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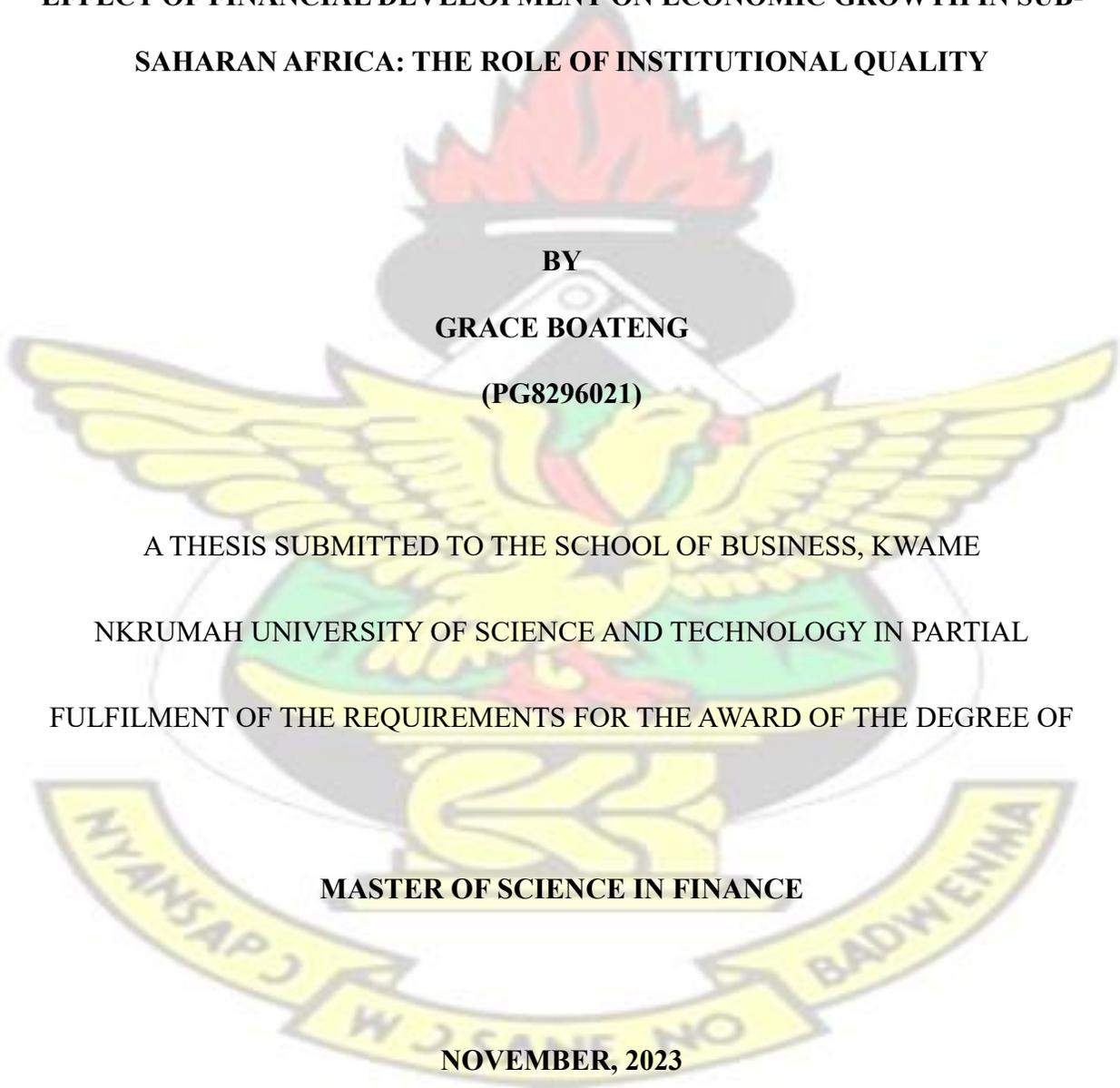
EFFECT OF FINANCIAL DEVELOPMENT ON ECONOMIC GROWTH IN SUB-SAHARAN AFRICA: THE ROLE OF INSTITUTIONAL QUALITY

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DECLARATION

I hereby declare that this submission is my work toward the award of the Master of Science in Finance and that to the best of my knowledge, it contains no material previously published by another person, nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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DEDICATION

I dedicate my thesis to the Almighty God for giving me the strength, good health and wisdom to conduct this research. I also dedicate this thesis to my parent who helped me and encouraged me to conduct this research. Their kind words and financial support motivated me to strive for the best.



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I thank the almighty Lord for the gift of life and strength throughout this study. I would like to express my sincere gratitude to my supervisor Dr. Kwame Mireku for his support, guidance, patience and above all his commitment and dedication throughout this study. To all my friends, Thank you for your unflinching support throughout my studies.



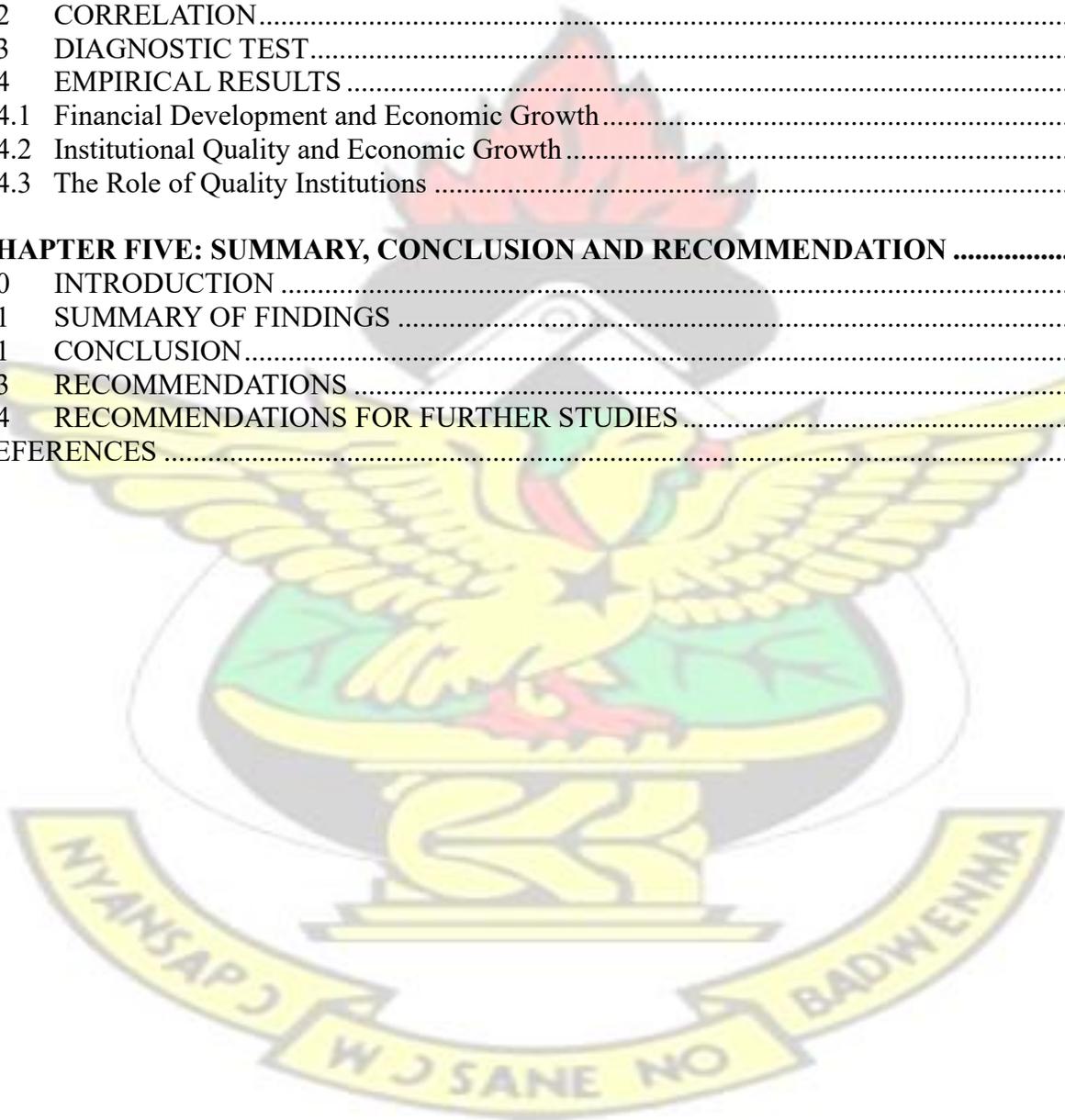
ABSTRACT

Recent literature focuses on the influence of institutions on economic development. Given this, a threshold analysis from other studies investigates the threshold level of financial development after which accommodation can be achieved. However, studies that apply the system GMM on the institutions on the finance-growth nexus are limited in SSA leading to a gap in SSA literature. This study investigates the direct effect of financial development on economic growth, and, further examines the effect of quality institutions in this relationship in 28 countries in SSA from 2010 to 2022. Using the system GMM, the study finds an inverse association between financial development and economic growth, highlighting the underdeveloped financial market in SSA countries which has not reached a point where it can foster economic growth. Moreover, the results show that a sound institutional environment promotes economic growth. Finally, the results reveal that given efficient institutional environments such as political stability, rule of law, regulatory quality and overall institutional quality index, financial development can promote economic growth. The results remain robust with a fixed effect estimator. Based on these findings, the study recommends governments and policymakers implement policies that strengthen the financial markets. For instance, frictions in the financial market such as asymmetry information must be avoided through regulations that support quality information and transparency which increases funding and investments in the financial market to support private sector development. In addition, government and policymakers must also implement sound institutions, particularly those that protect investors, encourage political stability, enhance sound policies and promote quality information in the financial market to achieve higher economic growth.

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LIST OF ABBREVIATIONS



ARDL	Autoregressive Distributed Lag
FI	Financial Development
GDP	Gross Domestic Product
PCA	Principal Component Analysis
FMOLS	Fully Modified Ordinary Least Square
IQI	Institutional Quality Index
GMM	Generalized Methods of Moments
IMF	International Monetary Fund
ECOWAS	Economic Communities of West African States
SSA	Sub-Saharan Africa
WGI	World Governance Index
WDI	World Development Indicators

CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND OF THE STUDY

Economic growth measures the size of a country's economy and the efficiency with which it provides economic, financial and social benefits to economic actors including households and firms (Mtar and Belazreg, 2023). On the other hand, financial development or finance refers to a comprehensive and sustainable improvement in the financial systems including the financial markets, regulation, banks and the effectiveness in providing financial access as well as the depth of the improvement (Jiaku et al., 2023). Finance is acknowledged to foster economic growth (Appiah et al., 2023), and efficient financial systems are crucial to economic development (Asante et al., 2023; Liu et al., 2022). However, the debate on whether finance is inseparable from growth is still ongoing and not yet resolved.

Following the pioneering work of Schumpeter (1911), and King and Levine (1993), who argue that finance and growth are indispensable, a plethora of studies document that finance leads to economic growth (see, e.g., Wang et al., 2021; Ahmed et al., 2021; Chen and Jiang, 2021; Appiah et al., 2023), through three channels which are efficient resource allocation, financial intermediation, and tangible assets ownership, as argued in the supply-leading hypotheses (Patrick, 1966). On the other hand, other studies support the demand-leading hypotheses that finance follows economic growth as developed economies efficiently supply resources to improve finance (Raihan, 2023; Song, et al., 2021; Ahmed et al., 2021).

Contemporary studies suggest that finance is not a sufficient condition for higher economic growth, but is augmented by structures and other fundamental factors (Nirola and Sahu, 2019; Forson et al., 2021; Urbano et al.,2019). With this, it is inferred that finance complements other fundamental structures to foster economic growth. As a result, Urbano et al., (2019) argue that in restructuring financial sectors and formulating reforms, consideration must be given to policies that encourage savings and provide discipline mechanisms in the financial market to protect investors. According to a report from the International Monetary Fund (IMF), over the years, Sub-Saharan African countries have initiated policies to achieve financial sector development and have made considerable progress (IMF, 2016). The reports further indicate that the average financial sector development in Sub-Saharan (SSA) has improved since 1995.

This region leads financial innovation services called M-Pesa in Kenya, Mobile Money in Ghana and other West and East African countries (Nirola and Sahu, 2019). The mobile financial innovation service has enhanced access to finance, especially in rural communities and has been associated with poverty reduction and financial inclusion (Asante et al., 2023). In addition, the number of rural and microfinance institutions has increased in this region, providing affordable and less cumbersome financial services to rural communities. The report further indicates the growth of foreign banks such as the Pan-African banks in several countries in SSA. The financial presence in these countries has improved economic and financial activities and made the financial sector more competitive.

This notwithstanding, annual GDP per capita data from World Development Indicators (WDI) look disappointing. For instance, over the past decades GDP per capita has witnessed an abysmal average performance of 2.56%, 0.86% and -0.87% from 1960 to 1970, 1970 to 1980 and 1980 to 1990, respectively (Bandura and Dzingirai, 2019). In addition, from 1990 to 2000 and 2000 to 2010 show a poor average of 2.65% and 0.875%, respectively (Bandura and Dzingirai, 2019). Compared to other regions such as Europe and Asia, the growth rate in Sub-Saharan is the lowest globally (Asante et al., 2023). Moreover, the growth rates in the SSA countries significantly differ from each other. For instance, while countries such as Ghana, South Africa, and Nigeria are on the growth verge, other countries such as Togo, Namibia, and Tanzania are struggling to maintain their lowest growth score.

The chronic poor economic growth in SSA is worrying. The inability of countries in Sub-Saharan Africa to achieve substantial growth in their economies, explains the level of poverty in the region. It was expected that financial systems would facilitate economic development through resource allocation and financial intermediation processes. However, the results are not as anticipated. It can be argued that, although the financial system has shown a massive improvement, it has not yet reached a point where it can stimulate economic development. This, in part, can be attributed to weak structures and economic fundamentals in the financial systems. Studies such as Forson et al., (2021) and Urbano et al., (2019) have argued that for finance to foster economic growth, there must be an efficient institutional and economic factor. Thus, this study introduces the country's institutional environment in the finance-growth nexus to assess whether finance and institutions are complementary on economic growth.

1.1 STATEMENT OF PROBLEM

Several empirical studies attribute the poor economic performance in SSA to high population, poor education, health, low investment and human resource development (see, e.g., Adeleye et al., 2022; Mohamed, et al., 2022; Osiobe, 2019; Olagunju et al., 2019), others (e.g., Asante et al., 2023; Bandura and Dzingirai, 2019) state that a weak institutional environment in SSA contributes to poor economic growth. They argue that strong institutions protect investors in the financial markets, control corruption, enhance sound policies, and increase market transparency and quality information which improves the credibility of financial markets and restores investors' confidence. As indicated by Asante et al., (2023), sound institutional policies influence organisational goals and strategies. Although financial development is necessary, sufficient economic growth and effective financial development, are achieved within a quality institutional environment. Therefore, sound policies that influence the efficiency of the financial market are important.

Given this argument, this study introduces institutions in the finance-led growth argument in SSA to augment the few studies in SSA (Asante et al., 2023, Bandura and Dzingirai, 2019). Although Asante et al. (2023) investigate the threshold and marginal level at which quality institutions influence the effect of finance on growth in SSA. However, this study is unique by using both the index of the six institutional quality indicators and the disaggregated institutional quality indicators (rule of law, political stability and regulatory quality) to complement finance to promote growth using the system GMM and the fixed effect for robust estimations and results.

Even though a well-functioning financial system is necessary for economic growth, it is not a sufficient condition to enhance growth. Therefore, policies of government aimed at improving the efficiency and operations of the financial system are deemed critical. According to Chinn and Ito (2022), in economies where the legal system does not clearly define property rights or ensure contract enforcement, the incentives for lending can be limited. This is due to the fact that lenders, as well as the creditors would be afraid of losing their funds. Hence, the effect of institutional quality in bridging the gap in the finance-growth nexus cannot be underestimated.

Given the insight from the above, it is relevant to investigate the role of institutional quality in the relationship between financial development and economic growth in SSA to argument the few studies in SSA (Opoku, Ibrahim, and Sare 2019; Aluko and Ibrahim 2020; An, Zou, and Kargbo 2020). Although, Aluko and Ibrahim (2020) has applied threshold regression analysis to assess the value at which institutions boost economic growth in SSA. However, this study fills a vacuum in the literature in several ways. First, this study applied three institutional quality variables which include rule of law, regulatory quality, and political stability for a more comprehensive and robust analysis in SSA. Second, this study determines the degree or threshold level at which both institutional quality variables and financial development boost economic growth in Sub-Saharan Africa by employing system Generalized Methods of Moments (GMM) to estimate the marginal effect of the interaction between institutional quality and financial development from 5th to 95th percentiles in order to determine the value at which institutional quality in SSA facilitates the potential effect of financial development on economic growth.

1.2 OBJECTIVES OF THE STUDY

Generally, this study investigates the direct effect of financial development on economic growth and further examines the effect of institutional quality in this relationship. The specific objectives are summarised as follows;

1. To investigate the relationship between financial development and economic growth in Sub-Saharan Africa.
2. To examine the effect of institutional quality on economic growth in Sub-Saharan Africa.
3. To investigate the role of quality institutions in the finance-growth nexus.

1.3 RESEARCH QUESTIONS

Accordingly, the study seeks to provide answers to the following questions;

1. What relationship exists between financial development and economic growth in Sub-Saharan Africa?
2. Does institutional quality affect economic growth in Sub-Saharan Africa?
3. What is the role of institutional quality in the finance-growth nexus in Sub-Saharan Africa?

1.4 SIGNIFICANCE OF THE STUDY

This study provides several policy implications. First, it introduces institutional quality in the finance-led -growth debate. The debate on whether finance and economic growth are indispensable which was started by Schumpeter (1911) is still not resolved. The debate has produced two arguments; supply - the supply-leading hypothesis which argues that finance spurs growth, and the demand-leading hypothesis which formulates that finance follows economic growth, and produces diverse empirical studies each supporting one of the hypotheses. This study has theoretical implications by investigating the position of SSA on this debate whether the data support the demand-leading hypothesis or the supply-leading hypothesis. Further, it augments studies that support the importance of quality institutions in this debate.

Second, the study has implications for sound institutional quality towards efficient and effective financial markets to stimulate economic growth. For instance, policies and institutions that protect investors in the financial markets. Third, the study has implications for financial restructuring to empower banks to effectively perform their intermediation function and deepen financial inclusion, which is acknowledged to spur growth.

1.5 BRIEF METHODOLOGY

This study uses panel data from 28 countries in SSA. The countries are selected purposively based on the significance of the country's economic and financial activities and data availability on the study's constructs. The sub-Saharan region has been selected based on its consistently poor economic performance, despite efforts to improve the financial sector. This motivates the introduction of institutions in this study to ascertain how they explain the level of finance and growth. The study uses both economic (GDP per capita, inflation, gross capital formation, financial development, trade) and institutional variables obtained from WDI and the WGI online from 2010 to 2022. The study employs the two-step systems generalized methods of moments estimator.

1.6 SCOPE AND LIMITATIONS OF THE STUDY

This study focuses on countries in Sub-Saharan Africa and is limited to the explored variables. As such interpretations and results are limited in this region.

1.7 ORGANISATION OF THE STUDY

The rest of the study is organized as follows; Chapter Two reviews the literature. Chapter Three discusses data and methods. Chapter Four presents data analysis and a discussion of the results. Chapter Five summarises the results and provides some recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

This chapter reviews the literature. First, it explains the concepts in this study. Second, it reviews theories. Fourth, it discusses empirical studies. Fifth, it develops hypotheses. Sixth, it presents a conceptual framework.

2.1 CONCEPTUAL REVIEW

2.1.1 Economic Growth

Economic growth refers to a sustained improvement in the gross domestic product (GDP) or GDP per capita of a country over a period of time (Bandura and Dzingirai, 2019). Economic growth of a country has a corresponding improvement in other key macroeconomic factors including employment, life expectancy, financial development foreign direct investment, domestic savings and investment (Zhang et al., 2020; Dründler and Potrafke, 2019; Myovella et al., 2020). The level of economic growth influences poverty conditions. For instance, poor economic growth is associated with high poverty conditions due to fallen economic fundamentals. In developing countries such as the SSA countries, economic growth is lower compared to the developed economies.

Over the years, the level of economic growth in SSA countries has been disappointing. Annual GDP per capita data from the WDI look disappointing. For instance, over the past decades GDP per capita has witnessed an abysmal average performance of 2.56%, 0.86% and -0.87% from 1960 to 1970, 1970 to 1980 and 1980 to 1990, respectively. In addition, from 1990 to 2000 and 2000 to 2010 show a poor average of 2.65% and 0.875%, respectively. As such, countries in SSA have started implementing measures to improve economic growth. Some of these include trade liberalization policies to increase international trade (Gründler and Potrafke, 2019). This study focuses on economic indicators such as financial development, trade, gross capital formation, and government expenditure as well as institutional factors such as the six quality governance indicators provided by the World Bank which include governance effectiveness, rule of law, sound policies and regulations, democracy etc.

2.1.2 Financial Development

Financial development is a system where there are effective and efficient financial markets and financial institutions with efficient regulations and policies to support the effective execution of financial markets function of credit allocation, financial intermediation and financial accessibility (Myovella et al., 2021). Given this, financial market development promotes financial transactions and financial market activities. Due to its ability to supply finance in the financial market to promote economic and financial activities, financial development is a centre of policy for several countries in the world. Studies document that financial sector development is essential for economic growth (Asante et al., 2023; Sulemana and Dramani 2020; Aluko and Ibrahim 2020; Bandura and Dzingirai, 2019). They argue that efficient finance improves economic growth in three ways; First, efficient financial sectors allocate resources effectively, thus supporting

businesses with credit for investments and business expansion which promotes economic growth (Aluko and Ibrahim 2020). Second, the financial system provides platforms and opportunities for savings. High savings and investment increase the economic capital needed for major investments and business funding to achieve higher economic growth (Asante et al., 2023). Third, financial sector development enhances financial access which promotes financial inclusion, and economic growth (Bandura and Dzingirai, 2019). Finance is usually measured as domestic credit to private sector development. Although there are other measures, studies argue that this measure is robust because it captures both the quantity and quality of financial activities (Bandura and Dzingirai, 2019). Although the financial sector in SSA has achieved considerable improvement, it has not yet achieved the level of improvement that other developed countries. Reports by the IMF (2016) reveal that the average domestic investment to the private sector, as a percentage of GDP has increased by only 10% since 1995, to about 21% in 2021.

In addition, annual financial development data from WDI show that in 2000, the financial sector had increased by 61.23%, but in 2019, had improved to 65.58%. Moreover, according to Sulemana and Dramani (2020) average financial development, by stock capitalisation, for SSA between 1990 and 2018 was 24.6%, which was significantly higher than MENA and ASEAN countries within the same period. A major improvement is the conditions increase in bank branches across the region. In addition, marketable instruments are fast increasing as countries are setting liquidity benchmarks in future markets (Asante et al., 2023). There is a current wave of financial deepening through mobile money services, and currently, SSA is leading in this innovation, particularly because it fits the purpose of the region's rural communities of financial access.

2.1.3 Institutional Quality

Recent literature demonstrates the importance of a country's quality institutions to economic development. Institutional quality, According to North (1990) is a set of rules that govern human interactions or provides "the rules of the game". Moreover, Salman et al., (2019) define institutional quality as a set of laws that govern human interaction within economic, social and political settings. The Neoclassical theory illustrates the usefulness of quality institutions in shaping economic activities through resource allocation, disciplinary mechanisms and contract enforcement (Nirola et al., 2019; Nkoa and Song, 2020; Le et al., 2016; Marcelin and Mathur, 2020). The law and finance theory also posits that differences in a country's institutional tradition to protect investors explain the level of economic growth. The theory argues that countries with weak institutional environments are not capable of protecting private owners' estates thus leading to poor economic growth as the investors are demotivated to invest in the economy (Patrick, 1996).

Sound institutions protect depositors' funds in the financial markets, provide regulatory support to businesses, protect investors, prevent government expropriation and promote quality information in the financial markets (Ali et al., 2019; Islam et al., 2020). In literature, the commonest institutional variables are defined by the World Bank using the WGI measures of quality governance/institutions comprising six indicators which are governance effectiveness, rule of law, regulatory quality, voice and accountability, political stability and control of corruption (Aracil et al., 2022; Kaufman, 2008; Chen and Jiang, (2021)

First, the rule of law refers to a sound legal system that promotes legal and financial development (Aracil et al., 2022). In countries with an effective legal system where the court operates according to the laws of the land, the existence of unbiased police service ensures the development of financial systems. Second, voice accountability and political stability ensure that companies can freely operate in the financial market without being intimidated or oppressed. This can enhance resource allocation and deepen entrepreneurship activities (Sahay et al., 2020; Marcelin and Mathur, 2014). Third, corruption is distractive to development and prevents effective resource allocation because public resources are being used by public officials for private gains (Gründler and Potrafke, 2019). Fourth, governance effectively constitutes sound policies by the government to improve economic and business activities (Gründler and Potrafke, 2019). Finally, regulatory quality ensures governance quality which promotes private sector development (Aracil et al., 2022). In addition, regulatory quality discourages banks' opportunistic behaviour which only hurts the financial markets and general economic growth (Dang et al., 2022). Empirical studies demonstrate that financial development can efficiently promote economic growth within a strong institutional environment (Asante et al., 2023)



2.2 THEORETICAL REVIEW

This study uses three theories to explain the relationship between the variables. They are the supply-leading hypotheses, demand-leading hypotheses and the law and finance theory. The supply-leading hypotheses and demand-leading hypotheses explain the relationship between finance and economic growth, while law and finance theory explain the aforementioned variables.

2.2.1 Demand-leading Hypotheses

The demand-leading hypothesis was proposed by Robinson (1952). The theory argues that financial development follows economic growth. It explains that growth in the economy will expand financial services and products, creating new demands for financial services, which increases economic growth (Robinson 1952). In general, the theory argues that finance is a response that the economy has expanded, creating demand for new financial products and services. Studies such as Kihombo et al., (2021), and Charfeddine and Kahia, (2019) support this position.

2.2.2 Supply-leading Hypotheses

The supply-leading hypothesis or the “finance-led growth” was proposed by Mckinnon (1973). The theory argues that finance leads to economic growth. It explains that finance can influence economic growth through three channels. First, finance can foster growth through resource allocation to supply the deficit units with resources from the surplus units to invest in businesses to achieve economic growth. Second, finance can promote economic growth through financial intermediation. This finance can increase growth by enhancing financial access. The theory argues that there is a unilateral causality from finance to economic growth, and no feedback response (Adeyeye et al., 2015). The theory's central theme is that economic growth is achieved through

efficient financial systems. Empirical studies support this position (e.g., Wang et al., 2021; Zhang and Zhou, 2021; Appiah et al., 2023)

2.2.3 Law and Finance Theory

The law and finance theory was proposed by Easterly and Levine (1997). The central argument is that institution is important in the finance-growth nexus. The theory posits that legal transactions across countries vary based on how the laws protect safeguard investors in the financial markets who are key to promoting finance. The theory is premised on the role of quality institutions in ensuring effective financial sector activities. The pioneers advocated for a law that protects private property and grants them the right to use their resources in a way that gives them maximum benefits (Easterly and Levine, 1997). The theory states that institutional quality shapes financial activities which fosters economic growth. Sound institutions that protect investors in financial markets and safeguard the interest of investors and credit lead to the flow of investment in the financial market which stimulates economic growth (Asante et al., 2023). The theory posits that institution has a positive and significant role in the finance-growth

2.3 EMPIRICAL REVIEW

2.3.1 Financial Development and Economic Growth

Several studies have investigated the effect of financial development on economic growth, with most studies supporting the positive relationship or the supply-leading hypotheses. For instance, Zhang and Zhou (2021) investigate whether finance stimulates growth by reviewing prior studies on this subject. They find that in the long run, finance has greater benefits on welfare indicators than growth. But in the long run, finance has a maximum positive impact on economic growth. Similarly, Ibrahim and Alagidede (2018) in 29 countries in SSA investigate the effect of finance on economic growth. Their GMM results show that finance promotes growth through well-developed financial systems. In Nigeria, Adeyeye et al. (2015) study whether finance lead to economic growth between the period of 1981 to 2013. They apply the Granger pairwise estimation and they show that finance promotes growth. They indicate that finance supports growth through credit allocation and financial intermediation and the relationship is bi-directional.

Oroud et al. (2023) focus on Jordan to explore the effect of finance on economic development in Jordan from 1980 to 2020. Using the bond testing and the ARDL approach they show that finance has both short and long-term effects on economic growth. Their results, similarly to other empirical studies, support the supply-leading hypotheses that finance promotes growth. Consequently, they imply that emerging economies that wish to increase economic growth should pay attention to developing their financial systems.

Mtar and Belazreg (2023), using the panel VAR approach, examine whether the finance-led growth argument can be supported with data from 11 European countries from 2001 to 2016. They document a unidirectional relationship between finance and growth. Their results imply that policies towards financial systems expansion and improvement will lead to higher economic growth. Shahbaz et al., (2022) use the TARDL to accommodate the asymmetric information in the financial systems to investigate the effect of finance on economic growth in 10 developed countries. They show that, as finance boosts economic growth in some countries, finance does not promote economic growth in other countries. They attribute this to the levels of financialization and other economic actors across countries. Wang et al. (2021) investigate the dynamic effect between the level of financial systems development on growth in China from 1997 to 2017. Employing the ARDL-PMG, they show that finance supports economic growth to improve renewable energy consumption.

Erdoğan et al., (2020) investigate how financial development will help oil export to achieve economic growth in 11 oil-producing countries from 1996 to 2016. They show that at a threshold of 45 % financial development, oil export can spur growth. Implying the importance of efficient financial systems in promoting economic growth. Guru and Yadav, (2019) investigate the influence of financial system development on economic growth in BRICS countries from 1993 to 2014. They find that development in the financial systems explains the country's level of economic growth.

Salman et al., (2019) using banking sector development indicators, examine their effect on economic growth. Their SGMM results reveal that the development indicators in the banking sector increase economic growth. Highlighting that market indicators and financial indicators complement each other to promote economic growth, consistent with a study by Saud et al., (2019) in 59 countries from 1980 to 2016 that finance spurs growth. Asteriou and Spanos (2019) in 26 European countries, from 1990 to 2016, investigate the effect of finance on economic growth allowing the global financial crises to pass through the linkage. They find that in the absence of financial crises, finance is growth enhancing, but during financial crises, finance cannot promote economic growth.

2.3.2 Institutional Quality and Economic Growth

Empirical evidence exists on institutions and economic growth. For instance, Bermpe et al., (2018) assess whether WGI institutions improve economic growth in 29 emerging countries from 2002-2015. Their SGMM results indicate that institutions promote economic growth. The results show that institutional quality improves economic growth. Similarly, Puruweti (2017) investigates the impact of WGI institutions on growth in 28 European countries from 1996-2014. The study uses GMM for the estimation. The results indicate that quality institutions would improve economic performance. A disintegrated analysis of the institution's variables reveals that government effectiveness and voice and accountability have a positive and significant effect on economic performance.

Siyakiya (2017) in 28 European countries investigate the governance index, and its six components and whether they influenced economic growth between the period of 1996 to 2014. Applying the fixed effect and the SGMM, they document a positive association between quality institutions in economic growth. Corradini (2021) explores the relationship between IQ and economic growth in three Italian NUTS. A panel Vector Autoregressive model was used for the estimation regions. The study finds that strong institutions strongly influence economic growth, especially in predominantly underdeveloped areas. The results further show that economic growth policies alone may not improve institutional quality and suggest that intervention geared towards improving institutions should be a prerequisite for sustained economic development.

Asghar et al. (2020) examine the effect of institutional quality on economic growth by using panel data from 13 developing countries in Asia from 1990-2013. A panel ARDL was used for the estimation and find that sound institutions promote economic growth. The study proposes that there must be an equal proportional improvement in institutional quality to improve economic growth. Salman et al. (2019) investigate the effect of institutions on growth in three Asian countries from 1990 to 2016. They show that institutions promote economic growth. Ashraf et al., (2022) examine whether institutional spillover benefits economic growth in 86 countries and that sound institutions stimulate economic growth. Wang et al. (2021) employ the MOLS, FMOLS and VECM methods to examine the direct effect of institutions on economic growth in oil-producing African countries from 1999 to 2017. Their VECM results reveal a causality between institutions and economic growth both in the short and long run. Their FMOLS results show that quality institutions increase economic growth.

2.3.3 Institutional Quality, Financial Development and Economic Growth

Studies that use institutions as a moderating variable between finance and growth have shown a positive result. For instance, Aluko and Ibrahim (2020) investigate the effect of finance on economic growth in SSA, by allowing institutional quality to link them. Employing the threshold regression, they find that when institutions are efficient, finance can promote growth. Moreover, Sulemana and Dramani (2020) assess the path where finance affects economic growth through institutional quality in ECOWAS countries from 1980 to 2016. They show that institutions complement finance to promote economic growth.

Ehigiamusoe and Samsurijan (2021) review both theoretical and empirical studies on the role of institutions in the finance-growth nexus. They find that with efficient financial systems and institutional quality, finance will increase economic growth. Therefore, countries that prioritize development in the financial sector and quality institutions can achieve higher economic growth. Using 21 countries in SSA from 1986 to 2010, Effiong (2015) examine whether the interaction of finance and institutions influences economic growth, and finds that finance interacts with institutions to promote growth. Asante et al., (2023) study the direct effect of financial development on economic growth, and further, examine the effect of institutions in this relationship in 29 Sub-Sahara Africa countries from 2000 to 2019. Employing the system GMM, they find a direct positive effect of financial development on economic growth.

Similarly, Bandura and Dzingirai (2019) study the effect of finance and economic growth within institutional quality in 28 sub-Saharan Africa from 1982 to 2016. Applying the system GMM, they find a U-shaped relationship between finance and growth where more(less) finance drives (retards) economic growth. They further show that at 33% and 37% finance, economic growth can be achieved. Moreover, institutional quality shows both a positive direct and indirect effect on economic growth, showing that institution complements finance to promote growth.

Given these studies, Law et al. (2013) use the thresholds method to examine whether distinct institutional levels in SSA influenced the finance growth nexus in 85 countries from 1980 to 2008. They find that finance can foster economic growth only after a certain institutional development. From these studies, this study concludes that institutional is useful in the finance-growth nexus (Law et al. 2013; Bandura and Dzingirai, 2019; Asante et al., 2023; Ehigiamusoe and Samsurijan, 2021; Aluko and Ibrahim (2020). However, how the disaggregated institutional quality variables complement FDI to foster economic growth is missing in the literature (Asante et al., 2023). As a result, it is imperative to disaggregate the WGI institutional quality index and interact with finance to see their results on economic growth. Therefore, this study addresses this gap.

2.4 Hypothesis Development

2.4.1 Financial Development and Economic Growth

Studies on the relationship between financial development and economic growth have revealed that the benefits of financial development on economic growth depends on the structures and fundamentals underlying the economy. For instance, Campos et al. (2012) employed a power ARCH estimate in Argentina for the period between 1896 and 2000 and revealed that financial innovation has a positive long-run effect on economic growth confirming supply-leading hypothesis. Further, it was identified in their study that financial development enhances growth and not growth volatility in Argentina. With this, the study concluded that Argentina is combined with centralized economic planning and government regulations dominants and therefore, there is robust and stronger financial sector penetration.

Given these findings, many scholars have supported the supply-leading hypothesis elsewhere in the world. One can relate to the empirical evidence by Al-Moulani and Alexiou (2017); Sghaie (2018); Benczúr, Karagiannis, and Kvedaras (2019); and Afonso and Blanco-Arana (2022). Also, the study by Arayssi, Fakh, and Kassem (2019) indicated that there is a bidirectional causality between financial development and economic growth in Kenya. In addition, Odhiambo (2009) also revealed that economic growth granger causes financial development to reduce poverty in south Africa. Arguably, the negative effect of financial development on economic growth has also been provided. Seven and Yetkiner (2016), for example, used panel data from 1991 to 2011 to investigate the role of financial development in accounting for economic growth in low, middle, and high-income countries. Their results revealed that financial development has a negative repercussion on economic growth in highincome countries. Given these conflicting findings,

contemporary researchers have argued that the effect of financial development on economic growth is actually non-linear. For instance, Hung (2009) provided an empirical investigation on the non-linear effect of financial development on economic growth in China by developing a model that incorporates non-productive consumption loans with productive investment loans in a standard model of asymmetric information. The study revealed that financial development facilitates both investment loans and consumption loans. While investment loans benefit economic growth, consumption loans impede economic growth.

As a result, the effect of financial development on economic growth depends on the relative magnitudes of these two distinct channels. In addition, Shahbaz et al. (2017) also examined the nonlinear relationship between financial development and economic growth in Indian economy. Applying nonlinear autoregressive distributed lag bounds testing approach on a quarterly data spanning from 1960Q1 to 2015Q4, the asymmetric causality results revealed from the study show that only negative shocks to financial development have impacts on economic growth. Furthermore, Botev, Égert, and Jawadi (2019) assessed the nonlinear relationship between financial development and economic growth in developing, emerging and advanced economies over a period 1990–2012. Employing a Dynamic OLS threshold regressions, the study found that domestic credit and private domestic credit to GDP ratios show a positive effect on output per capita. Based on these, the study hypothesis that;

H1: Financial Development has a positive and significant effects on economic growth.

2.4.1 Financial Development, Institutional Quality and Economic Growth

Given that financial development has double-edged effect on economic growth across countries, plethora of studies have augmented institutional quality in the relationship between financial development and economic growth. With this, a study by Hasan, Wachtel and Zhou (2009) on the effect of institutional development and financial deepening on economic growth suggest that the development of financial markets and property right are associated with stronger economic growth in China. In MENA economies, Nabi and Suliman (2009) investigated the causal relationship between institutions, banking development and economic growth; and indicated that the causality which runs from banking development to economic growth is more intense in countries with more developed institutional environment.

Similarly, employing a common correlated effect approach on annual data for the period 1980–2012, Kutan, Samargandi, and Sohag (2017) examine the role of institutional quality in the linkage of financial development and economic growth in 21 MENA countries. They found that not all measures of financial development promote economic growth in the absence of institutional quality, but they all augment growth in the presence of institutional quality. Few studies that have interacted financial development with institutional quality also suggest that institutional quality argument financial development to impact positively on economic growth. For example, Aluko and Ibrahim (2020) assess the effect of financial development on economic growth in sub-Saharan Africa by allowing the link to be mediated by the level of institutions. Using a threshold regression analysis, they found that below the optimal level of institutional quality, financial development does not significantly promote economic growth. However, for countries with institutional quality above the threshold, higher finance is associated with growth.

In addition, Sulemana and Dramani (2020) also conducted a comparative analysis on transmission of financial sector development through institutional quality on economic growth between Economic Community of West African States (ECOWAS) and Southern African Development Community (SADC). Applying Seemingly Unrelated regression technique on panel data from 1980 to 2016, the study revealed a positive complementarity effect of financial development and institutional quality on growth. However, the effect turned to be significant in only ECOWAS regions. In addition, Ehigiamusoe and Samsurijan (2021) analyzes the moderation role of institutions in the finance growth nexus from both theoretical and empirical perspective. Their study demonstrated that the optimal level of financial and institutional development are necessary conditions for finance to accelerate growth.

Hence, countries that want to promote economic growth through the financial sector should give adequate priority to institutional development. Furthermore, employing a balanced panel data for twenty-one (21) countries in SSA spanning from 1986 to 2010, Effiong (2015) revealed an insignificant interaction effect of both financial and institutional development on economic growth. Given these findings, the author highlighted that the current institutions in SSA do not support the finance-growth nexus. Therefore, he implored for an improved institution in SSA. Using an innovative threshold estimation technique, Law, Azman-Saini, and Ibrahim (2013) examine whether the growth effect of financial development in countries with distinct levels of institutional development differ. Sampling 85 countries from 1980 to 2008, the study found that the impact of financial development on economic growth is positive and significant only after a certain threshold level of institutional development has been attained.

Contrary, evidence provided by Compton and Giedeman (2011) also indicated that the positive effect of banking development on growth decreases as the level of institutions increases. It can be concluded that better institutions enhance financial development to impact on economic growth positively. However, the degree or threshold at which these institutions complement the positive impact of financial development on economic growth is missing in literature especially in SSA (see Sulemana and Dramani 2020; Aluko and Ibrahim 2020). Based on this argument, the study hypothesizes that;

H2: Institutional quality positively and significantly moderates the relationship between financial development and economic growth.



2.5 CONCEPTUAL FRAMEWORK

Fig 2.1 presents the conceptual framework depicting the relationship between the constructs. The framework. The indirect relationship is shown in path c where institutional quality acts as a moderator between finance and growth.

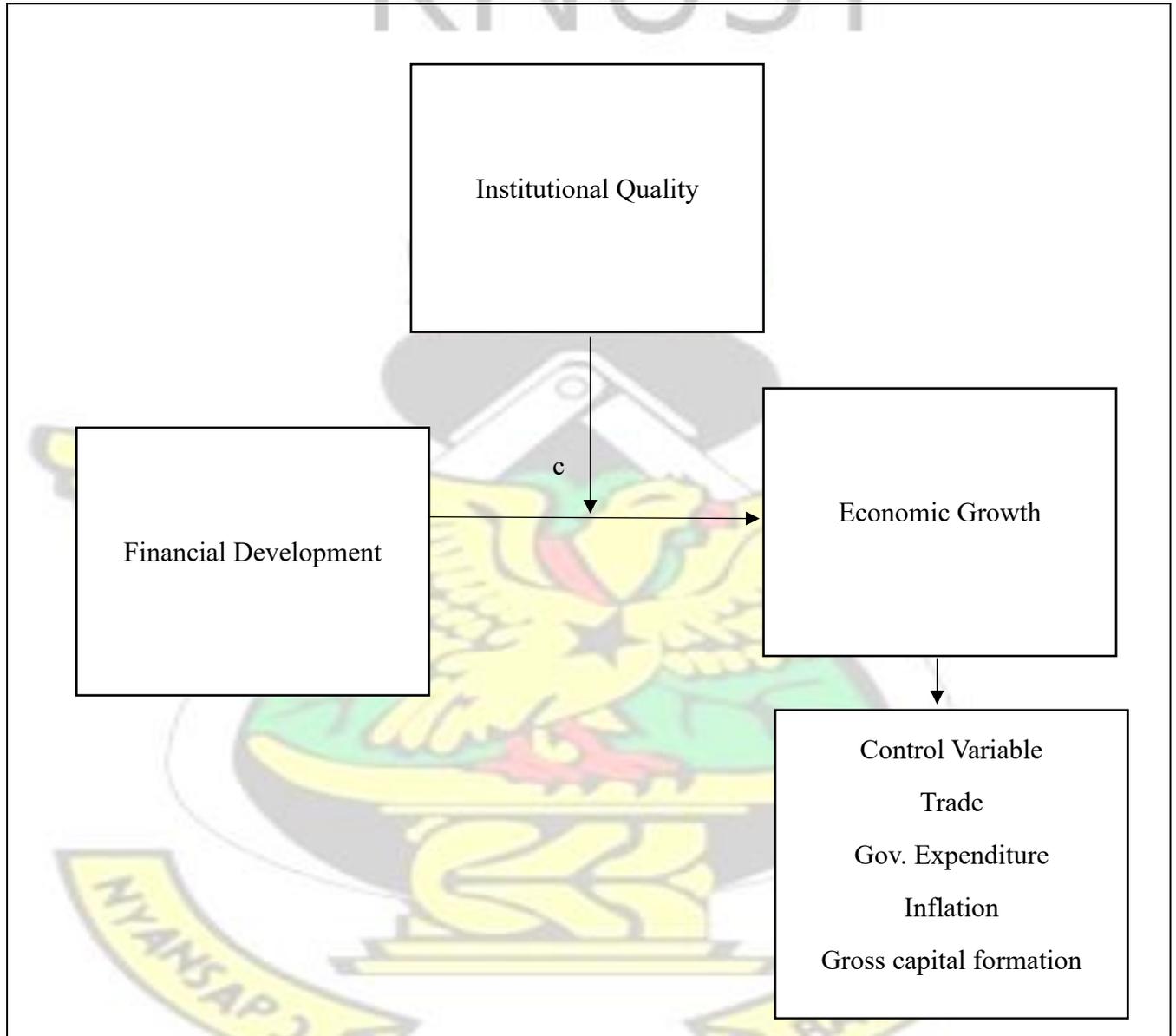


Figure 2.4 Conceptual Framework

Source: Author's Construction based on existing literature

2.5 SUMMARY

This chapter reviews the literature on the topic. It defines financial development, economic growth and institutional quality. Theories were discussed including the supply-leading hypotheses, supply-leading hypothesis and law and finance theory



CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

This chapter discusses the data and methods. The chapter further describes the study's population and sampling size. Furthermore, it discusses the data analytical methods and provides variable descriptions.

3.1 RESEARCH DESIGN

This study adopts a quantitative method. The quantitative method has been adopted due to its ability to provide estimation that accurately fits well in speculative situations (Zakaria and Bibi, 2019). Quantitative methods further produce reliable estimations due to their robust methods (Bandura and Dzingirai, 2019), and yield results that are representative of the population (Chen and Jiang, 2021). In addition, this study relies on the descriptive method. The descriptive method has been used to describe how changes in financial development and initiations influence economic growth (Vu, 2022). Lastly, the study is experimental since it seeks to investigate how the variables relate to each other (Nkoa and Song, 2020)

3.2 POPULATION OF THE STUDY

The study population is all countries in Africa. There are fifty-four countries in Africa divided into North Africa, South Africa, West Africa and East Africa. Specifically, the study narrows it to Sub-Saharan Africa (SSA) and covers countries from Central Africa, Southern Africa, Eastern Africa and West Africa with 49 member countries (World Bank, 2019).

3.3 SAMPLING SIZE AND SAMPLING TECHNIQUES

This study uses a purposive sampling technique to select 28 countries. The selection was based on; (1) the economic and financial activities. The study only considers countries with significant economic and financial activities; (2) data availability. Countries with sufficient data for the study period were selected for the study.

3.4 DATA COLLECTION

The study uses quantitative country-level panel data from 29 countries in Sub-Saharan Africa. The economic data includes GDP per capita, inflation, gross capital formation, and financial development. Trade and government expenditures are obtained from the WDI online database. Further, the institutional quality variable was obtained from the WDI online database from the World Bank. The data were extracted based on study variables from 2010 to 2022 and later cleaned to obtain unbalanced panel data with 336-year observation.

3.5 DATA ANALYSIS

Following Aracil et al., (2022), Bandura and Dzingirai (2019) and Asante et al. (2023), this study uses the system generalized methods of moments estimator (SGMM). The generalized method of moments has been employed due to the following; (i) it can withstand possible endogeneity bias, (ii) it is robust to unobserved heterogeneity coming from omitted variables, and (iii) it is suitable for panels with shorter time dimension (T) with relatively larger individual dimension ($T < N$). Both the first difference and system GMMs by Arellano and Bover (1995) and Blundell and Bond (1998) have been widely used in literature and the lagged value of the dependent variable has been used to control the endogeneity problem. However, Levine et al. (2000) argue that the first difference

in GMM will not be robust to a small sample size. Bond (2002) supported the position of Levine et al. (2000) that with non-stationary data, the estimator will be biased, while system GMM achieves a more accurate and robust estimation because it uses more instruments and connects the level regression with the first-differencing. Moreover, the system GMM is more efficient with time series random walk where the level's instruments efficiently predict the endogenous variables (Blundell and Bond, 1998). The System GMM model's general form is defined as follows:

$$\dot{y}_{i,t} = \alpha + \beta y_{1t-1} + \delta x_{i,t} + \mu_i + \varepsilon_{i,t} \dots \dots \dots 1$$

First, this study investigates the effect of financial development on economic growth. According to the supply-leading hypotheses by Patrick (1966), finance can foster economic growth through three channels. First, finance facilitate savings and capital accumulation by providing savings and investment platforms and opportunities to promote economic growth. Second, banks facilitate intermediation processes where resources which are less utilized are transferred to more productive use to improve investment. Finally, the intermediation processes enhance the transfer of tangible wealth through change ownership. Thus, a developed financial system allows financial institutions to perform these roles which foster economic growth. Equation (2) illustrates the effect of finance on economic growth

$$LGDPPC_{i,t} = \beta_o + \psi_{1t} LGDPPC_{i,t-1} + \sigma_2 FD_{i,t} + \varkappa_3 Trade_{i,t} + \lambda_4 GCF_{i,t} + \varphi_5 INF_{i,t} + \vartheta_6 Gov.EXP_{i,t} + e_{i,t} \dots \dots \dots 2$$

Moreover, recent studies argue that institutions promote economic growth. Sound institutions enhance resource allocation, develop the financial markets, attract foreign inflows and implement sound policies (Aracil et al., 2022; Vu et al., 2022). Equation (3) illustrates the effect of institutional quality on economic growth.

$$LGDPPC_{i,t} = \beta_0 + \psi_{1t}LGDPPC_{i,t-1} + \sigma_2IQ_{i,t} + \tau_3Trade_{i,t} + \lambda_4GCF_{i,t} + \varphi_5INF_{i,t} + \vartheta_6Gov.EXP_{i,t} + e_{i,t} \dots \dots \dots (3)$$

As the study has indicated, the impact of financial development on economic growth remains unclear based on the demand and supply-leading hypotheses, according to the public interest view, as already highlighted by Patrick (1966), financial institutions efficiently allocate credit, quality institutions will improve the efficiency of the credit allocation, suggesting complementarity of finance and institutions on economic growth, and specified in equation (4)

$$LGDPPC_{i,t} = \beta_0 + \psi_{1t}LGDPPC_{i,t-1} + \sigma_2IQ_{i,t} + \tau_3FD_{i,t} + \lambda_4(IQ * FD)_{i,t} + \varphi_5INF_{i,t} + \vartheta_6Gov.EXP_{i,t} + \chi_7Trade_{i,t} + \delta_8GCF_{i,t} + e_{i,t} \dots \dots \dots 4$$

Where LGDPPC is the natural logarithm of GDPPC, IQ is institutional quality, FD is financial development/finance, INF is inflation, Gov.EXP is government expenditure, GCF is gross capital formation, IQ*FD is the moderating variable, and Trade is trade openness.

3.6 VARIABLES DESCRIPTION AND MEASUREMENT

3.6.1 Economic Growth

This study uses GDP per capita (constant 2010 US\$), following Asiamah and Agyei (2023) and Bandura and Dzingirai (2019), and has been used as the dependent variable. GDP per capita is preferred to other measures for economic growth because it reflects the standard of living and how the economy supports livelihood (Asiamah and Agyei, 2023). The variable was sourced from the WDI online database.

3.6.2 Financial Development

Following Asante et al., (2023), and Asiamah and Agyei (2023), financial development has been measured as domestic credit to private sector development, as a percentage of GDP. Domestic credit to the private sector is the preferred measure of finance because it measures the quantity and quality of investments in the financial market (Asante et al., (2023). Financial development can spur economic growth by facilitating efficient resource allocation, financial intermediation and innovation (Appiah et al., 2023). The variable is sourced from the WDI. This study expects finance to increase growth.

3.6.3 Institutional Quality Index

This study uses the index of six institutional quality variables (political stability, rule of law, governance effectiveness, control of corruption, regulatory quality and voice and accountability by the World Bank. Each indicator measures a specific quality dimension. The indicators are scaled from -2.5 to 2.5 from the lowest score to the highest score, respectively. This variable has been used as a moderating variable, following Asante et al., (2023) and Bandura and Dzingirai (2019). Sound institutions are expected to provide disciplinary mechanisms in grow-led institutions to foster higher economic growth.

3.6.4 Trade Openness

Trade has been used as a control variable, and was the sum of exports and imports as a percentage of GDP (Bandura and Dzingirai, 2019). Trade openness removes trade barriers and allows the flow of goods across borders. A liberalized trade system may encourage international trade and increase

foreign currency. Thus, trade is expected to have a positive effect on economic growth. The variable was sourced from the database.

3.6.5 Inflation

Inflation has been used as another control variable. The study measures inflation using the consumer price index (Appiah et al., 2023) and obtained from WDI. Inflation measures the stability of the macroeconomic environment. High inflation is inimical to savings and investments and thus reduces economic growth (Mtar and Belazreg, 2023). The study expects inflation to hurt economic growth.

3.6.6 Gross Fixed Capital Formation

Gross fixed capital formation (GFCF) has been measured as gross fixed capital formation, as a percentage of GDP, following Bandura and Dzingirai (2019). Gross fixed capital formation levels the extent of domestic investment in the country (Bandura and Dzingirai, 2019). A high GFCF indicates an increase in investment which stimulates economic growth. The study expects GFCF to have an appositive effect on economic growth.

3.5.7 Government Expenditure

Government expenditure is also used as a control variable in this study. The study measures it as government financial consumption, as a percentage of GDP, (Wang et al., 2021). High expenditure on productive activities is expected to increase economic growth.

Table 2. 1: Variable Description and Measurement

Variable	Measurement	Expected Sign	Citation
Economic Growth	GDP per capita, % GDP (US \$ million)		Asiamah and Agyei (2023)
Financial Development	Domestic credit to private sector development, % GDP	+	Asante et al., (2023)
Trade openness	The sum of exports and imports, % GDP	+	Bandura and Dzingirai (2019)
Inflation	Consumer Price Index (2010 =100)	-	Appiah et al., (2023)
Government Expenditure	General government financial consumption, %GDP	+	Wang et al., (2021)
Institutional Quality	An index of rule of law, governance efficiency, control of corruption and political stability	+	Bandura and Dzingirai (2019)
Gross fixed capital formation	Gross fixed capital formation, % GDP	+	Bandura and Dzingirai (2019)

Source: Author's elaboration

3.7 SUMMARY

The chapter discussed data and population. It indicated the population and sampling where 28 countries have been purposively selected for the study from 2010 to 2022. The analysis is based on the system's generalized methods of moments. The variables have been described and measured noting their various sources.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION

4.0 INTRODUCTION

This chapter presents data analysis and a discussion of the results. The chapter contains summary statistics and diagnostics tests including correlation and cross-sectional dependence tests. Finally, the empirical results and discussion have been provided in this section.

4.1 DESCRIPTIVE STATISTICS

Table 4.1 shows summary statistics from the unbalanced data with an observation of a general observation of 336, but ranges from 175 to 322. Economic growth has an average of 15,643.654 million with a standard deviation of \$2153.765 million. The mean for economic growth is relatively lower using the global economic growth metric. Moreover, financial development has a mean of 16.5% of GDP, which indicates underdeveloped financial systems in Sub-Saharan Africa, and lower than the global maximum financial development of 90% of GDP which is noted to have a positive effect on economic growth (Law et al., 2018). Trade has a mean of 25.7 of GDP and explains the insufficient trade in African countries and therefore their inability to achieve sustainable economic growth through international trade.

Table 4.1: Summary Statistics

Var	Unit of Measurement	Obs.	Mean	Std. dev	Min	Max
GDP	US \$ million	322	15643.654	2153.765	133.765	11543.76
FD	% of GDP (\$ million)	224	16.543	15.765	0.543	176.765
IQI	Scaled from -2.5 to 2.5	175	10.765	3.874	2.765	23.765
TO	% of GDP (\$ million)	317	25.765	12.765	45.675	65.765
GCF	% of GDP (\$ million)	189	17.654	7.654	3.865	61.765
INF	CPI (2010 =100)	235	54.765	34.875	165.746	234.865
GE	% of GDP (\$ million)	221	13.654	5.76	1.543	32.765

Note: GDP is economic growth; FDI is financial development; IQI is the institutional quality index; TO is gross capital formation; GE is government expenditure.

Source: Author's analysis with data from WDI and WGI

4.2 CORRELATION

The correlation Table 4.2 shows correlation results using a correlation matrix and variance inflation factor (VIF). Correlation checks for possible multicollinearity problems among the independent variables. A correlation coefficient of more than (0.8) suggests a multicollinearity problem (Kennedy, 2008), and a VIF value of more than 10 indicates a multicollinearity problem (Hair, 2006). From the results, the institutional quality index positively correlates with FD ($\beta= 0.455$, $p= 0.05$). Trade positively correlates with GDP ($\beta= 0.271$, $p= 0.05$). Moreover, gross capital formation correlates with Trade ($\beta= 0.442$, $p= 0.05$). Finally, government expenditure has a negative correlation with FD ($\beta= -0.09$, $p= 0.05$). None of the correlation coefficients exceeded (0.8), and also, all the VIF values of the variables are below 10. Thus, the variables suffer from no multicollinearity problem.

Table 4.2: Correlation Matrix and Variance Inflation Factor

Var.	GDP	FD	IQI	TO	GCF	INF	GE	VIF
GDP	1							1.453
FD	-0.095	1						1.043
IQI	-0.007	0.455*	1					2.064
TO	0.271*	-0.498	0.155	1				2.342
GCF	0.167*	-0.157	-0.045	0.442*	1			2.132
INF	-0.056*	0.862	-0.408	-0.381	-0.154	1		2.043
GE	0.082	-0.094*	0.093	0.021	0.114	-0.0089	1	2.054

Note: GDP is economic growth; FDI is financial development; IQI is the institutional quality index; TO is gross capital formation; GE is government expenditure.

Significance level, $p < 0.05$

Source: Author's analysis with data from WDI and WGI

4.3 DIAGNOSTIC TEST

Before running the empirical estimations, a diagnostic test was conducted. Standard diagnostic tests are critical in validating the estimation techniques used and the reliability of the estimated results. Therefore, the study addresses this issue in Table 4.3. The first-generation unit root test may produce ineffective results (Dritsaki and Dritsaki, 2023) therefore, this study uses the second-generation unit root test by Peseran (2007) Cross-Sectionally Im-Pesaran-Shin (CIPS) which considers the cross-sectional dependence and heterogeneity. The results indicated that all the variables are integrated at first order.

Table 4.3: Covariate-Augmented Dickey-Fuller (CADF) Test

Var.	Pesaran Intercept		Δ		Intercept trend		and Δ	
	t-stats	Prob	t-stats	Prob	t-stats	Prob	t-stats	Prob
GDP	-1.654	>0.10	-2.65**	<0.10	-2.654	<0.10	-2.65**	<0.10
FD	-1.564	>0.10	-2.43**	<0.10	-2.543	<0.10	-2.87**	<0.10
IQI	-2.054	>0.10	-2.65**	<0.10	-2.642	<0.10	-2.54**	<0.10
GCF	-1.564	>0.10	-2.76**	<0.10	-1.254	>0.10	-2.54**	<0.10
TO	-1.654	>0.10	-2.54**	<0.10	-1.453	>0.10	-2.87**	<0.10
INF	-2.54**	<0.10	-2.56**	<0.10	-1.543	>0.10	-2.321*	<0.10
GE	-2.76**	<0.10	-2.78**	<0.10	-1.543	>0.10	-2.76**	<0.10

Source: Author's calculations

4.4 EMPIRICAL RESULTS

4.4.1 Financial Development and Economic Growth

This study conducted various diagnostic tests to ensure that the system dynamic GMM is valid. The results show a significant Wald test which indicates that all the coefficients are simultaneously zero. The Sargan/Hansen value is insignificant demonstrating that the results do not interpret over-identified GMM making the model valid. The insignificant difference in Hansen suggests the estimations are valid. The AR2 is insignificant demonstrating no serial correlation. Thus, the model met the acceptance condition for a significant GMM model by Arellano and Bond (1991).

The empirical results from Table 4.4 reveal that financial development negatively and significantly ($\beta = -0.154$, $p = 0.01$) affects economic growth, using the SGMM. The results are counterintuitive and contradict the supply-leading hypotheses and other empirical studies that argue that finance can promote growth through effective resource allocation, savings and capital accumulation and

financial intermediation (e.g., Wang et al., 2021; Zhang and Zhou, 2021; Mtar and Belazreg, 2023; Appiah et al., 2023).

Nonetheless, the results are consistent with other studies such as Seven and Yetkiner (2016) and Cheng et al., (2021). The significantly negative relationship between finance and growth in SSA countries can be explained within the context of the extent of development in Sub-Saharan African country's financial systems. As indicated in the summary statistics, the average financial development for the study period is 16% of GDP. Meanwhile, the maximum value for financial development to positively impact economic growth is 80% based on global studies from developed countries (Law et al., 2018). This suggests that the financial systems in Sub-Saharan Africa are underdeveloped and only limited credit is provided to the private sector development which is insufficient to stimulate growth (Asiamah and Agyei, 2023; Asante et al., 2023). The current condition of the financial systems in most SSA countries is evidenced by constant financial systems restructuring and minimum capital requirements as well as financial reforms to achieve financial stability. Some banks in SSA countries, especially in Ghana suffered banking crises in 2017 which affected private and foreign investments in the financial sector (Kyei, et al., 2023).

Other countries such as Nigeria, South Africa and Tanzania have undergone a period of financial crises and are still not 'out of the woods' (Asante et al., 2023). This explains the U-shaped relationship between finance and economic growth in SSA countries for the study period. In addition, the results imply the need for more financing in SSA countries. Because of low financing in a region with a high potential for productivity and high untapped or misused resources. Unlike the developed countries where finance is in excess, in the case of SSA countries, it is negligible.

Therefore, there is a need for sound policies towards the development of the financial systems in SSA countries.

4.4: Effect of Financial Development on Economic Growth

Variable	SGMM		Fixed effect	
GDP (-1)	0.231***	(0.021)	0.014***	(0.001)
Financial development	-0.154***	(0.040)	0.021	(0.121)
Trade	0.241***	(0.021)	0.054**	(0.019)
Gross capital formation	0.341**	(0.021)	0.059**	(0.022)
Inflation	0.124	(0.324)	0.245**	(0.021)
Government expenditure	-0.214**	(0.021)	0.021	(0.065)
Constant			0.321**	(0.054)
Year	0.033***	(0.013)		
AR (1)	0.032			
AR2)	0.342			
No. of instruments	19			
Hansen test	0.321			
Hansen test of Overid.	0.153			
Hansen tests of exogeneity	0.321			
Wald statistics	0.000			
Adjusted R-squared			0.654	
P-value			0.000	

Note: [*] for 0.1 sig, [**] for 0.05 sig and [***] for 0.01 sig. Values in parentheses are standard errors.

Source: Author's analysis with WDI data

4.4.2 Institutional Quality and Economic Growth

Table 4.5 presents results on the institutional quality index on economic growth. The evidence shows that quality institutions promote economic growth. The results are consistent with prior studies (see, e.g., Bermpe et al., 2018; Salman et al., 2019; Vu, 2022; Liu, et al., 2022; Zakaria and Bibi, 2019; Dang et al., 2022; Puruweti, 2017). A strong institutional environment is characterized by the efficiency and effectiveness of the judicial systems, the quality of policies to develop the private sector, the supremacy of laws and order, the absence of political stability, democracy and the practice of free speech (North, 1990; Vu, 2022). For instance, the absence of political instability and terrorism attracts investors to invest in financial systems due to the assurance of safe investment (Dang et al., 2022; Corradini, 2021). The existence of democracy where individuals participate in governance enhances quality information and investors can access information in the financial systems to make informed investment decisions (Vu, 2022).

Sound policies develop the private sector and help implement financial restructuring programs to achieve stable financial systems (Salman et al., 2019; Chen and Jiang, 2021). The effectiveness of judicial systems improves contract enforcement and accountability needed to achieve effective financial systems. Thus, SSA countries must promote sound institutions that improve safety in the financial systems to improve resource allocation to achieve economic growth. The results are in line with the institutional theory by North (1990) which indicates that quality institutions and governance improve resource and credit allocation and make the financial system a growth-enhancing.

Table 4.5: Effect of Financial Development on Economic Growth

Variable	SGMM		Fixed effect	
GDP (-1)	0.321**	(0.124)	0.324**	(0.145)
Institutional quality index	0.154***	(0.021)	0.054***	(0.012)
Trade	0.245***	(0.021)	0.321**	(0.141)
Gross capital formation	0.125	(0.321)	0.214	0.314
Inflation	-0.254***	(0.040)	-0.214**	(0.047)
Government expenditure	0.214	(0.365)	0.021	(0.031)
Constant			0.145**	(0.041)
Year	0.432	0.321		
AR (1)	0.054			
AR2)	0.375			
No. of instruments	19			
Hansen test	0.414			
Hansen test of Overid.	0.264			
Hansen tests of exogenei			homogeneity	
Wald statistics	0.000			
Adjusted R-squared			0.765	
P-value			0.000	

Note: [*] for 0.1 sig, [**] for 0.05 sig and [***] for 0.01 sig. Values in parentheses are standard errors.

Source: Author's analysis with WDI and WGI data

4.4.3 The Role of Quality Institutions

Table 4.6 presents results on the role of institutional quality on the finance-growth nexus. The results show that the AR(2) and Hansen/sargan tests are accurate. The interactive term of institutional quality index and FD has been used as a moderator. To get a glimpse of how each indicator of institutional quality affects economic growth or interacts with FD to affect economic growth, the study disaggregated the institutional quality index to ascertain how the rule of law, regulatory quality and political stability directly or indirectly influence economic growth through FD. The institutional quality has six indicators. However, only three have been used due to the multicollinearity problem among the indicators.

The results indicate that the rule of law has a negative and significant ($\beta = -0.010$, $p = 0.01$) effect on economic growth, while political stability has a positive and significant effect on economic growth, and regulatory quality has a positive but insignificant effect on economic growth. The inverse relationship with rule of law and growth can be explained by the fact that market participants (households and firms) do not have trust in judicial systems to enforce contracts due to weak policing and court systems in these countries. As a result, any sound rules and laws do not motivate investors to massively invest in the financial systems. The results are consistent with Asante et al., (2023) and Bandura and Dzingirai (2019), Ehigiamusoe and Samsurijan (2021),

Furthermore, the results indicate that the interaction of financial development and each of the institutional quality indicators (rule of law, regulatory quality and political stability) has a positive and significant effect on economic growth. It can be realized that interacting FD with the rule of law changed its earlier negative relationship with economic growth to a positive one. This suggests that quality institutions complement financial development to promote economic growth (Asante et al., 2023; Sulemana and Dramani 2020; Aluko and Ibrahim 2020; Bandura and Dzungaria, 2019). Similarly, the interactive term of the overall institutional quality index has a positive and significant effect ($\beta = 0.463$, $p = 0.01$) on economic growth. Thus, when institutional factors such as the rule of law, regulatory quality and political stability are sound, the initially established negative relationship between financial development and economic growth becomes positive. The results are consistent with studies including Asante et al. (2023).

Moreover, the results support the law and finance theory (Barth et al., (1998). The law and finance theory posits that legal transactions across countries vary based on how the laws protect private property owners and outside investors who are key to promoting finance. The theory is premised on the role of quality institutions in ensuring an effective financial sector. The pioneers advocated for a law that protects private property owners the right to use their resources in a way that gives them maximum benefits. In line with this position, studies (eg. Chen and Jiang, 2021; Aracil et al., 2022; Nkoa and Song, 2020) demonstrate that quality institutions promote economic growth by stimulating the financial systems. Sound institutions that protect investors' rights, enforce contracts and ensure quality information in the financial systems increase funding to firms, which when effectively utilized, can increase economic growth.

Concerning the control variables, trade is positively and significantly ($\beta= 3.664$, $p= 0.01$) related to economic growth. Trade affects economic growth by improving the balance of payment, foreign currency, exports and demand for goods and services (Nkoa and Song, 2020). Furthermore, gross capital formation positively influences economic growth ($\beta= 1.236$, $p= 0.01$). Gross capital formation increases funding for development in the financial sector which enhances credit allocation and stimulates economic growth (Aracil et al., 2022). The results show that government expenditure has a positive association with economic growth. Expenditure by governments towards developing financial sector, infrastructure and funding innovation will promote economic development (Aracil et al., 2022)

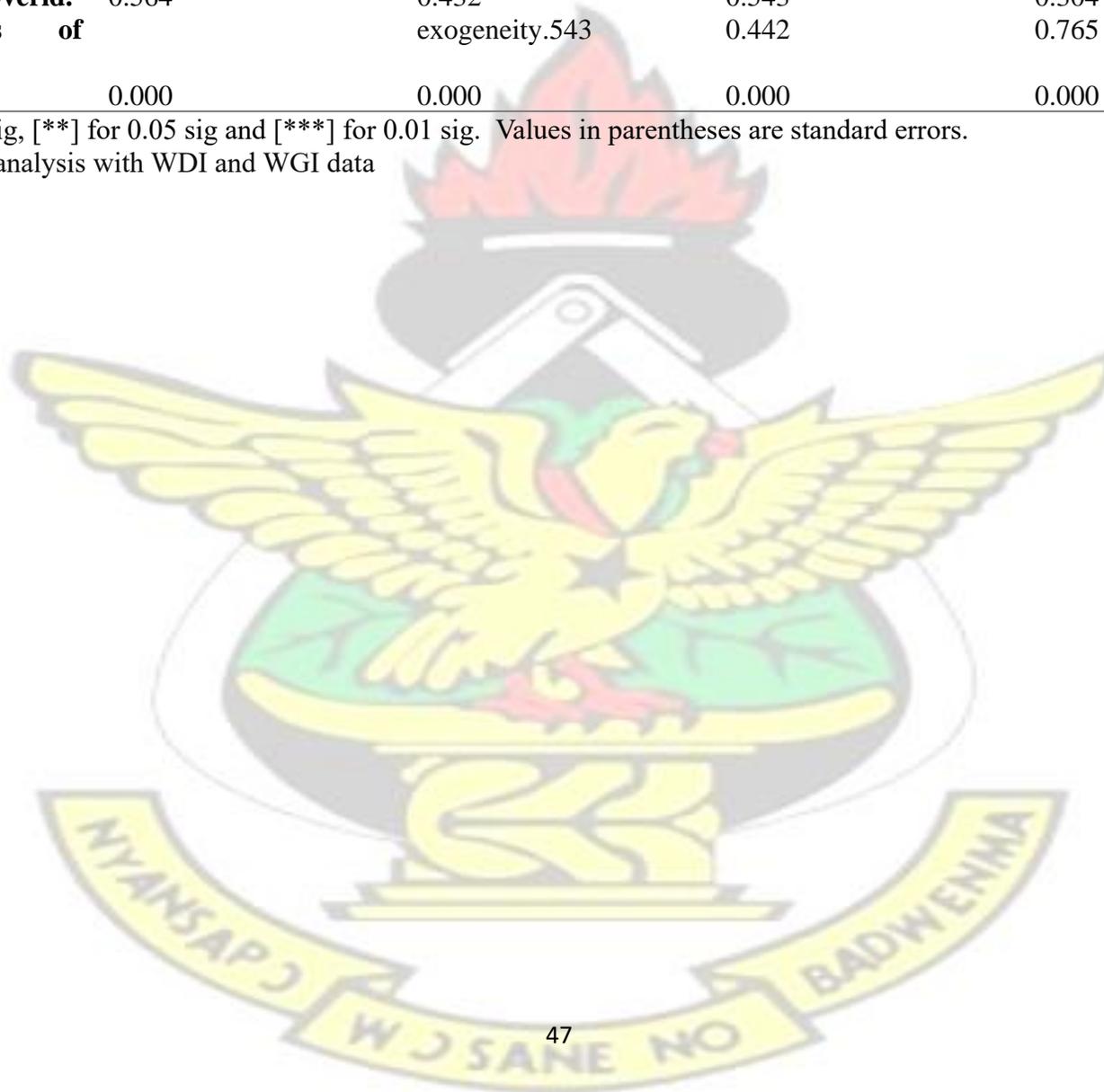
Table 4.6: The Role of Quality Institutions in the Finance-growth Nexus

Var.	RL	RQ	PS	IQI
GDP (-1)	0.310*** (0.009)	0.313** (0.101)	0.650*** (0.111)	0.245** (0.021)
Financial development	-0.015*** (0.002)	0.015*** (0.004)	-0.006** (0.003)	0.324 (0.312)
Rule of Law	-0.010*** (0.004)			
Regulatory Quality		0.0102 (0.0828)		
Political stability			0.024*** (0.002)	
FD*RL	0.214*** (0.021)			
FD*RQ		0.324*** (0.121)		
FD*PS			0.324*** (0.112)	0.321** (0.144)
FD*IQI				0.463*** (0.121)
Institutional index				0.043*** (0.015)
Trade	-0.025 (0.039)	0.621*** (0.165)	0.342*** (0.122)	3.664*** (0.994)
Gross formation	-0.010** (0.003)	0.008* (0.005)	0.009** (0.004)	1.236*** (0.495)
Inflation	-0.962*** (0.435)	-0.319* (0.192)	0.189*** (0.071)	0.597*** (0.116)
Government expenditure	-0.021*** (0.006)	-0.032* (0.011)	0.012*** (0.003)	0.004*** (0.002)
Constant	0.015 (0.014)	0.006 (0.011)	0.060*** (0.020)	0.025 (0.024)
AR (1)	0.045	0.342	0.065	0.300

AR2)	0.674	0.543	0.321	0.231
No. of instruments	19	19	0.564	0.432
Hansen test	0.234	0.342	0.342	0.421
Hansen test of Overid.	0.564	0.432	0.543	0.304
Hansen tests of exogeneity		exogeneity.543	0.442	0.765
Wald statistics	0.000	0.000	0.000	0.000

Note: [*] for 0.1 sig, [**] for 0.05 sig and [***] for 0.01 sig. Values in parentheses are standard errors.

Source: Author's analysis with WDI and WGI data



CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 INTRODUCTION

The chapter has five (5) sections. Section 5.1 summarizes the findings. Section 5.3 concludes the study. Section 5.4 provides recommendations, and section 5.5 provides limitations, and suggestions for further studies.

5.1 SUMMARY OF FINDINGS

This study investigates the direct effect of finance on growth and further examines the effect of institutional quality in that relationship. The results are summarised as follows;

The first objective examines the effect of finance on economic growth. The study finds a U-shaped relationship between financial development and economic growth such that finance and economic growth are negatively related. Although the results are counterintuitive it is expected that finance promotes growth through efficient credit allocation, capital formation and financial intermediation. However, in the case of SSA, the financial system is underdeveloped and has not reached the point where it can stimulate economic growth. In addition, insufficient funding to finance the private sector contributes to its poor growth potential and is the reason for its U-shaped relationship with economic growth.

The second objective investigates the relationship between institutional quality and economic growth. The results indicate that the institutional quality index of the six quality governance indicators stimulate economic growth. The results imply that a sound institutional environment enhances contract enforcement in the financial market, facilitates efficient resource allocation, improves information quality in the financial market, attracts foreign inflows and provides sound policies to promote economic growth.

Finally, the study investigates the role of quality institutions in the finance-growth nexus. The results show the interaction of the rule of law, political stability, and regulatory quality with financial development improves economic growth. Moreover, the overall institutional quality index complements finance to foster economic growth. The results imply that a sound institutional environment complements finance deficiencies to promote economic growth, highlighting the complementarity of finance and institutions on economic growth. Quality institutions make financial development growth-enhancing.

5.1 CONCLUSION

Recent literature focuses on the influence of institutions on economic outcomes. Given this, a threshold analysis from other studies investigates the point of sound institutions after which finance can promote growth. However, studies that apply the system GMM on the institutions on the finance-growth nexus are limited in SSA leading to a gap in SSA literature. This study investigates the direct effect of finance on economic growth, and, further examines the effect of quality institutions in this relationship in 28 countries in SSA from 2010 to 2022. Using the system GMM, the study finds a negative or U-shaped relationship between finance and economic growth,

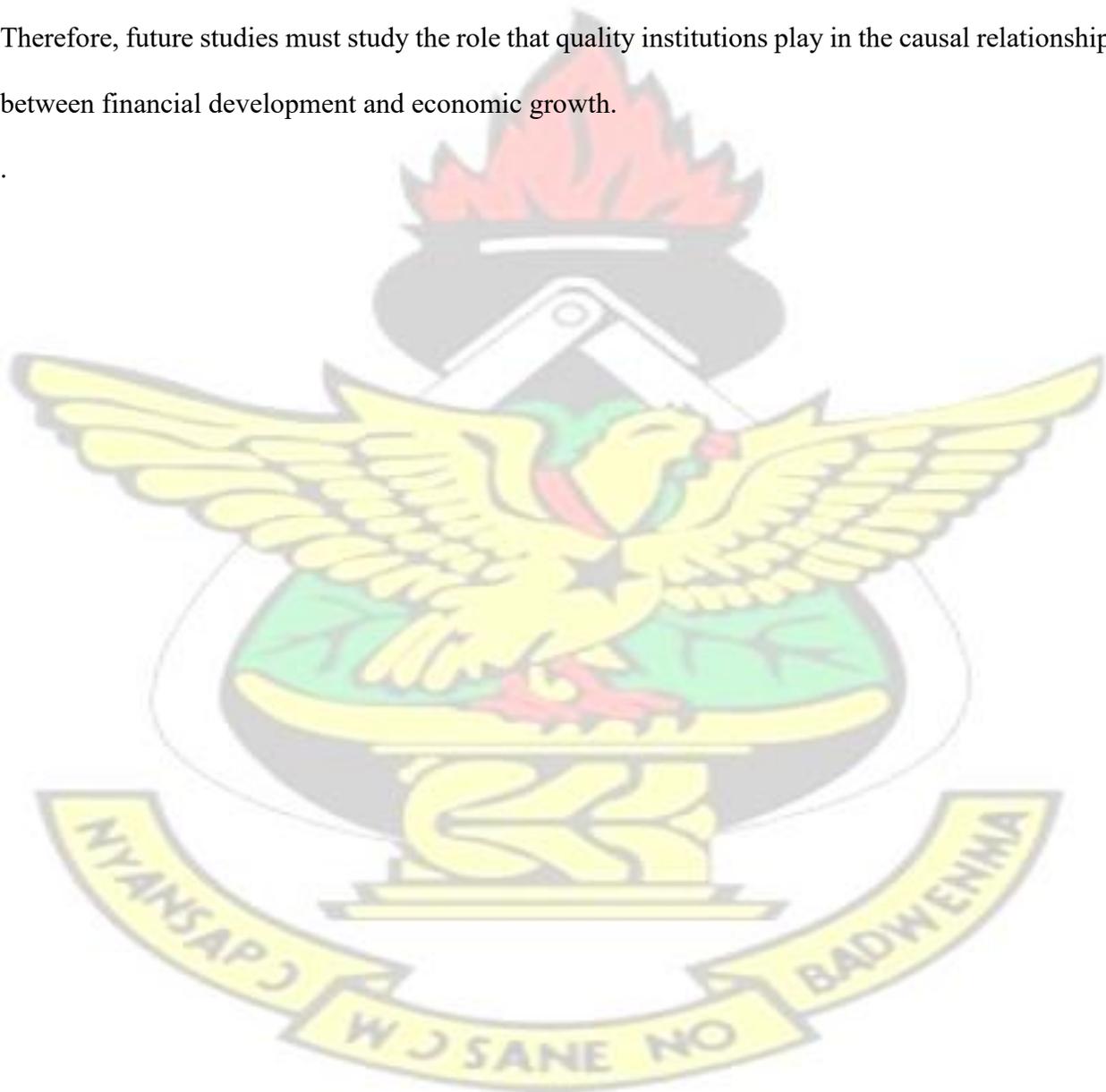
where more (less) finance drives (retards) economic growth, highlighting the underdeveloped financial market in SSA countries which has not reached a point where it can foster economic growth. Moreover, the results show that a sound institutional environment promotes economic growth. Finally, the results reveal that given efficient institutional environments such as political stability, rule of law, regulatory quality and overall institutional quality index, finance promotes economic growth. The results remain robust with a fixed effect estimator. The study concludes that finance is necessary, but not sufficient condition to achieve the expected economic growth unless sound institutions complement it.

5.3 RECOMMENDATIONS

The study finds a negative association between financial development and economic growth. Based on these findings, this study recommends that; (1) government and policymakers must implement policies that strengthen the financial markets. For instance, frictions in the financial market such as asymmetry information must be avoided through regulations that support quality information and transparency which increases funding and investments in the financial market to support private sector development; (2), the results show a complementarity of finance and institution on economic growth, and as such government and policymakers must implement sound institutions, particularly those that protect investors, encourage political stability, enhance sound polices and promote quality information in the financial market to achieve higher economic growth.

5.4 RECOMMENDATIONS FOR FURTHER STUDIES

This study has limitations. It only focuses on the supply-leading hypotheses where it hypothesises that financial development leads to economic growth. However, the demand-following hypothesis, posits that financial development follows economic growth in that when economic growth is high, the financial market improves. This creates a causality effect between finance and growth. Therefore, future studies must study the role that quality institutions play in the causal relationship between financial development and economic growth.



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