The province was judgementally picked as it is regarded as the one of the remotest and under developed in Zimbabwe. The findings of the study showed that most people in the province were financially excluded and this was attributable to high banking charges, unbearable lending rates, scarcity of supporting infrastructure and financial illiteracy amongst the population. In this context, the researchers noted that financial inclusion has the potential

to improve people's lives, however at current levels no direct quantifiable benefits were traceable except for increased remittances facilitated by mobile money wallets.

2.9 CONCEPTUAL REVIEW AND HYPOTHESIS DEVELOPMENT

According to the reviewed literature, the main determinants of household income are the age of the head of the household, the education level of the head of the household, the dependency ratio, property and land ownership, employment status and the place of residence that is rural or urban (Heshmati et al (2019); Bayise and Zwane (2017); Akenele and Adewuyi (2011) ;Shete (2010); Lazarus (2013).

In a landmark study, Dermigue-Kunt et al (2008) specified the relationship between financial inclusion and household income in an econometric model as below;

$Y_i=\beta Fin_i+\beta 2X_i+\varepsilon_i$

Where;

Yi is household income and the dependant variable,

Fin is the financial inclusion index made up by assigning weights to account ownership, savings, credit and commercial insurance,

Xi represents other control variables that affect household income, such as the dependency ratio, education level of the head of the household,

ε_i is the white noise or disturbance term, which is assumed to follow a normal distribution.

In this regard, the author modified the above mentioned model to suit the data which is available in Zimbabwean context. For instance, instead of using cross-sectional or panel data the author is going to use time series data. Also instead of using an aggregate financial inclusion index the author opted to use the available factors individually and ascertain their relationship with household income.

2.10 SUMMARY

In this regard, it is evident that little research has been carried out on the effects of financial inclusion on household income. Reviewed studies closely relate but do not fully address the research question at hand. Also not all the reviewed studies support the notion that financial inclusion supports household welfare, as such, the author finds it necessary to carry out an analysis of the relationship between financial inclusion and household income in Zimbabwe.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter presents the methodology followed by the author in collecting, screening and analysing the data. Key areas covered are the research design, model specification, justification of variables and the estimation procedure.

3.2 RESEARCH DESIGN

Blaike (2010) explains a research design as a plan which articulates the type of data needed, points out the methods to collect and analyse the data into information that addresses the research questions of the study. In this regard, this study adopts an explanatory research design. According to Saunders et al (2019), an explanatory research design helps to identify any causal links between two or more variables in a model .This research design was used by Balele (2019) in investigating the impact of financial inclusion on economic growth. The author justified the adoption of an explanatory research design as it helped to fully investigate and compute statistical inferences about the nature of the relationship between financial inclusion and economic growth. For this study, econometric modelling is used to relate and analyse the relationship between financial inclusion and household income. The statistical model is regressed using secondary data collected on the variables of interest.

3.3 DATA TYPE AND SOURCES

As mentioned earlier, this study intends to perform regression analysis using secondary numeric data on selected variables. The data is collected from the year 2000 to 2020 at an annual interval. Collection of the data will be done using an excel worksheet from online data portals of the World Bank and the Reserve Bank of Zimbabwe.

3.4 MODEL SPECIFICATION

The model used in this study is an adaptation of the model used by Dermigue-Kunt et al (2008). In their study they did a cross-sectional analysis using data collected from a household survey. Their model was specified as follows;

$Y_i = \beta Fin_i + \beta 2X_i + \varepsilon_i$

Where;

Yi is household income and the dependant variable,

Fin is the financial inclusion index made up by assigning weights to account ownership, savings, credit and commercial insurance,

Xi represents other control variables that affect household income, such as the dependency

ratio, education level of the head of the household,

β and $\beta 2$ are the parameters of the model that relate to the explanatory variable one and explanatory variable 2 respectively,

ε_i is the white noise or disturbance term, which is assumed to follow a normal distribution.

For the purposes of this study, the above mentioned model was specified to match the times series data at hand and this choice was motivated by data availability at national level. The model of the study is presented hereunder;

$Y_t = \beta Fin_t + \beta 2 X_t + \varepsilon_i$

Where Y_t is the independent variable at time (t), Fin_t represents the factors that collectively measure the level of financial inclusion at time (t) and X_t stands for the control variables justified by literature to have impact on household income at time (t).

The specific functional form of the model used by the author is as bellow;

$HHI_t = \alpha + \beta DEP_t + \beta 2 ACCO_t + \beta 3 DOMC_t + \beta 4 DEPENR_t + \beta 5 UMPR_t + \varepsilon_t$;

HHI_t is the annual household income as a percentage of GDP,

DEP_t is the annualised deposit rate for savings accounts,

$ACCO_t$ is the percentage of adults with a bank or mobile money account,

$DOMC_t$ is the percentage of domestic credit as a proportion of GDP,

$DEPENR_t$ is the annual percentage dependency ratio of Zimbabwean households,

$UMPR_t$ is the percentage of labour force unemployment,

ε_t is the error term which captures the effect of other omitted variables,

α is the intercept, that is the minimum level of household income

3.5 JUSTIFICATION OF VARIABLES

Household income is used as the dependant variable of the model. The variable is measured as household income as a percentage of GDP. Inclusion of GDP is appreciation of the fact that household income is highly correlated to national income.

3.5.1 MEASUREMENT OF FINANCIAL INCLUSION

The thematic objective of the study is to assess the effect of financial inclusion on household income. As such, for the purposes of this study the author used a combination of factors to represent the dynamics of financial inclusion in Zimbabwe. Financially inclusion in this study is modelled as a function of adult account ownership, domestic credit and deposit rates.

Adult account ownership helps to determine the level of acceptance of formal financial services amongst households and similarly measure the level of financial service penetration as explained by Dawood et al(2019). Adult account ownership is estimated as the number of adults who hold a formal bank or mobile money account as a percentage of the total adult population. Ceteris paribus, adult account ownership is expected to have a positive effect on household income by reducing risk associated with holding and transacting in cash. To add on, Balele (2019) urges account ownership helps households to better manage their finances and keep a track record on transactions.

The second variable under financial inclusion is domestic credit expressed as a percentage of GDP. This variable estimates the level of economic activity supported by locally accessed funding. This variable on credit also captures the attitude of formal lenders towards advancing credit to local borrowers as highlighted by Gupte and Gupta (2012). A positive relationship between household income and credit is expected, however if the credit is provided on unfavourable terms like high interest rates then a negative relationship will exist.

Lastly, deposit rates are used as a contributing factor in determining the level of financial inclusion. This variable captures the tone of the savings environment. Hanohan, (2007) points out that generally, if deposit rates are high households feel compelled to save and earn interest rather than using the money for consumption or using other informal savings instruments

3.5.2 CONTROL VARIABLES

To enhance model stability, the author included control variables which are widely accepted as determinants of household income. Motivated by the convenience of data availability, the author uses the level of labour force unemployment and the household dependency ratio. In this regard, based on economic theory a negative relationship between unemployment and the dependency ratio is expected as explained by Julie (2013).

3.6 ESTIMATION PROCEDURE

The data is to be collected online from the World Bank and RBZ portals and compiled on an excel data sheet in columnar form. The data file will then be imported into Eviews 9, a

statistical modelling software. After the importation, diagnostic tests will be carried out to screen the data with the aim to ensure compatibility and reliability for modelling and prediction purposes.

The first test to be conducted is the multi-collinearity test. A group correlation matrix will be computed to determine the pairwise correlations between variables. The test intends to ensure that the explanatory variables do not have near or perfect correlation. The ideal scenario is to have explanatory variables which are orthogonal to each other as highlighted by Brooks (2008). However, in practice the correlation between variables is never zero. Gujarati (2004) explains that for a pair to be regarded as having near multi-collinearity there is no standard benchmark, however 0.8 is the common correlation limit used. Ignoring multi-collinearity will result to a high coefficient of determination and the coefficient standard errors will be high, which will resultantly render the individual variables as insignificant according to Gujarati, (2006). Brooks (2008) further asserts that multi-collinearity widens the confidence interval and this leads to wrong conclusions about coefficient hypothesis. In light of this, in the incidence of multi-collinearity the author will drop one variable in a pair that will have a correlation coefficient higher than 0.8.

Another important test to be carried out is the test for series stationarity. The Augmented Dickey Fuller test will be applied to determine the stationarity of all the series of the model including the dependant variable. The ideal situation is to have a series that are stationary and a stationary series is the one that has a constant mean, constant variance and constant auto-variances for each given time lag as stated by Brooks (2008). On the other hand, a non-stationary series has weak resilience to shocks. Nkomazana (2016) reveals that shocks at time (t) will continue to have finite effect, as such a non-stationary series will result in spurious regression where slope coefficients are close to zero, t- values are low and R squared is expected to be low. In this regard, in case of non-stationarity the author aims to difference the data and apply vector error correction modelling depending on the nature and extent of the non-stationarity. In a scenario where the series of the model are stationary at different levels the author intends to adopt ARDL modelling.

Lastly, the author will run a test to determine the overall stability of the model parameters. The CUSUM model stability test will be used to test the parameters of the model. Time series data collected over long periods is often affected by structural breaks and this could have a devastating effect on the model stability and suitability as highlighted by Brooks (2008). The

CUSUM stability test is not statistically in nature, rather it plots the parameters of the model qualitatively and gives a visual impression on how stable the parameters of the model are. Corrective measures like variable transformation and model restructuring will be considered if the Cusum test results show that the model is not stable.

After the diagnostic test results the author intends to run a regression analysis based on the ordinary least squares methodology. However, if any of the above tests show otherwise, the author will adopt the necessary corrective regression techniques other than the OLS method.

3.7 SUMMARY

This chapter narrated the methodology to be followed by the author in seeking to investigate the effect of financial inclusion on household income. This methodology aims to give credibility to the results of the study by laying out the step by step processes carried out by the author from collection to the analysis of the data collected.

CHAPTER 4: DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

This chapter starts by presenting the data diagnostic test results and the remedial action taken by the author in resolving the resultant issues of concern. The next section after the data tests, presents the regression results and the interpretation thereof and the last section of the chapter discusses the results in line with the reviewed empirical studies.

4.2 DIAGNOSTIC TEST RESULTS

This section presents the results of the tests carried out by the author and these are the multicollinearity test, the stationarity test and lastly the model stability test. These tests are going to be presented in this order together with remedial action taken by the author.

4.2.1 MULTICOLLINEARITY TEST: VARIABLE CORRELATION MATRIX

Presented hereunder is the explanatory variable correlation matrix as generated from E-VIEWS 9. The decision rule is that a pairwise correlation of two variables should be less than 0.8 (Gujarati, 2004; Brooks, 2008).

TABLE 4.2.1: VARIABLE CORRELATION MATRIX

	ACCO	DEP	DEPENR	DOMC	UMPR
ACCO	1	-0.707528989	0.705815987	0.177127751	0.385068846
DEP	-0.707528989	1	-0.59778687	-0.277299383	-0.571358156
DEPENR	0.705815987	-0.597786865	1	0.06566343	0.733293243
DOMC	0.177127751	-0.277299383	0.06566343	1	-0.035688454
UMPR	0.385068846	-0.571358156	0.733293243	-0.035688454	1

SOURCE: EVIEWS OUTPUT

As defined in Chapter 3, the abbreviations used in the analysis for the data variable series stand for the following;

ACCO stands for adult account ownership with a bank or mobile money operator as a percentage of the total adult population,

DEP stands for the annualised average deposit rate amongst deposit taking financial institutions,

DEPENR stands for the annual average percentage of dependents per family in Zimbabwe,

DOMC stands for the total domestic credit expressed as a percentage of national output,

UMPR stands for the annual percentage of unemployment within the Zimbabwean labour force.

The results output shows a pairwise correlation of -0.707 between adult account ownership and the deposit rate, this implies that a unit increase in adult account ownership will lead to a -0.707 decrease in the deposit rate.

On account ownership and dependency ratio a correlation coefficient of 0.705 was found and this results implies that a unit increase in account ownership will lead to a 0.705 units increase in the dependency ratio.

Account ownership and domestic credit showed a correlation coefficient of 0.177 and this tells that a unit increase in account ownership will translate to a directional increase in domestic credit by 0.177 units.

The correlation matrix also showed a coefficient of 0.385 between account ownership and unemployment and this implies that a unit increase in adult account ownership translates to 0.385 units increase in unemployment rate.

Deposit rates and the dependency ratio showed a negative correlation of -0.598, implying that a unit increase in deposit rates will translate to -0.598 units decrease in the dependency ratio.

On deposit rates and domestic credit, the correlation matrix reflected that a unit increase in deposit rates will translate to a reduction in domestic credit by -0.277 and this is exhibited by a correlation coefficient of -0.277 between the pair of variables.

Between deposit rates and unemployment, a correlation coefficient of -0.571 was found and this means that a unit increase in deposit rates will translate to a decrease in unemployment by 0.571 units.

The results between the dependency ratio and domestic credit show a correlation coefficient of 0.065 and this reflects that a unit increase in the dependency ratio will lead to 0.065 increase in domestic credit.

On the dependency ratio and unemployment, a correlation coefficient of 0.733 was found and this shows that a unit increase in the dependency ratio will translate to a 0.733-unit increase in the rate of unemployment.

Domestic credit and unemployment showed a correlation coefficient of -0.036 and this tells that a unit increase in domestic credit translates to a decrease in the level of unemployment by 0.036 units.

Summarily, the results of the correlation matrix show that the highest correlation is between the dependency ratio and the unemployment rate at 0.733 whilst the lowest is at -0.707 between adult account ownership and the deposit rate. Given these test results, the author rules out the existence of multicollinearity as no pairwise correlation between variables in close to 0.8 or in excess of such (Gujarati, 2004; Brooks, 2008).

4.2.2 STATIONARITY TESTING: ADF UNIT ROOT TEST

As highlighted earlier, the author employed the Augmented Dickey Fuller Test to ascertain if the model's series are stationary. Presented here under are the ADF Test results;

TABLE 4.2.2 ADF UNIT ROOT TEST RESULTS (AT FIRST DIFFERENCE)

		HHI	DOMC	ACCO	DEP	DEPENR	UMPR
	ADF T-STATISTIC	-4.65	-3.92	-3.83	-3.95	-6.33	-5.82
TEST CRITICAL VALUES	1%	-3.83	-3.77	-3.04	-3.25	-2.70	-2.70
	5%	-3.03	-3.07	-3.03	-3.07	-1.96	-1.96
	10%	-2.66	-2.67	-2.66	-2.67	-1.61	-1.61

SOURCE: EVIEWS OUTPUT

The computations of the unit root test revealed that only household income was stationary at level. As such the author went on to test all the series at first difference. Household income remained stationary and this is shown by an ADF T-statistic of -4.65 which is greater than -3.83, -3.03 and -2.66 in absolute terms and these are the test critical values at 1%, 5% and 10% levels of significance thus confirming the stationarity of household income.

Domestic credit was found to have an ADF calculated t-value of -3.92 and this value is greater than the comparable test critical values of -3.77, -3.07 and -2.67 for 1%, 5% and 10% level of significance respectively. As such it was confirmed that domestic credit became stationary at first difference.

The account ownership series had an ADF calculated value of -3.83 and the test critical values were -3.04, -3.03 and -2.66. Accordingly, following the rule of thumb, it is confirmed that in absolute terms the ADF test statistic is greater than the test critical values therefore confirming that account ownership is stationary at first difference.

Similarly, deposit rates were also found to be stationary at first difference as shown by the ADF t-value of -3.95 against the comparable critical values which are -3.25, -3.07 and -2.67 at 1%, 5% and 10% levels of significance.

The dependency ratio had an ADF t-calculated value of -6.33 and this value is comparable to the test critical values of -2.70, -1.96 and -1.61. As such it clear that the ADF calculated value is greater than the test critical values, confirming that the dependency ratio is stationary at first difference.

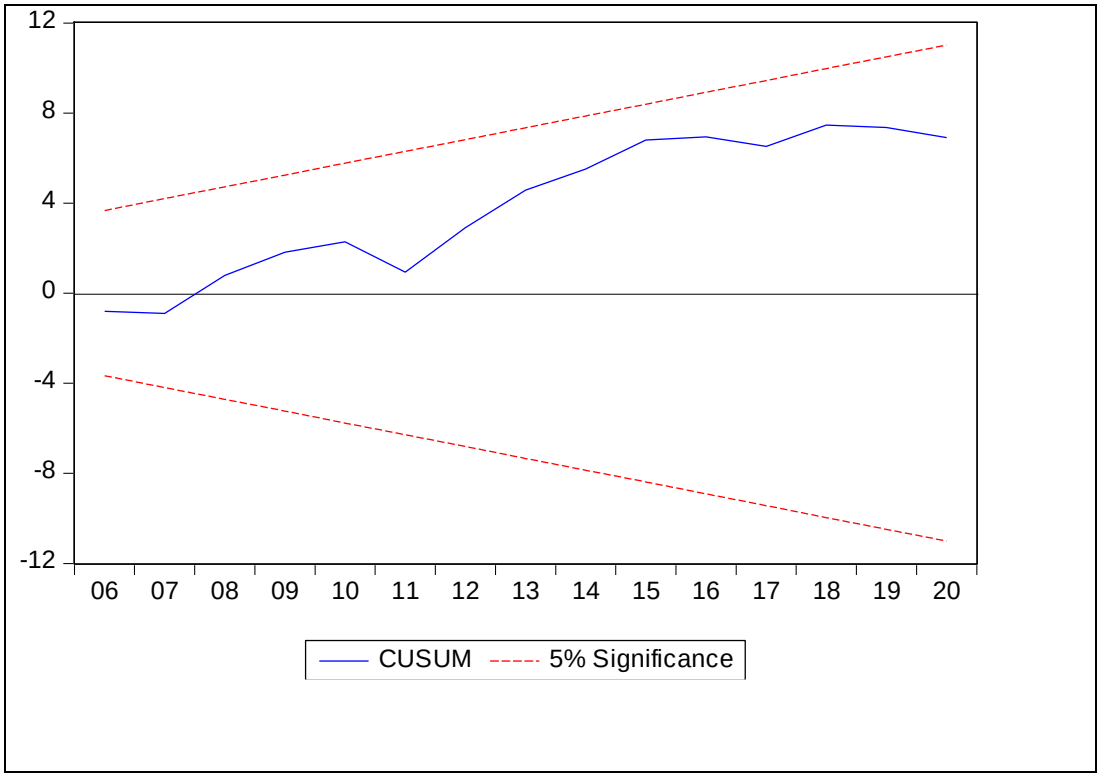
Despite being non-stationary at level, unemployment was found to be stationary at level. The stationarity was confirmed by an ADF test statistic of -5.82 which is greater than the comparable test critical values of -2.70, -1.96 and -1.61 which are representative of the 1%, 5% and 10% level of significance respectively.

In this regard, the author noted that the regression analysis must be done at first difference in order to avoid getting spurious results associated with regressing non-stationary series (Brooks, 2008). However, before carrying out the model analysis the author tested the overall model for stability.

4.2.3 THE CUSUM MODEL STABILITY TEST

Having been satisfied that the series of the model are now stationary, the author went to test the whole model for stability. The results of the CUSUM test are presented hereunder:

TABLE 4.2.3 CUSUM MODEL STABILITY TEST



SOURCE: EVIEWS RESULTS OUTPUT

The results of the Cusum test visually confirm that the residuals are with the 5% level of significance. The stability of the model is confirmed by the blue line which is oscillating within the red boundary lines. In this regard, the author confirms that the model of the study is stable.

4.3 PRESANTATION AND INTERPRETATION OF RESULTS

Having found out that the series of the study are not stationary at level but at first difference, the author runs a regression analysis based on the OLS methodology and the results of the analysis are presented hereunder;

TABLE 4.3.1 REGRESSION RESULTS

Dependent Variable: D(HHI)
Method: Least Squares
Date: 03/12/21 Time: 23:38
Sample (adjusted): 2001 2020
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.235517	1.696776	1.317509	0.2088
D(ACCO)	-1.238595	0.366983	-3.375078	0.0045
D(DEP)	0.074469	0.039246	1.897484	0.0786
D(DOMC)	0.092761	0.063349	1.464289	0.1652
D(DEPENR)	2.159053	1.281382	2.766572	0.0061
D(UMPR)	0.886173	5.777619	0.153380	0.8803

R-squared	0.592570	Mean dependent var	0.507000
Adjusted R-squared	0.447059	S.D. dependent var	9.527843
S.E. of regression	7.084907	Akaike info criterion	6.997136
Sum squared resid	702.7427	Schwarz criterion	7.295855
Log likelihood	-63.97136	Hannan-Quinn criter.	7.055449
F-statistic	5.072338	Durbin-Watson stat	1.963389
Prob(F-statistic)	0.00176		

SOURCE: EVIEWS RESULTS OUTPUT

The results of the regression analysis reveal that the model is statistically significant as signified by the F-statistical probability which is less than the critical 5% level of significance. To add on, the R squared of the model is 0.592570 which can be interpreted as 59%, meaning that the explanatory variables explain 59% of variations in Household Income.

Worth to note also is that, only Account Ownership and the Dependency Ratio are the only variables which are statistically significant. This is clear as ACCO and DEPENR have t-values which are above 2 and also their probability values are within the 5% level of significance.

In this regard, ACCO has a coefficient of -1.238 meaning that a percentage increase in adult account ownership will lead to a drop in HHI of 1,238%. On the other hand, the results reveal that a percentage increase in the DEPENR will lead an increase by 2.159% in household income.

Contrary to expectation, the results show that deposit rates have a positive but statistically insignificant relationship with household income as the regression results show a p-value of 0.0786 which is above the 5% level of significance.

To add on, the results show that domestic credit has a positive relationship with household income as expected, however this relationship is watered down as it is statistically insignificant as shown by a p-value 0f 0.16 which is way out of range of the 5% level of significance.

Lastly, unemployment showed a positive relationship with household income against the expectation of a negative effect. However, this relationship is also statistically insignificant as shown by a p-value of 0.8803 which does not fall within the 0 to 0.05 range of significance

4.4 DISCUSSION AND ANALYSIS OF RESULTS

This section discusses the results of the study and analyses them in relation to past empirical studies. In summary, the results of the study found out that adult account ownership and the dependency ratio are the only statistically significant explanatory variables.

The negative relationship between account ownership and household income in Zimbabwe clearly shows that holding a formal account reduces household income. This result is consistent with the findings of Chivasa and Simbanegavi (2016) who pointed out that high bank charges and related transaction fees make account ownership an expense to households. To add on, account ownership does not translate to automatic access to credit and as such household heads who own formal accounts may still fail to access loans. This negative relationship can further be attributed to high tax charges by the Zimbabwe government on wire transfers. An intermediate transfer tax of 2% is charged by the government on all wire transfers and point of sale transaction (RBZ, 2021). The level of these charges ultimately has negative effect on household income. Similarly, Tita and Aziakpono (2017) found out that account ownership is Sub-Saharan Africa does widen the income in equality gap between the rich and the poor and that most banks are reluctant to advance credit to households irrespective of the fact that they are account holders.

A positive relationship between the dependency ratio and household income is contrary to expectation. Akenele and Adewuyi (2017) found out that there is a negative relationship

between household income and the dependency ratio. Lazarus (2013) argued that an increase in the number of dependents exerts pressure on the household income. Similarly, Shete (2010) found out that there is a negative relationship between household income and the dependency ratio as dependents rarely bring anything to the table. However, considering the nature of the Zimbabwean economy and the level of economic informal activities this finding can be justified. The larger the number of dependents, the cheaper and unpaid labour there is especially in areas like farming, in this context an increase in the number of dependents translates to a positive effect on household income.

To add on, deposit rates were found to have a positive relationship with household income. However, this positive result was found to be statistically insignificant at 95% confidence interval. This result is different to the findings of Okeye et al (2017), who found a negative relationship between savings and household income. The researchers justified their findings with the observation that individuals who opened savings accounts failed to accumulate meaningful savings due to low deposit rates which were lower than the account monthly charges, as such instead of accumulating savings, the account balances were being depleted by account charges. The positive relationship between deposit rates and household income in Zimbabwe can be explained by the advent of mobile money accounts and low cost bank accounts on which no charges are accrued and these failed to have a statistically significant impact on household income as shown by the results of the study.

Domestic credit was found to have a positive but also a statistically insignificant impact on household income. In this regard, we can say that domestic credit has an unclear effect on household income. In a comparable study, Lederle (2009) found a negative relationship between domestic credit and household income. This negative relationship was explained by lack of information on credit products by first time household users. The study revealed that the majority of first time borrowers accessed loans from sub-prime lenders who charged exorbitant rates as such bearing a negative effect on household income.

This study found that there is a positive though statistically insignificant relationship between household income and unemployment. This result is in contrast to the findings of Mehrotra (2009), who found out that there is a negative iteration between household income and unemployment. The ambiguity of the Zimbabwean situation can be explained by the level of informal employment and the macro-economic instability. In this sense, those who are not formally employed are employed in the informal sector and this helps families to cushion

themselves against poverty, however the contribution of informal employment to household income is also affected by the current obtaining economic instability in Zimbabwe.

In this regard, out of three of the financial inclusion factors that is adult account ownership, deposit rates and domestic credit, only account ownership has been found to be statistically significant however with a negative effect on household income. As such it can be concluded that financial inclusion has a weak impact on household income in Zimbabwe. Contrary to popular understanding, the significant factor of financial inclusion that is account ownership actually puts pressure on household finances and this can be due to high transaction costs and account charges. As such we do not accept null hypothesis that there is no relationship between financial inclusion and household income in Zimbabwe.

We reject the null hypothesis that;

H0: There is no relationship between financial inclusion and household income in Zimbabwe.

4.5 SUMMARY

The chapter presented the diagnostic test results and the remedial action taken by the author. Worth to note is that the explanatory variables were found to be non-stationary at level and as such became stationary at first difference. The regression analysis was then done at first difference and the stability of the model was confirmed by the CUSUM stability test which visually displayed that the residual estimates were within the stability bounds. The findings of the study showed that there is a weak relationship between financial inclusion and household income in Zimbabwe.

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter provides a brief summary of the whole study, from the background to the research findings. Included also are the conclusions made by the author and these are drawn based on the research findings. This chapter also includes recommendations for the various stakeholders and lastly suggestions for further study are made based on the limitations of this study and other identified research gaps.

5.2 SUMMARY OF THE STUDY

Policy makers and other research institutions like the World Bank are of the view that enhancing access and usage of financial services in an economy helps to boost economic development and has potential to reduce chances of absolute poverty amongst low income strata of the economy. In this regard, the Zimbabwean government has made headway progress through programmes aimed to increase levels of account ownership amongst adults, to promote access to credit amongst the marginalised and the disadvantaged and carrying out public seminars on financial literacy. Despite these government efforts, there are no clear benefits of financial inclusion at household level. As such, this study sought to determine the relationship between financial inclusion and household income. Motivated by literature and data availability, the author adopted an explanatory research design to explore the research question at hand. The study used annual secondary data collected from the Reserve Bank of Zimbabwe and the World Bank data repositories. The data used ranged from 2000 to 2020 and the analysis of the data was carried out using E-VIEWS 9 a statistical software. The author tested the data for multicollinearity, stationarity and lastly the overall model stability. The diagnostic tests showed that the data was stationary at first difference and this called for the author to run a regression analysis based on the Ordinary Least Squares method using differenced data to resolve the issue of non- stationarity. Household income was modelled against domestic credit, deposit rate, adult account ownership, the level of unemployment and the dependency ratio. The results of the study revealed that adult account ownership had a negative impact on household income whilst the dependency ratio was positively related to household income. On the other hand, domestic credit, deposit rates and unemployment were found to be statistically insignificant.

5.3 CONCLUSIONS

This section presents the conclusions of the study;

- Adult account ownership has a negative relationship with household income.
- The dependency ratio has a positive relationship with household income.
- Domestic credit has no effect on household income.
- Deposit rates have no effect on household income.
- Unemployment has no effect on household income.

Considering that only account ownership has been found to be statistically significant amongst the factors of financial inclusion, it can be concluded that financial inclusion has a weak relationship with household income in Zimbabwe

5.4 RECOMMENDATIONS

This section makes recommendations to the government, the formal financial services providers and to the households.

To the government, the author proposes that the government should avail funding through the central bank at affordable rates to commercial banks and other formal lenders for further lending to households. This credit package should come up with restrictions like interest rate capping to avoid charging of exorbitant rates by lenders. Unlike previously, the government must use mass media to ensure that households know about facilities that are available. To add on, these facilities should be for supporting investment in new businesses at household level and or supporting existing cottage businesses. Lending for investment purposes will reduce the inflationary pressures as the credit will not be used for immediate consumption. For instance, the government can take advantage of existing relationships like using the data compiled by Agriculture Extension Officers to grant credit to communal farmers in the rural areas. In the process, the government should continuously compile and make available micro-data at household level unlike the current situation.

Formal lenders in Zimbabwe must desist from predatory profit make strategies like hiking service fees and other transaction costs. The basic banking principle is based on the fact that the major source of income for banks is interest on loans advanced to various customers. In this regard, lenders must cooperate and share client information with credit bureaus as a way to mitigate credit risk. Provision of credit will stimulate economic growth and in the long-.run this will mean better business for the financial institutions.

Households should take the initiative to be financially literate as this will benefit them and the economy at large. Understanding finance will help households to be able to take advantage of opportunities that arise due to changes in government policy. For instance, previously extended facilities extended by the central bank were terminated due to low uptake by the targeted groups and the major reason for this reluctance to borrow is financial illiteracy. To add on, financial literacy will help households to better manage their finances, manage risks and as such reduce the effects of economic shocks on household income.

5.5 SUGGESTIONS FOR FURTHER STUDY

Future research can be done to ascertain the relationship between financial inclusion and household income using cross-sectional survey data. This type of study will help to understand how financial inclusion affects sub-groups for example rural households and urban households or male headed households and female headed households etc. and this information is very critical for policy formulation.

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APPENDIX A: DATA SHEET

PERIOD	HHI	DEP	UMPR	ACCO	DOMC	DEPENR
2000	59.91	50.17	5.63	45.12	40.4	81.99
2001	70.02	13.95	5.31	43.14	59.01	81.56
2002	80.21	18.38	5.039	39.5	144.28	81.03
2003	79.74	35.92	4.73	30.19	76.34	80.4
2004	81.59	103.21	4.38	30.17	63.86	80.12
2005	92.21	91.08	4.47	29.13	51.12	80.1
2006	103.45	203.7	4.49	28.17	10	79.69
2007	98.28	121.5	4.5	24.42	7.12	79.67
2008	119.41	129.4	4.62	19.98	3.44	79.91
2009	100.63	4.11	5	33.19	16.51	80.28
2010	89.76	4.92	5.21	39.65	21.05	80.77
2011	83.69	5.23	5.36	42.54	26.2	80.23
2012	93.97	6.98	5.38	40.12	28.1	81.77
2013	87.03	5.99	5.39	46.68	27.26	82.35
2014	83.61	6.13	5.34	51.62	27.81	82.84
2015	89.51	6.71	5.3	56.12	31.7	83.13
2016	83.34	4.09	5.25	58.79	36.4	83.57
2017	76.61	3.27	5.16	59.22	46.89	83.46
2018	74.15	2.53	5.8	62.29	48	82.95
2019	73.12	2.97	4.95	63.44	52	81.7
2020	70.05	3.15	4.01	66.57	56	79.9

APPENDIX B: REGRESSION ANALYSIS RESULTS

Dependent Variable: D(HHI)
Method: Least Squares
Date: 03/12/21 Time: 23:38
Sample (adjusted): 2001 2020
Included observations: 20 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.235517	1.696776	1.317509	0.2088
D(ACCO)	-1.238595	0.366983	-3.375078	0.0045
D(DEP)	0.074469	0.039246	1.897484	0.0786
D(DOMC)	0.092761	0.063349	1.464289	0.1652
D(DEPENR)	2.159053	1.281382	2.766572	0.0061
D(UMPR)	0.886173	5.777619	0.153380	0.8803

R-squared	0.592570	Mean dependent var	0.507000
Adjusted R-squared	0.447059	S.D. dependent var	9.527843
S.E. of regression	7.084907	Akaike info criterion	6.997136
Sum squared resid	702.7427	Schwarz criterion	7.295855
Log likelihood	-63.97136	Hannan-Quinn criter.	7.055449
F-statistic	5.072338	Durbin-Watson stat	1.963389
Prob(F-statistic)	0.00176		