

UNIVERSITY OF EDUCATION, WINNEBA

**FINANCIAL INCLUSION AND ECONOMIC GROWTH: THE
MODERATING ROLE OF FINANCIAL STABILITY IN SUB-SAHARAN
AFRICA**



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MODERATING ROLE OF FINANCIAL STABILITY IN SUB-SAHARAN
AFRICA**

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of the requirements for the award of the degree of
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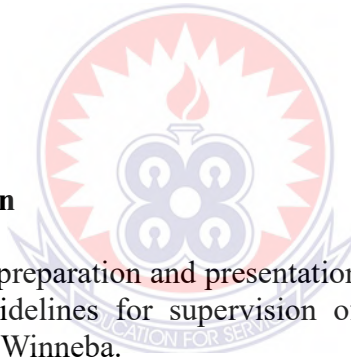
DECLARATION

Student's Declaration

I, **Evelyn Agyapomaa Owusu**, hereby declare that this dissertation, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work and that it has not been submitted, either in part or whole, for another degree elsewhere.

Signature

Date



Supervisor's Declaration

I hereby declare that the preparation and presentation of this dissertation were done in accordance with the guidelines for supervision of dissertation laid down by the University of Education, Winneba.

Name of Supervisor: Mr. Samuel Gameli Gadzo

Signature

Date

DEDICATION

This work is dedicated to my parents who laid a solid foundation for my education and supported me financially and whose inspirational talks and encouragement motivated me to complete this work.



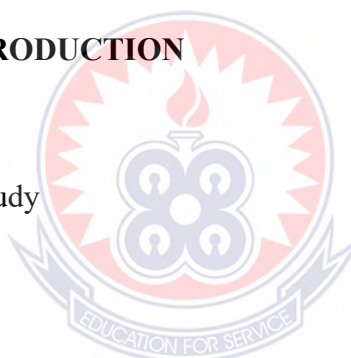
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LIST OF ABBREVIATIONS

GDPG	–	Gross Domestic Product Growth
GFD	–	Global Financial Development
IMF	–	International Monetary Fund
AML	–	Anti-money Laundering
EXR	–	Exchange Rate
FIN	–	Financial Inclusion
PR	–	Policy Rate
IF	–	inflation
CFT	–	Combating Terrorism Financing



ABSTRACT

This study departs from empirical literature by considering the moderating role of financial stability in the nexus of financial inclusion and economic growth in Sub-Saharan Africa. An explanatory research design was employed to achieve this, and data was collected from twenty (20) Sub-Saharan African countries from 2012 to 2022. This is a quantitative study that utilizes the Generalized method of moments (GMM) estimation technique to analyse the collected data. The study's findings revealed that financial inclusion positively and significantly influenced economic growth. Additionally, it was observed that financial stability also played a significant role in predicting the growth trajectory of Sub-Saharan African countries. Furthermore, the study discovered that financial stability positively and significantly moderated the relationship between financial inclusion and economic growth. Based on these findings, the study recommends policymakers in developing countries to prioritise implementing financial inclusion policies. It also suggests implementing complementary policies to enhance financial development, institutional quality, and trade openness. Moreover, the study proposes that future research should focus on exploring the impact of financial inclusion on other dimensions of development, such as poverty reduction and income inequality.



CHAPTER ONE

INTRODUCTION

1.0 Overview

Financial inclusion, financial stability, and economic growth are critical components of economic development. Financial inclusion refers to how individuals and businesses can access and use financial services such as credit, insurance, and savings. Financial stability, on the other hand, refers to the soundness of the financial system and the ability of financial institutions to withstand shocks. Economic growth, as a concept, refers to the increase in the output of goods and services in an economy over time. In recent years, there has been a growing interest in the relationship between financial inclusion, financial stability, and economic growth. This dissertation aims to investigate the effect of financial inclusion on financial stability, which in turn influences economic growth. The study focused on selected low-income countries in Sub-Saharan Africa.

1.1 Background of the study

Since the early 2000's, the concept of financial inclusion has attracted attention from governments and central banks worldwide for its contribution to the goal of economic growth and financial development. According to the Global Findex Report 2017, only 33% of adult population own a bank account at a formal institution in Africa which is less than any other region in the world (Demirguc, Kunt et al, 2018). Interestingly, financial inclusion facilitates wealth creation and sustainable economic growth and reduces income inequality gap. (Dahiya & Kumar 2020, Adeboku & Aga, 2021). Financial inclusion is an important matter that is required in every country's infrastructure according to the United Nations. In 2017, 1.7 billion people worldwide are living without the basic financial tools that they need to be able to protect their

private economy and make future investments. 1.7 billion people equals approximately 31% of the adults in the whole world, in addition to this there are at least 200 million small and medium sized businesses that lack the access to this financial tool (Kunt et al, 2017). With financial inclusion these people will be given affordable financial services that can facilitate and help people out of poverty. Therefore, financial inclusion could be seen as a tool that enables and accelerates economic growth, promotes employment and improves financial health (United Nations).

Financial inclusion can be understood as a process that helps people, particularly low-income people and the marginalized sections including migrants, who don't have access to basic and cheap financial services by making it easier for them to access it (Mader 2022). These services consist of a wide range of different alternatives, and not only the traditional banking products but also insurance, pension and remittances products (Acharya & Sethi, 2017). There are several factors, often tied to new digital technology, that can have a positive effect on financial inclusion. Factors such as smartphones, fintech and digital finance offer solutions that can contribute positively to financial inclusion (United Nations). It has become clear to policy makers that financial inclusion is an important foundational piece in a country's financial infrastructure, since it fosters economic growth and development in a country (Pearce, 2011; Sharma, 2016).

According to the Planning Commission (2009) the living standards of the residents in a nation could be vastly improved by giving access to financial services at a low and priceable cost. By making loans more affordable for the low income and vulnerable groups of the society this would create incentives to increase the production activities in rural areas and thus steer the output of production to new levels. This extra output created by making loans more accessible contributes to advances in economic growth

for the nation and resulting in a higher income and living standard of the previously vulnerable groups in society, helping those out of poverty. Claessens & Perotti (2007) mentions another way in which financial inclusion contributes to economic growth. By including the people that previously didn't have access and giving entry to insurance and deposit products raises the fund in the financial market.

The financial markets will efficiently allocate the savings that people deposit into long term investments, and since the market protects the depositors from liquidity risk this encourages more investments. This will in the long run lead to increased employment and more output which will result in the improvement of the distribution of income and income of the poor. Financial inclusion has become an important issue in recent years, particularly in developing countries. Financial inclusion refers to the ability of individuals and businesses to access financial services and products, including banking services, credit, insurance, and investment opportunities. The lack of financial inclusion can create barriers to economic growth, particularly in low-income countries.

Therefore, promoting financial inclusion has become a priority for policymakers. Low-income countries in Sub-Saharan Africa have experienced limited financial inclusion, which has hindered their economic growth. According to the World Bank, only 34% of adults in Sub-Saharan Africa have access to formal financial services. The lack of access to financial services has limited the ability of individuals and businesses to invest, save, and access credit, thereby hindering economic growth. In recent years, policymakers in these countries have implemented various initiatives to promote financial inclusion. These initiatives have included the establishment of microfinance institutions, the adoption of mobile money, and the development of credit bureaus. While these

initiatives have contributed to an increase in financial inclusion, the relationship between financial inclusion, financial stability, and economic growth remains unclear.

Therefore, this study aims to investigate the effect of financial inclusion on financial stability, which in turn influences economic growth. The study will contribute to the literature on the relationship between financial inclusion, financial stability, and economic growth and provide policymakers with insights on promoting financial inclusion while maintaining financial stability. SSA is one of the least financially inclusive regions in the world, with only 43% of adults having an account at a formal financial institution, compared to the global average of 69%. The main barriers to financial inclusion in SSA include low income, lack of trust, high costs, physical distance, and regulatory constraints. Various factors, such as weak institutional frameworks, macroeconomic volatility, external shocks, and financial fragility, challenge financial stability in SSA. The recent COVID-19 pandemic has also posed significant risks to the financial stability of the region, as it has disrupted economic activity, reduced remittances, and increased fiscal and debt pressures.

Economic growth in SSA has been uneven and below its potential, averaging 3.3% per year between 2010 and 2019, compared to 6.1% in the previous decade. The main drivers of growth in SSA include natural resources, infrastructure, human capital, trade, and governance. However, the region also faces many challenges, such as poverty, inequality, conflict, climate change, and health issues. The relationship between financial inclusion, financial stability and economic growth in SSA is complex and dynamic. Some studies have found positive and causal effects of financial inclusion on financial stability and economic growth, indicating complementarity between these variables. Other studies have suggested that there may be tradeoffs or thresholds

involved, depending on the level and quality of financial inclusion, the degree of financial development, and the institutional and macroeconomic environment.

Therefore, it is important to understand the specific context and mechanisms that link financial inclusion, financial stability and economic growth in SSA, and to design and implement policies and strategies that promote a balanced and inclusive development of the financial sector and the economy in the region. However, the promotion of financial inclusion must be balanced with the need to maintain financial stability. Financial stability refers to the overall health and stability of the financial system, including the stability of individual financial institutions and the broader financial system. Financial instability can lead to a contraction in credit and a decrease in economic activity. Therefore, policymakers must carefully balance the promotion of financial inclusion with the need to maintain financial stability.

1.2 Problem Statement

Financial inclusion is a crucial part of the strategies aimed at achieving inclusive growth; inclusive growth is fundamental in sustaining social and economic development, leading to stability in the financial system and stable economic growth. Moreover, it is an effective tool that encourages access financial services to reduce poverty and income inequality (Makina & Walle, 2019; Demirgüç-Kunt & Levine, 2009). Globally, in 2008, about 2.5 billion adults were financially excluded from banking services, of which a significant percentage were from Africa, Asia and Latin America (CGAP & World Bank, 2010; Dobbs, Lund, & Schreiner, 2010; GPFI, 2011). However, in 2014 and 2017, it reduced to 2 billion and 1.7 billion, respectively (Demirgüç-Kunt, Klapper, Singer, & Oudheusden,

2015; Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2018; WBG, 2017).

In the Sub-Saharan African (SSA) countries, about 80% of the working-age population do not have access to financial services, indicating that few have access to a basic bank account in formal financial institutions (CGAP, 2011; Demirgüç-Kunt & Klapper, 2013; Demirgüç-Kunt, Klapper, Singer, & Oudheusden, 2014). Remarkably, the exclusiveness of the majority in this region has caused a hindrance to economic development and growth, social exclusion, and inequality that pose significant challenges for governments and policymakers (Adedokun & Ağa, 2021). Therefore, what is pertinent are the efforts required to develop and implement appropriate policies and interventions that are suited to each country to have the necessary financial awareness and education to provide consumer protection at all levels (Bhaskar, 2013; Grohmann, Klühs, & Menkhoff, 2018; Koomson, Villano, & Hadley, 2020; Mende, Salisbury, Nenkov, & Scott, 2020). The mounting uneasiness about access to affordable banking services worldwide, especially in developing countries, has worried policymakers, governments, agencies, and researchers.

Mlachila et al. (2013) affirmed that the financial sector has contributed immensely to poverty reduction and improvement in economic growth through credit and other financial services provided to individuals and enterprises in emerging economies. However, they observed that some of the biggest hurdles to economic growth across developing countries, especially in the Sub-Saharan Africa (SSA) region, are access to affordable financial services by all members of society, and also banking systems are relatively small in size. According to IMF, the GDP growth rate of Sub-Saharan Africa was 3.2% in 2019, -1.9% in 2020, 3.4% in 2021, and was projected to be 4.0% in 2022 and 3.8% in 2023. These figures are based on current prices and purchasing power

parity. The GDP growth rate reflects the economic performance and prospects of the region.

The GDP growth rates of Sub-Saharan Africa vary significantly across different countries and income groups. For instance, In 2019, the GDP growth rate ranged from -12.8% in Libya to

13.3% in South Sudan. In 2020, the GDP growth rate ranged from -18.0% in Libya to 4.1% in Ethiopia. In 2021, the GDP growth rate was expected to range from -10.0% in Equatorial Guinea to 8.7% in South Sudan. The GDP growth rates of Sub-Saharan Africa are influenced by various factors, such as commodity prices, trade, investment, fiscal and monetary policies, governance, security, climate change, and the COVID-19 pandemic. The region faces many challenges and opportunities for enhancing financial inclusion, stability, and economic growth. This study also seeks to see whether financial inclusion generates a positive or negative effect, more in line with Bakar & Sulong (2018). To help with this research question, we seek the answer to a sub-question: Do the indicators of the financial inclusion measurements affect economic growth? This leads us to our main research question: if financial inclusion affect economic growth using financial stability as a moderating variable.

1.3 Purpose of the Study

The purpose of the study is to ascertain the effect of financial inclusion on economic growth using financial stability as a moderating variable. The study aimed to provide policy recommendations for enhancing financial inclusion and achieving sustainable economic growth in different countries and income groups. The study used various methods and data sources to measure and analyze the effect of financial inclusion, financial stability, and economic growth, such as panel robust least square estimation

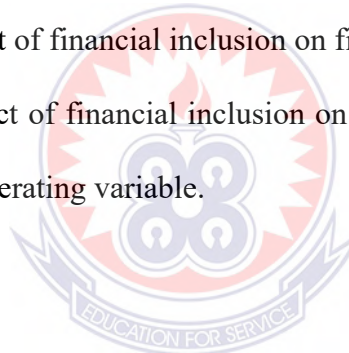
technique, pairwise correlation and more. The study also reviewed the existing literature and compared the findings with other studies. The study contributed to the knowledge and understanding of the linkages between financial inclusion, financial stability, and economic growth, and their implications for financial sector development and social welfare.

1.4 General Research Objectives

To examine the effect of financial inclusion on economic growth taking into account the moderating role of financial stability.

The specific objectives of the study are to;

1. investigate the effect of financial inclusion on economic growth.
2. estimate the effect of financial inclusion on financial stability.
3. ascertain the effect of financial inclusion on economic growth using financial stability as a moderating variable.



1.5 Research Questions

The following research questions of the study are:

1. What is the effect of financial inclusion on economic growth?
2. What is the effect of financial inclusion on financial stability?
3. How does financial inclusion affect economic growth using financial stability as a moderating variable?

1.6 Significance of the Study

This study contributed to the existing literature on the relationship between financial inclusion, financial stability, and economic growth. The significance of the study to academics is that it can provide valuable insights into the complex and dynamic relationship between these three important aspects of development. Financial inclusion,

which refers to the access and use of financial products and services by all segments of society, especially the poor and marginalized, can have positive effects on economic growth, financial development, financial efficiency, financial stability, and bank profitability, as well as social welfare, poverty reduction, and income inequality. However, the extent and direction of these effects may vary depending on the level of income, the type and quality of financial instruments, the regulatory and institutional environment, and the macroeconomic conditions of the countries under study. Therefore, an indepth and comparative analysis of financial inclusion and its impact on economic growth and financial stability across different income groups and regions can contribute to the existing literature and inform policy decisions that aim to promote inclusive and sustainable development.

It can provide evidence-based guidance on how to design and implement policies and practices that foster inclusive and sustainable development. Financial inclusion can enhance the efficiency and resilience of the financial system, as well as the productivity and competitiveness of the real sector, by expanding the access and use of financial products and services to all segments of society, especially the poor and marginalized. Financial inclusion can also support economic growth by mobilizing savings, allocating resources, facilitating transactions, reducing risks, and promoting innovation. However, financial inclusion is not a panacea, and it may entail trade-offs and challenges for financial stability, such as increased exposure to shocks, contagion, and moral hazard. Therefore, policymakers and industries need to balance the benefits and costs of financial inclusion and adopt a holistic and coordinated approach that considers the level of income, the type and quality of financial instruments, the regulatory and institutional environment, and the macroeconomic conditions of the countries under study.

1.7 Scope of the Study

The study focused on the relationship between financial inclusion, financial stability, and economic growth, using various indicators and measures to assess the effect of each variable. The study also examined factors influencing financial inclusion and financial stability, such as institutional quality, financial literacy, financial innovation, and regulation. The study covered different regions and income groups, such as low-income, middle-income, and sub-Saharan Africa. The study compared and contrast the results across different regions and income groups, and identified the best practices and challenges for enhancing financial inclusion and financial stability in each context. The study also considered the effects of regional integration and globalization on financial inclusion and financial stability.

1.8 Limitations of the Study

The study faced some challenges in defining and measuring financial inclusion, financial stability, and economic growth, as there is no consensus on the best indicators and methods to capture these concepts. It encountered some data limitations, such as data availability, quality, reliability, and comparability, especially for low-income and developing countries. It also dealt with some methodological issues, such as endogeneity, causality, heterogeneity, and robustness, when conducting the empirical analysis. The study had to acknowledge some assumptions and simplifications that may affect the validity and generalizability of the results. The study had some difficulties in selecting and sampling the countries and regions to be included in the analysis, as there may be some trade-offs between representativeness and feasibility. The study also accounted for some contextual factors, such as historical, cultural, political, and institutional differences, that influenced the relationship between financial inclusion, financial stability, and economic growth in different regions and income groups.

1.9 Organization of the Study

The dissertation has been organized into five chapters. The first chapter highlighted the background of the research problem, the statement of the problem, the purpose of the study, research objectives and questions by the researcher, the significance of the study and the organization of the study. Literature related to the study was reviewed in the second chapter. The review considered empirical studies, surveys, and views of other authors. The methodology and procedure adopted in carrying out the study were discussed in Chapter Three. Chapter Four presents the findings and discussion of the data. The results from the primary data were presented, discussed, and analysed. The final chapter recapitulated the results and concluded. Recommendations were made for the effect of financial inclusion on economic growth with financial stability as a moderating variable. Further research was also recommended in the final chapter.

1.10 Chapter Summary

This chapter provides the background of the study and highlights the importance of financial inclusion, financial stability, and economic growth. The research problem identifies the need for empirical evidence on the relationship between financial inclusion, financial stability, and economic growth. The research questions and objectives guide the study, while the significance of the study highlights its contributions to the existing literature. The scope of the study defines the geographical and topical boundaries of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In recent years, financial inclusion has become an important topic in the field of economics. It refers to the provision of financial services such as savings, credit, insurance and payments to all individuals and businesses, especially the unbanked and underbanked. The concept of financial inclusion is closely related to financial stability and economic growth. This literature review aimed to examine the relationship between financial inclusion, financial stability and economic growth.

2.1 Theoretical Review

Several theoretical models have been developed to explain the relationship between financial inclusion, financial stability, and economic growth. Honohan (2008) argues that financial inclusion can increase financial stability by reducing the likelihood of bank withdrawals and other forms of financial instability. However, he also noted that financial inclusion can contribute to financial instability if not properly managed and monitored. Similarly, Beck et al. (2011) argue that financial inclusion can contribute to financial stability by reducing information asymmetry and improving financial literacy, but it can also lead to financial instability if credit be extended too easily. The theoretical framework for the relationship between financial inclusion, financial stability and economic growth is complex and multidimensional. Financial inclusion can boost economic growth by improving access to credit, reducing transaction costs, and fostering entrepreneurship. Financial stability is essential for economic growth, as financial instability can lead to a contraction in credit and a decrease in economic activity.

2.1.1 Classical Theory of Economic Growth

The classical theory of economic growth is a broad term that encompasses the ideas and contributions of several economists who studied the factors and mechanisms of economic growth and development in the 18th and 19th centuries. The main figures who propounded this theory are François Quesnay, Adam Smith, Thomas Malthus, David Ricardo and Karl Marx. Each of them developed the work of their predecessors and added new insights and perspectives to the analysis of the accumulation process, the role of population, the distribution of income, the impact of technological change, and the long-run tendencies and outcomes of the economic system. According to Eltis (2000), the classical economists were interested in economic growth as a means of achieving progress and improving the material conditions of society. They were also influenced by the historical and contemporary events of their time, such as the emergence of industrial capitalism, the agricultural revolution, the French Revolution, the Napoleonic Wars, the Corn Laws, and the socialist movements. They sought to provide a scientific explanation of the forces and laws that governed the operation and evolution of the economy, and to identify the policies and actions that could enhance or hinder its growth potential.

Classical theory explains economic growth as a result of capital accumulation and the reinvestment of profits derived from specialization, the division of labor, and the pursuit of comparative advantage (Sharma, 2016). Financial inclusion is the ease of access to, and the availability of, basic financial services to all members of the population. Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs in a responsible and sustainable way. The relationship between classical growth theory and financial inclusion can be understood from the following perspectives following that financial

inclusion can facilitate capital accumulation by enabling the poor and the marginalized segments of the society to save, borrow, and invest in productive activities.

Financial inclusion can also reduce the dependence on informal and costly sources of finance, such as moneylenders, that may hinder capital formation and growth (Mader 2022). Financial inclusion can enhance specialization and the division of labor by providing access to markets, information, and technology. Financial inclusion can also enable the entrepreneurs and the workers to exploit their comparative advantage and increase their productivity and income³. Financial inclusion can stimulate the reinvestment of profits by providing incentives and opportunities for the savers and the investors to channel their funds into profitable ventures Neaime, et al (2018). Financial inclusion can also reduce the risks and uncertainties associated with investment decisions and increase the returns to capital.

Therefore, classical growth theory implies that financial inclusion can have positive impacts on economic growth by increasing the quantity and the quality of capital, labor, and technology in the economy (Haris,2007). However, classical growth theory also assumes that there are no market failures, incomplete markets, or externalities that may affect the allocation and the distribution of resources in the economy. These assumptions may not hold in reality, and therefore, other theories of financial inclusion may be needed to explain the observed variation in financial inclusion practices and outcomes. In fact, on the question of endogenous and exogenous, rather than conflicting theories of value, lies the main difference between true classical theory and post-Millian economic theory, which includes all versions of neoclassical analysis (Gautam,2003).

The problem and its relevance to dynamic theory are perhaps best understood by Joseph Schumpeter, who stated on the matter a quarter of a century ago as follows. After describing economic theory in terms of Marshall's "toolbox", Schumpeter claims that it derives from something entirely different, namely from a "theory that claims to contain the essence of all knowledge." basic knowledge of economics, as well as solutions to its main empirical problems. Bank profitability is an important indicator for evaluating banking operations as well as for planning and management planning (Mader,2018). This is because banks drive economic success, and if banks perform well, the overall economy will benefit. Therefore, a number of studies on the variables that determine bank profitability have been carried out in recent years (Fonseca & González, 2010; Trang, et al, 2022). Many important indicators evaluate the level of financial access of the banking industry. These indicators have been used together or individually in many different studies and have reached various conclusions. In this context, many studies have been done previously to calculate the variables.

Financial Inclusion and Operating Performance. To this end, the relationship between financial inclusion and economic development has been frequently analyzed in the literature and is still being analyzed. Both the practical success and the great failure of the doctrine of the classical economists have to do with the fact that they aimed precisely at this goal, and to that end they established, in youthful recklessness, basic assertions and postulates without any factual basis. A prime example is the rather uncritical way in which Ricardo used the supposed link between wages and living standards as a substitute for a theory of wages. Modern theory differs from classical theory not only in that it no longer asserts the existence of this particular relationship, on the grounds that it cannot be tested (Bertalanffy,1968). More important is the fact that modern theory does not establish any of these propositions.

Financial stability refers to the ability of the financial system to function efficiently and effectively, even in times of crisis. It is closely related to financial inclusion, as lack of financial inclusion can lead to instability in the financial system. For instance, if a large segment of the population is excluded from the formal financial system, they may use informal and unregulated financial services, which can be risky and destabilizing. Several studies have examined the relationship between financial inclusion and financial stability. Beck et al. (2013) found that increasing financial inclusion can lead to greater financial stability by reducing the risk of financial crises. Similarly, Beck & Cull (2014) found that financial inclusion can lead to greater financial stability by increasing the resilience of the financial system. Economic growth refers to the increase in the production of goods and services in an economy over time. Financial inclusion can have a positive impact on economic growth by providing individuals and businesses with access to financial services, which can lead to increased investment, productivity and renew.

According to Khalid and Hassan (2022), after sub-Saharan Africa, households in African countries have the second lowest growth rates in the world. The impact of the COVID-19 pandemic is partly to blame for the weak growth pass-through, which is visible even in some high- and middle-income Arab countries. Furthermore, the Arab economy is a mixed economy; however, the majority of countries belong to the group of middle economies. This could cause the region's economy to fall into a "middle-income trap," where developing economies are rapidly stalling at middle-income levels instead of reaching those of low-income countries. High. The financial success of banks is the most important condition for the economic health of the real sector (Abbas, et al, 2021). Therefore, the bank failure test country mainly reinforces the potential of regulators to predict possible crises and enables banks to manage, coordinate and

supervise banks efficiently (Acemoglu, 2009). In addition, the early distinction between banks that are financially active and those that do not allow for consideration of appropriate measures to avoid major failures whose impact would affect other sectors and to protect the healthiest. Evans (2018) finds that factors such as capital formation, bank credit, broad money, population growth, remittances, interest rate and regulatory quality significantly influence the level of financial inclusion. Tran & De Koker (2019) argue that strong anti-money laundering (AML) and combating terrorism financing (CFT) regulatory frameworks for microfinance institutions can help to align financial inclusion policy objectives with financial integrity in the activities of microfinance institutions. Ozili (2020b) in a recent review of literature, finds that financial inclusion affects, and is influenced by, the level of financial innovation, poverty levels, the stability of the financial sector, the state of the economy, financial literacy, and regulatory frameworks which differ across countries. As direct capital costs and restructuring the problem sector can be very expensive (Hirtle, Kovner & Plosser, 2020). Finally, bank failures accompanied by a credit crunch led to underutilization and misallocation of capital, hindering economic growth. Thus, banking performance strongly influences both the prosperity and stability of the industry (Beck, Demirgüç-Kunt & Levine, 2003). Overall, the policy literature shows that many factors can influence financial inclusion objectives and policies especially institutional factors and macroeconomic factors. But the literature has not examined how a health crisis might affect financial inclusion, and the policy solutions needed to promote financial inclusion during a health crisis.

The COVID-19 crisis shows how essential digital finance is for poor socioeconomically disadvantaged individuals and households. Many families and individuals around the world depend on payments sent by migrant workers abroad using an international

digital payment system, and these international companies target the needs of those who are living abroad. unbanked people around the world. The use of mobile devices to send money is becoming an effective tool in promoting financial inclusion. The government in each country must create a favorable policy and regulatory environment that prioritizes digital financial services to facilitate the flow of remittances into the country. Regulators must see the benefits of prioritizing digital financial services, and regulators must provide a clear roadmap to regulate Fintech and digital financial service providers digital. Regulators should also ensure Fintech companies are licensed. Finally, governments should adopt policies that increase Fintech funding. Governments can incentivize digital remittances by reducing the cost of digital remittances to incentivize large remittances from migrant workers.

2.1.2 Vulnerable Group Theory

Vulnerable group theory is one of the perspectives that explain the rationale and objectives of financial inclusion and was propounded by Martha Fineman in 1979. According to this theory, financial inclusion should target the most vulnerable segments of the society, such as the poor, the young, the old, and the women, who are often excluded from the formal financial system and face more challenges and risks in their lives. The theory argues that by providing these groups with access to affordable and appropriate financial services, such as savings, credit, insurance, and payments, they can improve their income, consumption, health, education, and empowerment outcomes (Aday, 2001). The theory also suggests that financial inclusion can reduce the inequalities and vulnerabilities that these groups face, and enhance their resilience and social inclusion (Ozili, 2020; Mhlanga, 2022; Triki & Faye, 2013).

Microfinance institutions (MFIs) and non-banking financial companies (NBFCs) can offer microcredit and microinsurance products to low-income households, especially women, who lack collateral and formal credit history, and help them to start or expand their businesses, cope with shocks, and invest in health and education (Kumar et al., 2023). Mobile money and digital platforms can enable the unbanked and underbanked population, especially in rural and remote areas, to access financial services through their phones, without the need for physical branches or agents, and reduce the transaction costs and risks associated with cash handling (Mhlanga, 2022; Demirguc-Kunt et al., 2018).

Financial literacy and education programs can empower the financially excluded groups, especially the young and the old, to acquire the knowledge, skills, and confidence to use financial services effectively, and to make informed and responsible financial decisions that suit their needs and goals (Ozili, 2020; Atkinson & Messy, 2012). Vulnerable group theory is a perspective that examines how different social groups are exposed to and affected by various forms of risks and disadvantages, and how they can be empowered and protected by policies and interventions that address their needs and rights. Vulnerable group theory can also be used to analyse the relationship between vulnerability and economic growth, which is a key dimension of inclusive development (Dubay & LeBrun, 2012).

According to vulnerable group theory, economic growth is not only a matter of increasing the aggregate output and income of a country, but also of ensuring that all segments of the society, especially the most vulnerable ones, can participate in and benefit from the growth process. Vulnerable groups, such as the poor, the young, the old, the women, the ethnic minorities, the disabled, and the displaced, often face

multiple and intersecting forms of discrimination, exclusion, and violence that limit their access to resources, opportunities, and services, and increase their exposure to shocks and stresses (Stam,2018). These factors not only affect their well-being and dignity, but also their productivity and potential to contribute to the economy. Therefore, addressing the vulnerabilities of these groups is not only a moral and human rights obligation, but also a smart and sustainable economic strategy.

According to the notion of vulnerable groups, there are two primary ways that vulnerability can impact economic growth: either through its effects on the demand or supply sides of the economy. Vulnerability affects the health, education, skills, and assets of the vulnerable groups, which can lower the amount and quality of labour, capital, and land on the supply side. For instance, children's physical and cognitive development can be hampered by inadequate nutrition, unsanitary conditions, and illness exposure, which can have an impact on their academic performance and future earnings. In a similar vein, the impoverished and women's investment and entrepreneurship options may be restricted by a lack of access to finance, insurance, and property rights, which can limit their ability to generate income and accumulate assets (Murray et al. (2009).

According to Hayes (2019), vulnerable group theory suggests that there are two main ways that vulnerability can affect economic growth: through its impact on the supply side and the demand side of the economy. On the supply side, vulnerability can reduce the quantity and quality of the factors of production, such as labour, capital, and land, by affecting the health, education, skills, and assets of the vulnerable groups. For example, poor nutrition, lack of sanitation, and exposure to diseases can impair the physical and cognitive development of children, affecting their learning outcomes and

future earnings. Similarly, lack of access to credit, insurance, and property rights can constrain the investment and entrepreneurship opportunities of the poor and the women, limiting their income generation and asset accumulation. On the demand side, vulnerability can reduce the consumption and savings of the vulnerable groups, by affecting their income, expenditure, and preferences. For example, low and irregular income, high and unpredictable expenditure, and risk aversion can reduce the demand for goods and services, and the savings for future consumption and investment, of the vulnerable groups, affecting the aggregate demand and the economic stability of the country.

Vulnerable group theory also suggests that there are two main ways that economic growth can affect vulnerability: through its impact on the distribution and the structure of the economy. On the distribution side, economic growth can either reduce or increase the inequalities and vulnerabilities of different social groups, depending on how the benefits and costs of growth are shared among them (Pakhnin, 2020). For example, pro-poor and pro-women growth can reduce the income and opportunity gaps between the rich and the poor, and the men and the women, and improve the living standards and empowerment of the vulnerable groups. Conversely, growth that is skewed towards the elites and the sectors that employ them can increase the disparities and marginalization of the vulnerable groups, and exacerbate the social and political conflicts in the country. On the structure side, economic growth can either create or destroy the opportunities and risks for the vulnerable groups, depending on how the economy transforms and diversifies over time. For example, growth that is driven by the expansion and innovation of the sectors that employ the vulnerable groups, such as agriculture, manufacturing, and services, can create more and better jobs, and increase the productivity and competitiveness of the economy. Conversely, growth that is driven by

the extraction and depletion of the natural resources, or by the speculation and volatility of the financial markets, can destroy the livelihoods and the environment of the vulnerable groups, and increase the fragility and vulnerability of the economy.

Vulnerable group theory therefore implies that there is a complex and dynamic relationship between vulnerability and economic growth, which can be either positive or negative, depending on the context and the policies. The theory also implies that there is a potential tradeoff or synergy between the objectives of reducing vulnerability and promoting economic growth, which can be either resolved or exploited, depending on the strategies and the interventions. The theory thus provides a useful framework for designing and evaluating policies and programs that aim to achieve inclusive and sustainable development, by addressing the vulnerabilities and enhancing the capabilities of the vulnerable groups.

Vulnerable group theory is one of the theories of financial inclusion that suggests that the efforts of financial inclusion should be targeted at the vulnerable segments of the society, such as the poor, the young, the old, and the women. The theory argues that these groups face more barriers and challenges in accessing and using formal financial services, and that they are more likely to suffer from the negative consequences of financial exclusion, such as poverty, inequality, and social exclusion. By providing these groups with access to affordable, convenient, and appropriate financial products and services, financial inclusion can enhance their economic opportunities, empowerment, and well-being (Ozili, 2020).

Financial stability, on the other hand, is the condition in which the financial system is able to perform its functions of intermediating funds, managing risks, and facilitating payments, without disruptions or failures that could harm the real economy. Financial

stability is essential for sustaining economic growth, maintaining confidence, and preventing financial crises (Federal Reserve, 2021).

The relationship between vulnerable group theory and financial stability can be understood from two perspectives: the micro and the macro level. At the micro level, financial inclusion of the vulnerable groups can improve their financial stability by enabling them to manage their income and expenditure fluctuations, cope with shocks and emergencies, build assets and savings, and invest in productive activities (Inaba, 2020). Financial inclusion can also reduce their reliance on informal and predatory sources of finance, such as moneylenders, that may charge high interest rates, impose harsh conditions, and exploit their vulnerability. By improving their financial stability, financial inclusion can also contribute to their social stability, by reducing their exposure to stress, violence, and discrimination (Triki & Faye, 2013).

At the macro level, financial inclusion of the vulnerable groups can enhance the financial stability of the system by increasing the diversity, resilience, and efficiency of the financial intermediaries and markets. Financial inclusion can expand the customer base, the deposit base, and the loan portfolio of the formal financial institutions, thereby increasing their profitability, liquidity, and solvency. Financial inclusion can also foster the development of new and innovative financial products and services, such as mobile money, microfinance, and peer-to-peer lending, that can cater to the needs and preferences of the underserved segments, and increase the competition, transparency, and inclusiveness of the financial markets (Saba, 2018). Financial inclusion can also reduce the systemic risks and vulnerabilities that may arise from the parallel operation of the formal and informal financial sectors, such as the contagion, spillover, and regulatory arbitrage effects (Frontiers, 2022).

Therefore, vulnerable group theory implies that financial inclusion of the vulnerable segments of the society can have positive impacts on both their individual and collective financial stability, and that these impacts can be amplified by the technological advancements and innovations of the Fourth Industrial Revolution (Mhlanga, 2022).

2.2 Empirical Review

Empirically, literature is rich in explaining the link between financial inclusion and economic growth. Several studies have reported a positive relationship (Chatterjee (2020); Inoue & Hamari, (2019); Nizam et al., (2020). Furthermore, Sethi & Acharya (2018) examined the impact of financial inclusion on economic growth for 31 developed countries from 2004 to 2010 and employed the following panel data models: country fixed effect and random effect regression.

Several studies have investigated the relationship between financial inclusion, financial stability, and economic growth. Demirguc-Kunt & Klapper (2012) found that financial inclusion has a positive effect on economic growth, but its impact on financial stability is ambiguous. On the other hand, Laeven & Valencia (2013) found that financial inclusion has a negative effect on financial stability in low-income countries, but a positive effect in high-income countries. Beck et al. (2014) also found a positive relationship between financial inclusion and economic growth, but a negative relationship between financial inclusion and financial stability. Several studies have examined the relationship between financial inclusion and economic growth. Demirguc-Kunt & Klapper (2013) found that increasing access to financial services can increase economic growth by providing entrepreneurs with the necessary capital to start and expand their businesses. Similarly, Allen et al. (2014) found that expanding

financial inclusion can increase investment, productivity, and innovation, which can lead to higher economic growth.

2.2.1 Financial Inclusion and Economic Growth

Financial inclusion has been shown to have a positive impact on economic growth. According to Beck et al. (2007), development finance, including financial inclusion, can make a significant contribution to economic growth in developing countries. A study by Demirguc-Kunt & Klapper (2012) shows that countries with higher levels of financial inclusion tend to have higher economic growth. The relationship between financial inclusion and economic growth is particularly strong in low-income countries. According to Beck et al. (2007), the relationship between financial development and economic growth is stronger in low-income countries than in high-income countries. In low-income countries, financial inclusion can help increase access to credit, reduce transaction costs, and promote entrepreneurship, which can contribute to economic growth. It should be noted that it is difficult to determine the direction between financial inclusion and economic growth, because they can influence each other. On the one hand, financial inclusion will have a positive impact on economic growth through better access to financial services for businesses that may be financially constrained, stimulating them to profit and ultimately promoting economic development.

Cihak et al. (2016) show that significantly higher growth rates are observed in industries that tend to rely on external finance than in countries with greater financial depth. In this sense, financial development has a positive impact on the economy, it should be noted that it is difficult to determine the direction between financial inclusion and economic growth because they can influence each other. On the one hand, financial inclusion will have a positive impact on economic growth through better access to

financial services for businesses that may be financially constrained, stimulating them to profit and ultimately promoting economic.

The average capital adequacy ratio is 16% of risky assets in Africa. Despite the fact that African banks tend to be less efficient than other countries, they are still profitable. According to Honohan & Beck (2007), overhead costs and net interest margins are improved compared to other low-income countries. In sub-Saharan Africa, the banking system is often largely centralized. This may be due to the small size of the market, but the larger the country, the higher the number of banks due to economies of scale. Furthermore, foreign banks monopolize the SSA's banking system and, compared with other developing markets, African banks play very little role in the economy. Banking services are often more accessible in urban areas while they are limited or almost non-existent in rural areas with penetration rates as low as 5%. Furthermore, the legal system in the SSA is not effective in supporting the growth and development of the banking industry. It is problematic to enforce poorly defined property rights and enforce contracts because the legal system is extremely complex and therefore cannot appeal to the informal sector. Accordingly, Gulde et al. (2006) argues that even when regulatory requirements are met, regulators tend to have little authority to implement remedies due to the fact that they do not have the freedom or resources force to perform. In the most simplified version, the level of financial inclusion is estimated using the share of the population that has an account at a financial institution. Of course, this approach does not take into account the various aspects of financial relations, nor does it allow an assessment of the “quality” of financial inclusion (for example, the number of open accounts that are active). Since 2011, the World Bank has been accumulating statistical data on global access to different financial services (payments, savings, and borrowing)

in the Global Findex Database, which can be used to analyze various aspects of financial inclusion.

In the period before the COVID-19 pandemic, the development of innovative technologies such as artificial intelligence, the Internet of things, blockchain technology, and others; their active implementation in the financial sphere; and the growth of the FinTech segment and social networks began to significantly influence the financial market and the availability of financial services to consumers. With this in mind, the World Bank added indicators of digital payments to the Global Findex Database, but digital financial inclusion was not given much importance as a separate component. The COVID-19 pandemic and the lockdown it caused significantly affected key macroeconomic indicators such as the GDP and employment rate of almost all of the countries of the world, and they also had a negative impact on economic, social, and ecological growth. At the same time, the pace of implementation of digital technologies accelerated; this included the rapid development of online payment systems, online marketing, FinTech, and InsurTech segments. Many representatives of the business segment, academic circles, and the government saw opportunities to minimize the negative economic consequences of the current crisis by adapting digital technologies. In turn, digital financial inclusion has come to be seen as a key aspect of the resilience of households and SMEs.

The review literature shows that the expansion of the shadow economy reduces economic growth (Younas et al. 2022, increases inflation (Dumitrescu et al., 2022, increases income inequality) (Saha et al. partner 2021 hinders the government's tax inclusion efforts to attract people into the formal financial system so that they have the opportunity to access financial services from savings, payments and transactions. A

country's financial sector plays an important role in its economic growth and development. (Erlando et al., 2020; Nasran et al., 2020; Younas et al., 2022)

The concept of financial inclusion contributing to economic growth and financial services improving economic development is explained through the following diagram. Figure 1 indicates that financial inclusion can promote economic growth in two broad ways. First, access to credit at small and reasonable costs decreases the vulnerability of the poor by upgrading their living standards (Rajan, 2009). The reason goes in the following ways. Low-cost credit progressive to low income and weak groups starts planned production activities in rural regions leading to an increase in production and employment. This value added at the grassroots level spurs increased domestic production, leading to greater growth at the macro level. This leads to improving the living standards of these vulnerable groups by increasing their income levels.

(Sethi & Acharya, 2018). In this way, financial inclusion also contributes to reducing poverty levels in rural areas while stimulating economic growth. Second, the global access to bank deposits and insurance products by the excluded increases funds in the financial markets. It is in everyone's interest to invest their money in the financial system and then financial markets confirm the efficient distribution of these savings in long-term investment plans. Therefore, financial markets have liquidity risk, which is caused by the scarcity of cash flows in the market and further stimulates investment. This procedure also leads to more production and employment, leading to an improvement in the income distribution of the poor (Claessens & Perotti, 2007).

2.2.2 Financial Inclusion and Financial Stability

The concept of financial inclusion has gained much attention since the early 2000s and is a consequence of empirical findings that financial inclusion efforts have positive

effects on the goal of poverty alleviation of a country (Shiimi 2010). Considering the imperatives, in recent years Governments, central banks and regulators around the world have taken initiatives and initiated new regulations to promote financial inclusion in their countries. Almost in the same time, due to recent 2007-2009 global financial crisis, concept of financial stability has been emerged as policy priority and thus gained renewed interest of the researchers across the world. Evidence suggests that financial stability contributes to the sustainable development of countries. On the other side, if there is financial instability, it could severely hamper the growth process of developing economies, even developed economies growth also affected by the same (Creel et al. 2015). Thus, we assume that financial stability plays a positive role in the country's growth process and based on this assumption, in this research an attempt has been taken to explore whether financial inclusion promotes financial stability. However, there is ongoing debate on the issue of whether financial inclusion contributes to financial stability. Some evidence suggests unidirectional positive association of financial inclusion with financial stability (Okpara 2011; Prasad 2010; Cull et al. 2012). Authors argued that by providing greater access to and better uses of banking services to vast section of the society, including the disadvantaged group, financial inclusion efforts ensure efficiency of resources and financial intermediation which, in turn, boost financial stability given that a country has already implemented improved financial infrastructure and skilled supervision. Whilst other researchers observed that financial inclusion does not cause financial stability. These mixed evidences create an avenue for the researchers to examine and establish the connection between financial inclusion and financial stability.

Financial inclusion can also have an impact on financial stability. According to Honohan (2008), financial inclusion can increase the stability of the financial system

by reducing the likelihood of bank runs and other forms of financial instability. When individuals and businesses have access to a wider range of financial services, they are less likely to engage in risky financial behavior, which can destabilize the financial system.

However, there is also some evidence to suggest that financial inclusion can contribute to financial instability. For example, if individuals and businesses are able to access credit too easily, they may become overindebted and default on their loans, which can lead to financial instability. Additionally, if financial institutions are not properly regulated and supervised, financial inclusion can lead to the creation of risky financial products that contribute to financial instability (Honohan, 2008). Financial stability is important as it has various implications for a sustainable economy. Financial inclusion fosters financial stability through the introduction of financial products and markets, efficient allocation of financial resources and payment system and so forth. Notwithstanding the significance of the relationship between financial inclusion and financial stability, literature is very scarce. The few studies which explored the positive link between financial inclusion and financial stability (Aduda & Kalunda, 2012; Anarfo & Abor, 2020; El Said et al., 2020; Han & Melecky, 2013; Khan, 2011) found that financial inclusion enhances financial stability. Hence, a hypothesis can be assumed as financial inclusion is positively associated with financial stability.

2.2.3 Financial Inclusion, Financial Stability and Economic Growth

Financial inclusion is an integral part of economic inclusion. Moreover, the path to inclusive growth and development of the economy goes through financial inclusion. It is true that among the United Nations' 17 Sustainable Development Goals (SDGs), which should be achieved by humanity through joint efforts by 2030, we do not find

financial inclusion, but achieving many of these goals (GOAL 1: No Poverty; GOAL 2: Zero Hunger; GOAL 3: Good Health and Wellbeing; GOAL 4: Quality Education; GOAL 5: Gender Equality; GOAL 8: Decent Work and Economic Growth; GOAL 10: Reduced Inequality) would be impossible without financial inclusion (United Nations, 2015). UN member states use the Global Financial Inclusion (Global Findex) database to measure progress towards sustainable development goals. The issue of growing financial inclusion gained a special significance during the COVID-19 pandemic, when a large part of the world's population was locked up at home. According to a preliminary assessment by the International Labor Organization (ILO), 25 million people lost their jobs and livelihoods (ILO, 2020). Now is the time for governments and financial institutions to play their part in providing greater access to financial services for poor individuals and households as soon as possible during the crisis. Governments, working together with financial institutions, must first and foremost be able to provide financial access to poor individuals and households with the necessary support to ensure their survival in these times (Ozili, 2020) (Tarek Eldomiaty, 2020).

The relationship between financial inclusion, financial stability, and economic growth is complex. Financial inclusion can contribute to both financial stability and economic growth, but it can also contribute to financial instability if not properly regulated and supervised. Financial stability is important for economic growth, as financial instability can lead to a contraction in credit and a decrease in economic activity. According to Demircuc-Kunt & Klapper (2012), the relationship between financial inclusion, financial stability, and economic growth is dependent on the level of development of the financial system. In less developed financial systems, financial inclusion can lead to financial instability and hinder economic growth. In more developed financial

systems, however, financial inclusion can contribute to financial stability and economic growth.

Financial inclusion is often interpreted in a relative term depending on the stage of financial development in each country. The degree of financial inclusion differs among countries. In the past, multilateral agencies promoted financial sector deepening, as a means to improve economic growth, reduce poverty, and promote social inclusion. According to Kingsley (2013), has continued to gain attention across the globe, the main reason for this is the promise which financial inclusion holds in addressing global poverty, income inequality, under development and welfare. It is believed that when everybody gain access to financial services, their joint contributions to the development process will create a faster and more quantitative impact. Hariharan & Marktanner (2012) concluded that financial inclusion as the potential to enhance economic growth and development. They found a strong positive correlation between a country's financial inclusion and total factor productivity (TFP), implying that financial inclusion possesses the ability to create capital. The study concluded that financial inclusion has the potential to increase the financial sector savings portfolio, enhance efficiency of intermediation, and boost entrepreneurial activities which ultimately results in economic growth. Khan (2011), explained that access to basic financial services would lead to increased economic activities and employment opportunities for rural households, as more people get engaged in economic activities, the disposable income of the rural household would rise, leading to more savings and a robust deposit base for the bank, the multiplier effect will result in economic growth, this implies inclusive growth.

Africa is affected by multidimensional poverty that can be measured using the HDI and an increase in the HDI indicates a low level of poverty. Since financial inclusion offers the opportunity to access finance and engage in business to increase income, it also allows people to save more and use it easily. In this way, financial inclusion reduces income shocks and improves people's incomes. Numerous studies provide evidence that financial inclusion has implications for poverty reduction (Koomson et al., 2020; Neaime & Gaysset, 2018; Omar & Inaba, 2020). Therefore, one hypothesis can be put forward that financial inclusion has a positive relationship with poverty reduction. Despite consensus on the concept of financial inclusion, the current literature lacks a standard method for measuring financial inclusion across economies. Honohan (2007, 2008) constructed an index of financial access by combining bank account numbers and MFI numbers from cross-household survey data in several countries. Amidic et al. (2014) constructed a composite index of financial inclusion by including access (geographical penetration and demographics) and usage (depositors and borrowers) dimensions.

They normalized each variable, determined statistics for each dimension using factor analysis, assigned weights to the variables and sub-indexes, and then aggregated the data by geometric mean. weighted. numbers.

Camara & Tuesta (2014) built a composite indicator of financial inclusion by estimating three sub-indices including the use aspect, the access dimension and the barrier dimension (barriers leading to exclusion). except Volunteers); Dimensional weights were estimated endogenously using a two-step principal component analysis. Sarma (2012) proposed a multidimensional index of financial inclusion by combining the aspects of accessibility, availability and use, satisfying some basic mathematical

properties and can comparisons across countries and over time. It calculates a dimension metric for each dimension, aggregates each metric based on the normalized Euclidean distance of the success points between the worst and ideal scenario, and then takes a simple average. Evans & Adeoye (2016) assessed the determinants of financial access in Africa using a dynamic panel data approach for 15 countries for the period 2005-2014.

The results show that financial inclusion lags (implying the “catch-up effect”), GDP per capita, money supply as a percentage of GDP, adult literacy, internet access and Islamic bank.

Education is of great importance in explaining financial literacy. expense. integration in Africa. Allen et al. (2014) found that population density and GDP per capita have a strong positive relationship, while natural resources have a strong negative relationship with global financial and financial development. bridge. present in sub-Saharan Africa than anywhere else in the world. Rojas-Suarez & Amado (2014) analyzed the relevant factors explaining the gap in financial inclusion in Latin America compared to other countries and found that the main obstacle was socioeconomic factors.

Using data from 2004 to 2011, Morgan & Pontines (2014) investigated cause-and-effect relationships and found that financial inclusion, as measured by the credit ratio available to small and medium-sized businesses, small and medium enterprises, promoting the stability of the financial system. Han & Melecky (2013) examined the link between financial inclusion and financial stability using 90 countries data authors observed that financial inclusion, measured by wider access to and use of deposits, can build the banks' deposit base stronger in period of financial trauma which ultimately promotes financial stability of countries, especially the middle-income countries.

Using data from 1990-2011, Okpara (2011) observed a unidirectional positive influence of financial inclusion on financial stability and thereby argued that there exists long-run affiliation between these. Khan (2011) advocates three core approaches through which financial inclusion can have positive influence on financial stability. First, by increasing the amount of credit available to SMEs, banks can diversify their portfolios, which in turn reduces the bank's overall risk. Second, more financial inclusion means more small savers participating in the financial system. As there are more small savers, the volume of deposits and its stability will increase, thereby reducing dependence on non-industry capital, which has a detrimental effect, especially in times of crisis. financial crisis. This leads to reduced cyclical uncertainty. Third, more inclusive finance may reflect improved monetary policy through which the goal of financial stability can be achieved.

2.3 Conceptual Framework

The conceptual framework for the relationship between financial inclusion, financial stability, and economic growth can be represented as follows;

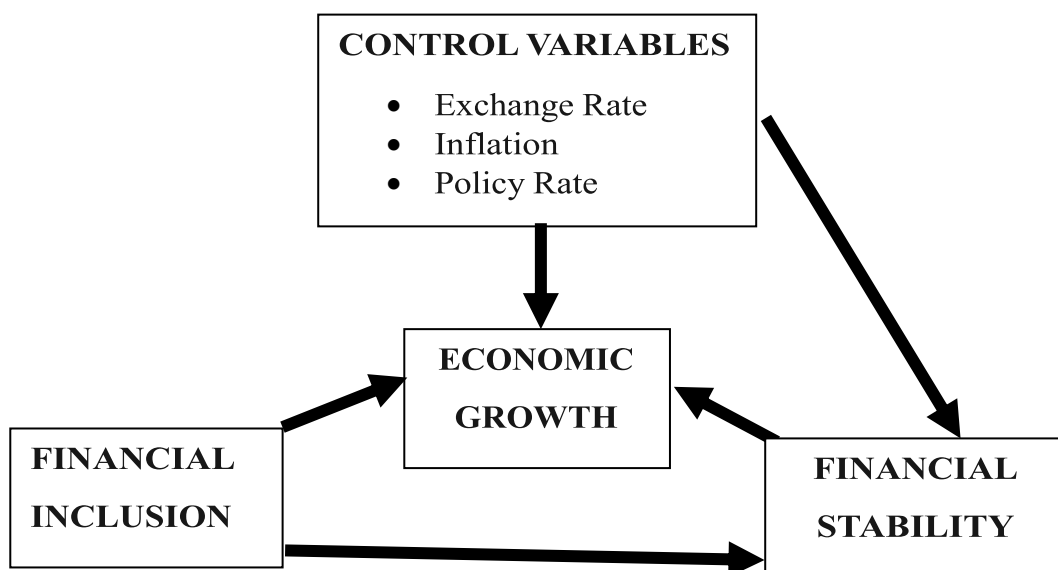


Figure 1: Conceptual Framework

Source: Author's Construct

Financial inclusion can have a positive effect on economic growth by increasing access to credit, reducing transaction costs, and promoting entrepreneurship. The framework suggests that financial inclusion can contribute to financial stability, which in turn can contribute to economic growth. However, it also recognizes that financial inclusion can contribute to financial instability if not properly regulated and supervised. The conceptual framework can be further elaborated by including intermediate variables. For example, financial inclusion can be broken down into specific components, such as access to credit, access to insurance, and access to investment opportunities. Similarly, financial stability can be broken down into specific components, such as the stability of individual financial institutions and the stability of the broader financial system.

Financial inclusion is the process of ensuring that everyone has access to a range of affordable and quality financial services, such as bank accounts, loans, savings, insurance, and payments. Financial inclusion can enhance the efficiency and effectiveness of the financial system, which can in turn facilitate economic growth and

financial stability. Economic growth is the increase in the production and consumption of goods and services in a country over time. Economic growth is usually measured by the growth rate of gross domestic product (GDP), which is the total value of all final goods and services produced in a country in a given period. Policy rate is the interest rate that the central bank sets and charges on the loans it provides to commercial banks and other financial institutions. Policy rate can affect the cost and availability of credit in the economy, as well as the money supply and the inflation rate. Policy rate can also signal the stance and direction of the monetary policy of the central bank, as well as influence the expectations and behavior of economic agents. Inflation is the general and sustained increase in the prices of goods and services in a country over time. Inflation can affect the purchasing power and real income of the population, as well as the profitability and competitiveness of firms. Inflation can also erode the value and return of money and financial assets, as well as distort the relative prices and allocation of resources in the economy. Exchange rate can affect the economic growth and financial stability through various channels, such as the trade channel, the balance sheet channel, the monetary policy channel, and the expectations channel.

Inflation can affect the economic growth and financial stability through various channels, such as the income distribution channel, the relative price channel, the uncertainty channel, and the nominal anchor channel. For example, a high and volatile inflation rate can reduce the real income and the purchasing power of the population, worsening the income distribution and the welfare of the economy. It can also distort the relative prices and the allocation of resources, reducing the efficiency and the productivity of the economy. Moreover, it can increase the uncertainty and the risk premium, affecting the consumption and investment decisions and the financial stability of the economy.

Therefore, the conceptual framework can be summarized as follows: financial inclusion, economic growth and financial stability, exchange rate, policy rate and inflation. This framework implies that financial inclusion can have a positive and significant impact on economic growth and financial stability, as well as on other dimensions of development, such as poverty reduction, inequality reduction, and social inclusion. However, the magnitude and direction of this impact may depend on various factors, such as the level of economic development, the quality of institutions, the degree of financial regulation, and the type and design of financial services

2.4 Summary

The empirical review suggests that the relationship between financial inclusion, financial stability, and economic growth is complex and dependent on the level of development of the financial system. Theoretical review highlights that financial inclusion can promote economic growth by increasing access to credit, reducing transaction costs, and promoting entrepreneurship, while financial stability is necessary for economic growth. The conceptual framework illustrates the relationship between financial inclusion, financial stability, and economic growth, emphasizing the need for careful policy balance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This section presents the methods that the researcher used in executing the study by discussing the research design, population, sample and sampling technique. It also discussed the sources of data collection, variables used, the panel regression model and the data analysis plan.

3.1 Research design

Burns & Grove (2003) defines a research design as a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings. In recent years, policymakers and researchers have become interested in the connection between financial inclusion and economic growth. The provision of financial services to people and enterprises that are not currently a part of the formal financial system is known as financial inclusion. Contrarily, economic growth describes the gradual rise in a country's output of commodities and services. Financial inclusion and economic expansion have a complicated and varied relationship. With an emphasis on the moderating function of financial stability in Africa, this paper contends that an explanatory research methodology is the most appropriate approach for examining the relationship between financial inclusion and economic growth.

An explanation of the link between two or more variables is the goal of an explanatory research design. Financial inclusion, economic growth, and financial stability are the key factors here. The best approach for examining the connection between financial inclusion and economic growth is an explanation-based research design, which enables researchers to explain the association between the two variables. This is significant

because it helps policymakers comprehend the elements that promote financial inclusion and economic prosperity. Investigating the moderating effect of financial stability in the relationship between financial inclusion and economic growth is also a good use of the explanatory study design. The ability of the financial system to endure shocks and continue operating is referred to as financial stability. Financial stability is a crucial factor in fostering economic growth because it makes it possible for people and businesses to access credit and other financial services. Using an explanatory study approach, researchers can examine how much financial stability influences the link between financial inclusion and economic growth. This is significant because it helps policymakers comprehend the elements contributing to financial inclusion and economic growth while considering the significance of financial stability.

3.2 Population

The population for the study includes the Sub-Saharan African countries, which had a complete data set from 2012 to 2022. Against this backdrop, the study population was twenty (20) Sub-Saharan African countries. This is the most recent and relevant period for analysing financial inclusion, financial stability, and economic growth.

3.3 Sampling techniques

The study used a simple random sampling technique to select the sample countries based on these criteria the availability and quality of data on financial inclusion, financial stability, and economic growth, the level of economic development and financial development and the geographic and regional diversity. The study aimed to include at least 20 countries from different income and regional groups in the sample.

3.4 Data Collection

The study used secondary data from various sources including the World Bank and the International Monetary Fund (IMF). The data was collected for a period for a ten years period from 2012 to 2022. Through its Financial Global Findex (FGF) and Financial Access Survey (FAS) databases, the World Bank and the IMF, respectively, gather information on financial inclusion. These databases include data on the degree of financial inclusion in various nations, including the population's financial literacy level, the types of financial services accessible, and the number of people with access to financial services.

Furthermore, the World Bank and IMF gather information on financial stability and economic development, all of which are crucial markers of how financial inclusion affects the economy. Gross domestic product (GDP) variations are commonly used to gauge economic growth, whereas indices of financial stability include the amount of non-performing loans, bank capital adequacy ratios, and the level of systemic risk in the financial system.

3.5 Model estimation

The study used a panel data analysis approach to examine the relationship between financial inclusion, financial stability, and economic growth across a sample of countries over a period of time. The study constructed a composite index of financial inclusion based on various indicators of availability, penetration, and usage of formal financial services by individuals and firms, following the method of Vo et al. (2023). The study measured financial stability by using the z-score, which is the ratio of the return on assets plus the capital-to-asset ratio to the standard deviation of the return on assets, following the method of Cevik & Teksoz (2017). It will measure economic

growth by using the real GDP per capita growth rate as the dependent variable. The study used a robust least square estimator to account for the potential endogeneity and reverse causality between the variables, following the method of Ifediora et al. (2022). The study included other control variables that may affect economic growth, such as inflation, trade openness, government expenditure, human capital, and institutional quality, following the literature on growth determinants. The study tested the moderating effect of financial stability on the relationship between financial inclusion and economic growth by including an interaction term between financial inclusion and financial stability in the regression model. The study conducted various robustness checks to test the sensitivity of the results to different measures of financial inclusion, financial stability, and economic growth, as well as different estimation methods and sample periods.

3.6 Econometric Model

An econometric panel regression model for the objective of “the effect of financial inclusion and economic growth”, taking into consideration other factors. The model is as follows:

$$EG_{it} = \beta_0 + \beta_1 FIN_{it} + \beta_2 EXR_{it} + \beta_3 INF_{it} + \beta_4 PR_{it} + \varepsilon_{it} \dots \dots \dots (1)$$

Where: EG_{it} = Economic growth in country i at time t

FIN_{it} = Financial inclusion in country i at time t

EXR_{it} = Exchange rate in country i

at time t PR_{it} = Policy Rate in

country i at time t ε_{it} = Error term

The model includes financial inclusion as an independent variable and control variables to account for other factors that may influence economic growth. The control variables

include factors thus inflation, exchange rate and policy rate. To estimate this model using panel data, the fixed effects or random effects estimator will be used. The fixed effects estimator accounts for unobserved heterogeneity across countries, while the random effects estimator assumes that the unobserved heterogeneity is random and uncorrelated with the independent variables. The model was estimated using statistical software such as Stata. The results of the estimation provided information on the significance and magnitude of the coefficients, as well as the overall fit of the model. This information was used to draw conclusions about the relationship between financial inclusion and economic growth, and the impact of control variables on this relationship. Additionally, the generalized method of moments (GMM) estimator, was used to account for endogeneity and other issues that may arise in panel data analysis.

3.6.1 Estimated Model For Financial Inclusion And Financial Stability

The conceptual framework that illustrates the interaction between financial inclusion and financial stability and motivates our empirical formalization is based on Cihak et al. (2016). If it is true that financial policymakers attach particular importance to financial inclusion and financial stability as they represent the expected outcomes of their policies, they could, however, miss important aspects by ignoring their interaction. Based on previous empirical investigations and variable selection (Boachie et al., 2021; Wang & Luo, 2022, among others), we develop our baseline model which takes the form:

$$FS_{it} = \beta_0 + \beta_1 FIN_{it} + \beta_2 EXR_{it} + \beta_3 INF_{it} + \beta_4 PR_{it} + \varepsilon \dots \dots \dots (2)$$

Where:

FS_{it} = Financial stability in country i at time t

FIN_{it} = Financial inclusion in country i at time t

PR_{it}= Policy Rate in country i at
 time t EXR_{it} = Exchange rate in
 country i at time t ε_{it} = Error term

The model includes financial inclusion as an independent variable and control variables (X_{it}) to account for other factors that may influence financial stability.

3.6.2 Estimated Model For The Objective The Effect Of Financial Inclusion And Economic Growth Using Financial Stability As A Moderating Variable.

The research model is a dynamic panel data model with the following specification:

$$EG_{it} = \beta_0 + \beta_1FS_{it} + \beta_2FS_{it} + \beta_3FIN_{it} + \beta_4IN_{it} + \beta_5EXR_{it} + \beta_6PR_{it} + \epsilon_{it}.....(3)$$

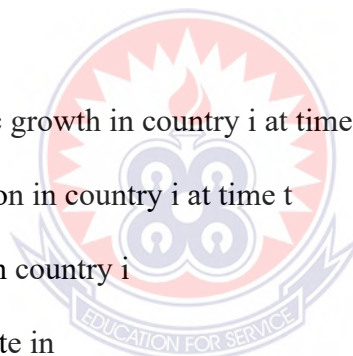
Where: EG_{it} = Economic growth in country i at time t

FIN_{it} = Financial inclusion in country i at time t

EXR_{it} = Exchange rate in country i

at time t PR_{it}= Policy Rate in

country i at time t ε_{it} = Error term



The research method is the generalized method of moments (GMM) estimation, which is a suitable technique for dealing with endogeneity, heteroskedasticity, autocorrelation, and crosssectional dependence in panel data models. The GMM estimator uses instrumental variables that are orthogonal to the error term to obtain consistent and efficient estimates of the parameters.

3.7 Data Analysis

The data was analyzed using econometric techniques, specifically balanced panel data analysis. The data selected was screened using Microsoft excel and sampled countries were selected due to availability of data. The analysis was conducted with STATA.

3.8 Ethical Consideration

The study adhered with the ethical standards and guidelines for academic research, including neutrality, honesty, and transparency. There will be no plagiarism, fabrication, falsification, or distortion of results in the study, and all data and material used in the analysis was acknowledged and cited. The study ensured that the data and results are used solely for academic purposes and that the intellectual property rights and privacy of the data providers and the sample countries are respected. Any potential conflicts of interest or biases that might have an impact on the conduct or results of the study was disclosed.



CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Introduction

The purpose of this study was to investigate the impact of financial inclusion and financial stability on the economic growth of Africa with specific objectives to (i) investigate the effect of financial inclusion on economic growth, (ii) estimate the effect of financial inclusion on financial stability and (iii) ascertain the moderating role of financial stability in the relationship between financial inclusion and economic growth. This chapter is dedicated to addressing these objectives by employing the panel robust least square estimation technique (RLS) to analyse 12-year secondary data on financial inclusion indicators, financial stability indicators and economic growth as well as other macroeconomic variables such as inflation, exchange rate and policy rate from 20 African countries. The chapter begins by describing the profile of the collected data based on averages, deviations and shape. Furthermore, the chapter proceeds to present results on the correlations among the variables, the stationarity and the regression analysis. These results were discussed in great depth in the subsequent subsections of the chapter.

4.1 Descriptive Results

Table 4.1 presents the descriptive statistics of the variables used in this study, including GDP growth (GDPG), financial stability (FS), financial inclusion (FIN), exchange rate (EXR), inflation (IF), and policy rate (PR). The table provides a summary of the central tendency, dispersion, and shape of the distribution of each variable. As such, the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, Jarque-Bera, probability, and sum are reported for each variable.

Table 4. 1: Descriptive Statistics

	GDP	FS	FIN	EXR	IF	PR
Mean	2.686	15.294	0.152	6.445	4.033	18.209
Median	3.550	14.508	0.015	6.026	2.611	16.500
Maximum	86.827	37.201	0.915	22.619	59.220	30.00
Minimum	-54.011	0.909	0.002	0.343	-3.233	12.500
Std. Dev.	9.636	7.185	0.219	4.664	6.147	4.581
Skewness	-0.899	0.813	1.217	1.639	5.389	0.789
Kurtosis	32.016	3.150	2.990	6.157	42.323	2.411
Jarq-Bera	9613.502	30.357	67.371	235.594	18910.050	32.268
Prob	0.104	0.091	0.182	0.562	0.031	0.016
Sum	733.1585	4175.339	41.49214	1759.618	1100.898	4971.1
S. Sq. Dev.	25255.27	14040.73	12.99406	5915.937	10276.59	5708.187
Obs	240	240	240	240	240	240

Source: Fieldwork (2023)

As indicated in Table 4.1, GDPG was found to report a mean value of 2.686 with a median score of 3.550, which is higher than the mean, suggesting that the distribution of GDP is moderately skewed to the left. This distribution is further validated by the skewness score of -0.899. The mean value of GDPG suggests that the average growth rate of GDP in Africa is 2.686 percent.

However, due to the high standard deviation of 9.636 and the wider gap between the minimum (-54.011) and maximum (86.827) scores, it is difficult to assert that the mean score represents the true standing of Africa as far as GDPG is concerned. This result is indicative of the fact that whereas many other countries grapple with decreasing growth rate in GDP, many others are recording substantially high GDP growth. From the distribution shape point of view, the data on GDPG recorded a thickened-tailed and peaked distribution as evidenced by the kurtosis score of 32.016, far higher than the threshold score of 3. The result also provided sufficient evidence to assert that the data on GDPG is approximately normally distributed as the Jarque-Bera statistics recorded a score of 9613.502 with a p-value of 0.104.

Additionally, financial stability also recorded a mean score of 15.294 with a median score of 14.508, indicating that the data is moderately skewed to the right. This result is supported by the positive skewness score of 0.813. The results also exhibited a maximum stability score of 37.201 and a minimum score of 0.909 with a standard deviation of 7.185, indicating a wide spread in the stability data set. It was also found that the data on bank stability is approximately normally distributed, having reported a Jarque-Bera statistic of 30.357 with a p-value of 0.091. It can also be reliably asserted that the financial stability dataset has a flattened-tailed shape, indicating that the existence of extreme values is not probable. Financial inclusion also recorded a mean score of 0.152 with a median score of 0.015, suggesting a moderately positively skewed distribution. This variable also reports a maximum score of 0.915 and a minimum score of 0.002, indicating a wide range in the dataset, a scenario well validated by the high standard deviation score of 0.219. The dataset on financial inclusion also recorded an approximately normal distribution.

The descriptive results also supported high exchange rate regimes in the subregion over the past decade as evidenced by the mean exchange rate of 6.445 with a median rate of 6.026, reaching a peak of 22.619. The fact that the mean score slightly outweighs the median score suggests an approximately symmetrical distribution. The result, however, reveals a thickened-tailed and peaked distribution, supporting a high probability of the presence of extreme values. The high exchange rates witnessed over the past decade is obviously not good news for Africa as it brings to the fore the debilitating currency depreciation of African countries over the years under review, ultimately worsening the living standards of the citizens.

It is, therefore, not surprising to have an inflation record as high as 59.22 percent over the years among the countries in the subregion, having witnessed the rising exchange rates within the same period. The result also exhibits a thickened-tailed and positively skewed distribution for inflation rate, having observed its kurtosis score of 42.323 and a skewness score of 5.389.

It must also be admitted that policy rate over the years has been on the rise among African countries. This assertion is corroborated by its mean score of 18.209 with a median score of 16.500, reaching a peak of 30.00. The gap between the maximum score and the minimum score of 12.500 suggests and is widespread as evidenced by the high standard deviation score of 4.581. Even though the result does not support a normal distribution for the policy rate, it does not affect the reliability of the results since a robust regression such as a panel robust least squares estimation technique (RLS) was used, an estimation technique that normalizes data associated problems like normality.

4.2 Correlation Analysis

Table 4.2 presents the pairwise correlation matrix of the variables used in this study, including GDPG, FIN, FS, INF, EXR, and PR. The table provides a summary of the linear relationship between each pair of variables, and it measures the strength and direction of the correlation coefficient. The correlation coefficient ranges from -1 to +1, where -1 indicates a perfect negative correlation, +1 indicates a perfect positive correlation, and 0 indicates no correlation. A positive correlation means that as one variable increases, the other variable also increases, while a negative correlation means that as one variable increases, the other variable decreases.

One important consideration when interpreting the pairwise correlation coefficients is the presence of multicollinearity (Dormann et al., 2013; Elith et al., 2006).

Multicollinearity occurs when two or more independent variables in a regression model are highly correlated with each other, making it difficult to determine the individual effect of each variable on the dependent variable (Elith et al., 2006). In the presence of multicollinearity, the coefficients of the correlated variables may be unstable and have large standard errors, making it difficult to interpret their significance. According to Elith et al. (2006), a correlation coefficient between two explanatory variables of more than 0.85 indicates the presence of multicollinearity.

Table 4. 2: Pairwise Correlation

Variable	GDPG	FIN	FS	INF	EXR	PR
GDPG	1.000					
FIN	0.031**	1.000				
FS	0.121**	0.158**	1.000			
INF	-0.048***	-0.079*	-0.022**	1.000		
EXR	-0.056**	-0.148*	-0.011**	-0.422**	1.000	
PR	-0.200**	-0.045*	-0.127**	-0.090**	-0.063**	1.000

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Author's Construct

The pairwise correlation result reports a significant but weak positive correlation between GDP growth and financial inclusion ($r=0.031^{**}$), an indication that financial inclusion is essential in bolstering economic growth. Also, GDP growth was found to have a significant but weak positive relationship with financial stability ($r=0.121^{**}$), but a significant and weak negative association with inflation ($r=-0.048^{***}$), exchange rate ($r=-0.056^{**}$) and policy rate ($r=-0.200$). In similar fashion, whereas financial inclusion was reported to have a significant but weak positive correlation with financial stability ($r=0.158^{**}$), it exhibited a significant but weak relationship with inflation ($r=-0.079^*$), exchange rate ($r=-0.148^*$) and policy rate ($r=-0.045^*$). Financial stability of banks was also reported to have a significant but weak negative relationship with inflation ($r=-0.022^{**}$), exchange rate ($r=-0.011^{**}$) and policy rate ($r=-0.127^{**}$).

Inflation, however, exhibits a significant and relatively strong negative correlation with exchange rate($r=-0.422^{**}$) but recorded a weak negative relationship with policy rate($r=0.090^{**}$). Finally, exchange rate also recorded a negative but weak association with policy rate($r=-0.063^{**}$).

From the results, it is abundantly clear that there are no series issues of multicollinearity, considering the weak correlation between the pairs of the explanatory variables. The results, hence, suggest that the variables are relatively independent of each other, which is important for the validity of the regression analysis.

4.3 Stationarity Result

Table 4.3 presents the results of the stationarity test for the variables used in this study. The table provides a summary of the t-statistic, probability, and order of integration for each variable. The stationarity test is important in time series analysis because it tests whether the series is stationary or not. A stationary series has a constant mean and variance over time, and it is easier to model and forecast than a non-stationary series. A non-stationary series has a trend or a seasonal pattern, and it requires more complex models to capture the dynamics of the series. The stationarity test is conducted using the Augmented Dickey-Fuller (ADF) test, which tests the null hypothesis that the series has a unit root, against the alternative hypothesis that the series is stationary. The t-statistic measures the distance between the estimated parameter and the hypothesized value of zero, and it indicates the strength of the evidence against the null hypothesis. The probability value measures the level of significance of the test, and if it is less than 0.05, we reject the null hypothesis that the series has a unit root. The order of integration indicates the number of times the series needs to be differenced to become stationary.

If the order of integration is zero, the series is stationary, and if it is one, the series needs to be differenced once to become stationary.

Table 4.3a: Stationarity result at Level for PP and ADF tests

Variable	Intercept				Intercept and Trend			
	PP		ADF		PP		ADF	
	t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.
GDP	0.014	0.052*	0.014	0.011	0.000	0.007	-2.941	0.176
FIN	0.327	0.681	0.306	0.703	0.066	0.092	-3.952	0.035**
FS	0.733	0.273	0.733	0.281	0.330	0.600	-2.750	0.233
IF	0.149	0.570	0.149	0.626	0.380	0.388	-1.591	0.750
EXR	0.837	0.549	0.837	0.446	0.628	0.650	1.634	0.025
PR	0.756	0.476	0.724	0.225	0.192	1.000	-3.152	0.035**

Source: Author's construct

Table 4.3b: Stationarity result at first difference for PP and ADF tests

Variable	Intercept				Intercept and Trend			
	PP		ADF		PP		ADF	
	t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.	t-Statistic	Prob.
GDP	0.070	0.001***	0.0041	0.003**	0.006	0.001***	-4.631	0.011**
FIN	0.980	0.000***	0.0084	0.022**	0.001	0.001***	-4.608	0.012**
FS	0.302	0.029**	0.0102	0.051**	0.001	0.083*	-3.331	0.045**
IF	0.05	0.099*	0.0173	0.096*	0.001	0.062*	-4.347	0.0189**
EXR	0.031	0.013**	0.0316	0.053**	0.041	0.024**	2.342	0.002***
PR	0.091	0.050**	0.0103	0.5002	0.006	0.001***	-5.608	0.021**

Source: Author's construct

The results of the stationarity test as reported in Table 4.3 show that GDP growth, financial stability and inflation are stationary at the first level of integration, while financial inclusion, exchange rate and policy rate are stationary at the zero level of integration. For instance, the t-statistics for GDPG, FS and PR at first difference are -4.6307, -3.331 and -4.347 with p-values less than 0.05, providing sufficient evidence to reject the null hypothesis of a unit root. This result indicates that GDPG, FS and PR need to be differenced once to become stationary. Also, financial inclusion, exchange rate and policy reported t-statistics of 0.0345, 0.0251 and 0.0345 with p-values less than

0.05 at zero level of integration. As a confirmatory test, the study tested the unit root of the variables through the Phillip-Perron test which test the null hypothesis that there is unit root in the variable and is rejected at 5%. Through testing at the level with intercept and intercept with the trend, the results are presented in Table 4.3. The PP test at the level for intercept and intercept with trend shows that only GDP was stationary since it recorded a p-value less than 0.05. This led to testing at first difference where all the variables recorded p-values less than the acceptable threshold of 0.05, based on these results the study reject the null hypothesis and concluded that the variables are without unit root. This means that there is stability in the variables under discussion in the years.

4.4 Regression results

This section provides a comprehensive interpretation of the Panel Robust Least Square (RLS) estimation for each of the research objectives, and exhibits sufficient evidence which informs relevant decisions on the proposed research questions. These interpretations are presented under subsections 4.5.1, 4.5.2 and 4.5.3.

4.4.1 Effect of Financial Inclusion on Economic Growth

Table 4.4 presents the results of the regression analysis of the impact of financial inclusion on economic growth. The table provides a summary of the coefficient, standard error, z-statistic, and probability value for each variable, as well as the robust statistics, including R-squared, adjusted R-squared, Rw-squared, adjusted Rw-squared, Akaike info criterion, Schwarz criterion, deviance, scale, Rn-squared statistic, and probability of Rn-squared statistic. The regression analysis is important in this study because it tests the hypothesis that financial inclusion has a significant impact on economic growth.

Table 4. 4:Effect of Financial Inclusion on Economic Growth

Variable	Coefficient	Std. Error	z-Statistic	Prob.
FIN	0.205	0.038	5.395	0.000***
PR	-0.051	0.021	-2.410	0.035**
INF	-0.139	0.041	-3.398	0.041**
EXR	-0.028	0.009	-3.111	0.026**
C	0.091	0.037	2.450	0.047**
Robust Statistics				
R-squared	0.711	Adjusted R-squared	0.698	
Rw-squared	0.688	Adjust Rw-squared	0.612	
Akaike info criterion	156.064	Schwarz criterion	181.422	
Deviance	0.121	Scale	0.029	
Rn-squared statistic	60.493	Prob (Rn-squared stat.)	0.000	

Note: *** p<0.01, ** p<0.05, * p<0.1

Source: Author's Construct

The robust panel least squares (RLS) result as shown in Table 4.4 indicates that financial inclusion reports a beta coefficient of 0.205 with a p-value of 0.000. Since the result adduces sufficient evidence to reject the null hypothesis(H_{01}), conclusion is made that financial inclusion significantly and positively predicts economic growth. This result suggests that if an enabling environment capable of ensuring availability, accessibility, penetration and massive usage of financial services is created in a country, it will inure to the benefit of the country through economic growth. The results also suggest that all the macroeconomic variables such as policy rate ($\beta=-0.051$, p-value=0.035), inflation ($\beta=-0.139$, p-value=0.041) and exchange rate ($\beta=-$

0.028, p-value=0.026) significantly and negatively predict economic growth.

The results provide sufficient evidence to assert that the model possesses a strong explanatory power as reflected by the adjusted R-squared of 0.698. This result suggests that 69.8% of the variation in the economic growth of countries can significantly be explained by changes in the explanatory variables financial inclusion and the macroeconomic variables (PR, INF, EXR). This is further validated by the adjusted Rw-

squared of 0.612 which indicates that the independent variables explain 61.2.% of the variation in economic growth, after adjusting for the robustness of the model and the independent variables. The adjusted R²-squared is a robust version of the adjusted R-squared that is less sensitive to outliers and influential observations. The Akaike info criterion (AIC) and Schwarz criterion (SC) are measures of the goodness of fit of the model that adjust for the number of independent variables. The AIC for this model is 156.064, and the SC is 181.422, which indicates that the model has a good fit and is parsimonious. The deviance measures the difference between the observed values and the predicted values of the dependent variable. The deviance for this model is 0.121, which indicates that the model has a good fit and is accurate. The scale measures the variance of the error term in the model. The scale for this model is 0.029, which indicates that the error term has a small variance and the model is precise.

4.4.2 Effect of financial inclusion on financial stability

The robust least square estimation results as contained in Table 4.5 shows the impact of financial inclusion on financial stability among 20 African countries. The table provides a summary of the coefficient, standard error, z-statistic, and probability value for each variable, as well as the robust statistics, including adjusted R-squared, R²-squared, adjusted R²-squared, Akaike info criterion, Schwarz criterion, deviance, scale, R²-squared statistic, and probability of R²-squared statistic. The regression analysis is important in this study because it tests the hypothesis that financial inclusion and financial stability have a significant impact on economic growth.

Table 4. 5: Effect of financial inclusion on financial stability

Variable	Coefficient	Std. Error	z-Statistic	Prob.
FS	0.095	0.021	4.524	0.002***
PR	-0.051	0.021	-2.410	0.035**
INF	-0.139	0.041	-3.398	0.041**
EXR	-0.028	0.009	-3.111	0.026**
C	0.091	0.037	2.450	0.047**
Robust Statistics				
R-squared	0.720	Adjusted R-squared	0.701	
Rw-squared	0.699	Adjust Rw-squared	0.613	
Akaike info criterion	156.064	Schwarz criterion	181.422	
Deviance	0.121	Scale	0.029	
Rn-squared statistic	60.493	Prob (Rn-squared stat.)	0.000	

Note: *** p<0.01, ** p<0.05, * p<0.1

Source: Author's Construct

As shown in Table 4.5, financial stability was also discovered to have a significant and positive impact on financial inclusion of countries ($\beta=0.095$, p-value=0.002), suggesting the rejection of the null hypothesis (H_{02}). This result suggests that achieving financial stability is crucial for creating an environment conducive for sustained financial inclusion in Africa.

It is evident from the table that financial stability, coupled with the other control variables, combine to explain the variations in financial inclusion significantly and substantially. This claim is validated by the adjusted R-squared statistic of 0.701, which suggests the model's high explanatory power.

4.4.3 The moderating role of financial stability in the relationship between financial inclusion and economic growth.

Table 4.6 presents the result of the panel robust least squares estimation on the moderating effect of financial stability on the financial inclusion-economic growth

relationship. The table presents, *inter alia*, the beta coefficients and p-values as well as the robust statistics including Adjusted R-squared.

Table 4. 6: The moderating role of financial stability in the financial inclusion-economic growth nexus

Variable	Coefficient	Std. Error	z-Statistic	Prob.
FS*FIN	0.066	0.015	5.077	0.003***
PR	-0.051	0.021	-2.410	0.035**
INF	-0.139	0.041	-3.398	0.041**
EXR	-0.028	0.009	-3.111	0.026**
C	0.091	0.037	2.450	0.047**
Robust Statistics				
R-squared	0.749	Adjusted R-squared	0.714	
Rw-squared	0.652	Adjust Rw-squared	0.632	
Akaike info criterion	156.064	Schwarz criterion	181.422	
Deviance	0.121	Scale	0.029	
Rn-squared statistic	60.493	Prob (Rn-squared stat.)	0.000	

Source: Author's Construct Note: *** p<0.01, ** p<0.05, * p<0.1

Consistent with intuition and anecdote, financial stability was found to have a significant and positive moderating effect on the relationship between financial inclusion and economic growth ($\beta=0.066$, p-value=0.003). This result suggests that the presence of financial stability is essential to solidifying the effect of financial inclusion on economic growth and countries. The result suggests the rejection of the null hypothesis(H_{03}). It was also found that the model possesses a high explanatory power as supported by the adjusted R-square statistic of 0.714.

4.5 Discussion of Results

This section provides, in great depth, the discussion on each of the research objectives, offering anecdotal, theoretical and empirical justifications on the results. These discussions are presented under subsections 4.6.1, 4.6.2 and 4.6.3.

4.5.1 The effect of financial inclusion on economic growth

The result of the panel robust least square estimation (RLS) evinces that financial inclusion which is a composite index of accessibility, penetration and usage of financial services, has a significant and positive effect on the economic growth of African countries. Financial inclusion can play a crucial role in positively impacting economic growth in Africa. This relationship is multifaceted and can be justified on several grounds, combining theoretical insights and empirical evidence.

To begin with, the classical theory of economic growth, emphasizes factors such as capital accumulation, technological progress, and labour force participation in driving economic growth (Harris, 2007; Bulina et al., 2020). Financial inclusion plays a pivotal role in this framework by facilitating capital accumulation and improving productivity through the efficient allocation of resources. For instance, financial inclusion enables individuals and businesses to access savings and credit facilities (Cicchello et al., 2021). This, in turn, promotes capital accumulation, as people can invest in education, entrepreneurship, and infrastructure. Of course, increased capital stock contributes to higher productivity and economic growth (Herd, 2020).

More so, access to financial services allows businesses to invest in modern technologies and improve efficiency. This leads to increased productivity, as businesses can adopt better production methods and expand their operations, contributing to overall economic growth.

Vulnerability theory views the economy as a complex and interconnected system, where the functioning of one part affects the entire system (Bertalanffy, 1968). Financial inclusion, within the context of vulnerability theory, can be seen as a mechanism for reducing systemic inefficiencies and enhancing the overall economic system. For

instance, financial inclusion helps in the efficient allocation of resources by connecting savers with borrowers and facilitating investment in productive activities (Cicchello et al., 2021). This results in a more efficient use of resources within the economic system, leading to higher economic output. Additionally, access to financial services reduces information asymmetry in the market. By providing financial data and transaction history, individuals and businesses become more transparent to lenders, fostering trust and reducing the risk associated with lending. This, in turn, encourages investment and economic activities.

Furthermore, vulnerable group theory focuses on the inclusion of marginalized and disadvantaged populations in the economic development process (Macioce, 2022; Kohn, 2014). Financial inclusion can positively impact vulnerable groups, such as women and rural communities, by providing them with opportunities for economic participation. Financial inclusion, therefore, empowers marginalized groups by providing them with access to credit and savings. This enables women and other vulnerable populations to start and expand businesses, ultimately contributing to economic growth. It is worth noting that by including vulnerable groups in the financial system, financial inclusion becomes a powerful tool for poverty alleviation. When the poor have access to financial services, they can better manage risks, save, and invest, breaking the cycle of poverty and contributing to overall economic development. It is imperative to note that SMEs are considered engines of economic growth. Financial inclusion supports the growth of these enterprises by providing them with the necessary capital for expansion and innovation, which ultimately bolsters economic growth. Literature reveals that African countries that have successfully implemented financial inclusion initiatives have experienced increased technology adoption in various sectors

(Chima et al., 2021). Mobile banking, for instance, has facilitated financial transactions, reduced inefficiencies and promoted economic activities.

Additionally, a significant portion of Africa's population relies on agriculture for their livelihoods. Financial inclusion plays a pivotal role in this sector by providing farmers with access to credit for seeds, fertilizers, and modern farming equipment. More so, insurance products accessible through financial inclusion mitigate risks associated with unpredictable weather patterns and crop failures. The resulting increase in agricultural productivity not only ensures food security but also contributes to economic growth by creating a surplus for trade and export. In the same vein, financial inclusion also promotes a culture of saving and responsible borrowing among individuals. As more people gain access to banking services, they are better equipped to manage their finances. This leads to increased consumer confidence and spending, driving demand for goods and services. The resultant boost in economic activity has a positive ripple effect on various sectors, from retail to manufacturing, ultimately contributing to overall economic growth. Essentially, a robust and inclusive financial sector is a key indicator of a country's economic stability. Nations with well-functioning financial systems are more likely to attract foreign direct investment (Islam et al., 2020). Financial inclusion signals to investors that a country is committed to creating an environment conducive to economic growth (Nwosa & Emma-Ebere, 2017). This increased investment can lead to the development of infrastructure, industries, and services, fostering long-term economic development.

The finding of this study lends support to several empirical studies (Kim & Hassan, 2018; Sethi

& Acharya, 2018; Sharma, 2016; Iqbal & Sami, 2017; Ozili, 2021; Cicchiello et al., 2021; Omar

& Inaba, 2020; Babajide et al., 2015; Uruakpa et al., 2019; Chima et al., 2021; Mushtaq & Bruneau, 2019; Neaime & Gaysset, 2018; Omar & Inaba, 2020)

For instance, Kim and Hassan (2018) in an attempt to investigate the relationship between financial inclusion and economic growth among 55 Organization of Islamic Cooperation (OIC) countries, employed panel regression estimation techniques and found that financial inclusion is a significant predictor of economic growth. This result is further validated by Sethi & Acharya (2018) who investigated these dynamics in Nigeria and Sharma (2016) who explored this phenomenon in the emerging Indian economy. According to Sharma (2016), financial inclusion plays a key role in developing a strong and efficient financial infrastructure, which facilitates the growth of an economy and a suggestion was made to policymakers to look forward to maintaining a sustainable-inclusive-developed economic system in an emerging economy like India. In the same vein, Iqbal & Sami (2017) also supported the potency of financial inclusion in impacting economic growth as it was found that an increase in bank branches and credit deposit ratio positively impacted economic growth in the Indian economy. Babajide et al. (2015) also provided an empirical lens to this finding from the perspective of Nigeria by evincing that financial inclusion is a significant determinant of a total factor of production as well as capital per worker. Consistent with Babajide et al. (2015), Uruakpa et al. (2019) found that Deposits from rural branches of commercial banks and ATM transactions significantly and positively impacted economic growth in Nigeria. However, loans to rural branches of commercial banks exert a negative but insignificant effect on economic growth. It was, thus, recommended

that rural branches of commercial banks should fashion out more innovative ways of attracting deposits from rural dwellers while also encouraging them to keep making effective use of ATM cards in some of their transactions. The rural branches of commercial banks were also encouraged to monitor closely and effectively, their loans in order to ensure that the funds are not misapplied or diverted. By exploring the dynamics within Sub-Saharan Africa, Chima et al. (2021) discovered that financial inclusiveness significantly predicts sustainable economic growth and recommend that programs with the plan of comprehensive financing ought to be custom-fitted to the agricultural segment of the economy to encourage more economic opportunities for development in a sustainable manner. With an empirical focus on some 62 countries across the world, Mushtaq and Bruneau (2019) alluded to the fact that leveraging ICT could foster financial inclusiveness which could ultimately reduce poverty and inequality, evidence validated by Omar and Inaba, (2020). Mushtaq and Bruneau's (2019) paper provides strong support for this study since poverty reduction and bridging inequality gaps are strong signals for economic fortunes. Whereas Neaime & Gaysset (2018) found evidence in support of the financial inclusiveness' propensity to bridge the inequality gap, it found no significant evidence for its ability to reduce poverty.

Contrastingly, Mader (2018) vehemently opposed the findings by asserting that high expectations of financial inclusion serving as a core pro-poor, private-sector-led development intervention lack justification. This assertion is informed by his opposition to the argument that financial inclusion facilitates broader development outcomes, poor people gain poverty alleviation through financial inclusion, and that financial inclusion is good business. The study, thus, suggests that financial inclusion should rather be recognized as a contested and contestable enterprise.

4.5.2 The effect of financial inclusion on financial stability

The result also demonstrated that financial stability is a significant predictor of economic growth of African countries as evidenced by a positive and significant beta coefficient. Achieving financial stability is crucial for creating an environment conducive to sustained economic growth in Africa. This is because financial stability provides confidence to investors and encourages long-term investment (Lebdaoui & Wild, 2016). According to economic theories, a stable financial system fosters capital formation, leading to increased investment in productive sectors (Harris, 2007). Countries that have achieved financial stability through prudent regulatory frameworks and effective supervision have experienced higher levels of domestic and foreign investment (Islam et al., 2020). Foreign investors are attracted to financially stable environments due to reduced uncertainty and risks. This influx of foreign capital contributes to economic growth. Countries that prioritize financial stability often attract more FDI, leading to increased capital inflows, technology transfer, and job creation (Nwosa & Emma-Ebere, 2017).

Stable financial conditions encourage businesses to invest in expansion, research, and innovation, contributing significantly to economic growth. Also, financial stability is associated with efficient resource allocation. In a stable financial environment, capital is allocated to its most productive uses, enhancing overall economic efficiency. Financially stable markets help direct capital to sectors with high growth potential, reducing misallocation and fostering economic efficiency. More so, a stable financial system promotes effective bank intermediation, ensuring that financial institutions can provide credit to individuals and businesses (Narmeen et al., 2018). This is fundamental to economic growth as it facilitates investment and consumption.

Financially stable economies often exhibit higher levels of bank lending (Narmeen et al., 2018). This access to credit, especially for small and medium-sized enterprises, stimulates economic activities, leading to job creation and increased productivity. Financial stability helps mitigate systemic risks and shields the economy from severe economic shocks. This is critical for maintaining economic resilience and sustainability. Consistent with intuition, nations that have established robust financial regulatory frameworks and effective risk management mechanisms are better equipped to withstand economic downturns. Financial stability acts as a buffer against external shocks, ensuring a more resilient and adaptive economic system.

The extant literature agrees with the findings of this study (Creel et al., 2015; Bosma et al., 2018; Lebdaoui & Wild, 2016; Law et al., 2018; Caporale et al., 2015) For instance, Creel et al., 2015, by focusing on assessing the impact of financial stability on economic performance in the European Union and adopting Beck and Levine's (2004) seminal framework found significant evidence in support of the fact that financial instability has a negative impact on economic performance. The finding of Lebdaoui & Wild (2016) also aligns with the current study as they discovered that economic growth is significantly predicted by Islamic banking presence among Southeast Asian countries. The study further espouses that Sharia-compliant banks succeeded in mobilizing additional resources for the financial sector, which may increase the stability of the banking system and the efficiency of the whole banking sector. Additionally, Law et al. (2018), in an attempt to investigate the impact of financial development on economic growth among a sample of 87 countries, discovered that resilient market-regulating, marketstabilizing, and market-creating institutions act as mediators to the financial market in facilitating growth. This result suggests that a stable and resilient financial system is a key driver of economic growth. Consistent with Law et al. (2018), Caporale

et al., (2015) discovered that a more efficient banking sector is found to have accelerated growth.

4.5.3 The moderating role of financial stability in the relationship between financial inclusion and economic growth

The findings also indicate that financial stability positively and significantly moderates the relationship between financial inclusion and economic growth. The relationship between financial inclusion and economic growth is undoubtedly positive, as financial inclusion enables a broader segment of the population to access and utilize financial services, fostering economic development. However, the extent and sustainability of this positive impact can be moderated by the level of financial stability within the economy. Financial stability acts as a crucial intermediary, influencing how effectively the benefits of financial inclusion translate into sustained economic growth (Ozili, 2021). Also, financial stability is essential for building trust in the financial system, and encouraging broader participation (van der Crujisen et al., 2023). As financial institutions stabilize, they become more inclusive, expanding access to financial services. Trust in the banking sector and reduced risks associated with financial transactions encourage individuals and businesses to participate actively in formal financial channels (van der Crujisen et al., 2016), promoting financial inclusion. Financial stability moderates the relationship by instilling confidence in the users of financial services. As inclusion efforts progress, stability ensures that consumers continue to trust and engage with the financial system, reinforcing the positive impact on economic growth.

Furthermore, financial stability involves mitigating systemic risks and ensuring the soundness of financial institutions. In the context of financial inclusion, stability helps

prevent imprudent lending practices and speculative bubbles, reducing the likelihood of financial crises that can undermine the positive effects of inclusion on economic growth. Financial stability acts as a check on the potential downsides of rapid financial inclusion. Promoting responsible lending and risk management ensures that the expansion of financial services does not lead to a surge in non-performing loans or systemic vulnerabilities that could derail economic growth (Caporale et al., 2015). Stable financial institutions are essential for the sustained provision of financial services. This is because financial stability safeguards the viability of banks and other financial intermediaries, ensuring their ability to support economic activities over the long term. While financial inclusion expands the customer base for financial institutions, stability ensures that these institutions remain robust and capable of fulfilling their role in supporting economic growth. As such, a stable financial sector is better positioned to handle increased demand for services without compromising its integrity.

Interestingly, financial stability involves maintaining a balance between promoting credit access and ensuring responsible lending (Claessens et al., 2013). This equilibrium is crucial to prevent over-indebtedness and the associated risks to financial institutions. In the context of financial inclusion, stability moderates the potential negative consequences of excessive credit expansion. It ensures that the extension of credit aligns with the financial capacity of borrowers, preventing a build-up of unsustainable debt that could lead to economic instability. Financial stability measures are designed to identify and mitigate systemic risks. As financial inclusion expands and diverse financial products are introduced, stability ensures that potential risks are managed effectively to prevent systemic shocks. Additionally, financial stability acts as a buffer against the potential downsides of rapid financial inclusion (Boldeanu & Tache, 2016).

It helps address challenges related to the quality of assets, market conduct, and regulatory compliance, moderating the overall impact on economic growth. Sustainable economic development requires a stable financial environment. Stability ensures that the positive effects of financial inclusion are not short-lived, fostering an environment where economic growth can be sustained over the long term.

Financial stability moderates the relationship by promoting a balanced and sustainable expansion of financial inclusion. By avoiding excessive risk-taking and ensuring the resilience of financial institutions, stability contributes to the durability of the positive impact of financial inclusion on economic growth. Even though there is a dearth of literature on the direct moderating role of financial stability in the relationship between financial inclusion and economic growth, a few studies provide evidence that indirectly alludes to this revelation. The novelty of this work, hence, derived from this perspective of the finding. For instance, a review conducted by Ozili (2021) reveals that financial inclusion affects, and is influenced by, the level of financial innovation, poverty levels, the stability of the financial sector, the state of the economy, financial literacy, and regulatory frameworks that differ across countries. This finding amplifies the significance of financial stability in strengthening the impact of financial inclusion on economic growth.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter of the study presents the summary of the results and findings ascertained from the various statistical tests conducted to assess the objectives of the study. The chapter also makes conclusions based on the findings recorded by the study. Finally, it presents recommendations based on the findings of the study and gives direction for further studies.

5.1 Summary of the study

The global economy has over the decade experienced some abrupt variations due to economic shocks. This has undoubtedly led to retardation in development in both developing and developed economies which has necessitated a call for countries to institute measures to bring back their economies on the development track. For countries to regain economic acceleration there is the need to pursue some economic policies that would promote economic advancement which includes ensuring a stable financial system, stronger currency, and promoting financial inclusion just to mention but a few. These are just conjectures within the public space with no worthwhile scholarly evidence confirming these assertions. This study aimed to contribute to the economic growth literature by specifically assessing the following objectives in some selected African countries to (i) examine the causal relationship between financial inclusion and economic growth, (ii) investigate the impact of financial stability on economic growth and (iii) examine the moderating role of financial stability in the relationship between financial inclusion and economic growth. To explore these

objectives the study reviewed extant literature and theories comprising the Classical Theory of Economic Growth, System Theory, and the

Vulnerable Group Theory to form the background of the study. The study used the causal research design and employed a quantitative approach. The census sampling technique was employed to select 20 countries with comprehensive data necessary for the study whilst the panel robust least square estimation technique was deployed to analyze the 12-year data collected from the 20 countries. The results recorded from the statistical tests are summarized based on the objectives in the next section of the study.

5.1.1 Relationship between financial inclusion and economic growth.

On the first objective, the study found that there is a positive and statistically significant relationship between financial inclusion and economic growth at a magnitude of 0.205 and significance of 0.000***. The recorded result implies that increasing financial inclusion leads to higher economic growth. The result is intuitional because when more people have access to financial services they can save, invest, and engage in economic activities which when sustained leads to economic growth. Also, the positive relationship correlates with the classical theory of growth in the sense that financial inclusion serves as a mechanism that complements the classical focus on capital accumulation by fostering efficiency, productivity, human capital development, and equitable distribution of economic opportunities.

5.1.2 Relationship between financial inclusion and financial stability.

Regarding objective two, the investigation discovered that financial stability has a significant positive association with financial stability revealing a coefficient of 0.095 and a p-value of 0.002*** which means an increase in the level of financial stability leads to a rise in the level of economic growth. The finding aligns with literature that

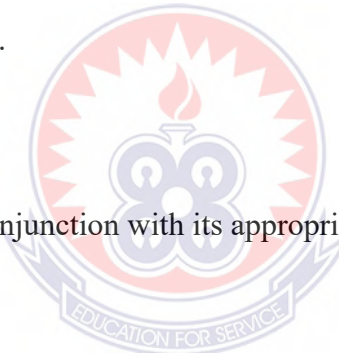
adduced evidence of a positive linkage between financial stability and financial stability. The result also intuitional and aligns with the classical economic growth theory because when there is stability in the financial system it promotes gross domestic product growth through higher investment in productive sectors.

5.1.3 Moderating role of financial stability in the financial inclusion-economic growth nexus.

On objective three, the inquiry revealed that financial stability positively and significantly moderates the relationship between financial inclusion and economic growth at a magnitude of 0.066 and a significance of 0.003***. The observed result connotes that a rise in financial stability increases the rate at which financial inclusion impacts economic growth.

5.2 Conclusion

The recorded results in conjunction with its appropriate interpretations necessitates the following conclusions.



5.2.1 Relationship between financial inclusion and economic growth.

Based on the positive association found between financial inclusion and economic growth, the study concludes that increasing the banked population makes more people economically active and pay taxes which increases revenue for developmental projects and accelerates economic advancement. Again, onboarding of chunk portion of the population gives them access to mainstream financial services and encourages savings which increases the lending capacity of financial institutions and capital accumulation for the productive sectors of the economy for higher production.

5.2.2 Relationship between financial inclusion and financial stability.

Owing to the positive relationship between financial stability and financial inclusion, the inquiry concludes that a sound and stable financial system encourages higher foreign and domestic investment which enhances the lending volume of financial institutions to businessmen to engage in the production of goods and services for domestic use and export and consequently facilitate economic development. Again, a stable financial system attracts multinational corporations to invest directly which leads to employment creation, the taxes paid by these firms and their employees raise revenue to finance developmental projects.

5.2.3 Moderating role of financial stability in the relationship between financial inclusion and economic growth.

Based on the positive moderating effect, the study concludes that stable financial system gives banks the edge to onboard more customers which gives them access to save and to borrow to engage in productive activities and in turn leads to gross domestic product growth. Again, the research concludes that a more stable financial system encourages banks to finance export trade which yields foreign earnings and promotes economic growth.

5.3 Recommendations

The findings recorded and the conclusions drawn above lead to the following recommendations.

5.3.1 Relationship between financial inclusion and economic growth.

To catalyze the positive impact of financial inclusion on economic growth in the studied countries, the study recommends that managers of financial institutions should pursue a financial inclusion drive to onboard more customers on their platform. Again, the

research implores banks to offer more incentives such as a reduction in the minimum deposit to lure new registrants to create and use bank account. Also, the inquiry implores financial institutions to invest heavily in agile technological infrastructure to effectively handle the looming customer boom. Moreover, the study recommends that financial institutions should pursue expansion strategies to increase their reach to unbanked territories in order to maximize their earnings in promoting economic growth. Furthermore, the investigation implores the government to improve the technological architecture or infrastructure of the country and reduce the heavy tax burden on financial institutions to give them room to invest more in agile technologies.

5.3.2 Relationship between financial inclusion and financial stability.

To encourage the positive effect of financial stability on financial inclusion, the analysis advises the regulatory body of the financial sector to institute pragmatic policies concerning minimum capital requirements for financial institutions such as automatic adjustment for minimum capital and reserves to make the sector more stable to encourage growth. Again, banks are advised to pay heed to regulations aimed at ensuring a stable financial system.

5.3.3 Moderating role of financial stability in the relationship between financial inclusion and economic growth.

In order to sustain the facilitating role of financial stability in the financial inclusion and economic growth nexus, the inquiry implores banks to ensure sound operations such as appropriate lending practices. For example, banks should not exceed their lending threshold to allow enough funds to cater for uncertainties.

5.4 Recommendation for further studies

The study implores future studies to explore the concepts in different economic blocs such as the Economic Community of West African State. Again, the concepts can also be explored on country level to unravel the narrative on country basis.



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