# ASSESSING THE EFFECTS OF FINANCIAL INCLUSION ON INCOME INEQUALITY AND THE MODERATING ROLE OF SOCIO-ECONOMIC STATUS IN NAIROBI COUNTY.

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**MDF/101403/2025**

**A DISSERTATION SUBMITTED TO STRATHMORE UNIVERSITY BUSINESS SCHOOL IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A MASTER OF SCIENCE IN DEVELOPMENT FINANCE.**

**STRATHMORE UNIVERSITY BUSINESS SCHOOL**

**STRATHMORE UNIVERSITY**

**NAIROBI, KENYA.**

**MAY 2025**

## DECLARATION

I hereby declare that the research described in this document is entirely original with no presentation of the work made for academic credit at any other university.

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## ABSTRACT

Income inequality remained a pressing issue both globally and within Kenya, characterized by significant disparities among socio-economic groups. Despite an increase in financial inclusion, the effects on income inequality were still unclear, particularly in metropolitan areas with substantial economic gaps such as Nairobi County, Kenya. The purpose of this study was to explore the relationship between financial inclusion and income inequality within Nairobi County. The study specifically aimed to determine various aspects of financial inclusion-including access to financial services, service quality, and usage-influenced income distribution, and to examine the role of socio-economic status and economic factors in this relationship. A quantitative-correlational research design was employed to observe the existing associations between financial inclusion and income inequality. Using Yamane's formula at a 95% confidence level, the research sampled a minimum of 393 inhabitants aged 18 years or older. Simple random sampling was utilized to ensure fair and impartial outcomes. Data on financial service access, usage, and income levels were collected through structured survey questionnaires. Descriptive and inferential statistical techniques, including regression analysis, were applied using SPSS to identify meaningful associations and predictors related to income inequality. The findings indicated that income distribution was significantly affected by financial accessibility, while the quality of financial services did not have a notable impact on income distribution. More frequent use of financial services was correlated with lower incomes, and socio-economic status was found to influence the relationship between financial inclusion measures and income inequality. These results underscored the importance of improving access to financial services for low-income populations, while also revealing the limitations of focusing solely on service quality or usage. The study concluded that financial inclusion alone was insufficient to bridge the income gap, as broader socio-economic inequalities also needed to be addressed. Therefore, the findings from this research could assist policymakers in developing more comprehensive financial systems and policies that promote sustainable economic growth and reduce disparities in Nairobi County and similar contexts.



**Keywords:** Income Inequality, Financial Inclusion, Socio-Economic Status

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SES: Socio-Economic Status

SDGs: Sustainable Development Goals

SPSS: Statistical Package for Social Sciences

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## ACKNOWLEDGEMENT

I offer my sincere gratitude to my supervisor, Dr. Erastus Mbithi, for his immense backing and quite helpful direction throughout this scholarly path. I am also very thankful to my father, mother and brothers for their constant support and comprehension helped me through the hard parts of getting my Master's degree.

I also would like to express, in addition, my appreciation to all the participants who generously contributed with their time as well as understanding to this study. Your demonstrated willingness in sharing experiences and perspectives has improved the overall depth within this research. I am especially grateful for contributions of such indispensable nature.

# CHAPTER ONE:

# INTRODUCTION

## 1.1 Background of the Study

Income inequality stands as a significant impediment to achieving global sustainable development goals, particularly the aim of eradicating poverty and reducing inequalities by 2030 in Kenya (Collymore, 2021). Despite advancements in economic performance, many societies continue to grapple with the disproportionate distribution of wealth, where only a privileged few benefits from the nation's economic activities while others struggle to make ends meet. For instance, recent data from Horowitz, Igielnik, and Kochhar (2020) reveals a stark increase in income among the top 5% of affluent Americans when compared to other people in the population. This disparity not only undermines social cohesion but also hinders efforts to foster inclusive economic growth and promote long-term prosperity for all members of society.

In this context, the idea of financial inclusion is a vital step towards addressing income inequality. Financial inclusion can be well-defined as the accessibility of financial products and services to people and companies, ensuring that everyone, regardless of their socio-economic status, can participate in and benefit from the financial system (Omanga & Dreyer, 2020). This inclusive approach is supported in the conviction that equitable access to financial services is essential for promoting social equality and reducing economic disparities. Notably, global efforts have seen a significant rise in financial inclusion, with approximately 76% of adults worldwide having access to a bank account by 2023 (Sirtaine, 2023). Such progress underscores the growing recognition of financial inclusion as a cornerstone of sustainable development strategies aimed at fostering inclusive economic growth and reducing inequalities across diverse communities and regions.

In Europe, income inequality is evident in the uneven recovery from economic crises, with countries such as Greece and Spain exhibiting higher inequality compared to their northern counterparts (OECD, 2023). Similarly, in Asia, rapid industrialization in countries like India and China has contributed to widening income gaps, with urban centers benefiting disproportionately from economic progress (ADB, 2023). In the United States, income inequality has been rising, as the wealthiest 5% of households have seen significant income growth compared to other

population groups (Horowitz, Igielnik, & Kochhar, 2020). Meanwhile, Africa faces unique challenges, with structural inequalities, limited access to financial services, and a high reliance on informal economies exacerbating income disparities (World Bank, 2022).

The World Bank contemplates financial inclusion as a catalyst for attaining numerous sustainable development objectives, comprising poverty reduction and the reduction of inequalities (World Bank, 2022). Similarly, the African Union has underscored the importance of financial inclusion policies in improving the lives of marginalized groups, particularly women and youth. Initiatives such as the Women and Youth Financial and Economic Inclusion 2030 Initiative aim to unlock substantial resources to support millions of women and youth across Africa (African Union, 2023). By prioritizing financial inclusion as a key policy objective, governments and international organizations can empower marginalized communities, enhance economic resilience, and foster inclusive growth that benefits all members of society, irrespective of their backgrounds or circumstances.

In various ways, financial inclusion has been a powerful tool in addressing income disparities, with notable success stories demonstrating its capability to enable sidelined inhabitants and promote monetary equity. One such example is the Grameen Bank model in Bangladesh, established by Nobel Laureate Muhammad Yunus. The Grameen Bank established microfinance programs, providing miniature, collateral-free loans to disadvantaged people, particularly women, allowing them to engage in income-generating activities. This model has significantly contributed to poverty reduction in Bangladesh by empowering women, fostering entrepreneurship, and enhancing household incomes, thereby narrowing income inequalities (Yunus, 2019). The Grameen model has inspired similar initiatives worldwide, demonstrating the effectiveness of financial inclusion in advocating equitable economic opportunities plus fostering sustainable development.

In a broader African context, income inequality remains a persistent issue across several nations, despite varying levels of financial sector development. South Africa, for instance, continues to record some of the highest income inequality rates globally, driven by historical disparities, limited economic mobility, and uneven access to financial resources (Adams & Klobodu, 2018). While the country has made strides in expanding financial inclusion especially through mobile banking and government-backed initiatives these efforts have not sufficiently translated into

reduced inequality. Similarly, countries like Nigeria, Ghana, and Uganda have witnessed growth in financial technology and banking outreach, yet gaps persist between rural and urban populations, and between different socio-economic classes (Okowa et al., 2022). These trends suggest that while financial inclusion is an important step, it is not a standalone solution. Broader structural reforms and inclusive economic policies remain necessary to address entrenched inequality across African nations. Comparing Kenya's situation with these countries offers valuable insights into how financial inclusion initiatives can be tailored and complemented by socio-economic reforms to achieve more equitable outcomes.

In Kenya, similar efforts have emerged to tackle income inequality through innovative financial inclusion strategies. For example, Kenya's M-Pesa platform has transformed financial services by aiding mobile money transfers and payments for millions of formerly unbanked people. This innovation has not only simplified easier access to financial services nonetheless has also significantly contributed to poverty alleviation by providing opportunities for small-scale business development and improving household resilience against economic shocks (Jack & Suri, 2014). By bridging the gap between formal financial systems and underserved populations, M-Pesa has become a benchmark for financial inclusion initiatives aimed at reducing economic disparities.

These examples demonstrate the possibility of financial inclusion as a powerful means for addressing income inequality in different settings. By leveraging innovative financial inventions and services, countries can empower marginalized populations, improve economic participation, and build more equitable societies. Such insights underscore the relevance of examining financial inclusion initiatives in Nairobi County to better understand their impact on income inequality and inform strategies for promoting sustainable development.

### 1.1.1 Overview of Nairobi County

The Kenyan banking industry has realized significant growth over the years. The growth is not just illustrated by the number of financial entities that have emerged in the nation but also by the quality of operations witnessed (Collymore, 2021). As of 1911, the nation had three banks, National Bank of India, Kathiawad and Ahmedabad Banking Corporation and Standard Bank of South Africa (Central Bank of Kenya, 2023). However, the number of banking institutions has grown since then. The Central Bank of Kenya report pointed out at the nation having about 43

banks as of 2022. The above data provides insights into a growing financial system that seeks to tap into the markets gap of over the 50 million people who reside in the nation.

Kenya's financial inclusivity has improved over the years. The improvement is illustrated by the nation's progress from few individuals who had access to banking services to millions whose financial needs are now catered for by the multiple banks found in the country (Collymore, 2021). The nation continues to realize increase in growth of financial inclusivity. For instance, the 2019 financial inclusive rate stood at 82.9%. The rate later grew to 83.7% in 2022. The data shows a large improvement in a nation whose financial inclusivity rate was just around 26% in 2006 (Central Bank of Kenya, 2021). On the other hand, this study will focus on Nairobi County in Kenya. This is because, being the richest county in Kenya, it has the broadest gap between the rich and the underprivileged with a Gini coefficient of 40.9% which is higher than the national average while being the business the major business and economic hub of Kenya and East Africa (Omondi, 2023). This indicates a need to inspect the issue of income inequality in this county and how it is influenced by financial inclusion.

### 1.1.2 Conceptual Background

Financial Inclusion refers to the process of ensuring access to affordable and appropriate financial products and services for all individuals and businesses, particularly those traditionally excluded from formal financial systems. These services include savings accounts, credit, insurance, and payment systems, which enable economic participation and financial security (Sirtaine, 2023).

Income inequality measures the distribution of income among a group of people. This is frequently depicted through metrics such as the Gini coefficient, which measures multiple income inequalities. High levels of income inequality can get in the way of economic growth as well as social cohesion along with efforts toward poverty alleviation (World Bank, 2022).

Socio-economic status (SES) fully includes an individual's economic and social position, as determined through aspects such as education, income, and occupation. SES is important to people in getting financial services. It affects how financial inclusion and income inequality relate (Demir et al., 2020).

## 1.2 Statement of the Problem

While Kenya has made significant strides in financial inclusion, with the financial inclusivity rate reaching 83.7% in 2022 (Central Bank of Kenya, 2023), income inequality persists as a pressing issue. Nairobi County exhibits the highest income inequality in the country, with a Gini coefficient of 40.9% (Omondi, 2023). Existing research highlights the potential of financial inclusion to reduce income disparities; however, gaps remain in understanding its impact within specific contexts, such as urban centers like Nairobi. For example, while studies such as Wamalwa (2022) have shown a general correlation between financial inclusion and reduced income inequality in Kenya, their findings are limited by a lack of focus on urban settings and contemporary data.

Moreover, recent studies underscore the complexity of the relationship between financial inclusion and income inequality, particularly in urban areas. For instance, research analyzing 23 African countries found that only a higher degree of financial inclusion has a favorable distributional effect, and this impact is more pronounced in countries with higher institutional quality (Kebede et al., 2023). Additionally, a study focusing on Sub-Saharan Africa revealed that financial inclusion contributes to reducing income inequality, but the effect varies based on socio-cultural factors, such as religion and language (Atadouanla Segning et al., 2023). These findings suggest that while financial inclusion is a critical component, it must be complemented by broader socio-economic reforms to effectively address entrenched inequalities in urban settings like Nairobi.

Furthermore, prior studies have overlooked the moderating role of socio-economic status in shaping the relationship between financial inclusion and income inequality. This research seeks to address these gaps by providing an in-depth analysis of financial inclusion's impact on income inequality in Nairobi County, offering actionable insights for policymakers and stakeholders.

## 1.3 Research Objectives

### 1.3.1 General Objectives

The research's objective is to assess how financial inclusivity in Nairobi affects income inequality.

### 1.3.2 Specific Objectives

1. To examine the effect of access to financial services in Nairobi County, Kenya on income inequality.
2. To assess the influence of the quality of financial services in Nairobi County, Kenya on income inequality.
3. To examine the impact of the usage of financial services in Nairobi County, Kenya on income inequality.
4. To explore the moderating effect of socio-economic status on the relationship between financial inclusion and income inequality in Nairobi County, Kenya.

## 1.4 Research Questions

1. How does the enhanced accessibility of financial services in Nairobi County, Kenya correlates with income inequality ?
2. What is the effect of quality financial services in Nairobi County, Kenya on income inequality?
3. How does the usage of financial services in Nairobi County, Kenya contributes to changes in income inequality?
4. Does socio-economic status have a moderating effect on the relationship between income inequality and financial inclusion in Nairobi County, Kenya?

## 1.5 Scope of the study

The research focused on Nairobi County, Kenya, and targeted individuals above 18 years of age from both the formal and informal sectors as participants. The writing of the study commenced in April 2024, and data collection was conducted during January 2025. Financial institutions and their management provided valuable information for the study, as they possessed data that reflected Nairobi's level of financial inclusion and income inequality. Nairobi County was selected because it is the nation's capital and hosts the headquarters of most of Kenya's financial institutions. Additionally, Nairobi's diverse demographic composition made it an ideal setting for the research, as the participants represented a microcosm of the entire nation.

## 1.6 Significance of the Study

### 1.6.1 Policy Makers and Regulators

The research findings are important to policy makers and regulators who make diverse decisions on the manner which Kenyan financial system operates. It sets good ground for providing statistics on how the financial sector performs as far as inclusivity and income equality are concerned. This information enhances decision making capabilities of policy makers and regulators by guiding them to produce better procedures that the financial sector can adopt to enhance inclusivity and income equality. Likewise, regulators get a good understanding of the measures which need to be enforced to attain financial inclusivity and lower income disparity gap among Kenyans.

### 1.6.2 Bank Managers, Board and Practitioners

The findings of the study have a direct impact on bank managers, board and practitioners as they are the ones who offer and design different financial products and services. The research allows managers to produce better products and services that allow customers not just to realize financial inclusivity but attain equality when it comes to the same. Board members are the ones entitled to the responsibility of overseeing whether their organizations enforce the inclusivity and income equality standards in the financial sector. The study therefore informs board managers about the kind of progress that their institutions have made as far as facilitating financial inclusivity and income equality is concerned.

### 1.6.3 Academicians and Researchers

Study is relevant to academicians in different ways. It provides scholars with information to know the relationship between growth of financial inclusivity in Nairobi and its impact on income inequality. Researchers can look at different factors within the financial system to determine the individual impact they each have on the nation's financial inclusivity and distribution of wealth. Likewise, the study will allow scholars to develop ideal strategies to promote income equality in the nation by recommending ideal changes to be implemented in the financial sector. It will poke holes in areas of weakness in the nation's financial sector by pinpointing issues that lead to inequality. Moreover, the study allows scholars to determine Kenya's demographic distribution in terms of wealth distribution and the financial inclusivity.

## 1.7 Summary of Chapter One

Income inequality remains a conversation that not only elicits interest in Kenya but the globe at large. Kenya's interest in income inequality stems from the fact that the nation has realized significant growth in financial inclusivity over the years. However, little is known about how financial inclusivity has impacted income inequality in the country. The current research therefore investigates how financial inclusivity in Nairobi County has imparted income inequality among its residents. The research is significant to different stakeholders such as banking managers, board, practitioners, academicians and policy makers as it provides them with insights on ways to improve Nairobi's financial inclusivity and reduce income inequality.

# CHAPTER TWO:

# LITERATURE REVIEW

## 2.1 Introduction

There is a lot of scholarly information regarding both financial inclusion and income inequality. The chapter discusses the main concepts, theoretical framework and empirical review on the subject and the research gaps that exist. The chapter also reviews the conceptual framework of the research and operationalization of the variables.

## 2.2 Theoretical Framework

There are several theories that explain the issue of financial inclusion and inequality in society.

### 2.2.1 Vulnerable Group Theory of Financial Inclusion

The theory is among the most relevant theories of financial inclusion, having been first established by Ozili (2020). The fact that not every member of society gains from financial inclusion worried Ozili. Ozili asserts that those who are vulnerable are often left out of society and are prone to being shut out of the formal financial system for a variety of reasons. Ozili suggested that all societally vulnerable individuals should be the focus of financial inclusion initiatives. The vulnerable group theory of financial inclusion advocates for a society that focuses on the vulnerable members as part of its campaign to enhance financial inclusion. The advocates of this theory include economists, social scientists, and policymakers who advocate for policies aimed at reducing income inequality and promoting the equitable distribution of resources in society. The theory argues that there are some vulnerable groups in society who are likely to experience severe negative repercussions during instances of economic turmoil. For instance, the elderly, the uneducated, young people and women are some of the individuals who (Ozili, 2020) often suffer from harsh economic situations. The theory points out that attaining financial inclusion should first start with the vulnerable individuals. Institutions such as governments should develop programs to incorporate vulnerable populations into their formal financial system, thereby reducing the challenges they might face due to lack of better financial services. This theory aligns with the first research objective on how access to financial services by different people with varying needs and capabilities can cause income inequality.

The vulnerable group hypothesis of financial inclusion has numerous shortcomings. First, financial inclusion for all members of the public is not a major issue in the theory. Secondly, it ignores non-vulnerable individuals who are not part of the official banking industry. Official financial services should be accessible to everyone, even those who are not in danger. Thirdly, it indicates that men are not a vulnerable category by assuming that women are. This theory is important since women and men compete in modern cultures for equal chances. As a result, categorizing women as a vulnerable category that should be kept out of the workforce may have unforeseen effects for women's financial and social participation. Men may get resentful of women because of it. In conclusion, focusing solely on the most vulnerable to achieve financial inclusion may worsen social inequality if social policies and financial regulations are crafted to provide preference to those who are already weak. If disadvantaged individuals have longer-term, better accessibility to formal financial services than others, this could potentially result in income disparity.

### 2.2.2. Dissatisfaction Theory of Financial Inclusion

The Dissatisfaction Theory of Financial Inclusion is often attributed to scholars and researchers in the field of economics and finance who have observed persistent disparities in access to financial services and the consequent dissatisfaction among marginalized and underserved populations. Peterson created the theory to address financial inequality in the formal sector. The dissatisfaction theory of financial inclusion advocates prioritization of individuals who were in the formal financial system before moving out. The individuals should be targeted as a means of enhancing financial inclusion within society. The theory asserts that it is difficult to convince people who were in the financial system to return compared to those who have never joined it. Individuals are considered to have left the formal financial system after encountering diverse forms of dissatisfaction (Peachey & Roe, 2004). For instance, individuals may be dissatisfied by high cost of operations or feelings of alienation within the system thereby pushing them to opt out. The dissatisfaction theory therefore recommends that previous members of the formal financial system be targeted at campaigns seeking to enhance financial inclusion in a nation. This theory aligns with the second research objective seeing to explore how quality of services can influence income inequality.

The dissatisfaction hypothesis of financial inclusion has numerous shortcomings. First, financial inclusion for the whole population is not given much weight in theory. This excludes those who have never held a position in the formal financial sector. The dissatisfaction theory implicitly assumes that financial exclusion results from customers' dissatisfaction with the rules of engagement within the formal financial sector. Although people can quit the formal financial sector of their own free will for several reasons, including personal or religious ones, this may not always be the case (Ozili, 2018). Lastly, if society culture depends too heavily on the official financial sector to lead a comfortable existence, then people who are unhappy with the actions of financial institutions in the formal financial sector may be forced to stay in the sector.

### 2.2.3 Systems Theory of Financial Inclusion.

The theory created by Peterson K. Ozili views financial inclusion as an outcome of a good system that comprises various functioning subsystems. The subsystems involved in financial inclusion are social, economic, and financial. Good improvements in one contribute to the growth of society as far as financial inclusion is concerned. Changes in each sub-system are likely to have an overall impact on the general system of financial inclusion (Ozili, 2020). For instance, introducing tough regulations on the financial subsystem is likely to deter the number of people engaging in formal financial services, denying them access to better economic opportunities thus ending up in a society characterized by inequalities as others are barred from attaining financial freedom. This theory aligns with the third research objective on how usage of financial services, in this case being a system of well-functioning subsystems from banks to technology can impact income inequality.

The systems theory is not without flaws. First off, the environment is reflected in the subsystems that are currently in place. In certain cases, the expected financial inclusion effects may not be fully fulfilled due to the current sub-systems. The systems theory of financial inclusion disregards the role of outside factors that may have an impact on the system's overall outcomes in favor of focusing on how the subsystems affect the outcomes of financial inclusion. Furthermore, the systems theory of financial inclusion provides a direct link between the outcomes of financial inclusion and the systems upon which it depends.

## 2.3 Empirical Review of Financial Inclusion and Income Inequality

### 2.3.1 Effect of access to financial services on income inequality.

Financial inclusion encompasses much more than just giving people access to financial services; it also represents a vision for reducing poverty, promoting economic empowerment, and ensuring sustainable income. People can save money and protect it by having access to official savings accounts or unofficial savings organization (World Bank, 2022). Since they give people a safety net to preserve stability and protect against unforeseen expenses, even tiny savings can have a revolutionary effect. Increased income results from farms and small enterprises expanding more easily due to access to cash and credit. To level the playing field and free people from the limitations of economic inequality, inclusive financial institutions are essential (Wamalwa, 2022).

For farmers and business owners in rural areas, access to financial technology—such as peer-to-peer financing, digital payments, inventory management, and mobile banking—can have a significant influence. Fintech offers previously unheard-of access to financial services, education, and institutions where the proper resources are available (Fanta & Mutsonziwa, 2021). Giving people the information they need to make wise financial decisions is a crucial part of achieving financial inclusion. Financial literacy can be promoted through educational initiatives, empowering people to handle their money wisely and take advantage of all the resources at their disposal (Gálvez-Sánchez et al., 2021).

Development economics has long been interested in the relationship between income inequality and the availability of financial services. Several low-income populations cannot obtain banking services. They may not be able to fulfil the criteria for credit services offered by commercial banks due to their limited assets obtainable for the mortgage and inadequate repaying capacity, which could have a threshold effect. This tendency is common in underdeveloped nations. In this instance, low-income individuals benefit less from financial services, which increases their likelihood of dropping out of school and missing job prospects, hence exacerbating disparity in income (Hu, 2021).

The exclusion effect highlights financial organization's motivations to avoid less developed locations, whereas the threshold effect describes the issue where low-income populations are unable to meet the requirements of financial services. According to data from the Philippines,

rural banks that operate in cities are typically more effective than those that do not (Fatmawati et al., 2019; Wasiaturrahma et al., 2020). To maximize earnings, banks typically locate their branches in affluent areas; this is a classic illustration of the exclusion effect. The imbalanced effect of financial development, which causes capital to migrate out of rural areas and widens the income disparity between them, is what Zhang and Zhan (2006) dubbed this phenomenon.

Financial services accessibility is observed to positively impact household income and consumption, resulting in decreased rates of poverty (Zhang & Posso, 2019; Coulibaly & Yogo, 2020). With the growth of the finance business starting in the 20th century, the variety of financial services is increasing. Using student loans as an example, students from low-income families who graduate with loans have more chances to earn more money, which will benefit their family's financial status down the road (De Gregorio, 1996). Furthermore, by fostering economic growth and business formation, inclusive finance can also contribute to the alleviation of poverty (Fareed et al., 2017).

In Mongolia, the likelihood of owning a business may extend by 10% if financing is easily accessible. Reducing poverty has the potential to increase social mobility, mitigate the effects of class solidification (Matthew's effect), and lessen income disparity. However, the magnitude of this effect may vary depending on national variances.

Kenya has advanced significantly in the direction of achieving human development. The percentage of the population living below the national poverty line has decreased from over 50% in the 1990s to less than 40% in the 2020s, and both urban and rural areas have seen notable advancements in welfare. Since its launch in the middle of the 2000s, innovative digital financial services have significantly improved welfare (Wamalwa, 2022). Specifically, the financial services provided by mobile money have had a revolutionary effect on expanding the number of previously underprivileged or excluding people's access to finance, facilitating instantaneous money transfers and payments over long distances, boosting credit availability, and offering a safe savings option. Many nations throughout the world have adopted mobile money because of this success (Muema, 2019).

Although numerous studies indicate the Positive effects of digital finance in general Services have shown a distributive impact of Reduced focus. Extremely large income inequality endures

despite general advances in all households. regarding financial well-being. Present-day inequality in Kenya is 38.9 percent, according to the Gini Index (Omondi, 2023).

### 2.3.2 Effect of quality financial services on income inequality

Income inequality can be significantly impacted by quality. Income disparity is more likely to occur when the quality is poor or ineffective. This is because individuals with greater wealth and power are better able to manipulate the system to their benefit, leaving them less for the less fortunate (Conard, 2020). However, wealth inequality tends to be lower when quality is high. Establishing strong institutions can guarantee equitable execution of contracts and universal access to property and other resources. This could create more fair competition by levelling the playing field.

Economists continue to disagree on the relationship between income inequality and financial development. There are those who think that financial development has an inverted U-shaped effect, while others contend it may worsen income disparity. By enhancing credit availability and financial services, financial development may boost the economy, but fail to lessen income inequality, and create greater economic possibilities (Yunusova & Morozova, 2023). For instance, it can support small enterprises in obtaining capital, so generating employment, and stimulating the economy. Furthermore, financial development can help redistribute wealth through government initiatives that provide money to lower-income people via the banking sector. According to some theories, financial growth might lessen wealth disparity by giving the impoverished greater possibilities to finance their children's future education decreasing the fixed costs of financial services for low-income people, improving welfare and increasing the need for low-skilled labourers (Demirgüç-Kunt & Levine 2009), and increasing financial access for the underprivileged (Weychert 2020)

Financial services providers (FSPs) have a chance to create creative financial services that support access to healthcare, education, and other critical services by taking advantage of signs of concern about medical costs and school fees (Dar & Ahmed, 2020). Additionally, as women are more likely than men to require assistance in using their accounts—and because one in three persons in Sub-Saharan Africa cannot do so without it—financial sector operators should create programme’s specifically aimed at promoting financial and digital literacy, particularly among women (Gálvez-Sánchez et al., 2021). Encouraging financial and digital literacy initiatives can

help the eight million unbanked people in Sub-Saharan Africa who receive cash payments from the government to access formal financial services and enhance their overall well-being.

Over the previous ten years, the gender disparity in account ownership has decreased globally. However, the difference increased from 5% in 2011 to 12% in 2021 in Sub-Saharan Africa, which is quadruple the global average and double that of other emerging nations. Findex 2021 reveals that, even though women have more bank accounts than males in South Africa, there is a sizable gender disparity in places like Cote d'Ivoire and Nigeria, where it is 27% and 20%, respectively.

### 2.3.3 Impact of usage of financial services in Nairobi on income inequality.

Banks continue to be a crucial conduit for the promotion of inclusive finance since they provide financial services. Research indicates that increasing bank outreach through new branches will lower the proportion of low-wage workers in developing nations (Yunusova & Morozova, 2023). Some people think fintech can make financial services more inclusive when compared to traditional financial services. For instance, the geographical barrier can frequently be overcome and people in rural areas can more easily get financial services owing to mobile payment and internet banking. This offers a significant chance to raise impoverished people's incomes and close the economic disparity between urban and rural areas (Song, 2017). Fintech has the potential to not only improve the working conditions of commercial banks but also have an impact on the distribution of revenue by empowering the underprivileged.

Research from around the world indicates that banks' capacity to regulate risk can be reinforced by increased fintech-based financial inclusion (Banna et al., 2021; Yang et al., 2021). Data from China demonstrates how the growth of fintech increased banks' managerial effectiveness (Zhao et al., 2022). Additionally, research indicates that an increase in the proportion of transactions made through mobile devices is linked to a faster rate of cost productivity growth, meaning that banks can offer the low-income population more services. Fintech has the effect of substituting specific services. For instance, in China and certain other nations, cash is rarely utilized in daily transactions due to the simplicity of mobile payment. Fintech, however, only serves as a supplement in other areas, improving banks' operational efficiency.

Since banks are building their platforms and collaborating with fintech start-ups, it is doubtful that fintech will completely replace banks (Bellardini et al., 2022; Murinde et al., 2022). Fintech

has also been shown to help banks lower credit risks and enhance their risk management capabilities (Cheng & Qu, 2020; Li et al., 2022). The data indicates that there is a positive feedback loop between fintech and banks. Commercial banks in China are currently transforming their branches into smart banks to keep up with the fintech industry's rapid growth. Banking services can be rendered more effectively and efficiently with the use of robots and artificial intelligence (AI), which will increase client satisfaction.

### 2.3.4 Moderating Role of socio-economic status on the correlation between financial inclusion and income inequality

Using data from 110 countries between 2014 and 2018, Ouechtati (2022) examines how political and economic institutions function to moderate the impact of financial inclusion on income inequality. According to his empirical findings, the establishment of efficient institutions can improve financial access, and low-quality institutions may counteract the positive effects of financial inclusion.

Literature frequently considers how financial inclusion affects growth. Apart from some data, like the discovery of financial inclusion obstructing growth, most of the evidence indicates a positive link between financial inclusion as well as growth. Many approaches have been used to study the effect from financial inclusion upon growth, with varying amounts of success. For example, using only yearly information collected from 1995 to 2015, the separate effect of commerce, money, work, and power is precisely related to the link between financial acceptance and growth for 27 EU countries (Huang et al., 2021). Using multiple panel econometric methods, the research assessed how access, depth, efficiency, and overall progress of financial development affect growth for the total sample and sub-sample groups. The study determined that several financial institutions, which function as surrogates for financial inclusion, possess a positive effect. This positive effect is on economic growth within the economies under close consideration.

According to Silas et al. (2020), digitalization is key for determining how financial inclusion affects economic growth in certain Asian economies. They also point out that growth is impeded by digitalized financial inclusion when there is still a persistent gap between wealth and poverty, urban and rural areas, and gender. To account for cross-sectoral dependency and variability among the many economies studied, Martin (2022) used dynamic, common, correlated effects

estimates and presented the role of foreign direct investment (FDI) to the relationship between financial inclusion and economic growth in Southeast Asia and the Caribbean nations. The study found that financial inclusion has a favorable effect, in the long and short term, on FDI influx into the countries under the study, which in turn promotes growth.

Economies of the Organization of Islamic Cooperation (OIC) used multiple econometric models. These models carefully evaluated the relationship between financial inclusion and economic growth. The several findings revealed a favorable effect of financial inclusion on economic growth in the OIC countries. Cyrus' (2023) position was additionally supported by Gordon's (2022) results, which revealed that financial inclusion has a positive and meaningful effect on African economies' economic growth and a large effect on digitalization.

Focusing on attaining the United Nations Sustainable Development Goals (UN-SDGs), Alex (2021) offered a diverse method to study the deep connection between financial inclusion as well as economic growth regarding 153 economies throughout three years: 2011, 2014, and 2017. According to the research, financial inclusion promotes economic growth through better schooling, empowering women, more gender equality, fewer infant mortalities, and reduced inequalities. Examining the role of institutional quality through data from 2004 to 2020 is an appropriate approach to understanding how financial inclusion effects economic growth in those 19 Asian countries.

## 2.4 Summary of Literature Review and Research Gaps

The literature review has revealed the presence of multiple academic papers regarding financial inclusion and global income disparity. Since diverse financial inclusion theories are tied to income inequality in varying ways, they each depict that a structured financial network betters every citizen's life. For example, the public good theory of financial inclusion argues for a society where everyone benefits from having the same access to formal financial services. Based on multiple academic studies, financial inclusion and income inequality are closely related.

Areas without particularly strong financial inclusion battle quite hard to guarantee their people exist within a society practicing true economic equality, as shown by the MENA region (Seifelyazal, Salaheldin & Assem 2023). Nations have successfully integrated financial inclusivity into their social systems. These nations have been depicted as having demonstrably lowered elements of income inequality. Sub-Saharan Africa, as the location for most studies

discussed throughout this chapter, offers a fitting illustration. It has been clearly shown that financial inclusion helped in reducing income inequality in the specific area. A similar observation was noted regarding Kenya where Wamalwa (2022) established a reduction in income inequality due to growth in financial inclusion.

Scholarly works have shown an association between financial inclusivity and income inequality across many regions. There are several areas of weakness where the current research will explore further. For example, such findings mirror those of other regions though they do not provide understandings into Nairobi County, Kenya. The current research's specific, thorough focus on Nairobi County makes it more interesting. The data from an entire region might not mirror those from any specific spot inside that area. Only because a certain study regarding the connection between financial inclusion as well as income inequality was done on Sub-Saharan Africa along with Kenya does not guarantee its results will be true for Nairobi specifically. The lack of prior research about financial inclusion and income inequality around Nairobi makes the current study relevant one since it includes that county.

**Table 2.1: Research Gaps**

| Author | Objectives | Findings | Research Gaps | Findings Addressed |
|---|---|---|---|---|
| Seshamani and Tounkara (2018) | how the index of concentration of formal and informal financial inclusion affects income inequality in a sample of 12 SSA nations using the ordinary least squares approach. | Formal participation tends to decrease income inequality while non-formal inclusion tends to raise it. Financial inclusion has positive impact on reducing poverty but has no influence on income inequality, | Conceptual | Focused on specific components such as access, quality, or usage of financial inclusion that exist in Nairobi, and it used a design that is |

| | | | | |
|---|---|---|---|---|
| | | | | correlational so that it can clarify these mechanisms. |
| Tita and Aziakpono (2017) | To ascertain which components of financial inclusion, have the most impact on income disparities in Sub-Saharan Africa. | Their findings indicate a favorable correlation between income disparity and business account usage, electronic payments, and formal savings. | Conceptual | The Research disaggregated financial inclusion into access, quality, as well as usage, and empirically tested their effects on income inequality in Nairobi. |
| Seifelyazal, Salaheldin & Assem (2023) | investigated the impact of financial inclusion in Middle East and North Africa (MENA) region | The lack of financial inclusivity was associated with instances of poverty and income inequality in the region. | Contextual | Evidence from Nairobi, Kenya provided context-specific evidence from an urban African setting with unique socio-economic dynamics. |

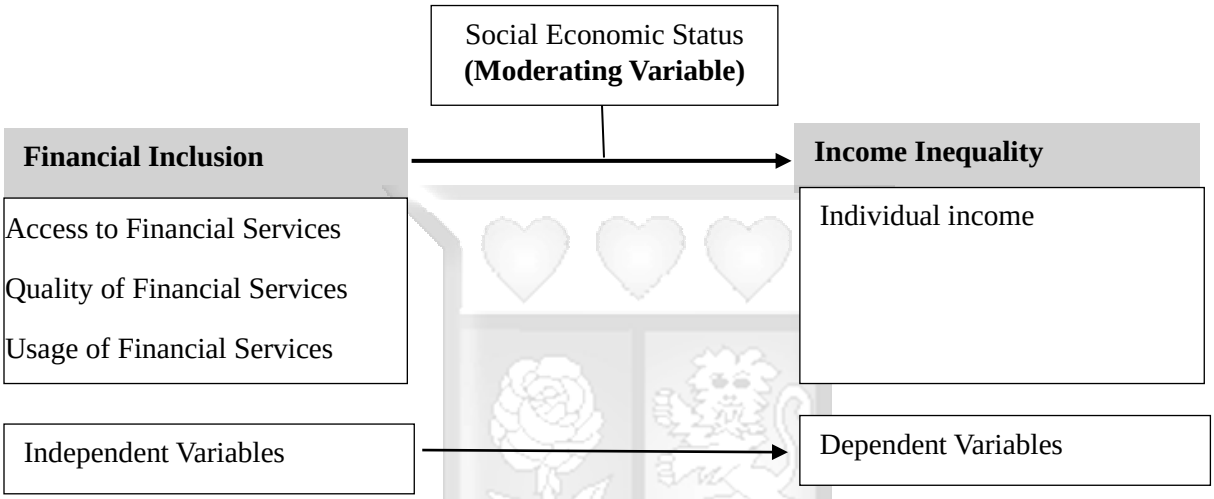
| | | | | |
|---|---|---|---|---|
| Atadouanla et al. (2023), | investigated the relationship between financial inclusion and income inequality in Sub-Saharan Africa | The research findings established that financial inclusion reduced income inequality in the region. | Conceptual | It gave urban data about Nairobi County and offered sub-national proof of financial inclusion's link to inequality. |
| Esther's (2019) | examines how financial inclusion affects income inequality in SSA using panel data and the system based GMM technique | The findings show that while inclusion helps to lessen income disparities, its capacity to do so is highly dependent on impoverished households' financial inclusion | Contextual | Explicitly examined Nairobi (urban) and included socio-economic status as a moderating variable in the analysis. |

## 2.5 Conceptual Framework

The study's conceptual framework highlights the association between the independent variables of financial inclusion and the dependent ones representing income inequality. The independent variables are developed from key parameters of financial inclusion and consist of access, quality, and usage of financial services. Nairobi County has grown over the years regarding attaining a better financial inclusivity score. Formulation of the financial inclusion concepts as independent variables is therefore since they already exist. The dependent variables, on the other hand, entail components of income inequality. The study is guided by the understanding that not much is

known about the impact of the growing financial inclusion on income inequality in Nairobi. The study therefore predicts that the behavior of the diverse components of income inequality, like individual income, are influenced by the different aspects of financial inclusion.

**Figure 1: Conceptual Framework**




## 2.6 Operationalization of the variables

The different variables used in the study will be operationalized in several ways. The table below organizes the operationalization and measurement details for both independent and dependent variables used in the study.

**Table 2.2: Operationalization of Variables**

| Variable | Operationalization | Measurement Details | Reference |
|---|---|---|---|
| Access to Financial Services | Ease of Access: Evaluated by proximity to financial institutions (e.g., bank branches) or availability of mobile/ digital money services | Availability of financial services such as being able to get to a banking hall or having access to digital technology such as mobile banking services, digital loan services, ATM's and more | Cámara & Tuesta, 2014 |

| | | | |
|---|---|---|---|
| Usage of Financial Services | Rate of Usage: Assessed by the frequency and duration of financial service usage. | Measured as frequency of transactions, electronic payments made, and other measures that indicate how often an individual uses financial services. | Demirgüç-Kunt et al., 2020 |
| Quality of Financial Services | Client Satisfaction: Reviewed through descriptive factors related to service quality. | Satisfaction with financial products, service speed, convenience, etc. | Fanta & Mutsonziwa, 2021 |
| Income inequality | A comparative measure based on the income of an individual with whether lower-income groups face financial exclusion. | Categorizes respondents into income brackets, allowing for analysis of income distribution and cross analysis with financial access to show whether lower-income groups face financial exclusion | Solt, 2020 |
| Socio economic status | This was a measure of whether a person was making an income or not to illustrate socio-economic status | Variable was measured as a binary variable with 0 for individual who did not make any income and 1 for those that did. | Demir et al., 2020 |

# CHAPTER THREE:

# RESEARCH METHODOLOGY

## 3.1 Introduction

This section looks at the plan for research as well as methods to carefully study the link between money access and unequal pay in Nairobi County. This part will systematically describe the ways that this research will use to gather, break down, explain, and then share the data while guaranteeing that the data collection and analysis methods are reliable and sound. This chapter, through its outline of the research design with population and sampling techniques, with data collection methods, with data analysis procedures, for research quality considerations, and for ethical considerations, provides a thorough framework for conducting strict empirical research.

The rationale for selecting quantitative correlational research design will be completely explored in this chapter. Its suitability in examining the detailed relationship between financial inclusion as well as income inequality will also be highlighted. Furthermore, this chapter will extensively explore the importance of population and sampling methods in guaranteeing the representativeness for the study results, then provide an outline of data collection methods, data analysis methods, and points for maintaining research quality and ethical standards for primary research studies (Jilcha Sileyew, 2020).

## 3.2 Research Philosophy

In conducting this study, the research philosophy that was adopted was positivist. This approach was suited to the investigation of that relationship between financial inclusion and income inequality in Nairobi. It also allowed the use of quantitative methods for testing hypotheses also establishing causal or correlational relationships (Bryman, 2016). To reliably and generally find things, positivism stressed using structured methodologies and statistical techniques (Saunders, Lewis, & Thornhill, 2019). This study thus used a quantitative design since it used correlational statistics to show how financial inclusion associates with income inequality, like the positivist model states.

Furthermore, this study does align with realist research philosophy. This philosophy recognizes that there exists an objective reality in the world (Martin & Wilson, 2018). This study observes this reality by accounting for the social economic and institutional factors that in a real world

would shape the experiences of varying individuals. Income inequality and financial inclusion are complex factors that are influenced by a wide range of measurable factors, such as financial access, and intangible elements like socio-economic status. By blending empirical analysis with an understanding of these socio-economic dynamics, the research will aim to offer a balanced view for Nairobi's diverse population (Martin & Wilson, 2018).

### 3.3 Research Design

The choice of research design employed plays an important role in shaping the approach to investigating the relationship between financial inclusion and income inequality in Nairobi County. A quantitative-correlational research design has been selected as the most appropriate research design approach for this study because of its ability to explore associations and relationships between different variables and therefore determining whether these variables are associated and related to one another (Roever & Phakiti, 2017).

The quantitative-correlational design is deemed the most appropriate for this study for several reasons. Firstly, it allows for the examination of the extent to which changes in financial inclusion correspond to changes in income inequality and as such, establish relationships and associations. This design facilitates the analysis of large datasets efficiently, enabling researchers to quantify both financial inclusion and income inequality indicators (Lam et al., 2011). By doing so, the study can identify patterns, trends, and associations between the variables. Secondly, quantitative-correlational design enables the exploration of relationships between variables without the need for experimental manipulation. Unlike experimental designs, which involve interventions and manipulation of variables, a correlational approach examines natural relationships between variables as they occur in real-world settings. This is particularly advantageous for studying complex socio-economic phenomena such as financial inclusion and income inequality, where experimental interventions cannot be applied (Cebula, 2018).

Furthermore, the use of a quantitative correlational research design offers an exceptionally good framework for hypothesis testing. By employing this research design, this study will be able to formulate specific hypotheses regarding the direction and strength of the relationship between financial inclusion and income inequality, which can then be assessed using statistical methods such as correlation, analysis of variance and regression analysis. As such, the testing of hypothesis in this study will allow the study to rigorously examine the research questions

proposed in this study and generate empirically supported findings (Matthews & Kostelis, 2019). Overall, the quantitative-correlational research design offers a systematic and rigorous approach to investigate the relationship between financial inclusion and income inequality in Nairobi County, making it the most appropriate choice for this study.

### 3.4 Population and Sampling

The population of interest for this study comprises residents of Nairobi County aged 18 years and above, encompassing both the formal and informal sectors. According to the last census, there are 3,264,280 residents in Nairobi County who are aged 18 and above, of these 78,986 are aged over 64 (KNBS, 2015). Given the diverse demographic composition of Nairobi County, including individuals from various socio-economic backgrounds and occupations, studying this population provides insights into the broader dynamics of income inequality and financial inclusion in urban settings and will allow for the comparison of two or more groups from different income levels, encompassing both low-income and high-income households. This approach allows for a comparison of how financial inclusion impacts income inequality across varying socio-economic strata, providing deeper insights into the broader dynamics of financial inclusion and inequality in urban settings.

The sample size required for this study was calculated using Yamane's formula (Yamane, 1967) which considers a sample size that will achieve a 95% confidence level and probability of 0.5 based on the total population. The sampling calculation was as below.

$n = N/ [1 + N (e^2)]$

Where n = Sample size, N = Population and e = level of error

With the above formula in consideration, the sample size will be:

$3,264,280/1+3,264,280*(0.05^2)] = 393$

n = 393

With the determination of the required sample size, this study employed simple random sampling to select the study participants. Simple random sampling ensures that every individual in the population has an equal chance of being selected and therefore eliminates bias.

### 3.5 Data Collection Methods

Data for this study will be collected through structured survey questionnaires administered to individuals residing in Nairobi County (Tourangeau, 2004). The questionnaire was be presented to 500 participants to ensure the study achieved the minimum required sample size of 393. The survey instrument was be designed to capture information on variables related to financial inclusion (e.g., access to banking services, usage of mobile money) and income inequality (e.g., household income, wealth distribution). The survey will include both closed-end and Likert scale questions to collect quantitative responses from participants.

### 3.6 Data Analysis Methods

Data analysis for this study thoroughly involved descriptive as well as inferential statistical techniques to carefully examine the existing relationship between financial inclusion and income inequality. To describe the features of the studied group, as well as all the important variables, descriptive statistics, like frequency distributions, will be used; a frequency distribution will be used because it is the top way to measure inequality.

Inferential statistics, like regression analysis and correlation analysis, were used for testing hypotheses and for finding outstanding links between financial inclusion and income inequality. The strength and direction of the link between those variables will be measured using correlation analysis, and multiple predictors of income inequality will be found using regression analysis, which will also examine possible moderating or mediating factors. Statistical software packages like SPSS or STATA shall be used to carefully conduct data analysis. This fully guaranteed accuracy and efficiency when handling large datasets. The regression model prior to moderation is formulated as:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\epsilon$$

Where:

- Y: income inequality (dependent variable representing distribution of income among respondents).
- $X_1,X_2,\ldots,X_4$: Independent variables representing access, quality and usage of financial services and the moderating variable social economic status (whether an individual makes an income or not).

- $\beta_0$: Intercept term (income inequality when all predictors are zero).
- $\beta_1,\beta_2,\ldots,\beta_4$: Coefficients indicating the impact of each variable on income.
- $\epsilon$: Error term accounting for variability not explained by the model.

The regression model with moderation is formulated as:

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\epsilon$$

Where:

- Y: income inequality (dependent variable representing distribution of income among respondents).
- $X_1,X_2,\ldots,X_3$: Independent variables representing access, quality, and usage of financial services.
- $X_4$: Moderating variable socio-economic status
- $\beta_0$: Intercept term (income inequality when all predictors are zero).
- $\beta_1,\beta_2\ \beta_3,\beta_4$: Coefficients indicating the impact of each variable on income.

### 3.7 Research Quality

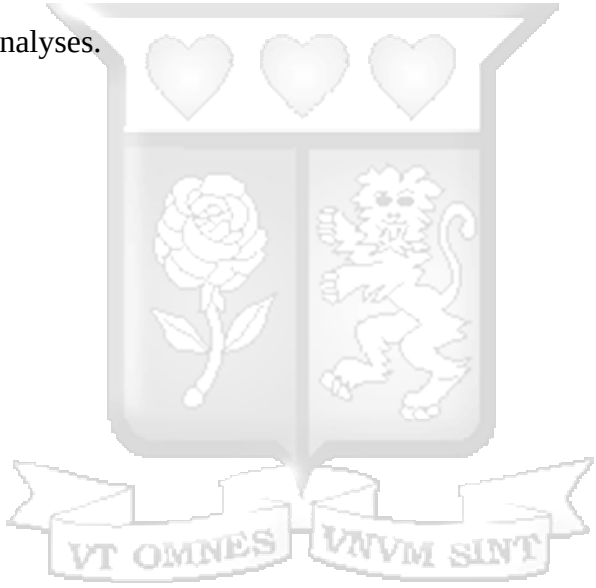
Validity, reliability, and objectivity remain vital matters when assuring research findings are trustworthy and high-quality. This study will undertake a reliability analysis comprehensively with Cronbach's alpha. According to Kennedy (2022), Cronbach's alpha, in accordance with specific statistical conventions, is a key measure for internal consistency reliability. This test gauges how closely related a set consisting of items are as a group. For one instance, the groups can be related questions located in a questionnaire consisting of items measured along a scale, such as a 5-point Likert scale. The results of this test are somewhere between zero as well as one, where larger numbers mean greater reliability. Kennedy (2022) stated that if the Cronbach Alpha is 0.7 or greater, it shows reliability is acceptable.

### 3.8 Ethical Considerations

Ethical considerations are primary within research on human participants, particularly in studies of sensitive topics like income inequality. This study will adhere to ethical guidelines as well as to principles outlined by certain regulatory bodies along with institutions.

Prior to participation inside of the study, each of the participants will furnish their informed consent, attesting that they entirely comprehend the research's aim, methods, and risks and rewards. Every participant gets a guarantee of privacy and anonymity, and their data will be safely stored and only used for research. To protect vulnerable people's rights and welfare, special care will be given, such as guaranteeing voluntary participation and allowing participants to leave the study at any moment without consequence. Dangers to participants will be minimized as much as possible, along with implementing the steps to address any adverse effects of participation.

In summary, the research approach and methods in this chapter offer a structure. It is a thorough structure for studying the connection between financial access and income disparity in Nairobi County using numerical analyses.



# CHAPTER 4

# DATA ANALYSIS AND PRESENTATION OF RESULTS

## 4.1 Introduction

This chapter shows the outcomes from the data analysis within this research. The main goal of the research was to figure out how financial inclusion in Nairobi effects income disparity. Regression models were suitably used in analyzing the data that was obtained. This chapter will contain the data collection response rates, demographic data distribution, and descriptive analysis. Furthermore, it will contain the regression models.

## 4.2 Response Rate

The study called for a sample size of 393 given a 95% confidence level, plus a probability of 0.5 given the whole population. To certainly guarantee that the study would achieve this specific target, the research questionnaire was presented to up to 500 participants. 450 participants responded out of those presented. Therefore, the response rate for this study reached 90%, an amount deemed adequately sufficient, given that it thoroughly met the threshold for the sample size required.

## 4.3 Demographic Data

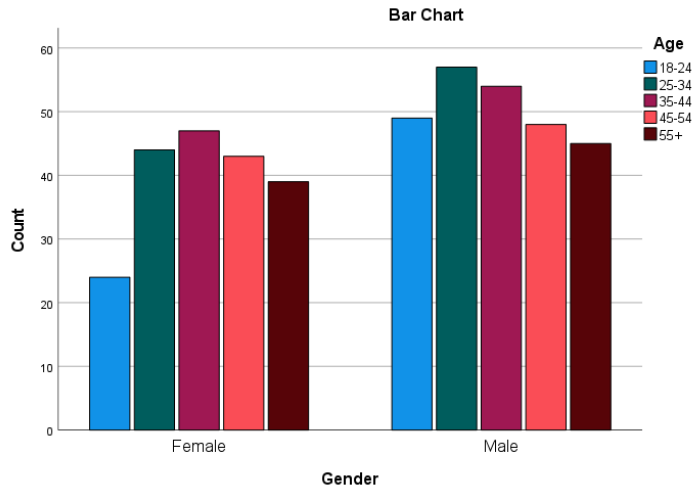
Descriptive summaries, using central tendency measures and frequency distribution, were carefully done on demographic variables to fully explore the study sample. Of those 500 questionnaires sent to and presented among participants, 450 were accurately and fully completed, used in this analysis. A summary regarding the distribution of age along with gender inside this sample exists below. In addition to that, it is summarized below.

**Table 4.1: Distribution of age across gender**

| | | Age | | | | | Total |
|---|---|---|---|---|---|---|---|
| | | 18-24 | 25-34 | 35-44 | 45-54 | 55+ | |
| Gender | Female | 24 | 44 | 47 | 43 | 39 | 197 |
| | Male | 49 | 57 | 54 | 48 | 45 | 253 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total | 73 | 101 | 101 | 91 | 84 | 450 |

*Figure 4.1: Visual representation of the distribution of age and gender*




From table 4.1, the distribution clearly indicated that in the given sample of 450 respondents, there were a total of 253 male as well as 197 female participants with the age groups 25-34 and 35-44 clearly having the most participants. A detailed summary below is about the entire distribution concerning the sample's education variables.

**Table 4.2: Distribution of education level**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | No Education | 23 | 5.1 | 5.1 | 5.1 |
| | Primary Education | 74 | 16.4 | 16.4 | 21.6 |
| | Secondary Education | 126 | 28.0 | 28.0 | 49.6 |
| | Diploma/ Certificate | 124 | 27.6 | 27.6 | 77.1 |
| | Bachelor's Degree | 87 | 19.3 | 19.3 | 96.4 |
| | Post-Graduate Degree | 16 | 3.6 | 3.6 | 100.0 |

| | | | |
|---|---|---|---|
| Total | 450 | 100.0 | 100.0 |

From table 4.2, the distribution in level of education indicated that most of the participants in level had a secondary education level as well as a diploma or certificate education, accounting for 55.6% of the sample. The group of people had the least participants. That specific group possessed a post graduate degree.

## 4.4 Descriptive Results

### 4.4.1 Access to Financial Services

This variable was determined by whether someone accesses and uses financial services and products, such as visiting a bank or using tech like mobile banking, online loans, ATMs, and similar items. This variable was carefully measured by asking respondents to respond with either yes or no to having full access to 5 key financial services (bank account, mobile banking, digital loans, microfinance activities, as well as insurance services) in addition to having access to 5 financial end products (banking hall, ATM services, mobile money agency, bank agent, along with mobile loan applications).

From these questions' responses, a composite score regarding access to financial services was calculated through adding the total number for each respondent out of ten that they stated yes to. The variable was operationalized as a measure related to financial inclusion indicating accessibility for financial services. Respondents with higher scores out of 10 indicated having more access to financial services and products than those with lower scores.

**Table 4.3: Summary of accessibility of financial services**

| Statements | N | Mean | Std. Deviation |
|---|---|---|---|
| How often do you use formal financial services (e.g., bank accounts, mobile money services)? | 450 | 3.70 | 1.050 |

| | | | |
|---|---|---|---|
| Do you have access to the following financial services in Nairobi? (Bank account, Mobile banking, Digital loans, Microfinance services, Insurance services) | 450 | 3.60 | 1.125 |
| How easily are financial services (e.g., banks, ATMs, mobile money agents) easily accessible in your area? | 450 | 3.85 | 0.985 |
| How does the accessibility of financial services impact your financial well-being? | 450 | 3.25 | 1.07 |

Table 4.3 shows a summary of how accessible financial services are to the respondents. The variable $X_1$ was calculated by adding up the number of financial services each person said "yes" to, with a maximum score of 5. The lowest score reported was 1.20, and the highest was 4.80, meaning no one reported having zero access. On average, respondents had a score of 3.5 out of 5, suggesting that most people had access to about half of the services they asked for. The standard deviation was 2.875, which shows that there was a fair amount of difference in how much access people had. A total of 450 people took part in this, and all responses were valid.

### 4.4.2 Quality of Financial Services

This variable was mindfully assessed as a feature of monetary integration, thoroughly calculating a person's opinion of the standard of the monetary offerings they used. Respondents were asked in questionnaires to thoroughly respond to those 6 Likert scales questions. The scale ranges from 1 (Very Poor) to 5 (Excellent), from their detailed perceptive on the quality as well as effect of those financial services they use towards them, in addition to the thorough feedback on ease of use, customer service, transaction speed, along with cost of services.

From the use of the answers from these questions, a composite score was calculated by averaging the answers of each participant, to get a composite overall score that indicated their overall perceptive view of the quality of financial services that they use. The descriptive summary about the calculated composite variable was presented as follows.

**Table 4.4: Summary of quality of financial services**

| Statements | N | Mean | Std. Deviation |
|---|---|---|---|
| How satisfied are you with the quality of financial services (e.g., bank services, mobile money services) you receive in Nairobi? | 450 | 3.10 | 0.99 |
| Rate the following aspects of financial services on a scale from 1 (Very Poor) to 5 (Excellent): (Ease of use, Customer service, Transaction speed, Cost of services) | 450 | 3.00 | 0.95 |
| How would you rate the impact of quality financial services on your income? | 450 | 2.90 | 1.10 |

Table 4.4 presents a summary of how respondents rated the quality of financial services they use. The variable $X_2$ was created by averaging responses to several questions, giving each participant a single score that reflects their overall perception of financial service quality. The lowest score reported was 1.17, while the highest was 4.83, showing a range of views on the quality of services. The average score across all 450 participants was 3.02, suggesting that, overall, people felt the quality was moderate neither extremely poor nor excellent. The average standard deviation was 0.60, indicating that most responses were close to the average, with relatively small differences in perception among respondents.

### 4.4.3 Usage of Financial Services

This variable was measured as a construction of financial inclusion measuring an individual's frequency of use of financial services. The questionnaires required the respondents to respond to 5 Likert scales question on scale of 1–5, with 1 = Never and 5 = Very Frequently on questions related to their frequency of use of various financial services such as savings, bill payments, money transfers, investment, and loan applications.

Using the responses from these questions, a composite score was calculated by averaging the responses of each participant to get a composite overall score that indicated their overall usage of financial services. The descriptive summary of the composite calculated variable was as follows.

**Table 4.5: Summary of usage of financial services**

| Statements | N | Mean | Std. Deviation |
|---|---|---|---|
| How frequently do you use financial services (e.g., bank accounts, mobile money, loans, insurance) for the following purposes? (Savings, Bill payments, Money transfers, Investments, Loan applications) | 450 | 2.95 | 0.965 |
| How has your use of financial services influenced your income level? | 450 | 2.80 | 1.08 |
| Do you believe that increased usage of financial services has reduced income inequality in Nairobi? | 450 | 2.60 | 1.05 |

Table 4.5 shows a summary of how respondents use financial services. The variable $X_3$ was created by averaging each participant's responses to questions related to their usage of financial services, resulting in a single composite score for each person. The scores ranged from a

minimum of 1.40 to a maximum of 4.80, showing differences in how often or how widely people use financial services. The average score was 2.96, meaning that, overall, respondents reported a moderate level of usage. The standard deviation was 0.64, indicating that while most people had similar usage patterns, there were some variations among participants. All 450 responses were valid and included in the analysis.

### 4.4.4 Socio Economic Status

This variable was operationalized as whether a person was making an income or not to illustrate socio-economic status. The variable was measured as a binary variable with 0 for individuals who did not make any income and 1 for those that did based on their reported income. This variable will be used to determine whether socio-economic status does affect the relationship between income inequality and financial inclusion in Nairobi County. The distribution of this variable was as follows.

**Table 4.6: Summary of social economic status and employment**

**Employment * Social Economic Status Crosstabulation**

| | | Social Economic Status | | Total |
|---|---|---|---|---|
| | | Without Income | With Income | |
| Employment | Unemployed | 94 | 5 | 99 |
| | Employed | 0 | 203 | 203 |
| | Self-Employed | 0 | 87 | 87 |
| | Student | 0 | 51 | 51 |
| | Retired | 0 | 10 | 10 |
| Total | | 94 | 356 | 450 |

Table: 4.6 above indicates that, from the respondents' income variables, there were 94 respondents who stated that their income was 0 (without income) and the rest 356 stated that they had an income of any amount. In relation to employment, it was noted that all respondents who

responded to not having an income also responded to being unemployed which makes this variable a good representation of socioeconomic status.

### 4.4.5 Income Inequality

The income inequality variable was employed as a metric relating to earnings, with the goal of figuring out if less wealthy groups experience marginalization financially. For this variable, data was taken from respondents. They had to input their monthly income, and this variable acted as the proxy for income inequality. In this case, putting respondents into income brackets would allow analysis of income distribution. It also allows cross analysis with financial access to see whether lower-income groups face financial exclusion. This variable needed zero other transformations or calculations, as it was gathered as a continuous variable. The following descriptive summary regarding that variable was similar;

**Table 4.7: Summary of Income**

**Descriptive Statistics**

| | N | Mean | Std. Deviation |
|---|---|---|---|
| Y | 450 | 30500.89 | 27791.419 |
| Valid N (listwise) | 450 | | |

Table 4.7 provides a summary of the income variable, which was used as a proxy for measuring income inequality among respondents. Each participant reported their monthly income directly, with no further calculations or transformations applied, as the data was collected as a continuous variable. The lowest reported income was 0, and the highest was 164,900, showing a wide disparity in earnings. The average monthly income across the 450 respondents was KES 30,500.89, with a standard deviation of KES 27,791.42, indicating substantial variation in income levels. This income data helps highlight the distribution of earnings and supports the analysis of whether individuals in lower-income brackets face greater financial exclusion.

## 4.5 Reliability Analysis

To validate the research instrument further, the study's sample data, collected thoroughly from 450 participants, was used precisely to find out how reliable the interview questionnaire was. Cronbach's Alpha was used to check how consistent all the Likert scale questions were. This analysis had a couple of variables. The data for them was gathered using Likert type questions. The variable, quality of financial services, was gathered by way of six Likert scales question on scale of 1 (Very Poor) to 5 (Outstanding); in addition, the variable usage of financial services was gathered by way of five Likert scales question on scale of 1–5, with 1 = Never as well as 5 = Very Frequently. Concerning these 11 scale questions, I performed Cronbach's alpha analysis, along with the results from this reliability test were as follows.

**Table 4.8: Reliability analysis**

**Reliability Statistics**

| Measure | Cronbach's Alpha | N (Number of Items) |
|---|---|---|
| Financial Accessibility | .765 | 4 |
| Quality of financial services | .790 | 5 |
| Usage of financial services | .801 | 6 |
| Socio-Economic Status | .776 | 3 |

From table 4.4 shown earlier, α= .783 was indeed the computed Cronbach's Alpha value for each measurement. A Cronbach's alpha of .70 is frequently considered acceptable. A Cronbach's alpha exceeding .80 is broadly considered the optimal internal consistency (Zakariya, 2022). Thus, it was found that the questionnaire's 11 multi-item scale questions were reliable, showing high internal consistency and acting as a valid research tool.

## 4.6 Regression Models

### 4.6.1 Relationship between Financial Inclusion and Income Inequality

The main objective of this study was to determine how financial inclusivity in Nairobi affects income inequality. To achieve this objective, a multiple regression was conducted. In this

regression model, factors of financial inclusion; access to financial services, quality of financial services, and usage of financial services were used in the regression model as independent variables and income inequality which was operationalized as income of an individual was treated as the dependent variables and the regression model run in SPSS.

The regression model will take the following form :

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\varepsilon$$

Where:

- Y: income inequality (dependent variable representing distribution of income among respondents).
- $X_1,X_2,\ldots,X_3$: Independent variables representing access, quality, and usage of financial services.
- $\beta_0$: Intercept term (income inequality when all predictors are zero).
- $\beta_1,\beta_2,\ldots,\beta_3$: Coefficients indicating the impact of each variable on income.
- $\epsilon$: Error term accounting for variability not explained by the model.

An assessment of assumptions of multiple regression using observation, scatter plots, and a normal probability plot was conducted to make sure the model meets the assumption of regression analysis. By observation, both the dependent and independent variables were measured on a continuous scale, a scatter plot of regression residuals revealed that there was a linear relationship between the dependent variable and predicted residuals (see Figure 4.1), therefore linearity can be assumed and a normal P-P plot revealed that the residual errors of the regression line were approximately normally distributed and therefore, normality and homogeneity of variance can be assumed (see Figure 4.2).

**Figure 4.2: Scatter plot of regression residuals**

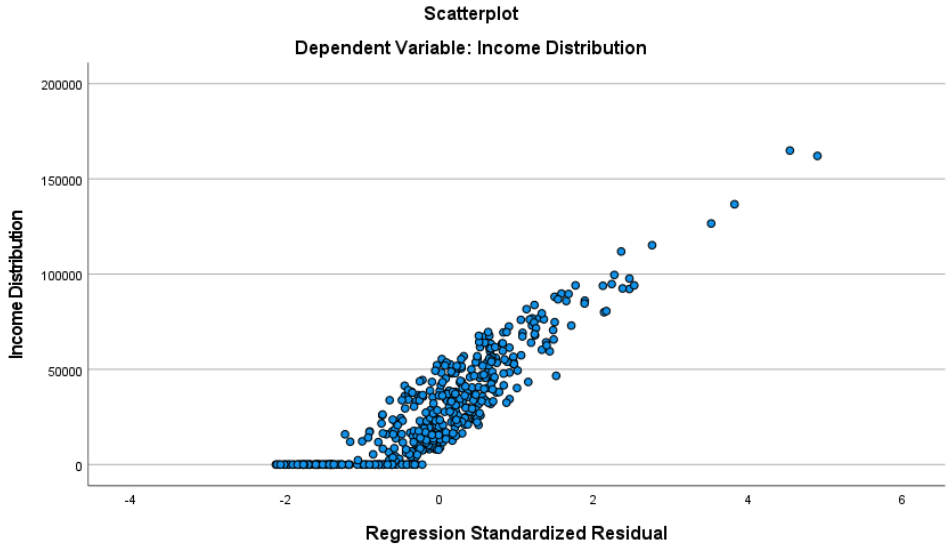
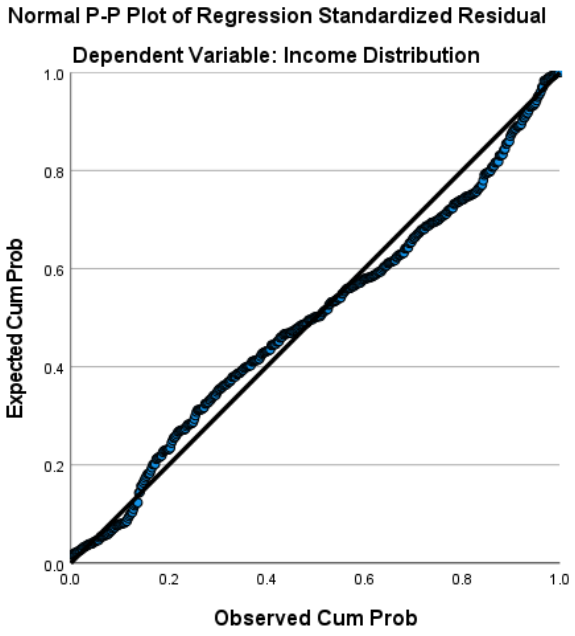



**Figure 4.3: Normal P-P Plot - Residual Errors of the Regression Line**



A sample from 450 respondents inside the survey questionnaires was used in this regression model. In this specific regression model, several factors of financial inclusion, specifically access to financial services, the quality of financial services, along with usage of financial services were indeed used in the model of regression as independent variables, as well as income inequality, operationalized as the income of an individual, was carefully treated as the dependent variable to depict income distribution. The coefficient of determination (R-Squared) and the F-test (ANOVA) helped test goodness of fit. R squared .201 based on Pearson's coefficient of determination. Namely, the predictor variables—access, quality, and usage—explained around 20.1% of the variation within income distribution, the dependent variable that fully showed income inequality. Furthermore, the Durbin Watson statistics showed at DW= 1.968. The Durbin Watson statistics were quite close to 2. These results suggested there was no meaningful autocorrelation within the residuals. This suggested that most errors in the regression model were independent, which was typically a positive indication for the model's validity. (See Table 4.9).

**Table 4.9: Regression model summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .449[a] | .201 | .196 | 24918.712 | 1.968 |

a. Predictors: (Constant), Usage of Financial Services, Quality of Financial Services, Accessibility of Financial Services

b. Dependent Variable: Income Distribution

Goodness of fit compares the observed values to the expected (fitted or predicted) values to determine how well data points fit into a model using the F test. The F test revealed that the multiple regression was also statistically significant, F (3,446) = 37.497, p= <.001 (See table 4.10). As a result, the model was a good fit for the data.

**Table 4.10: Goodness of Fit (F-test)**

ANOVA[a]

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 69850748798.217 | 3 | 23283582932.739 | 37.497 | .000[b] |
| | Residual | 276940230846.227 | 446 | 620942221.628 | | |
| | Total | 346790979644.444 | 449 | | | |

a. Dependent Variable: Income Distribution

b. Predictors: (Constant), Usage of Financial Services, Quality of Financial Services, Accessibility of Financial Services

The coefficients of this regression model were as presented in table 4.11. Regression coefficients were used to answer research questions 1, 2 and 3 as follows.

**Table 4.11: Regression coefficients**

| | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|
| Model | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| (Constant) | 17909.225 | 7786.541 | | 2.300 | .022 | | |
| $X_1$ | 4604.107 | 473.748 | .476 | 9.718 | .000 | .745 | 1.342 |
| $X_2$ | -479.625 | 2133.221 | -.010 | -.225 | .822 | .834 | 1.200 |
| $X_3$ | -3809.141 | 1967.554 | -.088 | -1.936 | .054 | .875 | 1.143 |

a. Dependent Variable: Income Distribution

The coefficient for accessibility of financial services is positive (B = 4,604.107) and statistically meaningful ($p < .001$), indicating a strong association between financial accessibility and income

distribution. It implies that some people who have little access to monetary resources—like banking systems, mobile payment options, and micro-lending organizations—are apt to be in lower-income classes. However, people with greater access to funds often have notably larger incomes. These people usually have larger incomes. The standardized coefficient (Beta = 0.476) indicates that accessibility, of all predictors, has the strongest relative influence within the model.

Financial service quality, measured through satisfaction for financial products with service speed along with overall convenience, does not show a significant effect with income distribution (B = -479.625, p = .822). The tiny, standardized coefficient (Beta = -0.010) shows that, within this model, financial service quality has a minimal effect on one's income and therefore, income inequality. Furthermore, usage of multiple monetary services, gauged via transaction frequency, digital payments, and additional signs of engagement with monetary structures, shows a negative coefficient (-3,809.141), implying an opposite link with income distribution. However, the connection lacks statistical importance (p = .054), suggesting that using financial services has a minor effect on a person’s income, and therefore, income inequality.

Also, the variance inflation factor (VIF = 1.342) shows accessibility is not collinear along with other independent variables, indicating it has, in the model, its own explanatory power. Also, the variance inflation factor of quality as well as use of financial services is comparatively low, suggesting that their insignificance in this model is not because of correlation with other independent variables.

### 4.6.2 Moderating for Socio-Economic Status

A new regression model was conducted to moderate socio-economic status. In the regression model above (Table 4.12) a social economic status variable was added to the independent variables. This variable was a dummy categorical variable with 0 representing individuals who reported not having any income and 1 for all others who had any income. This variable was operationalized as the socio-economic status. The regression model will take the following form.

$$Y=\beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\epsilon$$

Where:

- Y: income inequality (dependent variable representing distribution of income among respondents).
- $X_1$,$X_2$,…,$X_3$: Independent variables representing access, quality, and usage of financial services.
- $X_4$: Moderating variable socio-economic status
- $\beta_0$: Intercept term (income inequality when all predictors are zero).
- $\beta_1$,$\beta_2$ $\beta_3$,$\beta_4$: Coefficients indicating the impact of each variable on income.

**Table 4.12: Regression model summary with moderating variable**

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .449[a] | .201 | .196 | 24918.712 |
| 2 | .784[b] | .551 | .609 | 17367.367 |

a. Predictors: (Constant), Usage of Financial Services, Quality of Financial Services, Accessibility of Financial Services

b. Predictors: (Constant), Usage of Financial Services, Quality of Financial Services, Accessibility of Financial Services, $X_1$*SES, $X_2$*SES, $X_3$*SES

The addition of socioeconomic status as a moderating variable significantly improves the explanatory power of the model. Initially, $R^2$ was 0.201, indicating that accessibility, quality, and usage of financial services collectively explained only 20.1% of the variation in income distribution. However, after introducing socioeconomic status, $R^2$ increased to 0.551, meaning that the revised model now accounts for 55.1% of the variation in income distribution (see table 4.12). This substantial improvement suggests that socioeconomic status plays a crucial role in income distribution and financial inclusion dynamics.

**Table 4.13: Goodness of Fit (F-test)**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 69850748798.217 | 3 | 23283582932.739 | 37.497 | .000[b] |
| | Residual | 276940230846.227 | 446 | 620942221.628 | | |
| | Total | 346790979644.444 | 449 | | | |
| 2 | Regression | 191201390942.053 | 4 | 47800347735.513 | 136.713 | .000[c] |
| | Residual | 155589588702.391 | 445 | 349639525.174 | | |
| | Total | 346790979644.444 | 449 | | | |

a. Dependent Variable: Income Distribution

b. Predictors: (Constant), Usage of Financial Services, Quality of Financial Services, Accessibility of Financial Services

c. Predictors: (Constant), Usage of Financial Services, Quality of Financial Services, Accessibility of Financial Services, Social Economic Status

The ANOVA results in table 4.13 confirm that the overall regression model, including socioeconomic status, accessibility, quality, and usage of financial services, is highly statistically significant ($F = 136.713$, $p < 0.001$). As a result, the model was a good fit for the data.

The coefficients of this regression model were as presented in table 4.14. The regression coefficients were used to answer research question 4 as follows.

**Table 4.14: Regression coefficients with moderator variable**

Coefficients[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | 17909.225 | 7786.541 | | 2.300 | .022 |
| | $X_1$ | 4604.107 | 473.748 | .476 | 9.718 | .000 |
| | $X_2$ | -479.625 | 2133.221 | -.010 | -.225 | .822 |
| | $X_3$ | -3809.141 | 1967.554 | -.088 | -1.936 | .054 |
| 2 | (Constant) | 15303.335 | 5430.914 | | 2.818 | .005 |
| | $X_1$ | 197.441 | 690.994 | .020 | .286 | .775 |
| | $X_2$ | -3003.350 | 2326.862 | -.065 | -1.291 | .197 |
| | $X_3$ | -2314.992 | 2228.830 | -.053 | -1.039 | .300 |
| | $X_1$*SES | 6054.630 | 778.183 | .732 | 7.780 | .000 |
| | $X_2$*SES | 2723.968 | 2416.326 | .131 | 1.127 | .260 |
| | $X_3$*SES | -1008.692 | 2410.873 | -.048 | -.418 | .676 |

a. Dependent Variable: Income Distribution

In Model 1, the regression analysis shows that accessibility of financial services has a positive and statistically significant effect on income distribution (B = 4604.107, p < .001, Beta = 0.476), suggesting that greater access to financial services is associated with higher income levels. However, the quality of financial services has a negligible and non-significant effect (B = -479.625, p = .822, Beta = -0.010), indicating that service satisfaction and efficiency do not strongly influence income inequality. Similarly, usage of financial services shows a negative but

marginally non-significant relationship (B = -3809.141, p = .054, Beta = -0.088), implying that frequent use of financial services may be linked to lower income levels, though the effect is weak. Collinearity diagnostics (VIF < 1.5) confirm that multicollinearity is not a concern.

In Model 2, adding socioeconomic status as a moderator variable significantly alters the relationships. The interaction terms in the second regression model reveal the moderating role of socioeconomic status (SES) in the relationship between financial services and income distribution. Notably, the interaction between accessibility of financial services and SES (B = 6054.630, p < .001, Beta = .732) is both statistically significant and substantial, indicating that the positive effect of financial access on income distribution is significantly amplified among individuals with higher socioeconomic status. This suggests that while access to financial services is beneficial in general, its impact on improving income distribution is stronger for those who are already socioeconomically advantaged. In contrast, the interaction effects for quality (B = 2723.968, p = .260, Beta = .131) and usage (B = -1008.692, p = .676, Beta = -.048) of financial services with SES are not statistically significant. This implies that socioeconomic status does not meaningfully influence the relationship between these two dimensions of financial inclusion and income distribution. Overall, these findings emphasize the critical importance of considering SES when evaluating the effectiveness of financial accessibility in addressing income inequality, as the benefits of increased access may not be equitably distributed across different socioeconomic groups. The low VIF values (≤ 1.35) indicate that multicollinearity remains minimal. These results highlight that while financial inclusion plays a role in income distribution, socioeconomic status is the most critical factor, and merely improving financial inclusion without addressing socioeconomic status disparities may not reduce income inequality.

## 4.7 Summary of Chapter

This chapter presented the results of data analysis conducted for this study. The main aim of the study was to determine how financial inclusivity in Nairobi affects income inequality. The results indicated that financial accessibility significantly influences income distribution, quality of financial services has no significant impact on income distribution, Frequent financial service usage is linked to lower incomes and lastly Socioeconomic status influences the relationship between financial inclusion measures and income inequality.

# CHAPTER 5

# DISCUSSION OF FINDINGS AND CONCLUSIONS

## 5.1 Introduction

This chapter presents the discussion of the findings and conclusions made from the study's findings as well as recommendations for future research. Limitations when conducting the research will be discussed as well. The objectives of the research were to Assess the effect of Financial Inclusion on Income Inequality and the moderating role of socio-economic status in Nairobi County, Kenya.

## 5.2 Summary of Findings

The study's conclusions, which are shown in Chapter 4, point out the necessity of better access to financial services for people with low incomes. However, they do reveal limitations in only improving service quality or usage. Those with simpler access to banking choices tend to make more income, which shows the value of banking access in battling poverty and supporting people with finances. Mobile money platforms, like Mpesa, play a major role in closing the divide. Microfinance services also help to close the divide between formal financial systems along with underserved populations.

Despite some advances concerning ease, support, pace, and fees for banking options, making service better will not immediately lessen the income gap in Kenya's growing system. This strongly suggests that meaningful financial literacy and well-tailored economic solutions remain quite necessary for bridging income gaps in an effective manner. The study also discovered that often using financial services with less money is linked when socioeconomic status is moderated. It may occur given that lower-income people typically use monetary offerings for simple dealings as opposed to diverse wealth-amassing actions.

The data strongly suggests that income distribution is affected by socioeconomic status. Thus, financial inclusion will not reduce income inequality on its own. It will not do it by itself. This stresses the need for one to tackle wider-ranging systemic disparities, as well as schooling, job prospects, along with community resources, which have a key effect on influencing income allocation over a period.

## 5.3 Discussion of findings

### 5.3.1 Financial Services Accessibility and Income Inequality

The findings within this study highlight the major role of financial accessibility when shaping income distribution and, consequently, income inequality within Nairobi County. The starting regression model's results revealed a statistically quite important and positive correlation between financial accessibility and income distribution, indicating that people with greater access to financial services are likely to experience higher incomes for themselves. This finding is in alignment with a range of existing literature that stresses the important role of financial inclusion in poverty reduction, as well as economic empowerment (Yunus, 2019). In Kenya, the expansion of banking structures, especially mobile money systems such as Mpesa, along with microfinance options, has been shown to improve entry to credit, savings accounts, and investment choices, enabling poorer populations to improve their financial status (Jack & Suri, 2014). This is indeed possible. Accessibility of vital financial services provided by services like Mpesa in Kenya close the divide between formal financial systems as well as underserved populations.

### 5.3.2 Financial Services Quality and Income Inequality

The study also revealed that the general quality of financial services, gauged via ease of use as well as customer service along with transaction speed in addition to total cost of services, had no siginificant effect at all on income distribution. This result strengthens multiple earlier studies, including that by (Alvaredo et al., 2018), suggesting that income disparity rises throughout initial stages of economic development and falls throughout subsequent stages. Furthermore, strong financial service practices plus good quality financial services do not necessarily result in reduced income inequality during those initial stages, a factor that suits Kenya well as an economy still under development; this might reflect a general issue: quality service may improve user experience, but the simple availability of financial products without deeper financial literacy and without access to tailored solutions for economic growth may not sufficiently bridge the income gap (Fanta, A., & Mutsonziwa, K., 2021).

### 5.3.3 Financial Services Usage and Income Inequality

The addition of socioeconomic status as a moderating variable to the new model changed how financial services usage was understood. As the accessibility of financial services continued to

positively affect income distribution, greater usage of financial services was now associated with lower incomes unlike in the first model in which it was not meaningful. Such a phenomenon may be explained through the “inverse U” relationship, where people of lower income are often frequent users of basic financial services such as mobile money transfers along with withdrawals, but such services may not improve their financial stability and income levels (Yunusova & Morozova, 2023). It indicates that excess dependence on financial services, especially among lower-income people, could show few chances for other ways to make money (Demir et al., 2020).

### 5.3.4 Moderating Role of Socio-Economic Status

Additionally, the socioeconomic status variable had an important positive coefficient, revealing that financial inclusion alone cannot reduce, in full, income inequality without dealing across broader structural inequalities. This strongly suggests that while financial services can alleviate certain barriers, factors such as education as well as employment in addition to social capital remain supremely critical in shaping long-term income distribution (Ouechtati, 2022). As a further example, Silas et al. (2020), explicitly point out that all-including growth is impeded by digitalized financial inclusion when there is still a persistent gap between wealth as well as acute poverty, urban along with isolated rural areas, in addition to gender. This outcome mirrored the result in the study. Social-economic standing is key for easing income differences even with reliable, solid financial inclusion strategies.

## 5.4 Conclusions

This research shows the importance of financial access in affecting income distribution as well as lowering income inequality in Nairobi County. The outcomes stress how vital it is to make financial services more accessible for those in lower income brackets, while also showing the limits of only improving how good services are or how much they are used. Financial inclusion alone is indeed insufficient for bridging the income gap; wider socio-economic inequalities also must be directly addressed. Policymakers, by dealing with financial access and multiple socio-economic factors, can develop a more all-embracing financial system. This system promotes sustained economic growth and lowers inequality throughout Nairobi County and other regions.

## 5.5 Recommendations

To improve financial inclusion as a means of addressing income inequality, policymakers should prioritize the expanding of financial services access, especially in marginalized communities and rural regions or other underserved areas. To make sure financial services are widely available and accessible, this needs investment in physical infrastructure like bank branches and agent networks also digital financial infrastructure such as mobile money platforms plus internet connectivity. These efforts can help elevate income levels within low-income populations. Policymakers should provide active support for efforts designed for inequality reduction to increase the reach of banking services, of mobile money platforms, and of microfinance institutions. Regulations that do encourage innovation in financial delivery must also accompany these initiatives for they maximize their impact on inclusion and equity.

Action in improving financial literacy and tailoring financial products for low-income groups is required. For this goal, a collaborative approach is important. Governments, financial institutions, and NGOs empower people through needed knowledge to effectively navigate the financial system using coordinated financial literacy campaigns. Financial products should be designed specifically for helping low-income households build lasting financial security. Affordable savings accounts, accessible micro-insurance, also user-friendly mobile banking applications are examples of these products, and they should not increase risk of debt or instability. When all the stakeholders foster such a supportive ecosystem while actively participating in financial services, they help people to fully benefit from financial inclusion.

Finally, it is important to address broader socioeconomic disparities to ensure that financial inclusion efforts have a lasting impact on income inequality. Policymakers must implement social and economic reforms that are complementary, addressing barriers like little access to good schooling, healthcare, and jobs. Sustainable financial well-being is what will be achieved at the point when these broader changes then enable people's better use of financial services. Enforcement which is strict involving standards for protecting marginalized communities along with promotion involving equal accessibility for resources on the part of regulatory authorities improves overall socioeconomic welfare.

## 5.6 Limitations of the Study

This study has some limitations that must be considered. First, the research focused solely on Nairobi County. This urban area has certain demographic and economic characteristics. Due to differing financial behaviors and access barriers, generalizing the findings to Kenya's rural regions may be impossible (Muuo et al., 2025). Second, socio-economic status was measured primarily through income, without incorporating other important dimensions such as education, occupation, or household assets. This narrow operationalization may not fully capture the complexity of socio-economic differences that influence both financial inclusion and income distribution (Demir et al., 2020). Third, the study relied on self-reported data collected through structured questionnaires. Such data are subject to recall bias and social desirability bias, which could affect the accuracy of responses regarding income, financial service access, and usage (Balliester Reis & Kamau, 2023). Fourth, the cross-sectional design of the study captures data at a single point in time, limiting the ability to infer causality or observe changes in financial inclusion and income inequality over time (Wamalwa, 2022). Lastly, certain vulnerable groups-such as persons with disabilities or those lacking formal identification-may have been underrepresented in the sample, despite efforts to include a broad cross-section of Nairobi's adult population (Muuo et al., 2025).

## 5.7 Recommendations for Future Research

Future research should thoroughly explore the undergoing effects of financial service usage on income inequality, especially in the context of interventions carefully geared toward improving both financial literacy and access. Future studies could further investigate the overall role of digital financial services in reducing income inequality. Mobile money platforms have emerged as a key tool for promoting financial inclusion across sub-Saharan Africa.

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## Appendices

### Appendix A: Consent to Participate in Research Study

Dear Participant,

My name is Mohamed Aden, a student currently pursuing a Masters Degree in Development Finance at Strathmore University Business School. You are invited to participate in a research study entitled "Assessing the Effect of Financial Inclusion on Income Inequality and the Moderating Role of Socio-Economic Status in Nairobi County." The purpose of this study is to examine the relationship between financial inclusion and income inequality in Nairobi County, with a focus on the alteration of socio-economic status, economic growth, and interest rates.

Your participation is voluntary. If you agree to participate, you will be asked to provide information on your financial services, income levels, and socio-economic status, as well as your perspective on financial services in Nairobi. All the information you provide will be confidential and anonymous. The data will be securely stored and used solely for this study.

There are no known risks associated with participating in this study. While you may not receive any direct benefits, your involvement will provide valuable insights into the relationship between financial inclusion and income inequality in Nairobi County.

Thank you for your time and assistance.

**Appendix B : Research Questionnaire**

**Part 1 : Demographic Information**

This section gathers basic demographic details to understand the background of respondents. Please provide accurate information by selecting the option that applies to you.

1. Age:
    - 18–24
    - 25–34
    - 35–44
    - 45–54
    - 55+
2. Gender:
    - Male
    - Female
    - Prefer not to say.
3. Level of Education:
    - No formal education
    - Primary education
    - Secondary education
    - Diploma/Certificate
    - Bachelor's degree
    - Postgraduate degree
4. Employment Status:
    - Employed (full-time/part-time)

- Self-employed
- Unemployed
- Student
- Retired

5. Monthly Income (in KES):
    - Below 10,000
    - 10,001–30,000
    - 30,001–50,000
    - 50,001–100,000
    - Above 100,000
6. Please select your current socio-economic status based on your monthly income:
    - Below Ksh 20,000 (Low income)
    - Ksh 20,001 - KSh 50,000 (Lower middle income)
    - Ksh 50,001 - KSh 100,000 (Middle income)
    - Ksh 100,001 - KSh 200,000 (Upper middle income)
    - Above Ksh 200,000 (High income)

**Part 2: Financial Inclusivity and Accessibility**

In this section, you will be asked about your usage and accessibility of financial services. Kindly indicate your experiences and perceptions regarding financial inclusivity in Nairobi.

7. How often do you use formal financial services (e.g., bank accounts, mobile money services)?

| Never | Rarely | Sometimes | Often | Very often |
|---|---|---|---|---|
| | | | | |

8. Do you have access to the following financial services in Nairobi? (Check all that apply)

| Bank account | Mobile banking | Digital loans | Microfinance services | Insurance services |
|---|---|---|---|---|
| | | | | |

9. How easily are financial services (e.g., banks, ATMs, mobile money agents) easily accessible in your area?

| Very accessible | Inaccessible | Neutral | Accessible | Very accessible |
|---|---|---|---|---|
| | | | | |

10. How does the accessibility of financial services impact your financial well-being?

| No Impact | Little impact | Moderate impact | High impact | Extremely high impact |
|---|---|---|---|---|
| | | | | |

**Part 3: Quality of Financial Services**

Here, we seek your feedback on the quality of financial services you use. Your ratings and opinions will help evaluate service standards and their impact on users.

11. How satisfied are you with the quality of financial services (e.g., bank services, mobile money services) you receive in Nairobi?

| Very dissatisfied | Dissatisfied | Neutral | Satisfied | Very satisfied |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| | | | | |

12. Rate the following aspects of financial services on a scale from 1 (Very Poor) to 5 (Excellent):

| | Extremely poor | poor | Neutral | Good | excellent |
|---|---|---|---|---|---|
| Ease of use | | | | | |
| Customer service | | | | | |
| Transaction speed | | | | | |
| Cost of services | | | | | |

13. How would you rate the impact of quality financial services on your income?

| No Impact | Little impact | Moderate impact | High impact | Extremely high impact |
|---|---|---|---|---|
| | | | | |

**Part 4: Usage of Financial Services**

This section explores how frequently you use various financial services and their influence on your financial well-being. Please rate each question based on your personal experience.

14. How frequently do you use financial services (e.g., bank accounts, mobile money, loans, insurance) for the following purposes? (Rate 1–5, with 1 = Never and 5 = Very Frequently)

| | Never | Rarely | Neutral | Frequently | Very |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| | | | | | frequently |
| Savings | | | | | |
| Bill payments | | | | | |
| Money transfers | | | | | |
| Investments | | | | | |
| Loan applications | | | | | |

15. How has your usage of financial services influenced your income level?

| No Influence | Little influence | Moderate influence | Significant influence | Very Significant influence |
|---|---|---|---|---|
| | | | | |

16. Do you believe that increased usage of financial services has reduced income inequality in Nairobi?

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| | | | | |

**Part 5: Socio-Economic Status and Financial Inclusion**

This part examines the relationship between socio-economic status and access to financial services. Kindly share your perspectives on challenges and impacts related to this topic.

17. Do you think your socio-economic status affects your access to financial services?

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| | | | | |

18. Do individuals from lower socio-economic backgrounds in Nairobi face challenges in accessing financial services compared to those from higher socio-economic backgrounds?

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| | | | | |

19. How has your socio-economic status impacted on your usage of financial services?

| No Impact | Little impact | Moderate impact | High impact | Extremely high impact |
|---|---|---|---|---|
| | | | | |

**Part 6: Overall Perception of Financial Inclusion and Income Inequality**

In the final section, we ask for your overall opinion on the role of financial inclusion in reducing income inequality in Nairobi.

20. Do you think financial inclusion in Nairobi has significantly reduced income inequality?

| Strongly disagree | Disagree | Neutral | Agree | Strongly agree |
|---|---|---|---|---|
| | | | | |

*Your honest responses are crucial to the success of this study. Thank you for your cooperation!*

## Appendix C : Institutional Ethical Review Letter

Strathmore UNIVERSITY

**25th February 2025**

Mr Aden Mohamed,
mohamed.aden@strathmore.edu

Dear Mr Aden,

**RE: Assessing the Effect of Financial Inclusion on Income Inequality and Moderating Role of Socio-Economic Status**

This is to inform you that SU-ISERC has reviewed and **approved** your above **SU-masters** proposal. Your application reference number is **SU-ISERC2594/25.** The approval period is from **25th February 2025 to 24th February 2026.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used.
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by SU-ISERC.
iii. Death and life-threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to SU-ISERC within 72 hours of notification.
iv. Any changes anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to SU-ISERC within 72 hours.
v. Clearance for the export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to the expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii. Submission of an executive summary report within 90 days of completion of the study to SU-ISERC.

Before commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology, and Innovation (NACOSTI) https://research-portal.nacosti.go.ke/ and obtain other clearances needed.

Yours sincerely,

**Mr Ambrose Rachier,**
**Chairperson; SU-ISERC**

## Appendix D : NACOSTI Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: 763844

Date of Issue: 05/March/2025

**RESEARCH LICENSE**

**This is to Certify that Mr.. Mohamed Qani Aden of Strathmore University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: Assessing the Effect of Financial Inclusion on Income Inequality Levels in Nairobi County: Moderating Role of Socio-Economic Status for the period ending : 05/March/2026.**

License No: **NACOSTI/P/25/416529**

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