

**DETERMINANTS OF FINANCIAL INCLUSION AMONG THE YOUTH IN  
NAMIBIA: A LOGIT MODEL ANALYSIS**

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## **ABSTRACT**

Financial inclusion (FI) aims to ensure equal access to affordable financial services for all members of society, particularly marginalized groups such as women, youth, and low-income individuals. The study seeks to identify the drivers of FI among young people in Namibia based on a cross-sectional design, using secondary data from the 2017 Namibia Financial Inclusion Survey (NFIS). A Logit model is employed to examine the determinants and barriers of financial inclusion, whereas a descriptive analysis is utilized to explore their macro-level differences. The overall results of the model showed that there is a positive relationship between age, income, and financial inclusion while location, remittance, saving, and health status had a negative relationship with financial inclusion. The study demonstrates that the age and income of an individual have a significant positive impact on financial inclusion ( $p < 0.05$ ). Specifically, as individuals' age or their income increases, the likelihood of being financially included rises. Furthermore, the logit regression results have shown that location, remittance, saving, and health status are inversely related with financial inclusion ( $p < 0.05$ ). The study recommends expanding financial services to rural areas and urbanizing more regions in Namibia through infrastructure development to enhance financial inclusion among the youth and the development and implementation of youth-focused policies aimed at enhancing income-generating opportunities.

**Key words: Financial Inclusion, youth, logit model, Namibia, NFIS**

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## **LIST OF ABBREVIATIONS**

**2SLS – Two-Stage Least Squares**

**AALS – Affirmative Action Loan Scheme**

**Agribank – Agricultural Bank of Namibia**

**ATM – Automated Teller Machine**

**AUM – Asset Under Management**

**BON – Bank of Namibia**

**BW – Bank Windhoek**

**CGAP – Consultative Group to Assist the Poor**

**DBN – Development Bank of Namibia**

**DFS – Digital Financial Services**

**FBIB – Federation of Bosnia and Herzegovina**

**FGT – Foster Geer Thorbecke**

**FI – Financial Inclusion**

**FII – Financial Inclusion Index**

**FNB – First National Bank**

**FSAs – Farmers Support Agents**

**GDP – Gross Domestic Product**

**GFD – Global Findex Database**

**GLS – Generalized Least Squares**

**H3 – High Tech, Touch and Impact**

**IFC – International Finance Corporation**

**ILO – International Labour Organization**

**MAWLR – Ministry of Agriculture, Water and Land Reform**

**MFI – Microfinance Institutions**

**MMFs – Money Market Funds**

**NAMFISA – Namibia Financial Institutions Supervisory Authority**

**NB – Nedbank**

**NBFI – Non-Banking Financial Institutions**  
**(NFIS – Strategy) – Namibia Financial Inclusion Strategy**  
**NFIS – Namibia Financial Inclusion Survey**  
**NFSS – Namibia Financial Sector Strategy**  
**NHE – National Housing Enterprise**  
**NPSB – Namibia Post Office Saving Bank**  
**OECD – Organization for Economic Co-operation and Development**  
**SB – Standard Bank**  
**SD – Standard Deviation**  
**SDGs – Sustainable Development Goals**  
**SME – Small Medium Enterprises**  
**SSA – Sub-Saharan Africa**  
**VIF – Variance Inflation Factor**  
**WB – World Bank**

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## **DEDICATION**

This work is dedicated to my beloved sons, Sankasi Batsile Ian Ikosa and Sinvula Christian-Lian Ikosa. Sankasi, at just six years old, your curiosity, energy, and boundless enthusiasm inspire me every day. You remind me of the importance of pursuing dreams with passion and never losing the wonder that comes with learning and discovering the world. Sinvula, at one year old, your innocent smile and the pure joy you bring to our lives are a constant source of motivation and hope. Your presence is a testament to the beauty of new beginnings and the promise of a bright future.

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## DECLARATIONS

I, Sankasi Ian Ikosa, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution. No part of this thesis/dissertation may be reproduced, stored in any retrieval system, or transmitted in any form, or by means (e.g. electronic, mechanical, photocopying, recording or otherwise) without the prior permission of the author, or The University of Namibia in that behalf. I, Sankasi Ian Ikosa, grant The University of Namibia the right to reproduce this thesis in whole or in part, in any manner or format, which The University of Namibia may deem fit.

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**Date**

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Introduction**

Financial inclusion, defined as the access and usage of financial services by individuals and businesses, is a critical component of economic development and poverty alleviation efforts worldwide (Demirgüç-Kunt et al., 2018). Despite its importance, financial inclusion remains a challenge, particularly among young people, who often face barriers such as limited income, lack of financial literacy, and inadequate access to formal financial services (Demirgüç-Kunt et al., 2018; World Bank, 2018). Understanding the determinants of financial inclusion among the youth is crucial for policymakers and financial institutions to design effective strategies that promote financial inclusion and economic empowerment among this demographic group.

Namibia, like many developing countries, has made efforts to enhance financial inclusion among its population, including the youth. However, challenges persist, with youth in rural areas and those with lower incomes facing greater difficulties in accessing financial services (Demirgüç-Kunt et al., 2018). Therefore, it is essential to identify the factors that influence financial inclusion among the youth in Namibia to inform targeted interventions and policies.

This study aims to investigate the determinants of financial inclusion among the youth in Namibia using a logit model analysis. Specifically, the study will examine the impact of income, education level, location, access to financial services, remittances, saving behaviour, health status, and other relevant factors on financial inclusion among young individuals in Namibia. By identifying these determinants, this study seeks to provide

valuable insights for policymakers, financial institutions, and development practitioners working to enhance financial inclusion and promote economic empowerment among the youth in Namibia.

The Government of Namibia, understanding the significant contribution of an inclusive financial sector to the socio-economic development of the country, in 2012, launched the Namibia Financial Sector Strategy (NFSS), a long-term transformational and development strategy for the country's financial sector. The Strategy is aimed at guiding the achievement of the financial sector objectives as set out in the various national development plans and as such the focus is on developing a more competitive, resilient, effective and inclusive sector. Ultimately, the NFSS should contribute to broader desired goals such as fostering economic growth, poverty alleviation as well as reducing income inequality in the country. Enhancing financial inclusion is one of the key pillars of the NFSS. The Strategy set the target for Namibia to reduce the level of financial exclusion from the baseline level of 51 percent in 2007 to 26 percent by 2021.

It also established the governance structure (i.e. Financial Inclusion Council and an Advisory Body to the Council) to oversee the effective implementation of the financial inclusion related activities that would ensure the achievement of the set target. Over the past years since the launch of the NFSS, Namibia has made significant strides in implementing activities and projects aimed at enhancing financial inclusion across all three financial inclusion dimensions, namely consumer protection, financial literacy and access to finance. Below are highlights of some milestones achieved since the introduction of the Strategy.

- **Reduced Financial Exclusion:** The strategy aimed to bring financial services to more people. Namibia has seen a significant decrease in financial exclusion, with the percentage of unbanked adults dropping from over 50% in 2007 to 31%.
- **Improved Access to Financial Products:** This decline in financial exclusion indicates that more Namibians now have access to bank accounts, loans, and other financial products and services.

Efforts are still underway to further achieve the NFSS target of reducing financial exclusion to 26%.

## **1.2 Statement of the problem**

Despite various initiatives to enhance financial inclusion, a significant portion of the youth in Namibia remains excluded from formal financial systems, which impedes their economic empowerment and overall development. Understanding the factors influencing this exclusion is crucial for devising effective policies and interventions. This study aims to identify and analyse the determinants of financial inclusion among the youth in Namibia using a logit model analysis. By examining variables such as income, location, age, education level, saving behaviour, remittances, and health status, this research seeks to provide comprehensive insights into the barriers and enablers of financial inclusion for Namibian youth. The findings will inform the development of targeted strategies to improve financial accessibility and inclusivity, ultimately fostering economic growth and reducing inequality.

### **1.3 Objectives of the study**

The study seeks to investigate the primary factors that impact financial inclusion among young individuals in Namibia. Its aim is to examine various aspects of FI and identify the drivers that either facilitate or hinder the ability of young people to access and utilize financial services in the country. The specific objectives of the study are threefold:

1. To provide a comprehensive overview of the patterns and availability of financial products and services accessible to youth.
2. To identify the key drivers that either facilitate or impede the usage of financial products and services among young individuals.
3. To develop targeted interventions and strategies that promote financial inclusion and empower young people economically.

### **1.4 Hypothesis of the study**

Based on the objectives of the study, the following hypotheses were formulated:

#### **Hypothesis 1**

$H_0$ : There is no relationship between age and financial inclusion among young individuals in Namibia

$H_1$ : There is a positive relationship between age and financial inclusion among young individuals in Namibia. As age increases, the likelihood of being financially included also increases.

## **Hypothesis 2**

$H_0$ : There is no relationship between income and financial inclusion among young individuals in Namibia

$H_1$ : Higher income levels are positively associated with financial inclusion among young individuals in Namibia. Young individuals with higher income levels are more likely to be financially included.

## **Hypothesis 3**

$H_0$ : There is no relationship between location and financial inclusion among young individuals in Namibia

$H_1$ : There is a relationship between location and financial inclusion among young individuals in Namibia

## **Hypothesis 4**

$H_0$ : There is no relationship between saving behaviour and financial inclusion among young individuals in Namibia.

$H_1$ : There is an inverse relationship between saving behaviour and financial inclusion among young individuals in Namibia.

## **1.5 Significance of the study**

A study on Financial Inclusion among the youth in Namibia holds significant value as it can provide an in-depth examination of the factors influencing financial inclusion among the youth in Namibia. By employing a logit model, the research identifies critical determinants such as income, location status, education, age, health status, and

remittances, highlighting the complex interplay between these variables and financial inclusion.

The findings reveal that higher income, education level, and age are positively correlated with financial inclusion, while residing in rural areas, poor health status, and reliance on remittances have a negative impact on it. This study's insights are crucial for policymakers, financial institutions, and development agencies aiming to enhance financial inclusion among Namibian youth. The research underscores the need for targeted interventions and policies to address the unique challenges faced by young individuals in accessing financial services, thereby fostering greater economic participation and reducing financial disparities.

#### **1.6 Limitations of the study**

The limitations of the study largely stem from the Namibia Financial Inclusion Survey (NFIS) 2017 survey methodology. By interviewing only one eligible member from each sampled household, the survey may not capture a fully representative picture of the population's financial inclusion. This approach limits the diversity of perspectives and experiences that could be gathered from multiple household members, potentially skewing the findings.

Moreover, the exclusion of certain primary sampling units from the study poses a challenge to the generalizability of the results. This omission means that the study's conclusions might not be applicable to all segments of the population, thereby reducing the overall reliability and applicability of the findings.

The study also notes the importance of employing a more comprehensive measure of financial inclusion. Utilizing an index constructed from various financial measures could provide a more nuanced and accurate depiction of financial inclusion. This would enable a better understanding of the multifaceted nature of financial inclusion, beyond what single measures can offer.

Lastly, is the limited availability of comprehensive remittance data. Consequently, there is a need to improve data on remittance flows and develop standardized methods for recording remittances at the international level. From an academic perspective, high-quality remittance data are essential for formulating effective policy guidance. Only with such data can the effects of remittance flows, including those on financial inclusion, be accurately investigated. In particular, the measurement of informal remittance flows requires further research.

### **1.7 Delimitation of the study**

The study is designed to include youth from both urban and rural areas across Namibia, ensuring comprehensive coverage of the entire youth population as defined by the country's official standards. This approach guarantees that the study captures the experiences and perspectives of young individuals from diverse geographical locations. Furthermore, the study emphasizes gender inclusivity by ensuring representation from both male and female youth participants. This balanced inclusion aims to provide a thorough understanding of the financial inclusion dynamics among the youth in Namibia.

### **1.8 Research Ethics**

Ethics in research is essential to ensuring that scientific research is conducted in a responsible and respectful manner. Here is the ethical conduct that was adhered to in this study: Free will and informed consent was adhered to during the collection of data (NFIS 2017); Anonymity and confidentiality was adhered to during the analysis of the data and the results will be generalized to the entire Namibian country.

## **1.9 Outline of the study**

The study is structured into five chapters, each addressing different aspects of the research on financial inclusion among youth in Namibia. Chapter One introduces the study by providing a background, stating the problem, outlining the objectives, formulating the hypotheses, and discussing the significance of the study. It also highlights the limitations encountered during the research process.

Chapter Two delves into the literature review. Firstly, this chapter delves in the concept of financial inclusion in Namibia. Furthermore, it examines the various determinants influencing financial inclusion among the youth. This chapter sets the context and foundation for understanding the factors affecting financial inclusion in the target demographic.

Chapter Three details the methodology employed in the study. It covers the research design, data sources, data analysis techniques, and the econometrics package used to analyse the data. This chapter ensures transparency and replicability of the research process.

Chapter Four presents the results of the statistical analysis and discusses the research findings in depth. It interprets the data, explaining how the findings align with or diverge from existing literature and theoretical expectations.

Finally, Chapter Five concludes the study, summarizing the key findings and their implications. It also offers recommendations based on the research outcomes, suggesting policy measures and practical steps to enhance financial inclusion among the youth in Namibia.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Financial Inclusion in Namibia**

The financial services sector of Namibia consists of the banking industry (commercial banks and several other specialized banking/financial institutions) and non-bank financial institutions such as insurance companies, pension funds, smaller financial intermediaries in the form of stockbrokers and money market funds, and the Namibia Stock Exchange. Below is a summarized overview of the financial intermediaries operating in Namibia.

#### **2.1.1 The Banking Industry in Namibia**

For a significant period, the banking sector in Namibia has been dominated by four major banks: First National Bank Namibia (FNB), Standard Bank Namibia (SB), Bank Windhoek (BW), and Nedbank Namibia (NB). Although smaller banks have entered the market in recent times, the 2017 annual report of the Bank of Namibia reveals that these four largest banks collectively control about 98.9 percent of the total assets in the banking industry as of the end of 2017 (Bank of Namibia, 2017). This suggests that despite the entry of new banks, there has been little change in the concentration of the market, with smaller banks struggling to increase their market share against the dominance of the larger banks.

The 2010 study by the Bank of Namibia (BON) and Namibia Financial Institutions Supervisory Authority (NAMFISA) highlighted the issue of high fees and charges in the Namibian banking industry, which was found to be a significant barrier to financial inclusion for many in society (Bank of Namibia, 2010). To address this, regulatory standards were implemented, including the introduction of the Basic Bank Account and

the elimination of cash deposit fees on targeted accounts. These interventions were aimed at promoting financial inclusion and reducing the exclusion of individuals from the formal financial system in Namibia.

The commercial banking sector in the region offers a standard set of products and services, including long-term loans, credit cards, savings and current accounts, fixed deposits, investments, internet and cell phone banking, mortgage and vehicle financing, Forex, and international banking services. They also provide microloans to individuals and Small and Medium Enterprises (SMEs). The sector has expanded not only through new entrants but also through technological innovations such as online and cell phone banking, which have significantly increased financial inclusion (Bank of Namibia, 2010). Branch and agent networks have also expanded, with 163 bank branches and 62 agencies by the end of 2017 (Bank of Namibia, 2017).

**Table 1. Number of branches and agencies in the Banking sector of the past six years**

	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Branches</b>	99	105	111	126	139	163
<b>Agencies</b>	72	73	73	68	61	62
<b>Total</b>	171	178	184	194	200	225

Source: Bank of Namibia annual report 2017

### **2.1.2 Specialized financial institutions**

Namibia has four other banking or specialized financial institutions—Agricultural Bank of Namibia (AgriBank), Development Bank of Namibia (DBN), Namibia Post Office Savings Bank (NPSB), and National Housing Enterprise (NHE). These institutions are

autonomous government-owned entities and do not fall under the regulatory authority of the central bank (Bank of Namibia). They provide a specific range of financial products tailored to specific target populations.

The Agricultural Bank of Namibia, established in 1990, operates seven branches across Namibia. It focuses on providing financial assistance to agricultural development and small-scale farmers, offering loans that cover the entire agricultural value chain, from land acquisition to marketing. The loans are intended to help farmers expand their operations and transition into income-generating producers. The Agricultural Bank of Namibia offers various products tailored to farmers, including production loans, livestock loans, infrastructure loans, vehicle and tractor loans, bush encroachment loans, a loan consolidation facility, and the Affirmative Action Loan Scheme (AALS). The AALS is designed for emerging commercial farmers, specifically previously disadvantaged individuals who have acquired farming land through the Ministry of Agriculture, Water and Land Reform (MAWLR), with the goal of transitioning small-scale and communal farmers into commercial farmers.

The Development Bank of Namibia, wholly owned and funded by the Government of Namibia, aims to support the country's industrial development. The Development Bank of Namibia (DBN) offers SME finance, including direct loans, working capital, and credit lines, as well as SME contract-based finance for working capital needs of businesses awarded contracts or tenders. Following the closure of the SME Bank, DBN has become the primary government lender for SMEs.

NamPost Savings Bank (NPSB) has a wide-reaching branch network, especially in rural areas, surpassing commercial banks. Besides savings accounts, NPSB offers various

services including money transfers, insurance and pension payment services, bill payments, salary and wage services, deposits and withdrawals, loan collection services (e.g., National Housing Enterprise (NHE)), and premium collections. NPSB targets impoverished individuals in areas with limited banking access, offering tax-free interest rates. In recent years, NPSB has implemented Smartcard technology to enhance service efficiency and cost-effectiveness, issuing over 500,000 Smartcards by early 2018.

The National Housing Enterprise (NHE) is a state-owned entity under the Ministry of Urban and Rural Development in Namibia. It aims to foster home ownership by providing housing solutions, addressing the country's housing needs. NHE's primary activities include acquiring land from local authorities, constructing houses, and offering housing loans to low and middle-income individuals.

### **2.1.3 Non- Banking Financial Institutions**

Namibia's non-banking financial industry (NBFI) has expanded over the years, showcasing a sophisticated and well-developed financial system. Despite the potential risks from concentration, the sector remains a key intermediary in the economy, as shown by its high assets-to-GDP ratios (Gross Domestic Product) (Bank of Namibia, 2017). For instance, as per the Financial Stability Report of April 2017, the pension funds and investment subsectors have maintained ratios above 80% and 90% respectively, indicating their substantial presence and influence in the economy (Bank of Namibia, 2017).

The largest segment of Namibia's non-banking financial industry (NBFI) is the pension system, which includes a universal, non-contributory pension and occupational schemes, covering around 30% of the labor force. The Government Institutions Pension Fund

(GIPF) is the dominant player, providing a fully funded defined benefit scheme for over 100,000 public sector employees. In the private sector, around 200,000 workers are covered by voluntary occupational pensions, mainly through defined contribution schemes.

Namibia's unit trust market is substantial, amounting to 32% of GDP. It comprises 67-unit trusts managed by twelve domestic companies, with Assets Under Management (AUM) totaling N\$51 billion as of June 2017. The distribution of AUM includes 56% in money market funds (MMFs), 19% in managed funds, 12% in absolute return funds, and the rest in pure equity, income, and property funds. High-net-worth individuals primarily hold unit trust products, often through stockbrokers and investment advisors.

#### **2.1.4 Saving and Credit Co-operatives**

A cooperative in Namibia is described as a self-governing group of individuals who come together voluntarily to fulfill their shared economic, social, and cultural goals through a collectively owned and democratically managed business. According to the Ministry of Agriculture, Water, and Forestry, which oversees cooperative registration, Namibia had around 146 registered cooperatives in 2016, with approximately 11,988 members in total (Food and Agricultural Organization of the United Nations, n,d).

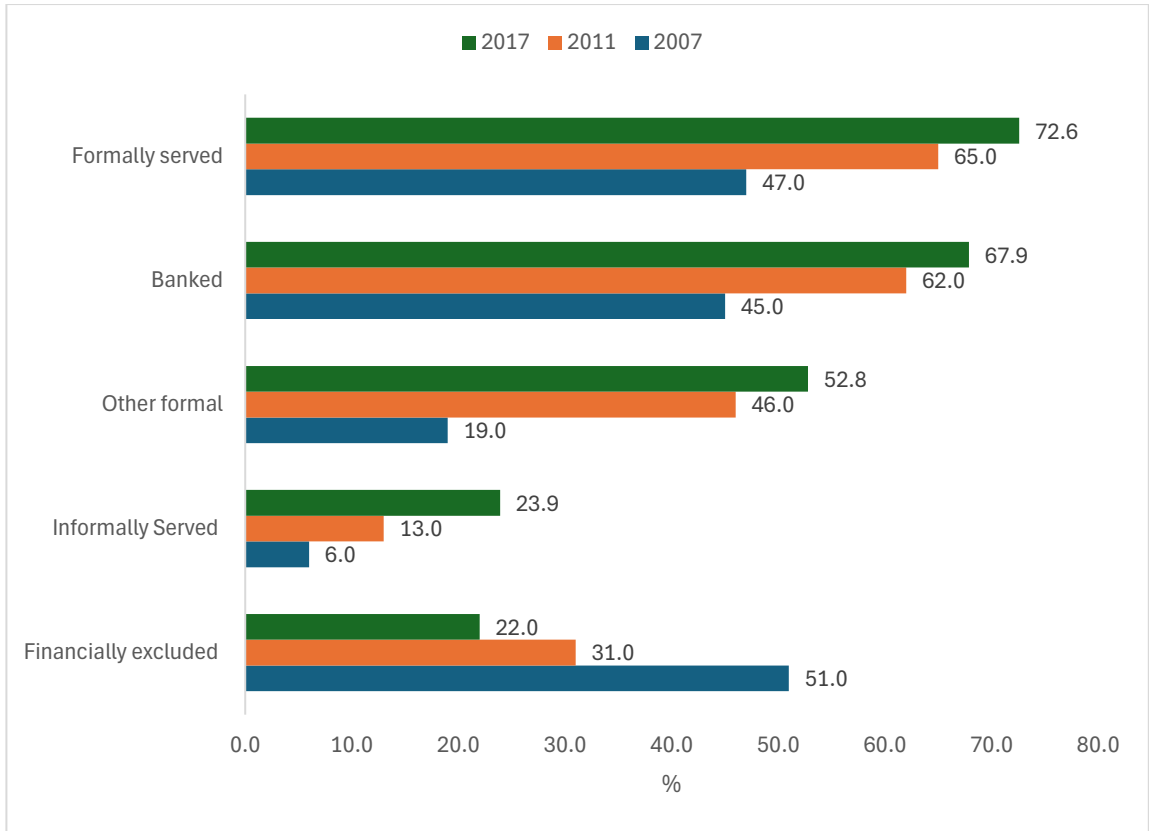
Cooperatives in Namibia represent only 0.5% of the eligible population. The majority, about 73.9%, are in the agricultural sector, with 8.2% in manufacturing, 5.5% in arts and crafts, 3.4% in small-scale mining, and 1.3% in construction. Only 6.8% are involved in financial services, such as savings and credit. There are ten saving and credit cooperatives registered, including those for teachers and employees in the Ministry of Agriculture,

Water, and Forestry. However, many of these cooperatives have very few members, indicating low participation and suggesting a need for awareness campaigns to promote a savings culture in Namibia (Food and Agricultural Organization of the United Nations, n,d).

### **2.1.5 Level of Financial Inclusion in the Namibian Context**

Figure 1 illustrates the levels of financial inclusion in Namibia. It indicates a decline in financial exclusion from 31% in 2011 to 22.0% in 2017. This suggests an improvement in access to formal financial services over this period (NFIS, 2017).

- 72.6% (1,058,929) of eligible Namibians have access to formal financial products or services, such as those offered by banks or non-bank institutions. This indicates a significant level of formal financial inclusion among the population.
- 67.9% of Namibia's adult population is considered banked, meaning they use at least one financial product or service offered by a bank. This suggests a relatively high level of banking access among adults in the country.
- More than half (52.8%) of Namibia's population uses at least one formal non-bank financial product or service. This indicates a notable level of access to formal financial services outside of traditional banking institutions.
- 23.9% of Namibia's population utilizes informal financial products or services. This indicates a significant reliance on informal financial mechanisms outside of formal banking and non-bank institutions.



Source: NFIS 2017

**Figure 1: Levels of Financial Inclusion in Namibia**

## **2.2 Theoretical Framework**

### **2.2.1 Introduction**

Financial inclusion for youth is a critical aspect of sustainable development, enabling young individuals to access and benefit from financial products and services that can help them build a secure financial future. Despite progress in expanding financial access globally, many young people still face barriers that limit their ability to participate fully in the formal financial system (Demirgüç-Kunt et al., 2018). Understanding the patterns and availability of financial products and services accessible to youth is essential for designing effective policies and programs to enhance their financial inclusion. This overview explores the current landscape of financial inclusion for youth, highlighting key patterns, challenges, and opportunities for expanding access to financial services for this demographic.

Furthermore, financial inclusion, the access to and usage of formal financial services, is essential for fostering economic development and reducing poverty worldwide. Young people, particularly in developing countries, often face significant barriers to financial inclusion, such as limited access to banking services, low levels of financial literacy, and a lack of suitable financial products. Empowering young individuals economically through financial inclusion is crucial for their future and for broader societal development. This study explored interventions and strategies aimed at promoting financial inclusion among young people, with a focus on enhancing their economic empowerment and contributing to sustainable development goals.

### **2.2.2 Overview of the patterns and availability of financial products and services accessible to the youth.**

Financial inclusion for youth is essential for fostering economic empowerment and long-term stability. Access to financial products and services allows young individuals to manage their finances, save for future needs, and invest in opportunities that can improve their livelihoods. However, the patterns of financial inclusion among youth reveal disparities in access and usage, often influenced by geographical, economic, and educational factors (Soumare et al. 2016).

The financial landscape for the youth today is characterized by a diverse array of products and services tailored to meet their unique needs and aspirations. From innovative savings accounts designed for teenagers to investment options like mutual funds and stocks, young individuals have an overabundance of choices to start their financial journey. Digital platforms and applications have made these services more accessible, allowing the youth to manage their finances with ease. Moreover, financial education initiatives are increasingly becoming a part of these offerings, equipping young people with the knowledge to make informed decisions.

In recent years, remittances have emerged as a significant financial flow in the global economy, particularly for developing countries, Namibia included. These funds, sent by migrants to their home countries or regions, have the potential to play a crucial role in enhancing the economic well-being of receiving communities. By examining the dynamics of remittance flows and their impact on the financial behaviour of young recipients, a study by Kokorović Jukan et al. (2020) investigated remittances as an opportunity to increase savings and financial inclusion of youth in South-East Europe and

the results from the study showed a negative impact of remittances on youth financial inclusion in selected countries with respect to having debit card, credit card and borrowing. On the other hand, the results also showed a positive effect of remittances on savings among youth that receive remittances.

In the digital age, the rise of online and mobile banking has revolutionized the way individuals manage their finances, and several studies have been conducted in this sphere. A study by (Sangar & Burad, 2022) investigated the relationship between the awareness and usage of these banking platforms among the youth and selected variables. By understanding the dynamics of this relationship, the research aimed at identifying key factors that influence the adoption of digital banking services among young individuals. Results from a chi-square test of this study revealed that there is a strong correlation between respondent categories (economically independent versus economically dependent) in three of the variables i.e., opening an account, paying utility bills online, and online shopping. Furthermore, the study showed that opening an account, paying utility bills, checking balance, and transferring money are the four uses of mobile banking that have a significant correlation with the respondent's economic independence or dependence. In the case of online banking awareness, there is a strong correlation between the respondent's annual family income and three variables: opening an account, checking balance, and paying utility bills. In terms of mobile banking awareness, there is a significant correlation between opening an account, checking the balance, transferring money, and paying utility bills. In all cases, there is a strong correlation between the respondent's annual family income and the use of online banking.

Consequently, a study by (Chamboko, 2022) investigated the role of gender and age in the use of digital financial services (DFS) in Zimbabwe. The hypotheses were that women and youth in Zimbabwe were less likely to use digital financial services to receive income, make payments for goods and services and less likely to use mobile money frequently compared to their counterparts and the results from multivariate logit models controlling for some socio-economic factors, showed that in Zimbabwe, gender is not a significant predictor of receiving income through digital means, making payments for goods and services digitally, or for frequency of DFS use. On the other hand, youth lag in the use of DFS, especially for making payments for goods and services, and in the frequency of use. In addition, besides the findings on gender and age, the study also revealed that the level of education, the source of income, locality, and the level of income are important determinants of how individuals use DFS in Zimbabwe. The study concludes that, even though gender was found not to be a significant predictor of DFS use, with consistency across both rural and urban areas, further research may be considered that will use smaller delineations and conduct spatial analyses to investigate possible variations in DFS use by gender which may help inform target interventions to ensure that both men and women in every part of the country have access to and meaningfully use DFS.

Microfinance institutions (MFIs) play a pivotal role in providing financial services to underserved populations, with loan provision being a key aspect of their operations. Understanding the predictors of loan utilization and delinquency among microfinance borrowers is crucial for the sustainability of these institutions and the financial well-being of their clients. Factors such as the borrower's income level, financial literacy, loan size, and repayment history can significantly influence loan utilization patterns and the

likelihood of delinquency. Additionally, external variables such as economic conditions, social networks, and the regulatory environment may also impact borrower behaviour. A study done by (Chamboko & Guvuro, 2022) on the predictors of loan utilization and delinquency among microfinance borrowers in Zimbabwe hypothesized that microfinance institutions (MFIs) loan utilization is concentrated among those who are in the poorest strata of the population i.e. women, youth, and low-income earners and that those in the poorest strata of the population have a high propensity to repay their loans compared to other groups and found that microfinance loans were significantly more likely to be accessed by low-income individuals, who took small loans with relatively high instalments. Furthermore, women were less likely to access microfinance loans, and reliable borrowers were more likely to access repeat loans. In conclusion the study showed that, the level of income, number of previous loans and loan term explained the delinquency among borrowers and that policies that seek to improve access to credit for women and youth remain a priority.

Financial security is not merely about accumulating wealth; it's about safeguarding one's peace of mind and ensuring stability in an uncertain world. In today's society, where economic landscapes can shift rapidly, the need for financial security is paramount. It's about having the means to weather unexpected storms, whether they come in the form of sudden expenses, job loss, or unforeseen health issues. However, individual financial security is intricately linked to the broader concept of a safe society. A society that prioritizes safety, equality, and opportunity for all fosters an environment where individuals can thrive and achieve financial stability. (Chinekesh et al., 2017) in a study

to investigate a sense of social security found that most participants agreed on the important role that a sense of security has in their lives and their health

Bank account ownership is a critical aspect of financial inclusion for the youth. Data indicates that while a considerable portion of urban youth have access to bank accounts, rural youth face significant challenges due to limited banking infrastructure and services. For instance, a study by the World Bank highlights that the percentage of youth with bank accounts in urban areas is substantially higher compared to rural regions, where access to financial institutions is often sparse (World Bank, 2018). This urban-rural divide necessitates targeted interventions to ensure that young people in remote areas can also benefit from financial services.

Savings behaviour among youth is another important dimension of financial inclusion. Many young individuals prefer informal savings methods due to a lack of trust in financial institutions or the absence of suitable savings products. According to the Global Findex Database, only about 46% of youth globally save at a financial institution, with many opting for informal saving due to convenience and accessibility issues (Demirgüç-Kunt et al., 2018). Efforts to encourage formal savings include dedicated youth savings accounts and financial literacy programs designed to build trust and awareness among young savers.

Access to credit for youth is crucial for supporting their educational and entrepreneurial endeavours. However, young people often face difficulties in obtaining credit due to a lack of credit history or collateral. The availability of youth-targeted credit products, such as student loans and microloans, is intended to address these barriers. Despite these initiatives, the uptake of credit products among youth remains limited. A report by the

International Finance Corporation (IFC) underscores that youth in developing countries particularly struggle with accessing credit, highlighting the need for more inclusive and youth-friendly credit solutions (IFC, 2019).

Insurance coverage among youth is relatively low, posing a risk to their financial security. Access to insurance products tailored to the needs of young people, such as health and life insurance, is essential for mitigating financial risks. However, many young individuals are either unaware of or do not perceive the value of insurance. Research by the International Labour Organization (ILO) reveals that insurance penetration rates among youth are low, partly due to a lack of awareness and financial literacy (ILO, 2020). Increasing awareness and making insurance products more accessible are critical steps towards improving financial inclusion for youth.

Several factors influence financial inclusion among youth, including income levels, education, geographical location, and technological access. Higher income levels correlate positively with financial inclusion, as individuals with stable incomes are more likely to access and utilize financial services. Educational attainment also plays a significant role, with financial literacy programs proving effective in increasing youth engagement with financial products. For instance, a study by the Organisation for Economic Co-operation and Development (OECD) indicates that financial education significantly enhances young people's ability to manage financial products effectively (OECD, 2018). Furthermore, geographical disparities, particularly between urban and rural areas, impact access to financial services, with rural youth facing more significant barriers due to inadequate infrastructure.

Despite the availability of various financial products and services, numerous barriers persist. Economic barriers, such as income instability and high costs associated with financial services, hinder youth from fully engaging with the financial system. Social and cultural barriers, including a lack of financial literacy and cultural attitudes towards banking, also play a significant role. Technological barriers, such as limited access to digital devices and the internet, exacerbate the issue, particularly in rural areas.

To address these challenges, targeted policy recommendations and initiatives are essential. Government policies should focus on creating youth-specific financial inclusion strategies, supporting financial literacy programs, and fostering partnerships between financial institutions, educational bodies, and non-governmental organisations. Financial institutions need to innovate and develop products that cater to the unique needs of youth, while technological advancements should be leveraged to promote mobile banking and improve digital infrastructure.

Case studies of successful financial inclusion initiatives targeting youth demonstrate the potential for positive change. Programs that combine financial literacy education with accessible savings and credit products have shown promising results in increasing youth financial engagement. For instance, the Youth Save initiative, which provides tailored savings accounts and financial education, has successfully increased savings rates among youth in several countries (CGAP, 2019). These examples provide valuable insights into effective strategies and highlight the importance of continuous efforts to enhance financial inclusion for youth.

In conclusion, while significant challenges remain in achieving comprehensive financial inclusion for youth, there are substantial opportunities for improvement. By addressing

barriers and leveraging technological innovations, stakeholders can create a more inclusive financial environment that empowers youth and supports their economic development. Ensuring that young people have access to a range of financial products and services is crucial for building a more equitable and prosperous future.

### **2.2.3 Key drivers that facilitate or impede the usage of financial products and services among young individuals.**

Financial inclusion among young individuals is a critical component of economic development, yet many factors can either facilitate or impede their access to and usage of financial products and services. Understanding these key drivers is essential for policymakers, financial institutions, and other stakeholders seeking to promote financial inclusion. By examining the factors that impact young individuals' engagement with financial services, we can identify strategies to enhance their access and participation in the financial system, ultimately fostering greater economic empowerment and stability and several studies have been conducted in this sphere.

Financial exclusion refers to the lack of access to mainstream financial services and products, such as banking facilities, loans, and insurance, experienced by certain individuals or groups within a society. This exclusion can result from various factors, including low income, lack of documentation, geographical remoteness, or discrimination. Financial exclusion can have profound effects on individuals and communities, limiting their ability to save, invest, or protect themselves against financial shocks. Understanding the causes and consequences of financial exclusion is crucial for developing targeted interventions to promote financial inclusion and ensure that all members of society have access to the financial services they need to thrive.

### **2.2.3.1 The impact of Income on financial inclusion**

The usage of financial products and services among young individuals is influenced by a range of factors that either facilitate or impede their financial inclusion. One of the key drivers facilitating financial inclusion is income. Higher income levels enable young individuals to access and utilize financial products and services, as they have more disposable income to save, invest, and spend through formal financial channels. Studies have shown a significant positive correlation between income and financial inclusion, indicating that individuals with higher incomes are more likely to be financially included (Muthinja & Chipeta, 2018). This trend is observed in Namibia, where individuals with higher incomes are often paid through banks due to the convenience and security it offers, reducing the risk of theft and other crimes associated with cash handling (Bank of Namibia, 2020).

There are several studies paired with income that have been conducted over the years such as those conducted by Abrahams et al. (2023), Benaini and Metair (2022), Evans (2016), Rashdan and Eissa (2020) and Saxena and Gupta (2021).

Firstly, a study by Abrahams et al., (2023) investigated the experiences of university students with disabilities in Ghana, Ethiopia and South Africa. The study utilized a participatory approach, focus groups were conducted with youth with disabilities aged between 18 and 35 who were attending university and who self-identified themselves as having motor, communication, vision, hearing or mental health disability. The study utilized qualitative descriptive methods in the analysis of the data. The study's findings

indicate that access to education and inclusion is hindered by factors such as insufficient financial support, the inaccessibility of university services and physical spaces, and the presence of harmful attitudes. The study concluded that even though some universities are making a concerted effort toward inclusion and accessibility, more work still needs to be done.

Secondly, Benaini and Metair, (2022), using the Autoregressive Distributed Lag (ARDL) approach, conducted a study on the determinants of financial inclusion in Algeria. They used dimension such as automated teller machines (ATMs) per 100,000 adult, commercial bank branches per 100, 000 adults, borrowers from commercial banks per 1,000 adults, domestic credit to GDP ratio, and depositors of commercial banks per 1,000 adults as indicators of financial inclusion. The first two measurement criteria relate to the accessibility of banking products/services and the last three relate to the usage of banking services as dimensions of financial inclusion. These financial inclusion dimensions were then used to construct the financial inclusion index. Using the dataset provided by the World Bank, the study's empirical results found that the composite index of financial inclusion (FII) based on three dimensions is bounded from 0.08 to 0.51, which is proportionally small. Furthermore, the estimation findings revealed a positive relationship between financial inclusion index and GDP per capita as a proxy of incomes, population, oil rent, interest rate, while money supply is not a significant factor. However, a strong positive relationship is found between FII and corruption, and fixed phone subscriptions as a measure of internet access, which means these are the most important determinants of FII in Algeria. The study concluded that expanding the scope of the use of electronic money, with the extensive use of financial technology, which is one of the most important

aspects of progress in the provision of banking services, is what Algerian banks must keep pace with, to achieve speed in the performance of services and reduce bureaucratic burdens.

In addition, Evans (2016) investigated the determinants of financial inclusion in Africa from 2005 to 2014 using dynamic panel data. The study analysed annual data from the World Development Indicators, focusing on factors such as the number of depositors with commercial banks, GDP per capita, deposit interest rates, inflation, money supply, population, credit to the private sector, internet users, secure internet servers, and adult literacy rate across 15 African economies. The econometric model revealed that per capita income, broad money, literacy, internet access, and Islamic banking significantly influence financial inclusion. In contrast, domestic credit by the financial sector, deposit interest rates, inflation, and population are found to be insignificant. The study emphasized the importance of these findings for African central banks, policymakers, and commercial bankers in promoting financial inclusion for the poor.

Furthermore, Rashdan and Eissa (2020) investigated the determinants of financial inclusion in Egypt using the World Bank's Global Findex 2017 database, employing logistic regression analysis. The study found no significant relationship between gender and financial inclusion but noted that wealthier, more educated, and older individuals are more likely to be included in the financial system. Lack of money was identified as the primary barrier to financial inclusion, hindering access to formal accounts, savings, and credit. The study concluded that to achieve positive economic growth through financial inclusion in the Egyptian economy, there is a need for progressive policy measures that prioritize robust financial literacy and awareness initiatives.

Lastly, Saxena and Gupta (2021) conducted a review paper on financial inclusion in the Indian context, aiming to summarize existing literature on the topic. The study utilized secondary data from research articles and books, primarily sourced from 'Google Scholar' and other platforms. The findings highlighted a positive association between inclusive financing and various growth and development parameters. Demographic factors such as age, gender, literacy, and income were identified as significant influencers of financial inclusion. The study recommends several corrective measures to enhance financial inclusion. These include establishing financial centres to improve financial literacy, utilizing mediator services to facilitate access to financial services, and focusing on including segments of the population that have been left out of the financial system.

### **2.2.3.2 The impact of Education on financial inclusion**

Education is another critical factor that promotes the usage of financial services among young individuals. Higher levels of education are associated with greater financial literacy, which in turn increases the likelihood of using formal financial services (Cole, Sampson & Zia, 2011). Educated individuals are more likely to understand the benefits and functionalities of financial products, leading to increased adoption and usage. In Namibia, there is a significant positive correlation between education levels and financial inclusion, with educated individuals demonstrating higher usage of banking services and other financial products (Mekonen, 2021).

There is a couple of studies paired with education that have been conducted over the years such as those conducted by Abel et al., (2018), Aslan (2022), Mhlanga and Denhere (2020), Wentzel et al., (2016), and Zulfiqar et al. (2016).

A study by (Abel et al., 2018) reviewed the determinants of financial inclusion in Zimbabwe. Using the logit model to analyse the data, the study revealed that age, education, financial literacy, income, and internet connectivity are positively related to financial inclusion. Furthermore, the study also showed that the documentation required to open bank accounts and the distance to the nearest access point are negatively related to financial inclusion. The study recommends that the government should put in place policies that encourage financial service providers to set up their operations closer to the people or ensure they adopt technologies that ensure financial services are more accessible such as agency and mobile banking. Finally, the study encourages the government to use Know Your Client (KYC) lite accounts to ease documentation requirements without compromising anti-money laundering framework which can destabilise the financial system.

Secondly, Aslan (2022) conducted a study focused on enhancing youth and women's financial inclusion in South Asia. The study first constructed a multidimensional index of financial inclusion for South Asian countries using the Joint Correspondence Analysis (JCA) method which is a factor-analytic technique for categorical variables (Greenacre, 2017). Using this index, the study combined individual-level information with country-level data, including policies and structural characteristics, to analyse the determinants of individual financial inclusion at both micro- and macro-levels for South Asian youth. The study found that education level, formal employment, possession of a national ID, and government expenditure on education and health are key drivers of financial inclusion. It also highlighted the increasing importance of education level for those in the lower income quantile. The study concluded that increased government expenditure on education and

health could significantly enhance financial inclusion for youth in South Asia, particularly females.

Another study by Mhlanga and Denhere (2020) investigated the determinants of financial inclusion in Southern Africa with a specific focus on South Africa. The study revealed that financial inclusion is driven by age, education level, the total salary used as a proxy for income, race, gender, and marital status. The study concluded that governments in Africa should encourage the use of financial services and products among women, Black Africans, coloureds, and the youth.

In addition, another study by Ribaj et al. (2020) investigated issues related to the financial education of youth in a developing country (the case of Albanian youth). The study aimed to examine youth perception of financial education, and the empowering role education can play. The analysis of the study was based on surveying 300 Albanian students of which 283 completed the survey. The study's findings indicate that over 60% of Albanians believe the national objective of "empowering youth" has not been achieved. This is attributed, in part, to an outdated education strategy and absence of adequate financial education programmes for young people. Government, regulators and private organizations must collaborate and invest in the financial education of youth, for the future will be the product of such efforts that are made today.

Furthermore, a study by Wentzel et al. (2016) investigated factors impacting financial exclusion at the bottom of the pyramid in South Africa using a Logistic Regression Model. The study's findings showed that the most significant factors associated with being financially excluded at the bottom of the pyramid in South Africa were educational level, primary source of income, age, home language and number of dependents. The study

further found that gender, relationship status and home ownership were not associated with being financially excluded. An interesting finding was that living in a rural area as opposed to an urban area was not significantly associated with being excluded. The study concludes that factors associated with being financially excluded, such as low levels of education and high levels of unemployment, are more prevalent in rural areas than urban areas. Addressing these factors may have a greater impact on reducing financial exclusion in rural areas than attempting to provide greater access to financial services.

Lastly, Zulfiqar et al. (2016) studied financial inclusion and its role in inclusive growth in Pakistan using data from the Global Findex database (2014), which covers 147 countries. The study employed probit models to analyse factors shaping financial inclusion and perceived barriers to it. They found that education level, income, and gender discrimination are key determinants of financial inclusion. Additionally, lack of money and complex formalities were identified as significant barriers to accessing financial services. The study underscores the importance of providing comprehensive and easy access to financial services for all segments of society. It argues that such access is crucial for promoting and enhancing sustainable inclusive economic growth, which benefits everyone.

### **2.2.3.3 Factors that impede financial inclusion**

Conversely, several factors impede the usage of financial products and services among young individuals. Rural location is a significant barrier, as young people in rural areas often face limited access to banking infrastructure and financial services. The logistical challenges of reaching banks and ATMs, coupled with the higher costs associated with such travel, discourage many from engaging with formal financial systems (Demirgüç-

Kunt & Klapper, 2012). In Namibia, the urban-rural divide is pronounced, with urban residents having significantly better access to financial services compared to their rural counterparts (World Bank, 2022).

Health status also plays a crucial role in financial inclusion. Poor health can limit an individual's ability to work and earn an income, thereby reducing their capacity to engage with financial services (Levine, 2020). In Namibia, individuals with poorer health are less likely to be financially included, as they often face higher medical expenses and lower earning potential, which restricts their ability to save or invest in financial products (Ministry of Health and Social Services, 2023).

There are several studies paired with factors that impede financial inclusion such as health status, lack of documentation and behaviour of saving and remittance activities. In some cases, individuals who save money outside the formal financial system or rely heavily on remittances may not see the need to engage with banks or other financial institutions. This is particularly true in contexts where informal savings groups or familial remittance systems are deeply ingrained in the community (Dupas & Robinson, 2013). In Namibia, the inverse relationship between saving behaviour and financial inclusion suggests that those who prefer to save informally are less likely to use formal financial services (Bank of Namibia, 2020). These studies include studies conducted by Bekele (2023), (Girón et al, 2022), and (Johnsen et al., 2022).

Firstly, a study by Bekele, (2023) investigated a comparative analysis of the factors affecting financial inclusion in Kenya and Ethiopia at macro and micro levels. The study utilized descriptive analysis and found that Kenya has a higher level of financial inclusion than Ethiopia. Differences in financial liberalization policy, gross domestic product,

percentage of rural population, and mobile money service expansion are some macro-level differences that could explain this variation. Differences in literacy rates and means of receiving payments such as government transfers explain some of the micro-level variations between the two countries. In addition, gender, age, employment status, and owning a mobile phone have significant and positive effects on financial inclusion. However, lack of documentation, lack of trust, and lack of money are significant barriers to financial inclusion. The study concludes that even though Kenya has a higher financial inclusion level than Ethiopia, there is still a large percentage of financially excluded adults. Thus, Kenya should further improve its financial inclusion level by reducing barriers such as lack of documentation and lack of trust by simplifying the documentation challenge and creating awareness to develop trust.

Another study by, Girón et al, (2022) Examined financial inclusion measurement in the least developed countries in Asia and Africa. The study used data collected from the Global Findex database (GFD) 2017 of the World Bank measuring financial inclusion among adults worldwide, with recorded variables including gender, age, and household income. The database was compiled using surveys in more than 140 developing and high-income countries and features data on access to and use of formal and informal financial services, including how people make payments, save money, borrow, and manage risk and the use of mobile phones and internet technology to conduct financial transactions. To identify the degree of financial inclusion in the selected countries, the study utilizes a probit regression model using Stata. The study results showed that young people and women are groups excluded from financial inclusion and that education and income are two of the key pillars for increasing financial inclusion. Furthermore, the results revealed

that a higher level of financial inclusion increases the level of official savings in countries, which in turn promotes their development. The conclusion of the study findings is that its results are beneficial for policymakers in the least developed countries to promote innovative approaches to enhance the involvement of excluded people in formal finance.

Lastly, Johnsen et al., (2022) investigated workplace inclusion of people with health issues, immigrants, and unemployed youths. The study aimed to explore leader's perceptions and experiences of facilitators and barriers for successful workplace inclusion of immigrants, unemployed youths, and people who are outside the labour market due to health-related issues by employing the semi-structured individual interviews. The study applied systematic text condensation to analyse the data of which the results revealed that job match, including the perception of workers' motivation, respect for workplace policies, and the availability of appropriate accommodation at the workplace, facilitated work inclusion. Furthermore, an active public support system providing professional and financial support to workers and leaders was also an important facilitating factor. The study concluded that workplace inclusion of this population of marginalized people was facilitated by job match, mutual respect, commitment, and trust, as well as financial and practical support from the public support system.

In summary, while income and education significantly facilitate the usage of financial products and services among young individuals, factors such as rural location, poor health, and reliance on informal savings and remittances impede financial inclusion. Addressing these barriers through targeted policies and initiatives can enhance financial inclusion for young individuals, particularly in developing countries like Namibia.

## **2.2.4 Interventions and strategies that promote financial inclusion and empower young people economically.**

Financial inclusion is crucial for the economic empowerment of young people, particularly in developing countries. Effective interventions and strategies can significantly enhance the financial inclusion of young individuals, providing them with the tools and opportunities needed for economic growth and stability. One key strategy is the implementation of financial literacy programs. These programs are designed to equip young people with the knowledge and skills necessary to make informed financial decisions, manage personal finances, and utilize financial services effectively.

### **2.2.4.1 Financial literacy programs**

Financial literacy is the cornerstone of a healthy financial life. It involves understanding and effectively using various financial skills, including personal financial management, budgeting, and investing. Being financially literate means having the knowledge and confidence to make smart financial decisions, which can lead to a more secure and prosperous future. It's about knowing how to manage debt, save for emergencies, and plan for retirement. In an age where financial choices are more complex than ever, financial literacy is not just a luxury but a necessity. It empowers individuals to navigate the financial landscape with ease, ensuring they can meet their financial goals and withstand economic challenges. Studies have shown that financial literacy is positively correlated with financial inclusion, as it enhances individuals' understanding of financial products and services, thereby increasing their likelihood of using them (Atkinson & Messy, 2012).

There are several studies paired with financial literacy that have been conducted over the years such as those conducted by Abdullahi Sakanko et al. (2023), Idris et al. (2016), Ribaj et al. (2020), Koomson et al. (2022), Moreno-Garcia et al., (2022), and Omakhanlen et al. (2021).

Firstly, a study conducted by Abdullahi Sakanko et al., (2023) showed that financial literacy positively and statistically influences financial inclusion options (account ownership, bank access, and credit access) and that education status, age and gender are determinants of financial inclusion. Finally, the study concluded that financial literacy is necessary for achieving financial inclusion, therefore, to encourage financial inclusion among the youth, the government should include financial education in secondary schools and tertiary institutions to teach skills and information on how to utilize and manage financial services and products. Furthermore, the central bank should also mandate that financial institutions establish customer financial advisory units to educate their clients on managing and using financial products and services available to them to create wealth, thus improving their living standards.

Secondly, a study by Idris et al., (2016) investigated on financial literacy and debt burden among Malay youth workers in Malaysia. The main objective of the study was to understand the financial literacy and the debt burden among youth workers in Malaysia by adopting a qualitative methodology that involved semi-structured in-depth interviews. Results from the study showed that Malay youth workers had limited knowledge about shares (stocks). In addition, home loan was a major contributor to the debt burden among the youth workers.

In addition, a study by Koomson et al. (2022) investigated the effects of financial literacy on poverty reduction across Kenya, Tanzania, and Uganda where they found that an increase in financial literacy is associated with a 6.9% decrease in poverty. Moreover, the study also found that entrepreneurship and financial inclusion act as mechanisms of change through which financial literacy decreases poverty, with the findings differing by gender and locality. From this study, we can conclude that, by promoting financial literacy, we can break the cycle of poverty by empowering people to take control of their finances, set achievable goals, and work towards financial stability and independence.

Furthermore, Moreno-Garcia et al., (2022) investigated financial knowledge among high school students aged between 16 and 19 years in Veracruz. The study's objective was to determine the structure of variables that explain the knowledge that Mexican high school students have of financial topics. The study revealed that there was no gender difference in the financial knowledge among the students with a conclusion that, high school institutions in Mexico have not yet included subjects whose objective is personal finance education and hence the need for strengthening financial education of students is advisable to contribute to their future inclusion in the financial system.

Lastly, a study by Omakhanlen et al. (2021) examined the impact of economic and financial literacy on the spending behaviour of public servants in Lagos State, Nigeria. The study aimed to determine how the financial literacy levels of public servants influence their spending behaviour. Descriptive statistics and multiple regression models were used to analyse the data, revealing a positive correlation between financial literacy and spending behaviour. The study suggests that individuals with lower financial management knowledge are at higher risk of poor spending behaviour. The study concludes that there

is a need for more efforts to educate youth about financial management. It also introduces the concept of digital financial inclusion, which refers to the accessibility and usage of digital financial services by individuals and businesses who are underserved or excluded from traditional banking. With the increasing use of digital technologies such as mobile phones and the internet, digital financial services offer a convenient and cost-effective way to access and manage financial resources.

#### **2.2.4.2 Youth-friendly financial products**

Youth-friendly financial products are a category of financial instruments designed to meet the specific needs and circumstances of young individuals. These products can encompass a variety of offerings, including low or no minimum balance savings accounts, affordable credit options with responsible lending practices, and mobile banking services that leverage the high mobile phone penetration rate among young people. By offering accessible and user-friendly options, youth-friendly financial products aim to promote financial inclusion and empower young people to develop healthy financial habits and make informed financial decisions. Mobile banking, in particular, has proven to be a game-changer in promoting financial inclusion. It provides a convenient and accessible platform for young people to perform financial transactions without the need for traditional banking infrastructure, which is often lacking in rural areas (Demirgüç-Kunt et al., 2018). There are several studies paired with the development of youth-friendly financial products and services that have been conducted over the years such as those conducted by Abhijith and Antony Joseph K. (2023), and Akighir et al. (2020).

Firstly, Abhijith and Antony Joseph K. (2023) conducted a study entitled “reverse FinTech Socialisation: a remedy for financial exclusion in the digital era”. This is an original work

that suggest reverse fintech socialisation as a tool to create such confidence within the digitally excluded. The study employed a cross-sectional design with a sample of 349 middle-aged mothers aged between 16 and 30 years to examine the relationships between attitude, reverse socialisation, and confidence to deal in fintech. The tools used for analysis included mean, standard deviation (SD), correlation, linear regression, and ANOVA. The study results showed that attitude predicts reverse fintech socialisation, which has a very high influence on confidence. The conclusion to the study was that policymakers can formulate interventions that make use of the youth to create confidence within the digital immigrants to use fintech.

Another study by Akighir et al., (2020) uses a cross-sectional study to assess agent banking and poverty reduction in Benue State, Nigeria. The study used both descriptive and inferential statistical tools as well as a logistics regression model for the analysis of the data. Furthermore, the Foster Greer Thorbecke (FGT) poverty indices were used to ascertain the poverty profile of the agents and customers before and during agency banking. Their study concluded that engaging in agent banking has the probability of reducing poverty in Benue State which has high poverty incidence as well as a highly unbanked population. Furthermore, the study concluded that, with the presence of agent banking in the state, it will enhance business sustainability and facilitate financial transactions. Lastly the study recommends that banks operating in the state should cease the opportunity of agent banking to penetrate the rural populations with a view of achieving financial inclusion in line with the National Financial Inclusion Strategy (NFIS - Strategy) which places implementation focus on women, rural areas, youth, Northern Nigeria and MSMEs to achieve 95% financial inclusion rate by 2024.

#### **2.2.4.3 Policy intervention studies.**

Policy interventions also play a significant role in fostering financial inclusion among young people. Governments can support financial inclusion through regulatory frameworks that promote access to financial services and protect consumer rights. For instance, policies that encourage the establishment of microfinance institutions can provide young entrepreneurs with the capital needed to start and grow their businesses. Additionally, social protection programs, such as conditional cash transfers, can be linked to formal financial services, encouraging beneficiaries to open and use bank accounts. These programs not only provide immediate financial relief but also promote long-term financial behaviour change (Cull, Ehrbeck, & Holle, 2014). There is a couple of studies paired with Policy interventions that have been conducted over the years such as those conducted by Zaimovic et al., (2023).

Zaimovic et al., (2023) conducted a study on mapping financial literacy which was a review of a systematic literature review of the determinants and recent trends. The main aim of the study was to provide a balance sheet of current research and a starting point for future research with a focus on identifying significant predictors of financial literacy, as well as variables that are affected by financial literacy. The methods that were applied to the study include systemic literature review, and bibliometric and bibliographical analysis and based on the analysis of the most cited articles, a comprehensive conceptual framework for mapping financial literacy was developed. The study has identified a large number of predictors of financial literacy starting with education, gender, age, knowledge, etc. Furthermore, the study found that financial literacy also affects variables such as retirement planning, financial inclusion, return on wealth, risk diversification, etc. The

study findings can help policymakers in their pursuit of improving the levels of individual financial literacy by enabling individuals to make better financial decisions, avoid financial stress and achieve their financial goals. Furthermore, it can also help governments in their efforts to achieve sustainable development goals (SDGs).

#### **2.2.4.4 Promoting digital financial services**

Promoting digital financial services is essential for increasing financial inclusion among young people. Digital platforms, such as mobile wallets and online banking, offer secure, efficient, and cost-effective ways for young individuals to access financial services. Partnerships between financial institutions and fintech companies can drive innovation and create tailored financial solutions that meet the unique needs of the youth. Encouraging the use of digital financial services can also bridge the gap between urban and rural financial inclusion, as these services can reach remote areas with limited banking infrastructure (Suri & Jack, 2016). There are several studies paired with promoting digital financial services that have been conducted over the years (Babajic et al., 2018; Mcvay et al., 2022; Mugune & Bulime, 2022; Veronicah et al., 2022).

Firstly, a study by Babajic et al., (2018) investigated barriers to financial inclusion. The main aim of the study was to investigate and explain barriers to poor financial inclusion of youth in the Federation of Bosnia and Herzegovina (FBiH). The study revealed that the main reason for being unbanked is because someone else in the family already owns a bank account or because they do not have enough money to use the services of financial institutions. Their study concluded that easy access to financial products and services is one of the key contributing factors to helping youth making their own economic decisions, escaping poverty and reaching their full potential. The more they are financially conscious

and use the benefits of financial inclusion, have an open account, debit, or credit card, that would easily get them involved in various social groups, activities, forums, nongovernmental organizations, and ultimately getting faster employment.

Secondly, a study conducted by (Mcvay et al., 2022) presents a unique case study for an agent-based, High-tech, High touch & High impact (H3) approach to the development of market systems that reach people living in poverty, specifically woman, and youth with a multidimensional bundle of support. They describe a client-centred, comprehensive bundle of services which are delivered using the H3 approach which addresses multiple dimensions of agricultural challenges with financial challenges included. The H3 approach uses the International Agricultural Finance Programme (Agfinance model) in which the agents dubbed the Farmers Support Agents (FSAs), use digital data systems to deliver farmer training and advice, and to assess farmers and link them to appropriate financial service providers, input and equipment suppliers, and markets. The major lessons learned include being innovative around both technology and human engagement, starting where the target population works and role modelling the FSA approach in programme management.

Additionally, a study conducted by Mugune and Bulime, (2022) examined the drivers of digital financial inclusion as a pathway for financing post-COVID-19 recovery in Uganda and Kenya. The study found that digital financial inclusion was higher in middle-aged male digital users with more SIM cards registered in their names. The study also revealed that users who trusted mobile money agents were more likely to use digital financial platforms than others. The study recommends the need for the government to strengthen the national identification systems and consumer protection policies to increase trust in

digital financial services. Furthermore, the financial sector players need to innovate and roll out customized digital financial products for the marginalized/unbanked population such as women, the elderly, and the youth.

Lastly, a study by Veronicah et al., (2022) investigated the effect of digital payments on financial inclusion among the youth in Kenya. The study aimed to provide local and global policymakers with more insight into the rapid development of digital payments available to the youth. The population of interest was the youth in Kenya focusing on public and private university students on the main campuses in Nairobi City County aged between 18 and 35 years. The target population was categorized into two strata, male and female to establish whether there was gender parity in the use of digital financial services. The study employed both descriptive and inferential statistics in the analysis of the primary data collected. The study found that there was a significant positive relationship between digital payment and financial inclusion. The study concludes by recommending that digital financial service providers should improve the provision of digital payments which can be enhanced through the reduction of transaction charges which would lower the overall costs because currently, the multiple stages of transaction charges make the digital payments expensive. Finally, the study advise that the government should aim to eliminate the one percent tax imposed on the mobile money, a form of digital payment, which has led to an increased cost of mobile money.

#### **2.2.4.5 Fostering a supportive ecosystem for youth entrepreneurship**

A key factor in enhancing economic empowerment is the fostering of a supportive ecosystem for youth entrepreneurship.. This involves providing access to training, mentorship, and networking opportunities, as well as financial resources. Entrepreneurship programs that integrate financial education and access to financial services can empower young people to create sustainable businesses, thereby contributing to economic growth and job creation. Such integrated approaches ensure that young entrepreneurs are not only financially included but also equipped with the necessary skills and resources to succeed (Lemuel & Ozurumba, 2021).

A study by Gakpa (2023) investigated the link between financial inclusion and youth entrepreneurship, highlighting the importance of fostering a supportive ecosystem. The study used Generalized Least Squares (GLS), Two-Stage least squares (2SLS) and IV-GMM methods to analyse the results which revealed that financial inclusion has a positive effect on entrepreneurial dynamics and that institutional quality amplifies entrepreneurial dynamics both directly and indirectly through its impact on financial inclusion. The study concludes that institutional quality and financial inclusion are complements in enhancing entrepreneurship in SSS countries. Hence, the study posits policy implications based on the reported correlations and associations, tying financial inclusion and entrepreneurship to a strengthened institutional environment.

In conclusion, promoting financial inclusion and economic empowerment among young people requires a multifaceted approach that includes financial literacy education, youth-friendly financial products, supportive policies, digital financial services, and a robust entrepreneurial ecosystem. These strategies, when implemented effectively, can provide

young individuals with the tools they need to achieve financial stability and contribute to the broader economic development of their communities.

### **2.2.5 Conclusion**

In conclusion, while significant challenges remain in achieving comprehensive financial inclusion for youth, based on the literature review, there are ample opportunities for improvement through targeted interventions, innovative financial products, and technological advancements. Addressing economic, educational, and geographical barriers, along with increasing financial literacy and awareness, is essential for creating an inclusive financial environment. By leveraging successful initiatives and fostering partnerships among stakeholders, we can empower youth to manage their finances effectively and contribute to their economic development. Ensuring that young people have access to a broad range of financial products and services is crucial for building a more equitable and prosperous future.

Furthermore, financial inclusion among young individuals is shaped by a blend of facilitating and hindering factors. Higher income levels and better education significantly enhance access to financial products and services, driven by increased financial capability and literacy. Conversely, rural location, poor health, and reliance on informal savings and remittance channels pose substantial barriers. Addressing these challenges through targeted interventions, such as improving rural financial infrastructure, enhancing health services, and promoting formal financial practices, is essential. Such measures are particularly critical for developing countries like Namibia, where they can significantly advance financial inclusion for young people, fostering broader economic growth and stability.

Lastly, fostering financial inclusion and economic empowerment among young people necessitates a comprehensive approach encompassing financial literacy education, the provision of youth-friendly financial products, supportive regulatory policies, and the promotion of digital financial services. These interventions can bridge the gap between urban and rural financial access, ensuring that young individuals have the necessary tools to manage their finances effectively. Moreover, nurturing an entrepreneurial ecosystem through training, mentorship, and access to financial resources can empower young people to create sustainable businesses, driving economic growth and job creation. By implementing these strategies, policymakers, financial institutions, and development organizations can significantly enhance financial inclusion, enabling young people to achieve financial stability and contribute meaningfully to their communities' economic development.

## **CHAPTER THREE: METHODOLOGY**

### **3.1 Introduction**

This chapter delves into the research methodology employed to analyze the determinants of financial inclusion among the youth in Namibia. It provides a comprehensive discussion on the methodological framework, detailing the approaches and techniques used to gather and analyze data pertinent to the study. The chapter also outlines the sources and methods of data collection, emphasizing the importance of using accurate and relevant data to draw meaningful conclusions. By specifying the data sources, the chapter highlights the steps taken to ensure that the data collected is robust and reflective of the financial inclusion landscape in Namibia. Additionally, the chapter provides clear definitions and descriptions of the variables used in the study. This is essential for understanding the factors being analyzed and their potential impact on financial inclusion.

### **3.2 Research Design, Target Population and Data**

Cross-sectional micro-level data from the 2017 Namibia Financial Inclusion Survey (NFIS) are used. Relevant data for the study were extracted from the dataset. Among the numerous variables in the dataset, only important variables were selected for this study. Individuals who did not belong to the age group category of 16 to 35 were dropped from the study as the study only aimed to consider the youth. A total of 712 individuals of the age group of 16-35 were used after removing the started non-conforming individuals. The data were thereafter cleaned, recategorized and recoded, as necessary to fit the purpose of the study. The target population of this study comprises all individuals who were aged 16 to 35 years during the NFIS 2017 and resided in private households in Namibia. The

definition of "youth" in Namibia is provided by the National Youth Policy, which was revised in 2016 (Government of Namibia, 2016). According to this policy, youth are defined as individuals between the ages of 16 and 35 years old. This definition aligns with international standards and recognizes the transitional phase from adolescence to adulthood. It serves as a guideline for the development and implementation of specific policies, programs, and initiatives that cater to the unique needs, challenges, and opportunities of young people in Namibia.

### **3.3 The Econometric Model**

The dependent variable is dichotomous, that is either an individual is financially included or not, represented by a 1 or 0, respectively. The analytical framework of the dependent variable is assessed through both formal product usage through commercially recognised banks and other financial institutions such as insurance companies and retail providers and informal usage such as savings clubs, burial societies (NFIS, 2017). As a result, the logit model was used in this study since the model has been widely used for the estimation of the choice model in most of the African countries and its advantages over other models. In Zimbabwe, for example, Sanderson et al. (2018) investigated the determinants of financial inclusion using the logit model estimation technique in Zimbabwe. Consequently, another study by (Mhlanga & Denhere, 2020) investigated the determinants of financial inclusion in Southern Africa with a specific focus on South Africa using the logit model estimation technique. Furthermore, since the dependent variable is binary, three methods to investigate the determinants of financial inclusion are the linear probability model, the logit model, and the probit model. The linear probability model extends the linear regression model to cases with qualitative dependent variables, but this

research did not use it due to its weaknesses as the model can produce unrealistic probabilities (less than zero or greater than one), and the error term often suffers from heteroscedasticity and non-normality. Marginal effects will always be constant regardless of the value of  $X_i$  of the dummy variable (Gujarati, 2009; Cameron & Trivedi, 1986). This is mainly because it assumes a linear relationship between the dependent variable and the independent variable (Cameron & Trivedi, 1986). The researcher chose the logit model over the probit model due to its advantages. One advantage is that it is relatively simple to calculate first-order conditions and its asymptotic distribution (Rao et al., 1973). In Addition, Maddala et al. (2001) stated that the model is simpler to compute and interpret compared to the probit model. Since we are using survey data, the logit model is more appropriate than the probit model, which is better suited for experimental data.

### 3.3.1 The Logit Model

The logit model is the method of estimation used in the study. The formula of the logit model is as follows:

$$P(Y = 1|X) = \frac{1}{1+e^{-XB}} \quad (1)$$

Where:

$P(y = 1|X)$  is the probability of the dependent variable (y) being 1 given the independent variables (X)

$X$  is a vector of independent variables.

$\beta$  is a vector of coefficients to be estimated.

### 3.3.2 Specification of the Model

Financial Inclusion = Financial Inclusion (FI) {(Location, Age, Time taken to Nearest Automated Teller Machine (ATM), Distance in Kilometre’s to Nearest Post Office, Distance in Kilometre’s to Nearest ATM, Remittance, Borrowing Money, Saving, Financial Household Decisions, Health Status, Income)}. This can be expressed in a form where financial inclusion is given as  $P(\text{Financial Inclusion} = 1|X)$  is the probability that an individual is financially included given the vector of the observable characteristics. The logit function is given by:

$$P(\text{financial inclusion} = 1|X) = \frac{1}{1+e^{-XB}}$$

### 3.3.3 Definition and Justification of the variables

The following are the explanatory variables for the determinants of financial inclusion.

**Table 2. Description of the variables**

<i>Variable</i>	<i>Data Type</i>	<i>Level of measurement</i>	<i>Measurement Scale</i>
<i>fi_sex</i>	Categorical	Nominal	Male/Female
<i>fi_location</i>	Categorical	Nominal	Urban/Rural
<i>fi_age_cat</i>	Categorical	Ordinal	Age in years
<i>fi_timposof</i>	Categorical	Nominal	Time taken to the nearest Post Office (<30mins/>30mins)
<i>fi_timbank</i>	Categorical	Nominal	Time taken to the nearest Bank (<30mins/>30mins)
<i>fi_timatm</i>	Categorical	Nominal	Time taken to the nearest ATM (<30mins/>30mins)

<i>fi_kmposof</i>	Numerical	Interval	Distance in kilometres to the nearest post office (<1km/>1km)
<i>fi_kmbank</i>	Numerical	Interval	Distance in kilometres to the nearest Bank (<1km/>1km)
<i>fi_kmatm</i>	Numerical	Interval	Distance in kilometres to the nearest ATM (<1km/>1km)
<i>fi_rem</i>	Categorical	Nominal	Domestic remittance (Yes/No)
<i>fi_bor</i>	Categorical	Nominal	Borrowed Money (Yes/No)
<i>fi_sav</i>	Categorical	Nominal	Saved Money (Yes/No)
<i>fi_ms</i>	Categorical	Nominal	Marital status categories
<i>fi_educl</i>	Categorical	Nominal	Education categories
<i>fi_hdec</i>	Categorical	Nominal	Financial decisions categories
<i>fi_hstat</i>	Categorical	Nominal	The health status (Satisfactory/Not Satisfactory)
<i>fi_income</i>	Categorical	Ordinal	Income Amount (N\$)

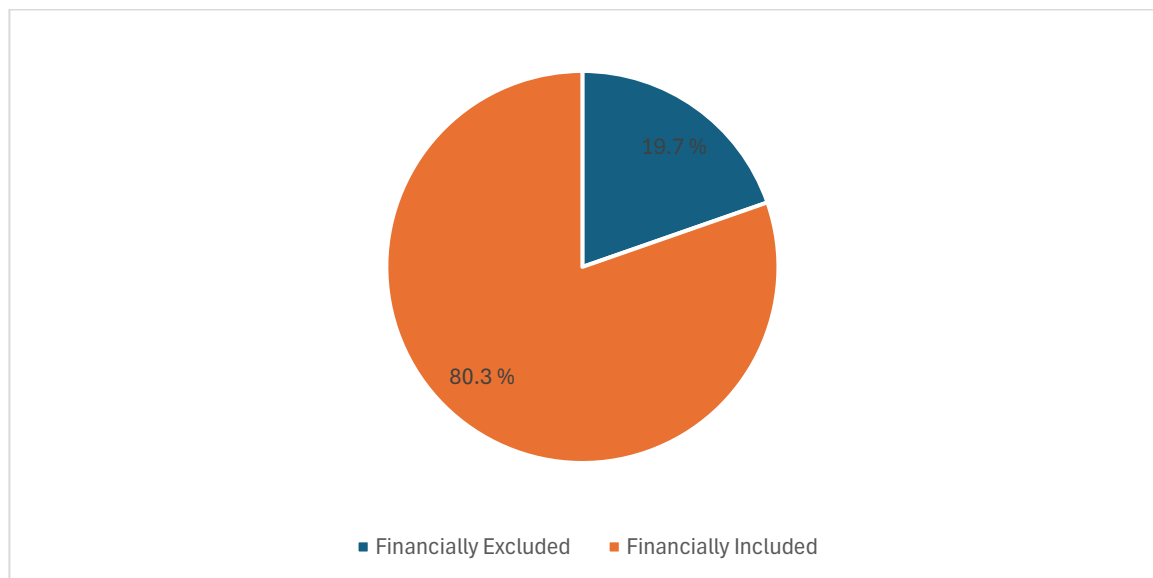
## CHAPTER FOUR: RESULTS

### 4.1 Introduction

This chapter delves into the diagnostic tests performed to scrutinize the underlying dynamics of the variables. These tests are essential for detecting any potential issues or anomalies in the data, ensuring the validity of the research model. By carrying out these diagnostic tests, the chapter showcases a comprehensive and meticulous approach to data analysis, thereby bolstering the credibility of the research findings. Additionally, the chapter provides a detailed discussion of the results, offering an in-depth understanding of the data's behaviour and its implications for the study.

### 4.2 Exploratory Analysis

A total of 712 respondents comprised the dataset, of which 80.3% were financially included and 19.7% were not as shown in Figure 2. Table 3 represents the frequency measures for the key variables in the study.



## Figure 2: Financial Inclusion

**Table 3. Frequency measures for the key variables**

<i>Variable</i>	<i>Value</i>	<i>Frequency</i>	<i>%</i>
<i>Sex</i>	<i>Male</i>	337	47.3
	<i>Female</i>	375	52.7
<i>Location</i>	<i>Urban</i>	369	51.8
	<i>Rural</i>	343	48.2
<i>Age</i>	<i>16-25</i>	321	45.1
	<i>26-35</i>	391	54.9
<i>Time taken to the nearest Post Office</i>	<i>&lt;30 mins</i>	243	34.1
	<i>&gt;=30 mins</i>	469	65.9
<i>Time taken to the nearest Bank</i>	<i>&lt;30 mins</i>	205	28.8
	<i>&gt;=30 mins</i>	507	71.2
<i>Time taken to the nearest ATM</i>	<i>&lt;30 mins</i>	275	38.6
	<i>&gt;=30 mins</i>	437	61.4
<i>Distance in KMs the nearest post office</i>	<i>&lt;1 km</i>	164	23.0
	<i>&gt;=1km</i>	548	77.0
<i>Distance in KMs to nearest Bank</i>	<i>&lt;1 km</i>	139	19.5
	<i>&gt;=1km</i>	573	80.5
<i>Distance in KMs to nearest ATM</i>	<i>&lt;1 km</i>	198	27.8
	<i>&gt;=1km</i>	514	72.2

<i>Remittance</i>	<i>Yes</i>	248	34.8
	<i>No</i>	464	65.2
<i>Money Borrowed</i>	<i>Yes</i>	154	21.6
	<i>No</i>	558	78.4
<i>Saving</i>	<i>Yes</i>	598	84.0
	<i>No</i>	114	16.0
<i>Marital Status</i>	<i>Never Married</i>	563	79.1
	<i>Married</i>	139	19.5
	<i>Separated</i>	6	0.8
	<i>Divorced</i>	2	0.3
	<i>Widowed</i>	2	0.3
<i>Education Level</i>	<i>Primary</i>	125	17.6
	<i>Secondary</i>	470	66.0
	<i>Tertiary</i>	67	9.4
	<i>Never Attended</i>	50	7.0
<i>Financial Household Decisions</i>	<i>Alone</i>	280	39.3
	<i>With Partner/Spouse</i>	130	18.3
	<i>Partner/Spouse</i>	11	1.5
	<i>With Other Household Members</i>	186	26.1
	<i>Not Involved</i>	105	14.8
<i>Health Status</i>	<i>Satisfactory</i>	634	89.0
	<i>Not Satisfactory</i>	78	11.0

<i>Income</i>	<i>0-25th</i>	<i>213</i>	<i>29.9</i>
	<i>25th-50th</i>	<i>143</i>	<i>20.1</i>
	<i>50th-75th</i>	<i>181</i>	<i>25.4</i>
	<i>75th-100th</i>	<i>175</i>	<i>24.6</i>

In the sample, 52.7% of respondents were female and 47.3% male. This ratio is almost the same as the reported ratio for the country, which is 52.5% urban and 47.5% rural (NFIS, 2017). The average age of respondents was 26.5 years with a standard deviation of 5.4 years. The results showed that 51.8% of the individuals live in urban areas and 48.2% of the individuals live in rural areas. Education attainment showed a significant achievement to complete formal schooling. Only 7.0 % of respondents report having never attended school. 17.6% and 66.0% of respondents report having completed primary and secondary education respectively. Furthermore, the results showed that 79.1% of respondents were never married and only 19.5% being married.

#### 4.3 Bivariate Analysis of the Explanatory variables and Financial Inclusion

**Table 4. Bivariate Analysis of the Independent variables and Financial Inclusion**

<i>Variable</i>	<i>Value</i>	<i>Financially</i>		<i>Chi-squared (<math>\chi^2</math>)</i>	
		<i>Excluded (%)</i>	<i>Included (%)</i>	<i>Test statistic</i>	<i>P-value</i>
<i>Sex</i>	<i>Male</i>	<i>9.4</i>	<i>37.9</i>	<i>0.02</i>	<i>0.889</i>
	<i>Female</i>	<i>10.3</i>	<i>42.4</i>		
<i>Location</i>	<i>Urban</i>	<i>6.3</i>	<i>45.5</i>	<i>27.04</i>	<i>0.000</i>

	<i>Rural</i>	<i>13.3</i>	<i>34.8</i>		
<i>Age</i>	<i>16-25</i>	<i>11.0</i>	<i>34.1</i>	<i>7.95</i>	<i>0.005</i>
	<i>26-35</i>	<i>8.7</i>	<i>46.2</i>		
<i>Marital Status</i>	<i>Never Married</i>	<i>14.7</i>	<i>64.3</i>	<i>12.85</i>	<i>0.012</i>
	<i>Married</i>	<i>4.2</i>	<i>15.3</i>		
	<i>Separated</i>	<i>0.4</i>	<i>0.4</i>		
	<i>Divorced</i>	<i>0.3</i>	<i>0.0</i>		
	<i>Widowed</i>	<i>0.0</i>	<i>0.3</i>		
<i>Education Level</i>	<i>Primary</i>	<i>7.9</i>	<i>9.7</i>	<i>105.97</i>	<i>0.000</i>
	<i>Secondary</i>	<i>8.4</i>	<i>57.6</i>		
	<i>Tertiary</i>	<i>0.0</i>	<i>9.4</i>		
	<i>Never Attended</i>	<i>3.4</i>	<i>3.7</i>		
<i>Financial Household Decisions</i>	<i>Alone</i>	<i>4.9</i>	<i>34.4</i>	<i>19.82</i>	<i>0.001</i>
	<i>With</i>	<i>3.8</i>	<i>14.5</i>		
	<i>Partner/Spouse</i>				
	<i>Partner/Spouse</i>	<i>0.3</i>	<i>1.3</i>		
	<i>With Other Household Members</i>	<i>6.0</i>	<i>20.1</i>		
	<i>Not Involved</i>	<i>4.6</i>	<i>10.1</i>		
<i>Health Status</i>	<i>Satisfactory</i>	<i>15.6</i>	<i>73.5</i>	<i>17.01</i>	<i>0.000</i>
	<i>Not Satisfactory</i>	<i>4.1</i>	<i>6.9</i>		
<i>Income</i>	<i>0-25th</i>	<i>11.0</i>	<i>19.0</i>	<i>99.78</i>	<i>0.000</i>

	<i>25th-50th</i>	<i>6.0</i>	<i>14.0</i>		
	<i>50th-75th</i>	<i>2.5</i>	<i>22.9</i>		
	<i>75th-100th</i>	<i>0.1</i>	<i>24.4</i>		

A chi-square test of independence was performed to examine the relationship between financial inclusion and the explanatory variables. The study used an alpha level of 0.05 for the statistical test.

Firstly, the study found that there is no correlation between financial inclusion and sex, as evidenced by the chi-square value of 0.02 and a significance level of 0.889. This suggests that gender does not play a significant role in determining an individual's likelihood of being financially included in Namibia. Despite common assumptions that gender disparities may affect financial access, the results indicate that both men and women have similar levels of financial inclusion. This finding contrasts with some studies in other contexts where gender differences are more pronounced, highlighting the unique dynamics within Namibia's financial sector.

The study also found a significant correlation between financial inclusion and location, as indicated by a chi-square value of 27.05 and a significance level of 0.001. This result highlights a substantial disparity in financial inclusion between urban and rural areas in Namibia. Individuals residing in urban areas are more likely to be financially included compared to their rural counterparts. This discrepancy can be attributed to factors such as better access to banking services, higher levels of financial literacy, and greater economic opportunities in urban regions.

The study also found a significant correlation between financial inclusion and marital status, as evidenced by a chi-square value of 12.85 and a significance level of 0.012. This indicates that marital status plays a notable role in determining an individual's level of financial inclusion. The data suggest that married individuals may have different financial behaviours or access compared to their single counterparts, potentially due to combined household incomes, shared financial responsibilities, or different levels of financial literacy and engagement. Understanding this relationship is crucial for policymakers aiming to design targeted interventions that consider the marital status of individuals to enhance financial inclusion efforts effectively.

In addition, the study uncovered a noteworthy correlation between financial inclusion and education level, supported by a chi-square value of 105.97 and a significance level of 0.001. This finding suggests that education plays a pivotal role in determining the extent of financial inclusion among young individuals in Namibia. This insight underscores the importance of promoting education to enhance financial inclusion and economic empowerment among young people.

Furthermore, the study uncovered a significant correlation between financial inclusion and income, supported by a chi-square value of 99.78 and a significance of 0.000. This result aligns with existing literature such as that of Sanderson et al. (2018), highlighting the pivotal role of income in determining financial inclusion levels. Higher incomes often provide individuals with greater access to formal financial services, such as banking, savings, and insurance, which are key components of financial inclusion. This underscores the importance of policies and programs aimed at boosting income levels, as they could have a positive impact on financial inclusion rates among young individuals in Namibia.

Lastly, the study's findings indicate a significant correlation between financial inclusion and age, with a chi-square value of 7.95 and a significance of 0.005. This finding aligns with the idea that with age comes a greater likelihood of engaging with formal financial systems, possibly due to increased financial stability, accumulated wealth, or a greater understanding of financial products and services. Other significant correlations with financial inclusion are with health status and financial household decisions.

#### **4.4 Multicollinearity Test**

Before fitting the models, the author sought to explore the data to understand the underlying structure and test any underlying assumptions, such as stationarity and correlation. One critical test in this process is the multicollinearity test, which evaluates whether independent variables are linearly correlated. This step is essential to ensure the validity and reliability of the regression models (Crossman, 2013). The multicollinearity test revealed high correlations among certain variables:

- There's a strong positive correlation (0.8) between the travel times and distances for all the analysed pairs (banks, ATMs, and post offices). This suggests a high likelihood that these facilities are clustered together geographically. In simpler terms, if you live close to a post office, you're likely to also be close to a bank and ATM, and vice versa. This clustering could be due to factors such as shared infrastructure needs or targeting similar population demographics.

The study's correlation matrix table in the appendix illustrates these results. It indicates that factors like gender, age, income, and education level are positively correlated with

financial inclusion, suggesting that improvements in these areas can lead to increased financial inclusion. Conversely, variables such as location status, distance and time to access financial services, remittance behaviours, savings habits, marital status, financial decision-making within the household, and health status showed negative correlations with financial inclusion. This implies that challenges or limitations in these areas may hinder financial inclusion.

**Table 5. Collinearity diagnostics table**

<i>Variable</i>	<i>VIF</i>	<i>1/VIF</i>
<i>fi_kmbank</i>	4.32	0.2313
<i>fi_timbank</i>	4.26	0.2347
<i>fi_timatm</i>	4.21	0.2376
<i>fi_timposof</i>	4.12	0.2429
<i>fi_kmposof</i>	4.01	0.2494
<i>fi_kmatm</i>	3.82	0.2619
<i>fi_income</i>	1.50	0.6684
<i>fi_location</i>	1.49	0.6704
<i>fi_age_cat</i>	1.25	0.8009
<i>fi_hdec</i>	1.23	0.8129
<i>fi_ms</i>	1.16	0.8615
<i>fi_sav</i>	1.15	0.8733
<i>fi_sex</i>	1.13	0.8844
<i>fi_hstat</i>	1.12	0.8954
<i>fi_bor</i>	1.10	0.9074

<i>f<sub>i</sub>_rem</i>	<i>1.09</i>	<i>0.9172</i>
<i>f<sub>i</sub>_educ1</i>	<i>1.07</i>	<i>0.9357</i>
<b>Mean VIF</b>	<b>2.24</b>	

To further preclude multicollinearity, a collinearity test was conducted. This test helps to identify and address the potential issue of multicollinearity among the independent variables, ensuring the reliability of the regression analysis results. The Variance Inflation Factor (VIF) is a measure used in regression analysis to assess the degree of multicollinearity among the independent variables in a model. Multicollinearity occurs when two or more independent variables are highly correlated, which can make it difficult to determine the individual effect of each variable on the dependent variable. The collinearity test revealed that the mean Variance Inflation Factor (VIF) was 2.24. This indicates that, on average, the independent variables in the regression model have a moderate level of correlation with each other. Since a VIF value between 1 and 5 is generally considered acceptable, a mean VIF of 2.24 suggests that multicollinearity is not a significant concern in this model. The independent variables are not highly correlated, and the estimates of their effects on the dependent variable are likely reliable.

However, the test also indicated some of the variables with tolerance values close to 0, tolerance values close to 0 indicates that the variable is highly correlated with the other independent variables in the model, suggesting a high degree of multicollinearity. This means that the variable does not contribute much unique information to the regression model, as its variance is mostly explained by other variables and these variables are time

taken to the nearest post office, bank, and ATM, distance to the nearest post office, bank, and ATM.

**Table 6. Determinants of financial inclusion - logit model**

<i>Variables</i>	<i>B</i>	<i>S. E</i>	<i>P-value</i>	<i>95% Confidence Interval</i>	
				<b>LB</b>	<b>UB</b>
<i>fi_sex</i>	0.08536	0.2605	0.743	-0.425119	0.595844
<i>fi_location</i>	-0.91100	0.2708	0.001	-1.441764	-0.380231
<i>fi_age_cat</i>	0.62096	0.2724	0.023	0.087092	1.154828
<i>fi_rem</i>	-3.27337	0.4715	0.000	-4.197579	-2.349168
<i>fi_bor</i>	-0.67640	0.3894	0.082	-1.439578	0.086773
<i>fi_sav</i>	-1.81532	0.2898	0.000	-2.383360	-1.247288
<i>fi_ms</i>	-0.22874	0.2534	0.367	-0.725372	0.267890
<i>fi_educl</i>	-0.06484	0.1424	0.649	-0.343892	0.214213
<i>fi_hdec</i>	-0.10222	0.0834	0.220	-0.265631	0.061199
<i>fi_hstat</i>	-0.79134	0.3529	0.025	-1.483093	-0.099582
<i>fi_income</i>	0.83563	0.1409	0.000	0.559522	1.111742
<i>_cons</i>	11.13843	1.6716	0.000	7.862099	14.414770

Omnibus tests of the model coefficients Number of Obs = 712, LR Chi2(11) = 277.69 Prob > chi2 = 0.0000, Pseudo R2 = 0.3934, Log

likelihood = -214.08679

To ensure the reliability of the findings, the study estimated the determinants of financial inclusion using different models (Linear Probability Model & Probit Model) as a robustness check. To pick the model that best represents the data, the study employed two criteria: AIC and BIC. While both assess how well a model fits the data (goodness-of-fit),

they differ in their treatment of model complexity (number of parameters). AIC favours models that capture the key trends in the data, even with slightly more complexity, while BIC prioritizes simpler models, even if they might sacrifice some fit, to avoid overfitting the data (mistaking random noise for real patterns).

**Table 7. Akaike's information criterion and Bayesian information criterion**

<i>Model</i>	<i>N</i>	<i>ll(null)</i>	<i>ll(model)</i>	<i>df</i>	<i>AIC</i>	<i>BIC</i>
<i>LPM</i>	712	-353.331	-215.921	12	455.8423	510.6593
<i>Probit</i>	712	-352.934	-214.241	12	452.4809	507.2979
<i>Logit</i>	712	-352.934	-214.087	12	452.1736	506.9905

The results of the AIC and BIC are shown in Table 7 and the results from the probit model are shown in Table 8. While the difference in AIC and BIC values between Probit and Logit is small, the logit model seems to achieve a good fit to the data with slightly fewer parameters compared to probit. This makes logit a preferable choice based on these criteria.

**Table 8. Determinants of financial inclusion - probit model**

<i>Variables</i>	<i>B</i>	<i>S.E</i>	<i>P-value</i>	<i>95% Confidence Interval</i>	
				<i>LB</i>	<i>UB</i>
<i>fi_sex</i>	0.018633	0.146781	0.899	-0.26905	0.30632
<i>fi_location</i>	-0.51226	0.150735	0.001	-0.80770	-0.21683
<i>fi_age_cat</i>	0.314431	0.15298	0.040	0.01460	0.61427
<i>fi_rem</i>	-1.74525	0.228187	0.000	-2.19249	-1.29801

<i>fi_bor</i>	-0.30894	0.204923	0.132	-0.71059	0.09270
<i>fi_sav</i>	-1.01193	0.16284	0.000	-1.33109	-0.69277
<i>fi_ms</i>	-0.09941	0.13392	0.458	-0.36189	0.16307
<i>fi_educl</i>	-0.02934	0.081298	0.718	-0.18868	0.13000
<i>fi_hdec</i>	-0.05687	0.046913	0.225	-0.14882	0.03507
<i>fi_hstat</i>	-0.40445	0.201668	0.045	-0.79972	-0.00919
<i>fi_income</i>	0.489981	0.07925	0.000	0.33465	0.64531
<i>_cons</i>	5.905579	0.876644	0.000	4.18739	7.62377

Ominibus tests of the model coefficients Number of Obs = 712, LR Chi2(11) = 277.39 Prob > chi2 = 0.0000, Pseudo R2 = 0.393, Log likelihood = -214.24046

The probit regression model produced similar results as those obtained using the logit model. Table 8 shows that there is a positive relationship between age, income, and financial inclusion. On the other hand, location, remittance, saving, and health status had a negative relationship with financial inclusion.

#### 4.5 Discussion of Results

The results from the logit model on the determinants of financial inclusion among the youth in Namibia are presented in the Table 6. The overall results of the model showed that there is a positive relationship between age, income, and financial inclusion. On the other hand, location, remittance, saving, and health status had a negative relationship with financial inclusion. The study also revealed that gender, marital status and education level are not a significant predictor of financial inclusion among the youth in Namibia.

The study demonstrates that the age of an individual has a significant positive impact on financial inclusion ( $p < 0.05$ ). It was found that older youth are more likely to be financially

included. As individuals age, they tend to better understand the importance of financial products and services, leading to increased utilization of these services and products compared to their younger counterparts. This was supported by several studies (Masiyandima et al. 2017 & Sanderson et al., 2018). The increased financial inclusion among older youth can be attributed to several factors. Firstly, as individuals age, they typically acquire greater financial literacy through education and life experiences, which enhances their comfort and knowledge regarding financial services. Secondly, older youth are more likely to have stable incomes or be employed, equipping them with the necessary means to utilize and engage with financial services.

The results also showed that income for individuals had a positive significant impact on financial inclusion ( $p < 0.05$ ). Higher-income individuals are more likely to have access to formal banking services. They are more likely to have bank accounts, which are a key component of financial inclusion and are more likely to use a wider range of banking services, such as savings accounts, loans, and insurance, which contribute to their financial inclusion. This was supported by Sanderson et al. (2018) who discovered that income influences the level of financial inclusion in Zimbabwe.

Furthermore, the logit regression results have shown that location is inversely related with financial inclusion, and it is statistically significant ( $p < 0.05$ ). This indicates that individual youth living in rural areas are less likely to be financially included compared to those in urban areas. Factors could include lack of banking infrastructure, lower income levels and limited financial literacy among the youth living in rural areas. The other reason is that rural areas tend to have high transaction costs and according to transaction cost theory,

high transaction costs discourage the expansion of the financial sector, thus lowering financial inclusion (Obińska-Wajda, 2016).

The study further revealed an inverse relationship between saving behavior and financial inclusion, a relationship found to be statistically significant ( $p < 0.05$ ). This finding suggests that a considerable number of individuals may be opting for informal savings methods, such as savings clubs, rotating savings and credit associations, or retaining cash at home, rather than utilizing formal financial institutions. Additionally, it is plausible that individuals with higher levels of financial inclusion may not feel compelled to save as extensively, possibly due to improved access to financial services enabling more effective financial management.

The study also demonstrated that remittances were inversely related to financial inclusion, with statistical significance ( $p < 0.05$ ). This relationship may be influenced by reliance on informal channels; individuals, particularly in rural areas, often depend on informal methods such as friends, family, or informal money transfer services for sending and receiving remittances rather than using formal institutions. Other contributing factors may include financial literacy, transaction costs, economic instability, and cultural influences. This finding is supported by Kokorović Jukan et al. (2020), who discovered a negative impact of remittances on youth financial inclusion in selected countries, particularly with respect to possessing a debit card, a credit card, and engaging in borrowing activities.

Finally, the study's findings also indicate a significant inverse relationship between health status and financial inclusion ( $p < 0.05$ ), suggesting that individuals with poorer health may encounter barriers in accessing financial services or may be less inclined to engage with financial systems. This relationship may be attributed to the impact of healthcare costs, as

poor health often leads to increased medical expenses, straining finances and restricting access to financial services. Additionally, illness can result in lost income due to the inability to work, further constraining financial resources.

## **CHAPTER FIVE: CONCLUSION AND RECOMENDATIONS**

Based on the study's conclusions, several targeted recommendations can be formulated to enhance financial inclusion among young individuals in Namibia. Firstly, the study revealed that gender is not a significant predictor of financial inclusion among the youth in Namibia. This finding is crucial for the financial inclusion agenda, as it underscores the effectiveness of existing policies aimed at bridging gender disparities in financial inclusion. By highlighting the gender-neutral nature of financial service usage, the study underscores the effectiveness of existing policies aimed at bridging gender disparities in financial inclusion. This equality in access suggests that future efforts can focus on other significant determinants, such as income, urban-rural disparities, and health status, to further enhance financial inclusion among Namibian youth.

Secondly, it is crucial to implement financial education programs that cater to different age groups, emphasizing the importance of financial inclusion and how to effectively access and use financial services. These programs should be integrated into the school curriculum and offered through community centres and online platforms to ensure broad reach and engagement.

Income generation initiatives are essential for increasing financial inclusion. Developing and supporting vocational training programs, entrepreneurship initiatives, and small and medium-sized enterprises (SMEs) can help young individuals enhance their income levels. These initiatives should be tailored to the local context and needs, providing practical skills and resources that enable young people to create sustainable livelihoods.

To address the urban-rural disparity in financial inclusion, it is necessary to enhance the availability and accessibility of financial services in rural areas. Financial institutions should be encouraged to establish branches or mobile banking units in these communities. Leveraging digital financial services, such as mobile banking and online platforms, can also bridge the gap by providing rural residents with convenient access to financial products and services.

Creating incentives for saving without deterring financial inclusion is another vital step. This can be achieved by offering low-cost or no-cost savings accounts, providing financial literacy programs that emphasize the benefits of saving within the formal financial system, and developing products that integrate saving with other financial services. Encouraging a culture of saving while ensuring it does not act as a barrier to financial inclusion is key.

Developing policies and programs to facilitate the integration of remittance recipients into the formal financial system is also important. Affordable remittance services, education on the benefits of using formal financial channels, and bundled financial products that include remittance services can help achieve this goal. These measures will ensure that individuals involved in remittance transactions are more likely to be financially included.

Addressing the inverse relationship between health status and financial inclusion requires a strategic approach that integrates health services with financial services. Offering health insurance products through financial institutions can improve both health outcomes and financial inclusion. Additionally, creating partnerships between healthcare providers and financial institutions can facilitate access to comprehensive services that address the needs of individuals with poorer health status.

Lastly, designing and promoting financial products specifically tailored to the needs and preferences of young individuals is crucial. These products should be accessible, affordable, and user-friendly to encourage greater financial inclusion among the youth. Ensuring that government policies and regulations support these efforts by creating an enabling environment for financial innovation, reducing barriers to entry for financial service providers, and protecting consumers' rights is essential for the successful implementation of these recommendations.

By implementing these targeted recommendations, stakeholders can work towards significantly improving financial inclusion among young individuals in Namibia, thereby promoting economic growth and development.

## REFERENCES

Abel, S., Mutandwa, L., & Le Roux, P. (2018). A Review of Determinants of Financial Inclusion. *International Journal of Economics and Financial Issues*, 8(3), 1–8. Retrieved from [http: www.econjournals.com](http://www.econjournals.com).

Abhijith, P. S., & Antony Joseph K. (2023). Reverse FinTech Socialisation. *International Journal of E-Business Research*, 18(1), 1–17. <https://doi.org/10.4018/ijebr.316146>.

Abrahams, D., Batorowicz, B., Ndaa, P., Gabriels, S., Abebe, S. M., Xu, X., & Aldersey, H. M. (2023). “I’m Not Asking for Special Treatment, I’m Asking for Access”: Experiences of University Students with Disabilities in Ghana, Ethiopia and South Africa. *Disabilities*, 3(1), 114–128. <https://doi.org/10.3390/disabilities3010009>.

Aslan, G. (2022). Enhancing youth and women’s financial inclusion in South Asia. *Cogent Economics and Finance*, 10(1). <https://doi.org/10.1080/23322039.2022.2136237>.

Babajic, A., Okicic, J., & Jukan, M. K. (2018). Identification of Barriers to Financial Inclusion Among Youth. *International Business Research*, 11(7), 120. <https://doi.org/10.5539/ibr.v11n7p120>.

Bank of Namibia. (2010). Financial Stability Report.

Bank of Namibia. (2017). Annual Report.

Bank of Namibia. (2017). Financial Stability Report.

Bank of Namibia. (2020). Financial Stability Report.

Bekele, W. D. (2023). Determinants of Financial Inclusion: A Comparative Study of Kenya and Ethiopia. *Journal of African Business*, 24(2), 301–319. <https://doi.org/10.1080/15228916.2022.2078938>.

Benaini, R., & Metair, S. (2022). Determinants of financial inclusion in Algeria: An ARDL Bounds Test approach. *Review of Socio-Economic Perspectives*, 7(202219), 43-54.

Cameron, A. C. & Trivedi, P. K. 1986. Econometric models based on count data. Comparisons and applications of some estimators and tests. *Journal of applied econometrics*, 1, 29-53.

CGAP. (2019). YouthSave: Emerging Perspectives and Lessons Learned. Consultative Group to Assist the Poor.

Chamboko, R. (2022). On the Role of Gender and Age in the Use of Digital Financial Services in Zimbabwe. *International Journal of Financial Studies*, 10(3). <https://doi.org/10.3390/ijfs10030082>.

Chamboko, R., & Guvuriro, S. (2022). On the predictors of loan utilization and delinquency among microfinance borrowers in Zimbabwe: A Poisson regression approach. *Cogent Economics and Finance*, 10(1). <https://doi.org/10.1080/23322039.2022.2111799>.

Chinekesh, A., Hosseini, S. A., Mohammadi, F., Motlagh, M. E., Baradaran Eftekhari, M., Ardalan, G., & Djalalinia, S. (2017). Exploring the youth experience about sense of social

security: a qualitative study. *Electronic Physician*, 9(12), 6017–6026.  
<https://doi.org/10.19082/6017>.

Cole, S., Sampson, T., & Zia, B. (2011). Prices or Knowledge? What Drives Demand for Financial Services in Emerging Markets? *Journal of Finance*, 66(6), 1933-1967.

Crossman, A. (2013). Convergence theory. About.com sociology. Retrieved December 04, 2013, from [http://sociology.about.com/od/C\\_Index/g/Convergence-Theory.htm](http://sociology.about.com/od/C_Index/g/Convergence-Theory.htm)

Demirgüç-Kunt, A., & Klapper, L. (2012). Measuring Financial Inclusion: The Global Findex Database. World Bank.

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution. World Bank.

Dupas, P., & Robinson, J. (2013). Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya. *American Economic Journal: Applied Economics*, 5(1), 163-192.

Food and Agriculture Organization of the United Nations. (n.d.). Namibia Co-operative Policy [PDF]. FAO Legislative Repository.  
<https://faolex.fao.org/docs/pdf/nam180910.pdf>.

Girón, A., Kazemikhasragh, A., Cicchiello, A. F., & Panetti, E. (2022). Financial Inclusion Measurement in the Least Developed Countries in Asia and Africa. *Journal of the Knowledge Economy*, 13(2), 1198–1211. [https://doi.org/10.1007/s13132-021-00773-](https://doi.org/10.1007/s13132-021-00773-2)

Government of Namibia. (2016). Namibia National Youth Policy 2016. Ministry of Sport, Youth, and National Service.

Gujarati, D. N. 2009. Basic econometrics, Tata McGraw-Hill Education.

Greenacre, M. (2017). *Correspondence analysis in practice* (3rd ed.). Chapman and Hall/CRC.

Idris, N. H., Yazid, Z. A., Faique, F. A., Daud, S., Ismail, S., Bakri, M. H., & Taib, N. M. (2016). Financial literacy and debt burden among Malay youth workers in Malaysia. *Advanced Science Letters*, 22(12), 4288–4292. <https://doi.org/10.1166/asl.2016.8130>.

IFC. (2019). Banking on Youth: How Banks Can Profitably Serve Young People. International Finance Corporation.

ILO. (2020). Financial Inclusion and the Youth: Challenges and Opportunities. International Labour Organization.

Johnsen, T. L., Fyhn, T., Jordbru, A., Torp, S., Tveito, T. H., & Øyeflaten, I. (2022). Workplace Inclusion of People With Health Issues, Immigrants, and Unemployed Youths—A Qualitative Study of Norwegian Leaders' Experiences. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.687384>.

Kokorović Jukan, M., Okičić, J., & Hopić, D. (2020). Remittances as an opportunity to increase savings and financial inclusion of youth in South East Europe. *Economic Research-Ekonomska Istrazivanja*, 33(1), 2606–2619. <https://doi.org/10.1080/1331677X.2020.1749104>.

Koomson, I., Ansong, D., Okumu, M., & Achulo, S. (2023). Effect of Financial Literacy on Poverty Reduction Across Kenya, Tanzania, and Uganda. *Global Social Welfare*, 10(1), 93–103. <https://doi.org/10.1007/s40609-022-00259-2>

Kopal Saxena, D. S. G. (2021). Presenting An Overview on Financial Inclusion in Indian Context: A Review Paper. *Webology* (ISSN: 1735-188X), 18(2).

Levine, R. (2020). Finance, Growth, and Economic Performance. In Aghion, P., & Durlauf, S. N. (Eds.), *Handbook of Economic Growth* (Vol. 1, pp. 865-934). Elsevier.

Lewis-Landry GAKPA, 2023. "The effects of financial inclusion on entrepreneurship in SSA and the role of institutions," *Theoretical and Applied Economics*, Asociatia Generala a Economistilor din Romania - AGER, vol. 0(4(637), W), pages 177-202, Winter.

Maddala, G., LI, H. & Srivastava, V. 2001. A comparative study of different shrinkage estimators for panel data models. *Annals of Economics and Finance*, 2, 1-30.

Masiyandima, N., Mlambo, K. & Nyarota, S. Financial Inclusion and Quality of Livelihood in Zimbabwe. 14th African Finance Journal Conference-Africa growth Institute, 2017.

McVay, M. P., Yamamoto, G., Ndoka, E., Strong, T., Coulson, L., & Awuah, L. B. (2022). Agricultural finance that reaches people facing poverty, gender, and age barriers. *Enterprise Development and Microfinance*, 33(1), 45–58. <https://doi.org/10.3362/1755-1986.21-00038>.

Mekonen, L. (2021). Determinants of Financial Inclusion in Sub-Saharan Africa: A Comparative Analysis. *African Journal of Economic and Management Studies*, 12(2), 250-267.

Ministry of Health and Social Services. (2023). Health Sector Strategic Plan.

Moreno-Garcia, E., Garcia-Santillan, A., & Navarrete, D. M. (2022). Empirical Study on Financial Knowledge among High School Students in Veracruz. *International Journal of Innovative Research and Scientific Studies*, 5(3), 162–169. <https://doi.org/10.53894/ijirss.v5i3.492>.

Mugume, R., & Bulime, E. W. N. (2022). Post-COVID-19 recovery for African economies: Lessons for digital financial inclusion from Kenya and Uganda. *African Development Review*, 34(S1), S161–S176. <https://doi.org/10.1111/1467-8268.12652>.

Musa Abdullahi Sakanko, Sufiyanu Umma Yahaya, & Salihu Abdullahi. (2023). Financial Literacy and Financial Inclusion. *Zakariya Journal of Social Science*, 2(1), 1–10. <https://doi.org/10.59075/zjss.v2i1.227>.

Muthinja, M. M., & Chipeta, C. (2018). Financial Innovations and Bank Performance in Kenya: Evidence from Branchless Banking Models. *South African Journal of Economic and Management Sciences*, 21(1), 1-11.

Obińska-Wajda, E. (2016). The new institutional economics - main theories. *e-Finanse: Financial Internet Quarterly*, 12(1), 78–85.

OECD. (2018). *Financial Education in a Digital Age: Policy Paper and Guidance*. Organisation for Economic Co-operation and Development.

Omakhanlen, A. E., Iyika, P. I., Chimezie, P. O., & Osho, O. (2021). Impact of economic and financial literacy on the spending behaviour of selected public servants in Lagos state Nigeria. *WSEAS Transactions on Business and Economics*, 18, 95–105. <https://doi.org/10.37394/23207.2021.18.11>

Rao, C. R., Rao, C. R., Statistiker, M., RAO, C. R. & RAO, C. R. 1973. *Linear statistical inference and its applications*, Wiley New York.

Rashdan, A., & Eissa, N. (2020). The determinants of financial inclusion in Egypt. *International Journal of Financial Research*, 11(1), 123–136. <https://doi.org/10.5430/ijfr.v11n1p123>.

Ribaj, A., Meçe, M., Cinaj, V., & Kadrimi, I. (2020). Issues related to financial education of youth in a developing country (The case of Albanian youth). *WSEAS Transactions on Business and Economics*, 17, 140–152. <https://doi.org/10.37394/23207.2020.17.16>

Sangar, Ms. A., & Burad, Dr. P. (2022). RELATIONSHIP OF AWARENESS AND USAGE OF ONLINE AND MOBILE BANKING AMONG YOUTH WITH SELECTED VARIABLES. Ms. Anuradha Sangar. *IDC International Journal*, 9(1), 55–59. <https://doi.org/10.47211/idcij.2022.v09i01.011>

Soumare, I., Tchana Tchana, F., & Kengne, T. M. (2016). Analysis of the determinants of financial inclusion in Central and West Africa. *Transnational Corporations Review*, 8(4), 231-249.

Veronicah, W. W., Jagongo, A., & Musau, S. (2022). Digital Payments and Financial Inclusion among the Youth in Kenya. *The International Journal of Business & Management*, 10(4). <https://doi.org/10.24940/theijbm/2022/v10/i4/bm2204-023>

Wentzel, J. P., Diatha, K. S., & Yadavalli, V. S. S. (2016). An investigation into factors impacting financial exclusion at the bottom of the pyramid in South Africa. *Development Southern Africa*, 33(2), 203–214. <https://doi.org/10.1080/0376835X.2015.1120648>

World Bank. (2018). Financial Inclusion: Global Financial Development Report 2017/2018. World Bank.

World Bank. (2022). The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19.

Zaimovic, A., Torlakovic, A., Arnaut-Berilo, A., Zaimovic, T., Dedovic, L., & Nuhic Meskovic, M. (2023, June 1). Mapping Financial Literacy: A Systematic Literature Review of Determinants and Recent Trends. Sustainability (Switzerland). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/su15129358>

Zulfiqar, K., Chaudhary, M. A., Aslam, A., & Aslam, M. (2016). Financial Inclusion and its Implications for inclusive growth in Pakistan. *Social Review*, 54(2), 297–325.

## APPENDICES

### Appendix 1: Bivariate Analysis of the Independent variables and Financial Inclusion

Variable	Value	Financially		Chi2	Pr
		Excluded (%)	Included (%)		
Time taken to the nearest Post Office	<30 mins	2.7	31.5	32.76	0.00 0
	=>30 mins	17.0	48.9		
Time taken to the nearest Bank	<30 mins	1.4	27.4	39.84	0.00 0
	=>30 mins	18.3	52.9		
Time taken to the nearest ATM	<30 mins	2.4	36.2	51.55	0.00 0
	=>30 mins	17.3	44.1		
Distance in KMs the nearest post office	<1 km	1.8	21.2	18.58	0.00 0
	=>1km	17.8	59.1		
Distance in KMs to nearest Bank	<1 km	1.1	18.4	21.15	0.00 0
	=>1km	18.5	61.9		
	<1 km	2.0	25.8	27.53	

Distance in KMs to nearest ATM	=>1km	17.7	54.5		0.00
					0
Remittance	Yes	0.8	34.0	71.63	0.00
	No	18.8	46.3		0
Money Borrowed	Yes	1.8	19.8	15.66	0.00
	No	17.8	60.5		0
Saving	Yes	11.0	73.0	103.6	0.00
	No	8.7	7.3	0	0

## Appendix 2: Levels of Financial Inclusion

Financial Inclusion	2007	2011	2017
Financially excluded	51.0	31.0	22.0
Informally Served	6.0	13.0	23.9
Other formal	19.0	46.0	52.8
Banked	45.0	62.0	67.9
Formally served	47.0	65.0	72.6

## Appendix 3: Multicollinearity test

Variable	fi	fi_sex	fi_urb~ r	fi_age	fi_tim~ f	fi_tim~ k	fi_tim~ m	fi_kmp~ f	fi_kmb~ k
fi	1								
fi_sex	0.0052	1							
fi_urb_ru r	-0.1949	- 0.0656	1						
fi_age	0.1649	0.0222	-0.0597	1					

<b>fi_timposof</b>	-0.2145	-	0.3383	-	1				
		0.0772		0.0769					
<b>fi_timban</b>	-0.2365	-	0.4579	-	0.746	1			
<b>k</b>		0.1244		0.0754					
<b>fi_timatm</b>	-0.2691	-	0.4588	-0.065	0.7431	0.7888	1		
		0.0992							
<b>fi_kmposof</b>	-0.1615	-	0.3472	-	0.6545	0.5214	0.5046	1	
<b>f</b>		0.0376		0.0952					
<b>fi_kmban</b>	-0.1723	-	0.4394	-	0.4974	0.6415	0.5481	0.7573	1
<b>k</b>		0.0908		0.1004					
<b>fi_kmatm</b>	-0.1966	-	0.4666	-	0.492	0.5607	0.6536	0.7027	0.7777
		0.0798		0.0858					
<b>fi_rem</b>	-0.3172	-	0.0618	0.1183	0.0955	0.0885	0.1103	-0.0009	0.0043
		0.1026							
<b>fi_bor</b>	-0.1483	0.0007	0.131	-	0.1183	0.118	0.1648	0.1258	0.1285
				0.0243					
<b>fi_sav</b>	-0.3814	-0.008	0.016	-	0.1204	0.1677	0.1497	0.0478	0.1088
				0.1528					
<b>fi_ms</b>	-0.0682	0.1595	0.0596	0.3004	0.0736	0.0846	0.0858	0.0943	0.073
<b>fi_educl</b>	0.0777	0.049	-0.1757	0.097	-0.0908	-0.1338	-0.0966	-0.0962	-0.1092
<b>fi_hdec</b>	-0.158	0.0556	0.075	-	0.0316	0.0901	0.0489	0.0091	0.0513
				0.3947					
<b>fi_hstat</b>	-0.1546	0.0623	0.0668	0.0599	0.1387	0.1535	0.1582	0.1278	0.116
<b>fi_incllev</b>	0.045	-	-0.0739	0.0333	-0.1001	-0.1061	-0.0953	0.0008	-0.002
		0.0393							
<b>Variable</b>	<b>fi_kmat</b>	<b>fi_rem</b>	<b>fi_bor</b>	<b>fi_sav</b>	<b>fi_ms</b>	<b>fi_educl</b>	<b>fi_hdec</b>	<b>fi_hstat</b>	<b>fi_incllev</b>
	<b>m</b>								
<b>fi_kmatm</b>	1								
<b>fi_rem</b>	0.0529	1							

<b>fi_bor</b>	0.2069	0.1529	1						
<b>fi_sav</b>	0.1086	0.1022	0.0991	1					
<b>fi_ms</b>	0.0942	0.104	0.0529	-	1				
				0.0032					
<b>fi_educl</b>	-0.1073	-	-0.0503	-	-0.022	1			
		0.0493		0.1177					
<b>fi_hdec</b>	0.0467	-0.065	0.0381	0.145	-0.1578	-0.0604	1		
<b>fi_hstat</b>	0.1474	0.0677	-0.056	0.1044	0.1627	-0.1131	0.0064	1	
<b>fi_inclv</b>	0.0025	-0.052	0.0164	-	-0.0009	0.0787	-0.0624	-0.0279	1
				0.0383					

**Appendix 4. Determinants of financial inclusion - LPM model**

<i>Variables</i>	<i>B</i>	<i>S.E</i>	<i>z</i>	<i>P-value</i>	<i>95% Confidence Interval</i>	
					<i>LB</i>	<i>UB</i>
<i>fi_sex</i>	<i>0.012108</i>	<i>0.025989</i>	<i>0.47</i>	<i>0.641</i>	<i>-0.03892</i>	<i>0.06313</i>
<i>fi_location</i>	<i>-0.07145</i>	<i>0.026879</i>	<i>-2.66</i>	<i>0.008</i>	<i>-0.12422</i>	<i>-0.01868</i>
<i>fi_age_cat</i>	<i>0.054733</i>	<i>0.027636</i>	<i>1.98</i>	<i>0.048</i>	<i>0.00047</i>	<i>0.10899</i>
<i>fi_rem</i>	<i>-0.22681</i>	<i>0.026969</i>	<i>-8.41</i>	<i>0.000</i>	<i>-0.27976</i>	<i>-0.17386</i>
<i>fi_bor</i>	<i>-0.03274</i>	<i>0.031136</i>	<i>-1.05</i>	<i>0.293</i>	<i>-0.09387</i>	<i>0.02839</i>
<i>fi_sav</i>	<i>-0.29588</i>	<i>0.035818</i>	<i>-8.26</i>	<i>0.000</i>	<i>-0.36620</i>	<i>-0.22556</i>
<i>fi_ms</i>	<i>-0.0433</i>	<i>0.026782</i>	<i>-1.62</i>	<i>0.106</i>	<i>-0.09588</i>	<i>0.00928</i>
<i>fi_educl</i>	<i>-0.01825</i>	<i>0.017279</i>	<i>-1.06</i>	<i>0.291</i>	<i>-0.05218</i>	<i>0.01567</i>
<i>fi_hdec</i>	<i>-0.01271</i>	<i>0.008765</i>	<i>-1.45</i>	<i>0.147</i>	<i>-0.02992</i>	<i>0.00449</i>
<i>fi_hstat</i>	<i>-0.09211</i>	<i>0.041511</i>	<i>-2.22</i>	<i>0.027</i>	<i>-0.17361</i>	<i>-0.01061</i>
<i>fi_income</i>	<i>0.074529</i>	<i>0.012768</i>	<i>5.84</i>	<i>0.000</i>	<i>0.04946</i>	<i>0.09960</i>
<i>_cons</i>	<i>1.625898</i>	<i>0.135334</i>	<i>12.01</i>	<i>0.000</i>	<i>1.36019</i>	<i>1.89161</i>

OMINIBUS TESTS OF THE MODEL COEFFICIENTS NUMBER OF OBS = 712, F (11,700) = 29.98 PROB > F = 0.0000, R-SQUARED = 0.3202, ADJ R-SQUARED = 0.3095, ROOTMSE = 0.33049