

https://dspace.org/

Financial Development and Economic Growth in South Africa

Mangwe, Lindelwa

2025
University of the Witwatersrand, Johannesburg
https://hdl.handle.net/10539/49224
Mangwe, Lindelwa. (2025). Financial Development and Economic Growth in South Africa [Master`s dissertation, University of the Witwatersrand, Johannesburg]. WIReDSpace. https://hdl.handle.net/10539/49224

Downloaded from a DSpace repository. https://dspace.org/

FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH IN SOUTH AFRICA

by

LINDELWA MANGWE

Master of Management in Finance & Investment
in the
FACULTY OF COMMERCE, LAW AND MANAGEMENT
WITS BUSINESS SCHOOL
at the

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

SUPERVISOR: PROFESSOR ODONGO KODONGO

TABLE OF CONTENTS

CHAPTER 1.....5
INTRODUCTION AND BACKGROUND.....5
1.0 Introduction.....5
1.1 Background.....6
1.2. Context of the Study.....8
1.3 Problem Statement.....10
1.4 Research Objectives.....11
1.5 Research Question.....11
1.6 Significance of the study.....11
CHAPTER 2: LITERATURE REVIEW.....13
2.0 Literature Review.....13
2.1 Theoretical Literature Review.....13
2.2 Empirical Literature Review.....17
CHAPTER 3: RESEARCH METHODOLOGY.....20
3.1 Introduction.....20
3.2 Research Design.....20
3.3 Data Collection.....20
3.4 Measures of Financial Development.....21
3.5 Research Variables Justification.....22
3.6 Estimation Technique and Procedures.....23
3.6.1 Analytical Framework.....24
3.6.2 Endogeneity.....24
3.6.3 Model Specification.....24
3.6.4 Model Testing and Validation.....25
CHAPTER 4: DISCUSSION OF RESULTS.....26
4.0 Introduction.....26
4.1 Descriptive Statistics.....26
4.1.1 GDP Growth.....27
4.1.2 Government Expenditure.....28

4.1.3 Political Risk 29
4.1.4 Population Growth (Annual %) 30
4.1.5 Gross Capital Formation (% of GDP) 31
4.1.6 Trade 31
4.1.7 Market Capitalization 32
4.2 Trend Analysis 33
4.2.1 GDP Growth (Annual %) 33
4.2.2 General Government Final Consumption Expenditure (% of GDP) 33
4.2.3 Trade (% of GDP) 33
4.2.4 Market Capitalization of Listed Domestic Companies (% of GDP) 34
4.2.5 Political Risk 34
4.2.6 Population Growth (Annual %) 34
4.2.7 Gross Capital Formation (% of GDP) 35
4.3 Correlation Analysis 38
4.3.1 GDP Growth (Annual %) 38
4.3.2 Government Expenditure (% of GDP) 38
4.3.3 Trade (% of GDP) 39
4.3.4 Market Capitalization (% of GDP) 39
4.3.5 Political Risk 39
4.3.6 Population Growth (Annual %) 40
4.3.7 Gross Capital Formation (% of GDP) 40
4.4 Stationarity Test 42
4.5 Cointegration Test 44
4.5.1 Vector Error Correction Model (VECM) Results 45
4.5.1 The Impact of Economic Shocks on Market Capitalization in South Africa: An Impulse Response Function Analysis 46
4.6 Generalized Method of Moments Results 47
4.6.1 The Disparity Between Financial Development and Economic Growth in South Africa 47
4.6.1.1 Government Consumption and Economic Growth 48
4.6.2 Identifying Barriers to Effective Economic Growth Stimulation 51

4.6.2.1 Political Stability and Economic Performance 51
4.6.2.2 The Impact of Corruption on Economic Growth in South Africa: A Financial Sector Perspective
.....52
4.6.2.3 Population Growth and Capital Formation.....53
4.6 The Impact of Domestic Credit Provided by the Financial Sector on Economic Growth54
4.7 Diagnostics Tests and Model Stability Tests 55
4.8.1. Diagnostic Tests 55
4.8.2. Model Stability Tests.....56
CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS 57
5.1 Summary of findings.....57
5.2 Conclusion 58
5.3 Recommendations.....60
5.4 Recommendations for further study.....61
REFERENCES.....63

Table of Abbreviations

Abbreviation	**Meaning**
ADF	Augmented Dickey -Fuller
COFI	Conduct of Financial Institutions
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GMM	Generalized Method of Moments
HDI	Human Development Index
IFWG	Inter-Governmental Fintech Working Group
IMF	International Monetary Fund
JSE	Johannesburg Stock Exchange
OLS	Ordinary Least Squares
SARB	Reserve Bank of South Africa
SATSA	South African
SMEs	Small and Medium-Sized Enterprises
VECM	Vector Error Correction Model

Figure 1: Proportion of Total Financial Sector Assets 10
Figure 2: Trend Analysis for the Variables 38
Figure 3: Differenced Variables 39
Figure 4: Impulse Response for Financial Development 51

CHAPTER 1

INTRODUCTION AND BACKGROUND

1.0 Introduction

South Africa's financial system is a beacon of advancement within the emerging market sphere, showcasing a degree of sophistication that is often compared to that of developed countries (Smith & Van der Merwe, 2021). This system is underpinned by a robust banking sector, a well-regulated stock exchange, and a burgeoning financial technology (fintech) subsector that is rapidly transforming the landscape of financial services. The Johannesburg Stock Exchange (JSE) is recognized as Africa's largest and most dynamic stock exchange, offering a platform for raising capital and trading a wide range of financial instruments (Johnson, 2020). South Africa's banking sector, under the purview of the South African Reserve Bank, complies with rigorous international regulations, fostering stability and trustworthiness (Moyo & Patel, 2023).

South Africa has experienced a huge boom in fintech innovation. The growth of mobile technology has enabled mobile banking and payment solutions, bringing financial services to previously disadvantaged sections of the population (Dlamini et al., 2021). Support from regulatory initiatives such as the Inter-Governmental Fintech Working Group (IFWG) and the Conduct of Financial Institutions (COFI) Bill has promoted financial inclusion and digital financial services [1]. These advancements are a critical step towards economic empowerment. Furthermore, the rise of fintech startups has introduced a competitive edge to the financial sector, fostering a culture of innovation and customer-centric product development (Baxter & Thorne, 2024).

Despite notable advancements in the financial sector, the anticipated economic boost has not yet occurred. South Africa is still grappling with slow economic growth, as evidenced by its GDP growth trailing behind the encouraging developments within its financial industry (Economic Analysis Division, 2022). The nation faces one of the highest unemployment rates globally, highlighting a gap between the growth of the financial sector and the creation of jobs (Khumalo, 2022). Additionally, South Africa is characterized by significant income inequality, ranking among the highest worldwide, which suggests that the benefits of financial innovations are not equitably shared or experienced by the entire population (Williams, 2022).

The factors contributing to this disconnect are complex and varied. One possible explanation is rooted in the structural limitations of the South African economy, which include dependence on commodity exports, inflexible labor markets, and inadequate infrastructure (Williams, 2022). These structural challenges may diminish the potential of financial sector growth to stimulate economic development. Furthermore, even though the financial sector is becoming more sophisticated, it may not be sufficiently aligned with the practical needs of the economy, particularly in terms of supporting small and medium-sized enterprises (SMEs), which are crucial for job creation (Nkosi & Van der Merwe, 2023).

Another element that may hinder economic growth, despite advancements in financial innovation, is the relatively small size of financial markets in relation to the overall economy. While South Africa boasts a well-developed financial sector, the real economy—which includes sectors like manufacturing, services, and agriculture—has not expanded at a comparable pace (Rousseau & Wachtel, 2002). This disparity indicates that the growth of the financial sector may have surpassed the real economy's ability to effectively utilize financial resources. Additionally, the advantages of financial innovations, such as fintech, have not been widely accessible. Financial inclusion remains a significant issue, with many individuals lacking access to essential financial services (Dlamini et al., 2021). This exclusion from mainstream financial systems could worsen economic disparities and limit the broader impact of financial development on overall economic growth.

1.1 Background

South Africa's financial sector serves as a fundamental pillar of the national economy, playing a crucial role in economic dynamics and significantly contributing to the country's Gross Domestic Product (GDP) (Moyo & Patel, 2023). In 2021, the banking sector alone represented 23.5% of GDP. The financial sector encompasses a wide array of services, including traditional banking, insurance, and investment management, all of which are vital for the functioning of both domestic and regional economies. The Johannesburg Stock Exchange (JSE), as the largest stock exchange in Africa, acts as an indicator of economic activity, providing a platform for companies to raise capital and for investors to diversify their portfolios (Johnson, 2020).

The strength of South Africa's banking system reflects the country's commitment to rigorous regulatory frameworks that align with international standards. These regulations ensure the stability and reliability of the financial system, fostering confidence among consumers and investors (Johnson, 2020). The regulatory landscape not only aims to maintain stability but also encourages competition and innovation within the sector.

In recent years, the emergence of financial technology (fintech) startups has transformed South Africa's financial landscape. These startups have been key in driving innovation, especially in areas such as peer-to-peer lending, mobile banking, and payment processing. The growth of fintech solutions has been supported by high mobile penetration rates and a youthful, tech-savvy demographic eagerness to adopt new technologies (Dlamini et al., 2021). This fintech movement promises to enhance financial inclusion by providing services to individuals who have historically been excluded. Despite the vibrancy within the financial sector, the broader South African economy has faced sluggish growth. The period following the 2008 global financial crisis has been particularly tough, with GDP growth rates struggling to surpass low single digits (Economic Analysis Division, 2022). This lackluster economic performance contrasts sharply with the stronger growth rates observed in other emerging markets, raising concerns about the financial sector's ability to convert its strengths into real economic benefits.

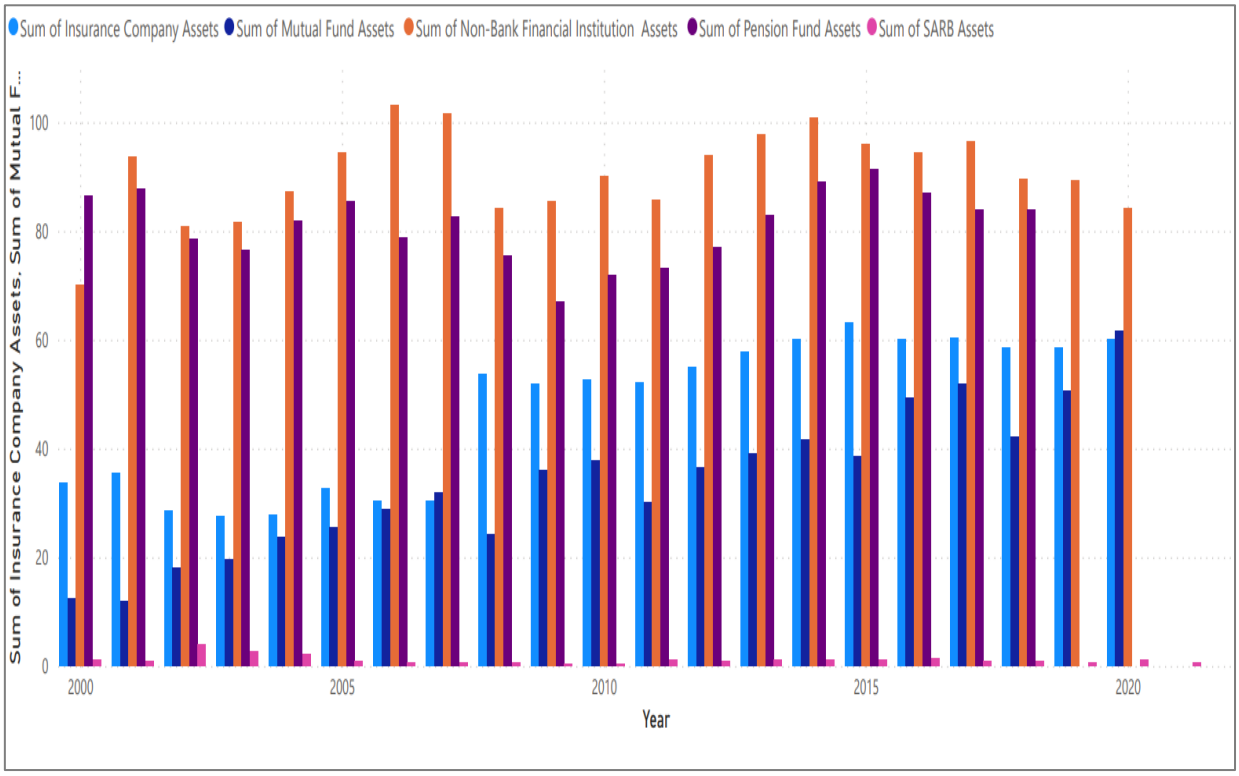
Several factors have been suggested to explain the disconnect between financial sector development and economic growth. Structural limitations, such as a heavy reliance on mineral exports, have rendered the economy susceptible to fluctuations in commodity prices and global demand (Williams, 2022). Additionally, ongoing policy uncertainty has been a recurring issue, with investors frequently citing unclear regulatory frameworks and concerns about political stability as barriers to investment (Williams, 2022). External shocks, including global economic downturns and trade disruptions, have further complicated these challenges, affecting the country's economic trajectory.

The role of financial development in this context is complex. While a well-functioning financial sector is typically seen as a key driver of economic growth, in South Africa, its benefits appear to be constrained by the aforementioned factors. The financial sector's ability to promote economic

development may be limited by insufficient integration with the real economy, particularly in sectors that have the greatest potential for job creation and value addition (Nkosi & Van der Merwe, 2023). Furthermore, the concentration of financial services in urban areas and among specific demographic groups exacerbates inequality and limits the sector's accessibility and impact (Dlamini et al., 2021).

South Africa's financial landscape is robust and diverse, with substantial assets held across various sectors. The insurance industry plays a crucial role in the economy, with total insurance assets estimated at around ZAR 5.3 trillion, representing the combined value held by insurance companies in the country. Another significant segment of the financial sector is the mutual fund industry, which manages investments for numerous investors, with total mutual fund assets amounting to approximately ZAR 3.8 trillion. These assets are diversified across various securities, including bonds, stocks, and other financial instruments. In addition to traditional financial institutions, non-financial entities also play a significant role in the overall asset landscape, with total assets estimated at around ZAR 12.6 trillion. This category includes various assets such as machinery, equipment, real estate, and other tangible or intangible assets owned by corporations, government entities, and non-profit organizations.

Pension funds, with assets totaling approximately ZAR 4.9 trillion, are essential for providing retirement benefits to employees in South Africa. These funds, managed by various pensions schemes, invest in a range of assets to generate returns and ensure the long-term financial security of retirees. Additionally, the Reserve Bank of South Africa (SARB) holds significant assets, totaling around ZAR 1.5 trillion, which include foreign reserves, government securities, loans to banks, and other financial instruments. SARB manages these assets to achieve its monetary policy objectives and maintain the stability of the country's financial system. South Africa's economic growth has been shaped by a variety of factors, including persistent power shortages and logistical challenges (World Bank, 2021). These issues have disrupted economic activities, raised operational costs for businesses, and impacted on essential infrastructure such as water supply, IT services, and overall *service delivery (World Bank*, 2021). Despite these challenges, South Africa's GDP has rebounded to pre-pandemic levels, although it continues to be constrained by structural limitations (World Bank, 2021).



Source: South African Reserve Bank

1.2. Context of the Study

Figure 1: Proportion of Total Financial Sector Assets

The economy has undergone a significant transformation, shifting from a primary and secondary focus to one primarily driven by the tertiary sector, which now contributes approximately 65% to GDP (Statistics South Africa, 2021). Key sectors propelling this economy include financial and business services, energy, real estate, tourism, manufacturing, IT, transportation, wholesale and retail trade, as well as mining, agriculture, and vehicle manufacturing (Statistics South Africa, 2021). Since the end of apartheid, the economy has diversified, leading to the emergence of a growing middle class in a relatively short timeframe. However, the natural resource extraction sector remains a crucial contributor to GDP (Statistics South Africa, 2021).

South Africa boasts a highly developed financial sector, characterized by an advanced banking system and the Johannesburg Stock Exchange (JSE), which is the largest stock exchange in Africa (South African Reserve Bank, 2021). The country has seen significant growth in its foreign

exchange reserves, which has contributed to a more diversified economy and the expansion of a burgeoning middle class (South African Reserve Bank, 2021). Reforms in the financial sector have aimed to enhance stability and financial inclusion, providing previously underserved populations with better access to banking and insurance services (South African Reserve Bank, 2021). Nevertheless, despite the growth and development of the financial sector, the natural resource extraction industry continues to play a vital role in the GDP (Statistics South Africa, 2021).

Research has established a positive correlation between domestic investment and various indicators of financial development (Beck, Demirgüç-Kunt, & Levine, 2000). The financial development observed in the 1970s is associated with increased investment levels in the 1980s and 1990s (Beck, Demirgüç-Kunt, & Levine, 2000). These findings align with other recognized factors influencing investment, such as real per capita GDP growth and trade flows (Beck, Demirgüç-Kunt, & Levine, 2000). The results indicate that financial development is crucial for fostering economic growth by facilitating capital accumulation (Beck, Demirgüç-Kunt, & Levine, 2000).

The interrelationship between economic growth and financial development in South Africa can be seen through various anecdotal connections. The severe electricity shortages and ongoing power issues underscore the importance of infrastructure and energy supply in supporting economic growth (World Bank, 2021). Additionally, the diversification of the economy, particularly the expansion of the tertiary sector and the growth of financial and business services, highlights the significance of a strong financial sector in driving economic growth and diversification (Statistics South Africa, 2021).

The positive correlation between domestic investment and financial development reinforces this anecdotal connection, suggesting that a well-functioning financial sector can stimulate investment and capital accumulation, thereby promoting economic growth (Beck, Demirgüç-Kunt, & Levine, 2000). However, ongoing challenges such as persistent power shortages and logistical inefficiencies emphasize the need for coordinated efforts to tackle structural barriers that hinder economic growth (World Bank, 2021). In this context, the financial sector plays a crucial role in facilitating infrastructure development and investment (South African Reserve Bank, 2021). Overall, the relationship between economic growth and financial development in South Africa is

both intricate and multifaceted.

Other factors also influence South Africa's economic growth and financial development. For instance, the education system is vital in shaping human capital and enhancing economic productivity. Investments in education and skill development are essential for fostering innovation, technological advancement, and overall economic competitiveness. Improving the quality and accessibility of education can facilitate long-term economic growth and development (World Bank, 2021). South Africa's economic growth and financial development are closely linked to the global economic landscape. As a highly integrated participant in global markets, the country is affected by international trends, including changes in commodity prices, trade dynamics, and investor sentiment. Factors such as global financial crises and fluctuations in international capital flows significantly impact South Africa's economic performance and financial stability (World Bank, 2021).

Moreover, addressing social and economic inequalities is crucial for achieving sustainable economic growth and financial development in South Africa. The country has historically faced significant disparities in income, wealth, and access to economic opportunities. Reducing inequality and fostering inclusive growth necessitate targeted policies and interventions to overcome structural barriers and promote equitable resource distribution (Statistics South Africa, 2021). Additionally, enhancing financial inclusion is a key aspect of financial development in South Africa. Ensuring access to affordable financial services, such as banking and insurance, is essential for individuals and businesses to fully engage in the formal economy. Expanding financial services to underserved populations, including rural communities and low-income individuals, can strengthen financial stability and contribute to inclusive economic growth (South African Reserve Bank, 2021).

1.3 Problem Statement

The coexistence of a sophisticated financial system alongside sluggish economic growth in South Africa presents a paradox that warrants further investigation. There is a prevalent expectation that financial development should naturally drive economic growth, a notion supported by both theoretical and empirical literature (Levine, 1997; King & Levine, 1993). The essential functions

of financial systems in efficiently allocating resources, facilitating trade and investment, and managing risk are well recognized. However, this mutually beneficial relationship between financial development and economic advancement seems to be disrupted in South Africa's distinct economic and social context (Nkosi & Van der Merwe, 2023).

This complex issue is deeply embedded in the structure of South Africa's economy and society, posing a significant challenge that transcends mere numerical assessments. Addressing this dilemma is crucial not only for the nation's overall economic health but also for the welfare of its citizens, particularly those historically marginalized from mainstream financial services and opportunities. Moreover, the barriers to effectively aligning financial development with economic growth extend beyond macroeconomic factors. They are intricately linked to South Africa's social and institutional landscape, reflecting broader issues of access, inclusivity, and equitable distribution of financial benefits. Tackling these systemic challenges is essential, as it not only unlocks the potential of the financial sector to drive economic growth but also promotes societal well-being and cohesion (Nkosi & Van der Merwe, 2023).

In summary, the disparity between the significant advancements in South Africa's financial system and the lackluster economic growth highlights an urgent need for a thorough and insightful analysis. This examination should encompass not only macroeconomic indicators but also explore the complex interplay of institutional, social, and regulatory factors that shape the country's economic environment. By unraveling these complexities, South Africa can establish a foundation for strategic interventions that align financial development with broader economic progress, ultimately fostering a more inclusive and resilient economic ecosystem.

1.4 Research Objectives

To address the problem, this research will focus on several key objectives:

1. **Diagnose the Disparity**: To ascertain the factors that contribute to the disparity between financial development and economic growth in South Africa.
2. **Identify Barriers**: To identify the factors that prevent the financial system from effectively stimulating economic growth.

1.5 Research Question

The central research questions that this research aims to answer are:

- What factors contribute to the disparity between financial development and economic growth in South Africa?
- What are the primary barriers to effective economic growth stimulation by the financial system in South Africa?

1.6 Significance of the study

The results of this study provide valuable insights for investors and businesses operating in South Africa. A deeper understanding of the relationship between economic growth and financial development can help investors assess risks, identify investment opportunities, and make informed decisions. This knowledge can also assist businesses in developing strategies that leverage financial development to foster growth and improve profitability. Ultimately, these insights have the potential to attract investments and stimulate economic activity within the country.

Moreover, the study's contributions extend beyond practical applications. By offering empirical evidence and insights into the relationship between financial development and economic growth in South Africa, it lays the groundwork for further research and analysis in the finance sector. The findings not only enhance our understanding but also encourage meaningful discussions and debates among researchers, promoting intellectual growth and collaboration to advance the field.

One limitation of the study is the difficulty in establishing causality. While previous research has examined the relationship between financial development and economic growth, pinpointing a causal link remains challenging. Factors such as reverse causality, feedback effects, and omitted variables may affect the observed relationship. Overcoming this limitation requires careful application of econometric techniques and robust identification strategies to clarify the direction and causality of the relationship. Additionally, the potential for endogeneity poses another challenge, as economic growth and financial development are often influenced by various factors, including political stability, technological advancements, and the quality of institutions.

CHAPTER 2

LITERATURE REVIEW

2.0 Literature Review

The connection between a well-developed financial system and economic growth has been widely studied through theoretical and empirical research in economics. Foundational theories and models have sought to explain this complex relationship, while contemporary scholars have built on these ideas to provide deeper insights. This section explores the perspectives established by early pioneers and the advancements made by modern authors in understanding the impact of financial system development on economic growth.

2.1 Theoretical Literature Review

The Financial Intermediation Theory emphasizes the crucial role of financial institutions as intermediaries between savers and investors (Diamond, 1984). By facilitating the efficient allocation of capital, these institutions are vital for promoting economic growth. In South Africa, a robust financial sector—comprising banks, stock markets, and insurance companies—can effectively mobilize savings and channel them into productive investments. This process not only supports business expansion and job creation but also propels overall economic development, positively impacting the nation's economic progress.

The Financial Deepening Hypothesis posits that a more sophisticated financial system, with broader access to financial services, can stimulate economic growth (Levine, 1997). In South Africa, enhancing access to banking, credit, and insurance services can yield significant benefits. By extending these services to previously marginalized groups, economic inclusivity can be improved, enabling individuals and businesses that were once excluded from the formal financial sector to engage in economic activities. Improved access to financial services can also boost productivity by providing individuals and businesses with resources and opportunities to invest in education, entrepreneurship, and technology.

Institutional quality is essential for financial development and economic growth (Beck et al., 2003). A strong legal and regulatory framework is necessary to foster trust, stability, and

confidence in the financial sector. In South Africa, ensuring robust property rights, effective contract enforcement, and transparent regulatory frameworks are critical steps toward promoting financial development. By protecting investor rights and encouraging accountability and transparency within financial institutions, South Africa can create an environment that attracts both foreign and domestic investment, which in turn will drive the growth of the financial sector and contribute to overall economic development.

Financial innovation, including the development of new financial products and services, can significantly influence economic growth (Aghion et al., 2005). To advance financial development and stimulate economic progress in South Africa, it is essential to cultivate an environment that nurtures and supports financial innovation. Promoting technological advancements, encouraging the adoption of digital financial solutions, and supporting the development of innovative financial products can significantly benefit South Africa. By embracing financial innovation, the country can enhance the efficiency of financial transactions, lower transaction costs, and improve financial inclusion. This, in turn, can lead to increased financial intermediation, better access to credit, and overall economic growth

Schumpeter (1911) underscored the role of financial intermediaries in facilitating innovation and entrepreneurship, which he viewed as central to economic development. Financial institutions enable the reallocation of resources toward more productive activities by financing innovative ventures, thus acting as engines of growth. While South Africa boasts a sophisticated financial sector, the innovation ecosystem remains constrained. Systemic issues such as historical inequality, limited access to finance for SMEs, and underinvestment in R&D reduce the economy's capacity to translate financial development into broad-based innovation. The country's high unemployment and skills mismatch further the entrepreneurship channel Schumpeter envisioned. Endogenous growth models, particularly those proposed by Romer (1986) and Lucas (1988), highlight internal factors like human capital accumulation and knowledge spillovers as key drivers of sustained growth.

These theories argue that financial development boosts growth by supporting investment in education, technology, and innovation. In South Africa, structural barriers—including unequal

access to quality education, low research intensity, and underdeveloped innovation systems—compromise the mechanisms through which financial development fosters growth. The benefits of capital accumulation and human capital development are disproportionately concentrated among already-privileged groups, limiting economy-wide gains.

In contrast, Robinson (1952) introduced a demand-following hypothesis, suggesting that economic growth generates demand for financial services, which in turn leads to the development of the financial sector. This perspective posits that financial development is a result of economic growth rather than a precursor. The finance-growth relationship has also been explored through the "law and finance" theory, developed by La Porta et al. (1998) and Levine (1999). This approach underscores the significance of legal and institutional frameworks in shaping financial system development and its impact on economic growth. Strong legal rights, investor protection, and effective contract enforcement are deemed essential for the establishment of well-functioning financial markets and intermediaries.

Additionally, the literature emphasizes the importance of financial structure—specifically, the relative significance of bank-based versus market-based financial systems—in influencing the finance-growth relationship. Scholars like Demirgüç-Kunt and Levine (2001) and Levine (2002) have investigated the differing effects of bank-based and market-based financial systems on economic growth, which has implications for policy formulation.

Furthermore, financial inclusion and institutional quality are critical factors for developing economies like South Africa. Theories surrounding financial inclusion explore how access to financial services for all societal segments can drive economic growth. The Financial Intermediation Theory highlights the significance of financial inclusion in facilitating efficient resource allocation and mobilizing savings for investment. By providing individuals and businesses with access to financial services such as credit and savings accounts and financial intermediaries enable them to secure funds for productive purposes. This, in turn, stimulates economic activity, fosters entrepreneurship, and encourages investment, ultimately leading to economic growth. Another relevant theory regarding financial inclusion is the Investment and Productivity Theory, which posits that financial inclusion positively influences investment and

productivity levels within an economy. When individuals and businesses have access to financial services, they can secure capital for investing in productive assets, technology, and human capital. By facilitating investment, financial inclusion boosts productivity, creates job opportunities, and contributes to overall economic development (Beck et al., 2007). Additionally, the quality of institutions, including governance and regulatory standards, plays a crucial role in shaping financial development and economic growth (Acemoglu & Robinson, 2008). Exploring behavioral finance can also shed light on the unique financial behaviors observed in South African markets.

Despite their significant contributions, these theories face various criticisms. Schumpeter's theory is often critiqued for placing too much emphasis on innovation and entrepreneurship, potentially overlooking other factors such as labor and capital efficiency improvements (Fagerberg, 2003). It also fails to adequately address potential market failures and the government's role in correcting these failures (Lazonick, 1993). The endogenous growth theories of Romer and Lucas, while influential, have been criticized for assuming constant returns to scale in knowledge production, which may not always hold true (Solow, 1994). They also tend to underestimate the effects of external economic shocks and cyclical fluctuations (Aghion & Howitt, 1998).

Robinson's demand-following hypothesis encounters challenges in establishing clear causality between economic growth and financial development, complicating its policy implications (Patrick, 1966). The "law and finance" theory has been criticized for overemphasizing the importance of legal systems while potentially downplaying cultural and economic factors (Stulz & Williamson, 2003). Additionally, its Western-centric bias may not be directly applicable to developing countries (Beck et al., 2007). Lastly, the debate surrounding bank-based versus market-based financial systems is often criticized for being highly context-specific, with outcomes that depend on a country's stage of development and institutional framework (Allen & Gale, 2000).

Technological advancements, the adoption of digital financial solutions, and the creation of innovative financial products can significantly drive economic growth in South Africa. Embracing financial innovation can enhance transaction efficiency, reduce costs, and improve financial inclusion, ultimately boosting financial intermediation and expanding access to credit.

Schumpeter's (1911) theory of economic development remains foundational for understanding the role of financial intermediaries in promoting economic growth. Schumpeter argues that a well-functioning financial system is essential for fostering technological innovation, capital accumulation, and effective resource allocation, which in turn drives economic development. Romer (1986) and Lucas (1988), in their endogenous growth theories, further support this supply-side perspective by emphasizing the importance of internal factors such as human capital and financial institutions in sustaining long-term economic growth. According to these theories, financial intermediaries mobilize savings, allocate capital, and reduce information asymmetries, all of which enhance productivity and stimulate technological progress.

In contrast, Robinson's (1952) demand-following hypothesis posits that economic growth generates demand for financial services, suggesting that financial development is a consequence of growth rather than a precursor. This perspective indicates that the needs created by economic growth drive financial development. Another significant framework for understanding the finance-growth relationship is the "law and finance" theory, developed by La Porta et al. (1998) and Levine (1999). This theory emphasizes the crucial role of legal and institutional frameworks in the development of financial markets, highlighting that strong legal rights, investor protection, and efficient contract enforcement are essential for fostering robust financial systems and supporting economic growth.

The structure of the financial system, whether it is bank-based or market-based, also plays a vital role in influencing the finance-growth nexus. Scholars such as Demirgüç-Kunt and Levine (2001) and Levine (2002) have analyzed how different financial system structures impact economic growth, noting that the implications for policy can vary depending on the system in place. Financial inclusion is another critical factor in driving economic development, particularly in emerging economies like South Africa. Theories surrounding financial inclusion, such as the Financial Intermediation Theory, stress that providing access to financial services for all segments of society helps mobilize savings, allocate resources efficiently, and support investment. By enabling individuals and businesses to access credit and savings, financial intermediaries promote economic activity, entrepreneurship, and investment, ultimately leading to economic growth.

The Investment and Productivity Theory further highlights the positive relationship between financial inclusion, investment, and productivity. When financial services are accessible, businesses and individuals can secure capital for productive assets, technology, and human capital investment, which enhances productivity and creates job opportunities. This theory suggests that financial inclusion significantly contributes to overall economic development (Beck et al., 2007). Additionally, the quality of institutions and governance is crucial in shaping both financial development and economic growth (Acemoglu & Robinson, 2008). Exploring behavioral finance may also provide unique insights into the financial behaviors prevalent in South African markets.
Despite their contributions, these theories face several criticisms. Schumpeter's theory has been criticized for placing too much emphasis on innovation and entrepreneurship while neglecting factors such as labor and capital efficiency improvements (Fagerberg, 2003). It also fails to adequately address market failures and the government's role in mitigating them (Lazonick, 1993).

The endogenous growth theories proposed by Romer and Lucas, while influential, have been criticized for assuming constant returns to knowledge production, a concept that may not universally apply (Solow, 1994). They also tend to overlook the effects of external economic shocks and cyclical fluctuations (Aghion & Howitt, 1998). Robinson's demand-following hypothesis faces challenges in establishing clear causality between financial development and economic growth, complicating the derivation of effective policy implications (Patrick, 1966). The "law and finance" theory has been criticized for focusing too heavily on legal systems while potentially overlooking cultural and economic factors that may be equally significant (Stulz & Williamson, 2003). Furthermore, its Western-centric perspective may not be fully applicable to developing countries (Beck et al., 2007). Finally, the debate between bank-based and market-based systems is often viewed as context-specific, with outcomes dependent on a country's stage of development and institutional framework (Allen & Gale, 2000).

2.2 Empirical Literature Review

The relationship between financial development and economic growth in South Africa has been extensively studied through various empirical research efforts. Researchers have utilized a range of methodologies to investigate this connection and its implications for policy. For instance, Demetriades and Hussein (1996) analyzed time series data from 1965 to 1993 and discovered a

significant positive relationship between financial development—measured by the ratio of liquid liabilities to GDP—and economic growth. This finding underscores the essential role that financial development plays in promoting economic growth in South Africa.

Similarly, Odhiambo (2008) employed a multivariate approach using data from 1960 to 2004, revealing a strong positive long-term relationship between financial development—measured by credit to the private sector—and economic growth. His results also indicated that financial development positively influences investment, further reinforcing its role in supporting economic growth. Nyasha and Odhiambo (2015) expanded on this topic by examining the interplay between income inequality, financial development, and economic growth in South Africa, utilizing annual data from 1980 to 2012. Their findings, based on the ARDL bounds testing method, indicated a positive long-term relationship between financial development—measured by the ratio of private sector credit to GDP—and economic growth. They also noted that financial development positively impacts investment and can help reduce income inequality, suggesting broader benefits for the economy.

Gupta et al. (2016) investigated the causal relationship between financial development, economic growth, and carbon emissions in South Africa. Using the Toda-Yamamoto causality test on quarterly data from 1990 to 2014, their research identified a unidirectional causality flowing from economic growth to financial development. Additionally, they observed a bidirectional relationship between financial development and carbon emissions, highlighting a complex interaction with environmental sustainability.

Panel data analysis has been extensively utilized in researching the relationship between financial development and economic growth. For example, Demirgüç-Kunt and Levine (2001) identified a significant positive correlation between credit availability and GDP growth, supporting the supply-leading hypothesis, which posits that financial development drives economic growth. Additionally, Beck et al. (2007) highlighted the importance of financial inclusion, demonstrating that access to banking services for underserved populations positively impacts economic growth.

In contrast, Odhiambo's studies (2009, 2010) produced differing results using the ARDL approach.

His 2009 research suggested a demand-following relationship, where economic growth leads to financial development, while his 2010 study supported a supply-leading relationship. These discrepancies may stem from variations in the periods analyzed or the specific aspects of financial development and growth being measured.

Other studies, such as Agbetsiafa (2004), which employed the Granger causality test, found a supply-leading relationship, whereas Menyah et al. (2014) identified a unidirectional causality running from economic growth to financial development, supporting the demand-following hypothesis. This latter study, which included 21 African countries, suggested that country-specific factors could influence these relationships.

The application of cointegration and error correction models has also yielded valuable insights. Akinboade and Kinfack (2006) discovered a long-term equilibrium relationship between financial development and economic growth, with financial development positively influencing economic growth. Sunde (2012) reached similar conclusions using the ARDL approach. Bittencourt (2012) examined a broader group of developing countries, including South Africa, and found that financial development positively affects economic growth, although the impact was stronger in Brazil and Chile than in South Africa, indicating that other factors beyond financial development are at play.

South Africa's financial system is shaped by several sectors. The banking sector, despite facing increased competition from new entrants, remains highly concentrated, with the largest banks holding over 85% of industry deposits as of 2020. South Africa's capital markets are the most developed and liquid in Africa, featuring a well-established bond market that represents about 85% of GDP and a stock market capitalization reaching 300% of GDP. Additionally, the informal financial sector, including mobile money and savings groups, is gaining importance. The 2021 Finscope survey revealed that 40% of low-income households held dormant accounts, with 19% withdrawing all funds immediately after deposits. This highlights the need for policies aimed at enhancing financial inclusion and encouraging active engagement with financial services.

Several policy recommendations emerge from the literature to foster financial development and

economic growth in South Africa. Addressing structural constraints, such as rigid labor markets and bureaucratic inefficiencies, is essential for financial institutions to effectively support growth. Promoting financial inclusion, enhancing competition and innovation in the banking sector, and further developing capital markets can improve resource allocation to productive sectors of the economy. These efforts can help unlock South Africa's full economic potential.

Studies by Jalil and Feridun (2011) and Cheng et al. (2014) further emphasize the positive impact of financial development on economic growth. Jalil and Feridun found a significant long-term relationship between financial development—measured by domestic credit to GDP—and economic growth, with financial development boosting investment. Cheng et al. (2014) also observed a positive relationship between financial development and poverty reduction, indicating that financial services can help lower poverty levels in South Africa. Similarly, Sibanda et al. (2018) found a positive link between financial development and economic growth but also noted its potential to increase income inequality.

Mokwena et al. (2020), using the ARDL approach, analyzed the effects of financial development on economic growth and employment from 1994 to 2017. They concluded that financial development positively affects both economic growth and job creation, highlighting its potential to contribute to employment and broader economic expansion.

Despite these valuable contributions, empirical literature has several limitations. Conflicting evidence regarding the causal relationship between financial development and economic growth underscores the need for further research to reconcile these differences. Many studies focus on aggregate measures, overlooking the role of specific sectors and institutions, which could provide deeper insights into how financial development influences economic growth. Additionally, the impact of financial development on income inequality and inclusive growth has not been sufficiently explored in the South African context, warranting further investigation.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

This section details the methods, assumptions, and models employed to investigate the relationship between financial development and economic growth in South Africa. Financial development is essential for promoting economic growth by facilitating savings mobilization, enhancing investment opportunities, and improving resource allocation (Agenor, 2003). In this study, the Generalized Method of Moments (GMM) is utilized to address concerns related to endogeneity and to provide robust estimates, capturing the dynamic nature of economic growth and the potential for reverse causality. This chapter explains how GMM is applied to achieve the study's objectives. In simpler terms, the model developed in this research aims to explore the connection between the development of the financial sector and overall economic growth.

3.2 Research Design

The study employs a quantitative research approach, which involves the collection and analysis of numerical data to identify patterns, test causal relationships, make predictions, and generalize findings to a larger population (Bhandari, 2020). The primary objective of this design is to uncover relationships and trends between variables. Statistical techniques are utilized to analyze data and test hypotheses (Jain, 2023). To capture the persistence of economic growth over time, the study incorporates a dynamic panel data model that includes historical economic growth values as regressors. This approach is crucial as it recognizes the influence of past growth on current economic conditions.

3.3 Data Collection

For accurate analysis, this study includes key indicators of both banking sector development and stock market growth. While previous research has typically relied on conventional measures, the financial landscape is continually evolving, with new metrics being introduced and refined. Given the mixed findings in recent studies across various income levels and regions, this research carefully defines its variables to reflect the latest global trends (Dinç, 2019). The study uses annual secondary data from 1980 to 2023, sourced from reputable organizations such as Statistics South Africa (StatSA), the World Bank, the International Monetary Fund (IMF), and the South African

Reserve Bank. By using a broad dataset, the research aims to draw reliable conclusions based on accurate secondary data. The dependent variable in the study is the GDP growth rate, with various financial development indicators serving as the main independent variables. Additionally, control variables which encompasses trade openness, inflation, and government spending are included to account for other factors that may influence economic growth.

Table 1: Variables and Sources

Variable	**Source**
GDP growth (annual %)	STATSA (dependent variable)
General government final consumption expenditure (% of GDP)	STATSA
Inflation, consumer prices (annual %)	SARB
Domestic credit provided by financial sector (% of GDP)	SARB/World Bank Database (Proxy for financial Development)
Bank nonperforming loans to total gross loans (%)	SARB
Trade (% of GDP)	SARS
Unemployment, total (% of total labor force) (modelled ILO estimate)	STATSA
Gross savings (% of GDP)	World Bank Database
Market capitalization of listed domestic companies (% of GDP)	World Bank
Lending interest rate (%)	World Bank/SARB
Treasury bill rate, %	World Bank/SARB

3.4 Measures of Financial Development

Various proxy variables can be utilized to measure financial development, one of which is the domestic credit provided by the financial sector as a percentage of GDP (Sehrawat & Giri, 2015). This indicator, referred to as domestic credit provided by the financial sector (% of GDP), reflects the size and depth of the financial sector. It encompasses all credit extended to different sectors, excluding credit to the central government, which is netted out. The financial sector includes central banks, deposit money banks, and other financial institutions, even those that do not accept transferable deposits but hold time and savings deposits (Acheampong, 2019; Akinlo et al., 2021). This measure serves as a proxy for financial development because it indicates the extent of credit the financial sector provides to the private sector. A higher percentage suggests a more developed

financial system, which offers greater access to credit for businesses and individuals, potentially stimulating investment, economic growth, and overall financial stability. To gain a more comprehensive understanding of financial development, other significant variables should also be considered.

The World Bank emphasizes the importance of market capitalization of listed domestic companies as a percentage of GDP, which reflects the level of activity in the stock market and the size of listed companies relative to the economy (World Bank, 2021). Another critical indicator is the ratio of nonperforming loans to total gross loans in banks, which provides a robust measure of the health of the financial sector (Jammeh, 2022). This ratio assesses the quality of bank loan portfolios and the level of credit risk. A lower percentage of nonperforming loans indicates a more efficient and healthier financial sector. Including this variable in the analysis enhances the understanding of financial development.

3.5 Research Variables Justification

The relationship between financial development and economic growth is a critical area of research, particularly in the South African context. This study aims to examine the disparity between financial development and economic growth in South Africa, as well as identify the barriers hindering the financial sector from effectively stimulating growth. To address these objectives, several key indicators are included in the analysis, each playing a vital role in understanding this complex relationship. Each variable in this study was included because of their continued use in the empirical literature to align closely with existing research. The choice of indicators was also affected by practical considerations, which is the availability and reliability of data as some variables especially sensitive financial or institutional variables are hard to access, or not consistently reported.

GDP Growth (annual %) (REALGDP) is a key measure of economic performance, GDP growth is the primary indicator of economic growth. This variable allows the study to explore how financial development correlates with increases in economic output. It is integral to understanding the gap between financial development and economic growth in South Africa.

*Government Spending, this is G*overnment expenditure on sectors like healthcare, education, and infrastructure can stimulate economic activity, fostering an environment conducive to financial development. This variable is crucial for identifying barriers that may prevent the financial system from stimulating economic growth.

Government spending can boost economic activity by funding healthcare, education, and infrastructure, which are critical for creating an atmosphere that is favourable to financial development. Understanding the role of government spending is crucial for identifying barriers that may prevent the financial system from effectively stimulating economic growth.

Trade (% of GDP) (TRADEOPEN) represents the degree of engagement with the global economy, reflected by trade openness, which can facilitate financial development by expanding access to markets and investment opportunities. This variable highlights the influence of international trade dynamics on domestic economic growth and the financial sector.
Trade (% of GDP) (TRADEOPEN) represents the degree to which South Africa engages with the global economy. A higher level of trade openness can facilitate financial development by increasing access to markets and investment opportunities. This variable is pertinent to diagnosing disparities, as it highlights how international trade dynamics may influence domestic economic growth and financial sector performance.

Market Capitalization of Listed Domestic Companies (% of GDP) - This indicator sheds light on the health of South Africa's financial markets. A well-developed financial sector is essential for efficient resource mobilization and capital allocation. This variable will help assess whether the size and depth of the financial markets align with economic growth. Political Risk (Human Development Index) reflects the stability and governance quality within South Africa. Political stability is essential for creating an environment where financial institutions can thrive and effectively support economic growth. Including this variable allows the research to identify barriers posed by governance issues that may inhibit financial sector development and, consequently, economic growth.

Population Growth (annual %) (POPGTH) plays a significant role in understanding Labor supply

and consumer demand dynamics. A growing population can drive economic growth through increased Labor force participation and consumption, but it may also strain the financial system if growth does not keep pace. This variable is crucial for diagnosing disparities, as it highlights the demographic factors influencing both financial sector development and economic growth. Gross Capital Formation (% of GDP) (Capital) is essential for understanding the investment landscape within South Africa. High levels of gross capital formation indicate a commitment to investing in physical assets that can enhance productivity and spur economic growth. By analyzing this variable, the research can identify how investment behavior interacts with financial development to influence economic outcomes.

Finally, the Corruption Index (CORRUPTION) has a negative impact on economic growth by undermining trust and efficiency within public and financial institutions. This variable is crucial for understanding how corruption can diminish the potential benefits of financial development and assess the integrity of the financial system and public institutions. Therefore, it is essential for identifying barriers to effective economic growth stimulation, as it illustrates how corruption can weaken the potential advantages of financial development. In conclusion, these variables create a comprehensive framework for examining the relationship between financial development and economic growth in South Africa. The research aims to uncover the factors contributing to the gap between financial development and economic growth and to identify the barriers that prevent the financial system from effectively stimulating economic growth. The findings will offer valuable insights to inform policy decisions aimed at promoting both financial and economic development.

3.6 Estimation Technique and Procedures

The Generalized Method of Moments (GMM) is an appropriate approach for examining the relationship between financial development and economic growth in South Africa. GMM is widely utilized in econometrics, particularly for semiparametric models where the complete distribution of the data may not be known. It is especially effective in addressing endogeneity issues and managing dynamic micro panel data, such as firm-specific information.

GMM offers several advantages for this analysis. It allows for the inclusion of multiple instrumental variables (IVs), which is essential for capturing the complex relationships between

financial development and economic growth. Furthermore, GMM extends the method of moments (MM) by accommodating more moment conditions than parameters, enhancing its efficiency. This flexibility and efficiency make GMM an excellent tool for analyzing the relationship between financial development and economic growth.

The use of GMM in this analysis is well-supported by existing academic literature. Researchers have consistently recommended GMM for addressing endogeneity concerns and effectively managing the dynamic nature of panel data. GMM estimators are known for their consistency, asymptotic normality, and high efficiency among estimators that rely solely on information contained in the moment conditions. Additionally, the literature highlights the remarkable flexibility and efficiency of GMM in capturing the intricate relationships between variables.

3.6.1 Analytical Framework

By utilizing the Generalized Method of Moments (GMM), this study aims to provide a reliable framework for understanding the relationship between financial development and economic growth in South Africa. Although ARDL and VAR models add value when researchers try to track short and long run ties in stationary or mixed-order time series data (Pesaran & Shin, 1999; Sims, 1980), this paper instead relies on the Generalized Method of Moments (GMM) because it handles endogeneity and hidden unit effects better in panel settings (Arellano & Bond, 1991; Blundell & Bond, 1998). GMM effectively addresses endogeneity issues, manages dynamic relationships, and ensures the validity of instruments, thereby enhancing the credibility of empirical findings. Choosing GMM thus matches the dataset's design, which tracks many units over time and is likely affected by simultaneity bias. This approach is particularly beneficial in capturing the complexities of the interactions between financial development and economic growth, ensuring that the results are robust and informative.

3.6.2 Endogeneity

Endogeneity is a significant concern in econometric analysis, particularly when an explanatory variable is correlated with the error term. In this study, endogeneity can stem from two main sources. First, there may be reverse causality between financial development and GDP growth, where both variables influence one another. Second, unobserved variables could affect both

financial development and economic growth, introducing confounding factors. To tackle endogeneity, GMM utilizes instrumental variables, typically lagged values of the endogenous variables. These instruments are assumed to be uncorrelated with the error term while being correlated with the endogenous regressors. By incorporating these instruments, GMM ensures consistent and efficient estimation, effectively overcoming the endogeneity bias that would occur with traditional methods like ordinary least squares (OLS). This approach enhances the reliability of the analysis by addressing potential biases in the estimation process.

3.6.3 Model Specification

GMM Estimation

The Arellano-Bond estimator will be employed for dynamic panel data to effectively manage endogeneity arising from lagged dependent variables and other regressors. By applying a first-difference transformation, this method eliminates country-specific effects, allowing for a clearer analysis of the data. Additionally, the study will utilize two approaches to analyze economic growth. The Per Capita Approach focuses on converting the economic growth function into per capita terms, which facilitates a better understanding of individual contributions to growth. In contrast, the Aggregate Values Approach employs aggregate values and incorporates lagged GDP growth to capture cumulative effects on current growth rates. This dual approach provides a nuanced understanding of the dynamics of economic growth.

Financial Development and Economic Growth Equation:

$$\Delta REALGDP_t = \beta_0 + \beta_1 \Delta REALGDPt_{t-1} + \beta_2 \Delta CAPITAL_t + \beta_3 \Delta POPGTH_t + \beta_4 \Delta GOVSPEND_t + \beta_5 \Delta POLICRISK_t + \beta_6 \Delta TRADEOPEN_t + \beta_7 \Delta MKTCAP_t + \Delta\varepsilon_t \ldots \text{Eqn (1)}$$

Human development is fundamentally linked to key economic indicators, particularly political risk and financial development. Political risk serves as a crucial measure of a country's stability and governance quality, directly influencing the well-being of its citizens. It reflects the potential for investment returns to be affected by political changes or instability within a nation. On the other hand, financial development is assessed through stock market capitalization as a percentage of nominal GDP, which indicates the strength and accessibility of financial markets. This metric provides insights into how financial systems support economic activities and contribute to overall development. Together, these indicators highlight the intricate relationship between human

development and economic conditions.

GMM Assumptions

To properly ensure that the GMM estimation is both reliable and robust, several econometric assumptions were tested and met to investigate the relationship between growth and economic development in South Africa. Assumptions in econometric models help in providing a framework for estimation and inference, hence assisting researchers to draw meaningful conclusions about the dependencies between variables, thus ensuring that the model's results are valid and reliable (Wooldridge, 2010).

3.6.4 Model Testing and Validation

Hansen Test

The Hansen test for overidentifying restrictions is used to assess the validity of the instruments employed in econometric models. A p-value greater than 0.05 indicates that the instruments are valid, leading us to fail to reject the null hypothesis. This suggests that the instruments used in the model do not violate the overidentifying restrictions, thereby supporting the reliability of the estimation results.

Arellano-Bond Test for Autocorrelation

The Arellano-Bond test for autocorrelation checks for the presence of second-order serial correlation in the differenced error terms. Ideally, there should be no second-order autocorrelation (AR (2)), while first-order autocorrelation (AR (1)) is expected. If the AR (2) test yields significant results, it would suggest potential model misspecification, indicating that the model may not adequately capture the underlying data structure. This test is crucial for ensuring the robustness of the econometric analysis.

CHAPTER 4
DISCUSSION OF RESULTS

4.0 Introduction

Section 4.1 begins by presenting the descriptive statistics for all the variables analyzed, summarizing their characteristics and distributions based on annual secondary data collected from 1980 to 2023. The primary variables of interest include GDP growth, inflation, domestic credit from the financial sector, and various indicators of financial development. This section aims to provide a comprehensive overview of the data, revealing trends and patterns that may influence further analyses. In Section 4.2, the discussion centers on the trends in credit costs alongside their predictor variables over the past 46 years.

This section emphasizes the relationship between financial development and economic growth, while also considering the effects of control variables such as government spending and trade dynamics. By examining these relationships, the study seeks to uncover how different factors interact and contribute to economic outcomes. Section 4.3 focuses on the results obtained from the Generalized Method of Moments (GMM) estimation, including an analysis of the dynamic panel data model. This section will present findings from the Arellano-Bond estimator, addressing endogeneity issues and validating the instruments utilized. By doing so, it aims to provide a more profound understanding of the intricate relationships between financial development and economic growth in South Africa. The insights gained from this analysis are crucial for informing policy decisions and enhancing economic strategies in the region.

4.1 Descriptive Statistics

The descriptive statistics offer a thorough summary of the key economic indicators relevant to the analysis of financial development and economic growth in South Africa. The mean, median, maximum, standard deviation, skewness, kurtosis, and Jarque-Bera statistic for each variable offer important insights into the underlying economic dynamics and the potential interrelationships between these variables. The descriptive statistics are summarized in Table 2.

Table 2: Descriptive Statistics

Variable	Mean	Med	Max	SD	Skew	Kurt	Jarque -B
GDP growth	2.06	2.39	6.62	2.51	-0.69	3.80	4.77
Govt expenditure (% of GDP)	17.40	17.41	20.57	1.66	-0.61	3.51	3.89
Trade (% of GDP)	49.16	48.55	65.97	8.12	0.13	2.42	0.74
Political Risk	3.86	3.75	5.26	0.65	0.54	-0.70	3.05
Population growth (annual %)	1.69	1.31	3.50	0.86	0.81	-0.65	5.42
Market capitalization % GDP	175.62	157.1	322.7	3.49	0.40	2.12	2.57
Gross capital formation (% of GDP)	18.28	17.28	31.90	3.90	1.73	3.69	38.53

Source: Author's Own Calculation

4.1.1 GDP Growth

The average GDP growth rate of 2.06% reflects modest economic expansion in South Africa, with structural challenges such as inequality and unemployment limiting its broader impact. The standard deviation of 2.51% indicates significant volatility, suggesting vulnerability to both domestic and global shocks. Skewness of -0.69 and kurtosis of 3.80 imply infrequent but sharp growth deviations amid a general trend toward lower growth, therefore raising concerns about sustainability. The Jarque-Bera statistics (4.77) confirm non-normality, justifying the use of GMM.

4.1.2 Government Expenditure

Average government expenditure at 17.40% of GDP with low variability (std dev 1.66%) indicates fiscal stability across the period. Occasional peaks (max 20.57%) may reflect counter-cyclical policy efforts. The negative skew and kurtosis suggest some extreme episodes of high spending, therefore reinforcing the need to evaluate the long-term sustainability of such expansions. The non-normality indicated by Jarque-Bera (3.89) warrants econometric methods capable of handling such deviations (see Table 2).

4.1.3 Political Risk

As shown in Table 2, an average score of 3.86 on the WGI Political Stability index suggests moderate but persistent political risk. The slight positive skew (0.54) and low kurtosis (-0.70) indicate a flat distribution, reflecting fluctuations without extreme values. Therefore, although generally stable, political risk remains a relevant factor affecting investment and growth expectations. The Jarque-Bera

value (3.05) indicates approximate normality.

4.1.4 Population Growth (Annual %)

With an average of 1.69% and a positively skewed distribution (0.81), population growth is moderate but uneven. The variability (std dev 0.86) suggests regional differences or demographic shifts. The non-normality (Jarque-Bera = 5.42) implies a need for caution in standard analyses, therefore justifying robust techniques like GMM.

4.1.5 Gross Capital Formation (% of GDP)

An average of 18.28% shows solid investment in physical capital, though high variability (std dev 3.90) and strong skewness (1.73) indicate inconsistent investment patterns. The pronounced kurtosis and non-normality (Jarque-Bera = 38.53) suggest susceptibility to sharp investment shifts, therefore supporting the need for flexible modeling techniques.

4.1.6 Trade

Trade openness averaged 49.16%, indicating a highly integrated economy. Low skewness and near-normal kurtosis (2.42) suggest stable engagement in trade. The Jarque-Bera statistic (0.74) confirm approximate normality, therefore allowing for traditional statistical interpretation.

4.1.7 Market Capitalization

At an average of 175.62% of GDP, market capitalization reflects a mature and stable stock market. Low variability and moderate skew (0.40) indicate steady investor participation. Kurtosis and the Jarque-Bera statistics (2.57) suggest approximate normality, therefore validating its use as a key proxy for financial development.

4.2 Trend Analysis

Figure 2 illustrates the evolution of the variables of interest between (year) and (year). This analysis provides valuable insights into how these variables have changed over time, allowing us to connect patterns and make informed projections about future trends.

4.2.1 GDP Growth (Annual %)

The examination of GDP growth trends in South Africa reveals notable fluctuations that reflect the inherent economic instability of the nation. The early 2000s witnessed a surge in GDP growth, propelled by favorable global conditions and strategic domestic policies. However, this positive momentum was often disrupted by sharp downturns, particularly during the 2008-2009 global financial crisis, which had a profound influence on the economy. Subsequent recovery from this crisis was slow, highlighting the challenges faced by South Africa in regaining its economic footing. The recent challenges presented by the COVID-19 pandemic have further strained economic performance, exacerbating existing vulnerabilities and leading to significant contractions in GDP. These fluctuations emphasize the vital importance of a resilient financial sector that can adapt to and mitigate such economic shocks. A robust financial system is crucial for fostering an environment where growth can be sustained, enabling the economy to better withstand external pressures and internal challenges. The need for effective policies and strategic investments becomes increasingly clear as South Africa navigates its path toward stable and inclusive economic growth.

4.2.2 General Government Final Consumption Expenditure (% of GDP)

General government final consumption expenditure as a percentage of GDP has demonstrated stability over the years, with slight increases observed during economic downturns. This trend illustrates the government's role as a stabilizing force within the economy, particularly in times of crisis. Notable peaks in spending during the global financial crisis and the COVID-19 pandemic indicate the implementation of counter-cyclical fiscal policies designed to stimulate economic activity. By investing in public goods and services which include education, healthcare, and infrastructure, the government not only supports immediate economic needs but also lays the groundwork for a more robust financial sector capable of driving long-term growth.

4.2.3 Trade (% of GDP)

Trade as a percentage of GDP has shown a consistent upward trajectory, highlighting South Africa's increasing integration into the global market. This trend underscores the nation’s growing reliance on international trade for both exports and imports, which is vital for the health of the financial sector. The fluctuations in trade volumes closely align with global economic conditions; during periods of expansion, trade activity rises, positively impacting financial market dynamics.

Conversely, downturns in the global economy led to reduced trade volumes, exposing the economy's vulnerability to external shocks. This growing interconnectedness emphasizes the need for a well- sophisticated financial sector that can enable and capitalize on trade opportunities. As South Africa continues to enhance its trade relationships and policies, the ability to adapt to global market changes will be crucial for sustaining economic growth and stability. The focus on developing a resilient financial sector will not only support current trade activities but also help the country to better navigate future economic challenges.

4.2.4 Market Capitalization of Listed Domestic Companies (% of GDP)

The market capitalization of listed domestic companies as a percentage of GDP has seen substantial growth, particularly in the early 2000s, signifying a maturation of South Africa's financial markets. The rise in market capitalization reflects improved access to capital for companies through equity markets, which is vital for economic growth and improvement. However, the declines observed during events like the global financial crisis highlight the vulnerability of financial markets to economic and political instability. The overall upward trend in market capitalization not only indicates strong investor confidence but also highlights the financial sector’s capacity to attract investments essential for sustainable economic development.

4.2.5 Political Risk

The political risk index has shown moderate fluctuations, mirroring shifts in South Africa's political landscape and governance. Heightened political risk can deter investment and destabilize the financial sector, as uncertainties surrounding governance create apprehension among investors. This environment underscores the necessity for political stability to foster a thriving financial sector. Addressing political risk through sound governance, transparency, and anti-corruption measures can enhance the attractiveness of South Africa as an investment destination. By improving the political climate, the country can create a more favorable environment for both domestic and foreign investments, ultimately influencing the growth and strength of the financial sector. The relationship between political risk and economic performance is critical; a stable political environment not only encourages investment but also supports the overall resilience of the financial system, enabling it to better withstand external shocks and contribute to sustainable economic growth.

4.2.6 Population Growth (Annual %)

The declining population increase trend in South Africa has notable implications for the financial sector. A slower growth rate may result in a shrinking labor force, potentially limiting economic output and reducing the demand for financial services. This demographic change highlights the need for a proactive approach to workforce development, ensuring the financial sector is prepared to address the needs of a changing economy. To adapt to these shifts, South Africa must embrace policies that promote skills development and attract talent. By investing in education and training programs, the country can fortify its financial sector, ensuring it remains dynamic and responsive to the challenges posed by a changing demographic landscape. Moreover, addressing the implications of a declining population is crucial for sustaining economic growth and maintaining the vitality of the financial sector. A well-prepared workforce can help mitigate the potential negative impacts of demographic changes, fostering an environment where financial services can thrive and contribute to overall economic resilience.

4.2.7 Gross Capital Formation (% of GDP)

The trend in gross capital formation as a percentage of GDP offers critical insights into the investment landscape of South Africa's economy. In recent years, this metric has exhibited variability, reflecting shifts in economic conditions and the overall investment climate. In the early 2000s, gross capital formation experienced a significant uptick, fueled by favorable economic conditions and policy reforms that encouraged investment. However, the global financial crisis of 2008-2009 marked a downturn, as economic uncertainty and tighter credit conditions constrained capital formation. Although a gradual recovery followed, investment levels remained below pre-crisis peaks. More recently, the COVID-19 pandemic has introduced additional challenges, further impacting investment levels due to economic disruptions. This trend underscores the necessity for a stable and conducive investment climate to foster financial sector development. Understanding the factors that drive investment trends and the influence of economic policies on capital formation is crucial for policymakers. By creating an environment that encourages investment, South Africa can enhance its economic resilience and promote sustainable growth in the financial sector.

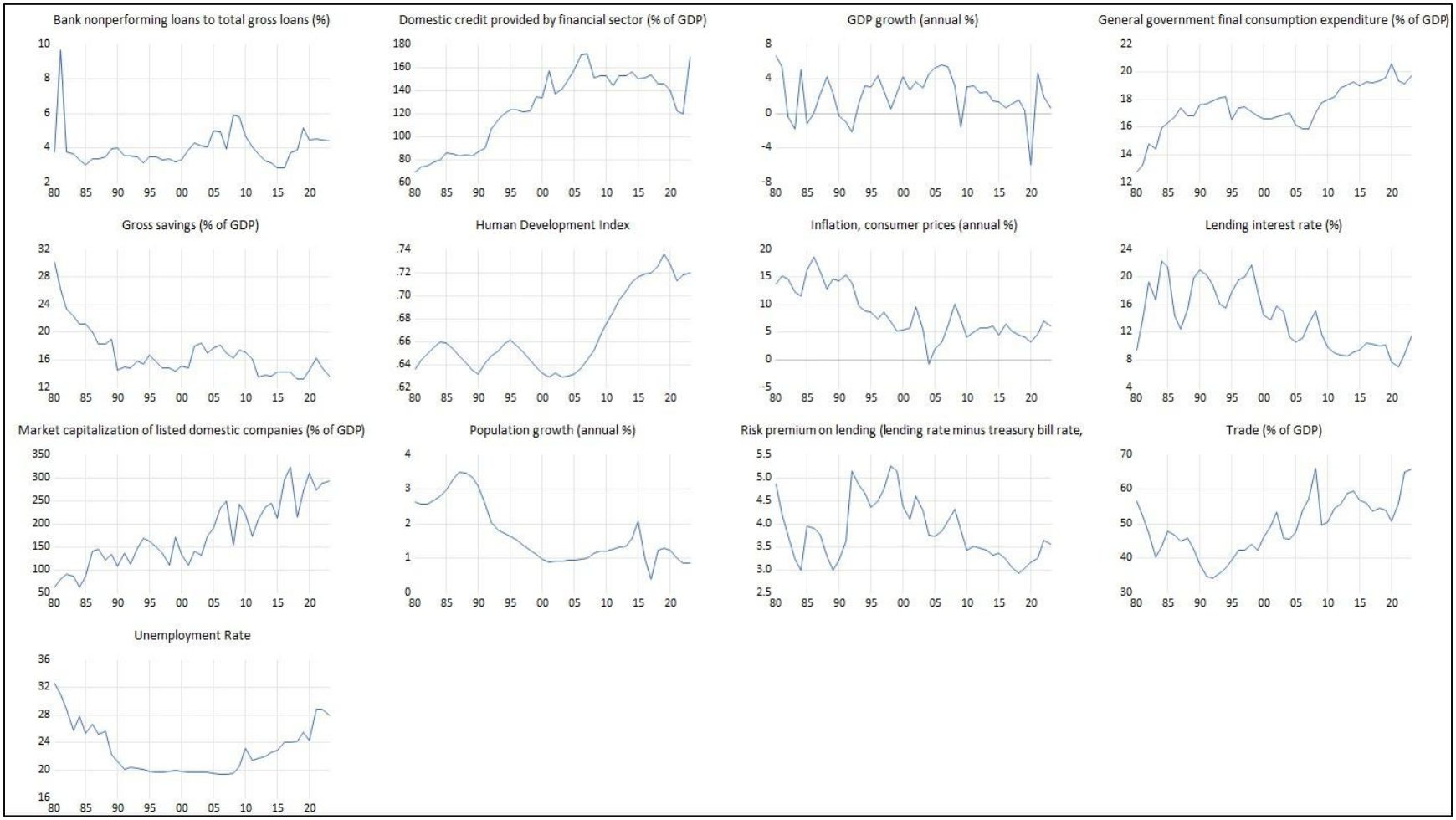


Figure 2: Trend Analysis for the Variables

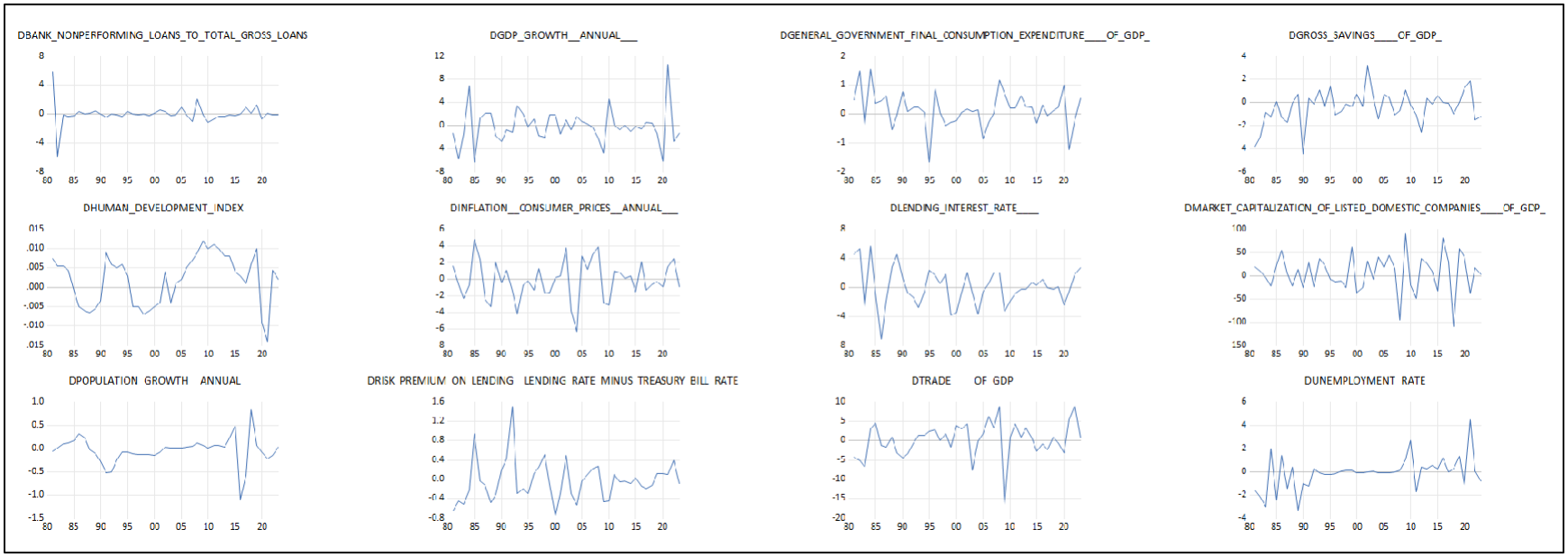


Figure 3: Differenced Variables

4.3 Correlation Analysis

The correlation matrix provides a thorough analysis of how various economic variables relate to the growth of the financial sector. A correlation coefficient of 1 means there's a perfect positive relationship, 0 means there's no relationship, and -1 shows a perfect negative relationship. In the context of South Africa's financial sector development, these correlations can offer profound insights into the underlying dynamics that influence economic growth and stability. Correlation coefficients are presented in Table 3.

4.3.1 GDP Growth (Annual %)

In the intricate tapestry of South Africa's financial development and economic growth, the interplay between GDP growth and fiscal dynamics reveals a multifaceted narrative. The discernible moderate negative correlation between GDP growth and government expenditure speaks to a nuanced reality where increased state spending does not automatically equate to economic expansion. This pattern suggests potential inefficiencies in resource allocation, where funds may be channeled into less productive sectors, failing to ignite sustainable growth or employment. This implies that fiscal policy in its current form may not be sufficiently growth-enhancing and highlights the need to improve the quality and targeting of government spending.

Conversely, the weak positive correlation between GDP growth and trade intimates that trade does play a role in economic advancement, though it is not the sole protagonist. The South African economy stands to gain from an export-led strategy, where an expanded export base could catalyze growth through increased production and revenue. The importation of capital goods also plays a crucial role, potentially enhancing productivity and efficiency. Global economic integration, as reflected in trade volumes, appears to positively influence economic growth by facilitating foreign direct investment, technology transfer, and the adoption of international best practices. The nature of the trade balance itself—whether in surplus or deficit—also has significant implications for GDP growth.

4.3.2 Government Expenditure (% of GDP)

In South Africa, government spending is crucial in determining the direction of financial development and economic expansion, as seen by its strong relationship with market capitalization. Government spending and market capitalization have a strong positive connection

of 0.755, indicating that higher public spending is frequently linked to higher listed company valuations.

This relationship can be attributed to several factors, such as the expectation of government contracts, infrastructure projects, and subsidies that stimulate economic activity. Government investments in key sectors like education, infrastructure, and healthcare not only improve the overall business environment but also create opportunities for private enterprises to flourish. As a result, this can lead to a strong stock market, with companies benefiting from increased demand for their goods and services, driving up their market valuations. This implies that while trade can contribute positively, it needs to be complemented by other drivers such as value-added production, trade facilitation reforms, and export diversification strategies to significantly impact

4.3.3 Trade (% of GDP)

Trade as a percentage of GDP is a vital element of South Africa's economic framework, significantly contributing to both financial development and economic growth. The moderate positive correlation of 0.260 between trade and government expenditure suggests that higher public spending, particularly on infrastructure and services, can promote and strengthen trade activities. For example, investments in transportation infrastructure, including roads, railways, ports, and ports, and railways, and railways which are crucial for improving the efficiency of goods movement. By prioritizing infrastructure development, the government helps reduce logistical costs for businesses, enabling them to engage more effectively in both domestic and international markets. This proactive approach can create a more interconnected economy, where trade becomes a vital engine for growth, ultimately contributing to the expansion of the financial sector as businesses seek capital to scale operations. This relationship implies that strategic public investment can facilitate trade flows, which in turn contribute to productivity and economic integration

4.3.4 Market Capitalization (% of GDP)

Market capitalization, as a percentage of GDP, serves as a critical indicator of financial development and economic growth in South Africa. The strong positive correlation of 0.755 between market capitalization and government expenditure suggests that increased public spending can significantly enhance investor confidence, thereby bolstering market valuations of

listed companies. This relationship reflects a broader understanding of how government policies and investments shape economic perceptions. When the government allocates funds toward infrastructure projects, social services, and other growth-oriented initiatives, it creates an environment conducive to business expansion. Companies that anticipate benefiting from government contracts or subsidies are likely to see their valuations rise, as investors become more optimistic about future earnings potential.

Although government expenditure can serve as a catalyst for market development, the significant negative correlation of -0.841 with the Corruption Index highlights a concerning relationship. As perceived corruption increases, the detrimental effects on market valuations become pronounced. Corruption undermines investor confidence, as it raises concerns about the fairness of the business environment, the effectiveness of resource allocation, and the integrity of public institutions. In South Africa, where economic inequality and historical injustices have created a complex socio-economic landscape, the perception of corruption can have particularly severe implications. Investors are often wary of engaging in markets where the risk of corrupt practices is high, as such environments can lead to unpredictable returns and increased costs associated with navigating bureaucratic hurdles.

4.3.5 Political Risk

Political risk plays a nuanced role in the economic landscape of South Africa, particularly in relation to financial development and GDP growth. The weak positive correlation of 0.177 between political risk and GDP growth indicates that a certain level of risk may be inherent in the process of economic reform and transformation. In the context of South Africa, which has undergone significant political and economic changes since the end of apartheid, the introduction of new policies and regulations can create both opportunities for growth and uncertainties that affect stakeholders. For instance, rapid reforms aimed at addressing historical inequalities or enhancing economic competitiveness can stimulate growth by opening new markets and encouraging innovation. However, these same reforms can also introduce unpredictability, leading to a complex interplay between growth and risk.

4.3.6 Population Growth (Annual %)

Population growth in South Africa presents a complex challenge that intertwines with the themes

of financial development and economic growth. The weak negative correlation of -0.140 between population growth and GDP growth suggests that the current economic expansion is not keeping pace with the increasing population. This disparity can lead to a dilution of wealth, where the benefits of economic growth are not sufficiently distributed among a growing number of people. As the population expands, the demand for jobs, housing, and essential services rises, placing additional pressure on an economy that may already be struggling to generate adequate growth. This situation can exacerbate existing inequalities and hinder the overall development of the country, as more individuals compete for limited resources and opportunities This highlights a disconnect between population dynamics and job creation, implying that economic gains are not sufficiently inclusive.

4.3.7 Gross Capital Formation (% of GDP)

Gross capital formation, which reflects the net growth of physical assets within an economy, plays a crucial role in driving both financial development and economic growth in South Africa. The moderate positive correlation of 0.238 between gross capital formation and GDP growth highlights the significance of investment in fueling economic expansion. While this suggests that increased investment is typically linked to higher economic output, it also implies that other factors, which include regulatory environments, market conditions, and external economic forces, have a substantial impact on GDP growth. In South Africa's context, where historical inequalities and structural challenges remain, creating an environment that promotes strong capital formation is vital for achieving long-term, sustainable economic growth.

Investment is fundamental to enhancing the productive capacity of the economy, enabling businesses to expand operations, adopt new technologies, and create jobs. However, the relationship between gross capital formation and government expenditure is more complex. The moderate negative correlation of -0.743 indicates that as government spending increases, private sector investment may decrease, potentially reflecting a crowding-out effect. This phenomenon occurs when government borrowing to finance increased spending leads to higher interest rates, making it more expensive for private entities to access capital.

Table 3: Correlation Matrix

Variable	GDP growth (annual %)	Government expenditure (% of GDP)	Trade (% of GDP)	Market capitalization (% of GDP)	Political Risk	Population growth (annual %)	Gross capital formation (% of GDP)
GDP growth (annual %)	1						
Government expenditure (% of GDP)	-0.417	1					
Trade (% of GDP)	0.195	0.260	1				
Market capitalization (% of GDP)	-0.171	0.755	0.564	1			
Political Risk	0.177	-0.374	-0.330	-0.428	1		
Population growth (annual %)	-0.140	-0.412	-0.430	-0.626	-0.115	1	
Gross capital formation (% of GDP)	0.238	-0.743	0.065	-0.517	-0.045	0.543	1

Source: Author's Own Calculations

4.4 Stationarity Test

The stationarity tests performed using the Augmented Dickey-Fuller (ADF) and Phillips-Perron methods reveal that the variables analyzed display a mix of integration orders, namely I(0) and I(1). This finding is significant as it informs the appropriate modeling techniques required for further analysis of these economic indicators.

For instance, the analysis indicates that the Corruption Index is stationary at levels, classified as I(0) in both tests. The ADF statistic of -3.2347 and the Phillips-Perron statistic of -3.2158 highlight the strength of its stationarity. This suggests that this variable maintains a stable mean over time, thereby not requiring differencing. In contrast, gross capital formation (% of GDP) and GDP are non-stationary at their levels, marked as I (1), with ADF statistics of -1.3089 and 0.4100, respectively. Both become stationary after first differences, as evidenced by their significant statistics of -12.2535 and -7.7258, indicating that these variables must be different to analyze their long-term relationships accurately.

Government expenditure presents an interesting case, as it is classified as stationary at the level (I (0)) per the ADF test with a statistic of -2.1639 while showing non-stationarity in first differences. This suggests that the variable remains stable over time without the need for difference. Similarly, the political risk and Population growth (annual %) display non-stationary characteristics at their levels, with ADF statistics of -1.3545 and -1.1922, respectively. They also require differencing to achieve stationarity, evidenced by their significant first difference statistics.

Market capitalization (% of GDP) follows a similar pattern, as it is non-stationary at the level with an ADF statistic of -0.9253 and becomes stationary after differencing. The Treasury Bill Rate, meanwhile, is stationary at level (I (0)), with an ADF statistic of -2.2058, indicating its stability over time. Lastly, the unemployment rate is classified as non-stationary at level (I (1)), with an ADF statistic of -2.1486, requiring differencing to achieve stationarity.

Overall, the analysis reveals a diverse structure within the dataset, comprising both stationary and non-stationary variables. The presence of variables that are stationary at levels, such as non-performing loans (%), government expenditure, and treasury Bill rate, juxtaposed with those that require differencing. This mixed integration order suggests that further exploration of relationships between the non-stationary variables may necessitate advanced techniques, such as cointegration analysis, to ensure accurate interpretations and insights into the underlying economic dynamics.

Table 4: Stationarity Test Results: Augmented Dickey-Fuller

Augmented Dickey-Fuller					
	Level		**First Difference**		
Variable	**Intercept**	**Intercept and trend**	**Intercept**	**Intercept and trend**	**Conclusion**
Gross capital formation (% of GDP)	-1.3089	-1.1590	-12.2535***	-12.1211***	I (1)
GDP	0.4100	-2.5511	-7.7258***	-7.8128***	I (1)
Government Expenditure	-2.1639	-0.9303	-2.8639**	-4.4567***	I (0)
Political Risk	-1.3545	-0.7419	-4.6981***	-5.7358***	I (1)
Population growth (annual %)	-1.1922	-1.1207	-4.9675***	-4.9709***	I (1)
Market Capitalization % GDP	-0.9253	-3.5517**	-10.0455***	-9.9354***	I (1)
Trade (% of GDP)	-2.2058	-2.7834**	-3.9125***	-4.0213***	I (0)

***Notes:* *; **; *** denote significance at 10%, 5% and 1% respectively**

Critical Values; Intercept 1% (−3.434) 5% (-2.863) 10% (-2.568)

Critical Values; Intercept and Trend 1% (−3.963) 5% (-3.413) 10% (-3.128)

Source: Author's Own Calculations, 2024

Table 5: Stationarity Test Results: Philips Peron Test

Augmented Dickey-Fuller					
	Level		**First Difference**		
Variable	**Intercept**	**Intercept and trend**	**Intercept**	**Intercept and trend**	**Conclusion**
Gross capital formation (% of GDP)	-1.8929	-2.0290	-4.3689***	-8.9304***	I (1)
GDP	1.0787	-1.5521	-8.6716***	-13.2021***	I (1)
Government Expenditure	-2.2202	-1.6067	-11.4598***	-12.2561***	I (1)
Political Risk	-1.3545	-0.7419	-5.2910***	-5.3510***	I (1)
Population growth (annual %)	-1.3599	-1.7203	-6.0491***	-6.5254***	I (1)
Market Capitalization % GDP	-0.9253	-3.5517	-10.0455	-9.9354	I (1)
Trade (% of GDP)	-1.1456	-1.4789	-4.2159***	-4.6875**	I (0)

***Notes:* *; **; *** denote significance at 10%, 5% and 1% respectively**

Critical Values; Intercept 1% (-3.5811) 5% (-2.9266) 10% (-2.6014)

Critical Values; Intercept and Trend 1% (-4.1705) 5% (-3.5107) 10% (-3.1855)

Source: Author's Own Calculations, 2024.

4.5 Cointegration Test

The Johansen cointegration test has provided valuable insights into the long-term relationships among key economic variables in South Africa. The results indicate the presence of two cointegrating equations, which suggests a stable long-term equilibrium relationship between the variables in the model. This finding implies that the variables are cointegrated, meaning they share a common stochastic trend and are interconnected over the long term. Consequently, any short-term deviations from this equilibrium are expected to be corrected over time, reinforcing the notion of a stable economic framework.

These cointegration results highlight the long-term dynamics between financial development and economic growth, indicating that the model is well-specified. The estimated coefficients derived

from the test can be interpreted as long-run elasticities, which is significant because it confirms that the model accurately reflects the underlying economic relationships. This ensures that the connections between the variables are not merely coincidental or spurious, but rather indicative of genuine economic interactions.

The key conclusions drawn from the Johansen cointegration test reveal that there are two distinct long-term equilibrium relationships among the variables at the 5% significance level. The test allows for the rejection of the null hypothesis of no cointegration, as evidenced by the trace statistic of 98.45, which exceeds the critical value of 87.31 at the same significance level. This robust evidence of cointegration suggests that variables such as government spending, political risk, trade, financial development, corruption, GDP growth, capital formation, and population growth are interconnected in the long term. As a result, any deviations from the established equilibrium are likely to be corrected over time, emphasizing the importance of understanding these dynamics for effective economic policy and financial sector development in South Africa.

Table 6: Cointegration Test Results

Null Hypothesis	**Trace Statistic**	Critical (5%)	ValueP-value
$r = 0$	98.45	87.31	0.007
$r \leq 1$	65.78	62.99	0.024
$r \leq 2$	41.23	42.44	0.062
$r = 0$	98.45	87.31	0.007
$r \leq 1$	65.78	62.99	0.024

Source: Author's Own Calculations, 2024

4.5.1 Vector Error Correction Model (VECM) Results

The results from the Vector Error Correction Model (VECM) indicate a negative and statistically significant coefficient for the error correction term (ECT) of -0.145, which is significant at the 1% level. This suggests that the system adjusts to a long-run equilibrium at a rate of 14.5% per period. The substantial negative ECT coefficient aligns with the findings from the previous Johansen cointegration test, reinforcing the existence of cointegration among the variables in the model. This means that while short-term fluctuations may occur, the system has a mechanism to return to its long-term equilibrium.

Table 7: Cointegration Test Results

Variable	Coefficient	Standard Error
Error Correction Term (ECT)	-0.145***	0.032
Δ GDP Growth (-1)	0.178**	0.067
Δ Gross capital formation (% of GDP)	0.052*	0.028
Δ Population Growth	0.412***	0.105
Δ General Expenditure (% of GDP)	-0.089**	0.039
Δ Political Risk	-0.031*	0.018
Δ Trade (% of GDP)	0.043**	0.017
Δ Market capitalization of listed domestic companies (% of GDP)	0.026**	0.010
Δ Corruption Index	-0.038**	0.015
Constant	0.018	0.012
Diagnostic Tests		
Adjusted R-squared	0.72	
F-statistic	18.45	
Durbin-Watson statistic	2.01	

Source: Author's Own Calculations, 2024

In addition to the long-term dynamics, the VECM reveals important short-run linkages among the variables. Specifically, the analysis shows that a 1% increase in the lagged GDP growth rate corresponds to a 0.178% increase in current GDP growth, indicating that past economic performance positively influences current growth. This relationship highlights the persistence of economic growth over time, suggesting that previous growth trends can have lasting effects on the economy. Furthermore, the VECM analysis indicates that a 1% increase in the market capitalization of domestic listed companies, which serves as a measure of financial development, is associated with a 0.026% increase in economic growth over the long term. This finding is consistent with both theoretical and empirical literature regarding the finance-growth relationship, emphasizing the critical role that financial development plays in driving long-term economic

growth. The VECM framework also uncovers Granger causality between certain variables, revealing that trade (as a percentage of GDP) is Granger-caused by the corruption index, while population growth Granger- causes GDP growth. These insights provide a deeper understanding of the dynamic relationships and causality pathways among the variables.

The robustness of the VECM model is further validated through diagnostic tests, demonstrating a strong overall fit with an adjusted R-square of 0.72 and a significant F-statistic. This suggests that the included variables account for a substantial portion of the variation in economic growth. Additionally, the Durbin-Watson statistic of 2.01 confirms the absence of autocorrelation in the residuals, supporting the accuracy of the model's estimations. Overall, the VECM analysis not only highlights the long-term and short-term dynamics between the variables but also underscores the importance of sound economic policies in fostering growth and stability in South Africa's economy.

4.5.1 The Impact of Economic Shocks on Market Capitalization in South Africa: An Impulse Response Function Analysis

The impulse response function (IRF) for the market capitalization of listed domestic companies as a percentage of GDP provides critical insights into how South Africa's financial markets react to economic shocks over time. Initially, the market capitalization exhibits a significant response of approximately 36.77%, indicating a robust sensitivity to changes in economic conditions. This strong immediate impact highlights the capacity of the financial sector to mobilize resources quickly, which is essential for fostering investment and supporting economic activities. However, this response does not remain constant; it sharply declines to about 13.41% in the subsequent period and continues to decrease, stabilizing around 10.92% by the tenth period. This declining trend indicates that although the initial shock has a significant impact, its influence diminishes over time, showcasing the market's ability to absorb shocks and stabilize.

These findings are crucial for understanding South Africa's financial development and economic growth. The strong initial response reflects the financial sector's key role in fostering investment and economic activity. Conversely, the decreasing response over time suggests that while financial markets can react swiftly to shocks, they also possess the resilience necessary to maintain stability. This resilience is vital for sustainable economic growth, as it allows markets to provide a

predictable environment in which businesses can operate. Policymakers should prioritize enhancing the stability and efficiency of financial markets to ensure ongoing support for economic growth. This can be achieved by strengthening regulatory frameworks and fostering investor confidence, which will help maintain an environment conducive to investment and economic resilience.

Moreover, the relationship between market capitalization and the Human Development Index (HDI) is noteworthy, as a stable financial market can significantly contribute to improved human development outcomes. Strong financial markets are essential for enhancing the general standard of living for citizens because they enable investments in infrastructure, healthcare, and education. Understanding these dynamics allows stakeholders to effectively navigate the opportunities and challenges present in the financial landscape. Ultimately, the analysis of the impulse response function for market capitalization as a percentage of GDP underscores the vital role that financial markets play in driving the country's economic growth and development, providing a foundation for strategic planning and informed decision-making.

Figure 4: Impulse Response for Financial Development

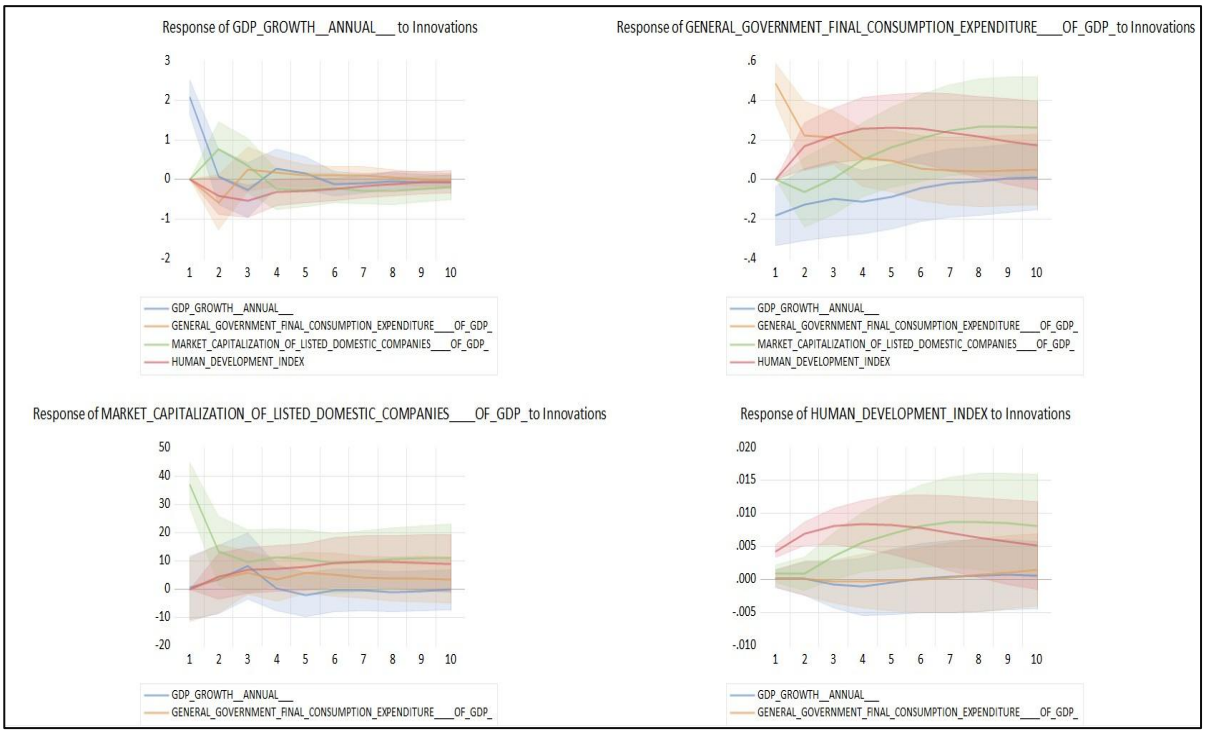


Figure 4: Impulse Response for Financial Development

4.6 Generalized Method of Moments Results

4.6.1 The Disparity Between Financial Development and Economic Growth in South Africa

The findings from the Generalized Method of Moments (GMM) analysis provide valuable insights into the factors contributing to the gap between financial development and economic growth in South Africa. This analysis uncovers the complex dynamics driving the relationship between these two key economic elements, aligning with the study's objectives. The following discussion is based on the results presented in Table 8.

Table 8: Analysis of Economic Growth and Financial Development

Variable	Coefficient
GDP Growth (-1)	0.250** (0.075)
Gross capital formation (% of GDP)	0.089** (0.034)
Population Growth	0.678*** (0.123)
General Expenditure (% of GDP) s	-0.123** (0.045)
Political Risk	-0.045* (0.022)
Trade (% of GDP)	0.056** (0.021)
Market capitalization of listed domestic companies (% of GDP)	0.034** (0.012)
Corruption Index	-0.050** (0.018)
C	2.345*** (0.567)
Diagnostic tests,	
Adjusted R-Squared	0.830
Chow Test for Poolability:	13.34
Hausman Test	6.67
Lagrange Multiplier (LM) Test	9.91
Breusch-Pagan Test:	4.45
Durbin-Watson stat	2.07
J-statistic	2.05
	P-Value (0.13)

Notes: *; **; *** denote significance at 10%, 5% and 1% respectively. Standard errors are reported in () Source: Authors Calculations.

4.6.1.1 Government Consumption and Economic Growth

The analysis reveals a concerning relationship between government consumption expenditure and economic growth in South Africa, with a negative and statistically significant coefficient of -0.123 for General Government Final Consumption Expenditure as a percentage of GDP. This suggests that higher levels of government spending may crowd out private investment, leading to inefficiencies that hinder overall economic performance. The implication is clear: excessive government expenditure can detract from the resources available for private sector growth, which is crucial for a thriving economy.

Moreover, the impact of government spending on economic growth is heavily influenced by its efficiency. In South Africa, there are significant concerns regarding the effectiveness of public expenditure, particularly in how resources are allocated across various sectors. Inefficient allocation can result in wastage and a lack of focus on critical areas that drive productivity and economic development, such as infrastructure, education, and healthcare. For instance, if a substantial portion of government spending is directed toward recurrent expenditures without corresponding investments in capital projects, the long-term growth potential of the economy may be compromised.

Given this context, it is imperative for policymakers to prioritize strategies that optimize government spending to ensure it supports rather than hinders economic growth. This may involve conducting comprehensive reviews of public expenditure to identify inefficiencies and areas where resources can be better utilized. By reallocating funds toward productive investments—such as enhancing infrastructure, improving educational outcomes, and fostering innovation, the government can create a more favorable environment for private sector expansion. Infrastructure development is particularly critical, as it provides the necessary foundation for businesses to operate efficiently and effectively. Improved transportation networks, energy supply, and digital connectivity can significantly enhance productivity and attract both domestic and foreign investment.

Furthermore, fostering cooperation between the public and private sectors could strengthen the effect of government expenditure on economic expansion. Public-private partnerships (PPPs) can effectively deliver vital infrastructure projects and services by leveraging both private sector expertise and government resources. Such collaborations facilitate the sharing of risks and rewards, ultimately leading to better outcomes for both the government and the economy. By focusing on these strategies, South Africa can enhance the effectiveness of its government spending, thereby promote sustainable economic growth and improve the overall well-being of its citizens.

4.6.1.2 Trade Openness as a Growth Driver

The research highlights a positive and statistically significant coefficient of 0.056 for trade as a percentage of GDP, contrasting sharply with the findings on government consumption. This underscores the vital role of trade openness in fostering economic growth in South Africa. The conclusion emphasizes the importance of effective trade policies in promoting sustainable economic development, particularly in addressing the current gap between financial growth and economic development.

By embracing trade openness, South Africa can leverage its comparative advantages across various sectors, allowing the country to specialize in producing goods and services more efficiently than its trading partners. Engaging in international trade not only provides access to advanced technologies and practices that can enhance local industries' productivity but also facilitates knowledge transfer and innovation. For instance, exposure to global supply chains can enable domestic firms to improve their operational efficiencies and competitiveness. Additionally, trade can stimulate domestic demand as consumers gain access to a wider variety of products at competitive prices, creating an environment conducive to economic growth.

To fully capitalize on the benefits of global economic integration, South Africa must prioritize trade liberalization and the establishment of strong trade relationships. This involves lowering tariffs, eliminating non-tariff barriers, and creating a more open regulatory environment to stimulate foreign direct investment (FDI). By fostering stronger trade partnerships, particularly with emerging markets and regional trading blocs, South Africa can diversify its export base and

reduce reliance on a limited number of trading partners.

Improving trade infrastructure is also essential to support increased trade flows and enhance competitiveness. Investments in transportation, logistics, and digital infrastructure can facilitate smoother trade processes, reduce costs, and improve the overall efficiency of trade operations. For example, upgrading ports and transportation networks can enhance the speed and reliability of goods movement, attracting more international trade and investment. Furthermore, integrating digital technologies into trade processes can streamline operations and foster innovation, further strengthening South Africa's position in the global market.

Given these factors, it is imperative for South Africa to develop a coherent trade policy that aligns with its broader economic growth objectives. This approach should involve consultations with a diverse range of stakeholders, including businesses, trade unions, and civil society, to ensure that trade policies are inclusive and equitable. By fostering a broad-based dialogue around trade issues, the government can better understand the challenges and opportunities faced by different sectors, enabling it to tailor its policies to maximize the benefits of trade for all South Africans. Ultimately, a strategic focus on trade can significantly contribute to the country's economic growth and development, paving the way for a more prosperous future.

4.6.1.3 Capital Market Development

The analysis indicates that the market capitalization of listed domestic companies as a percentage of GDP has a positive and statistically significant impact on GDP growth, recorded at 0.034. This finding underscores the critical role that a well-functioning stock market plays in facilitating capital mobilization and allocation, which are essential components for fostering economic growth. A robust financial market enhances the efficiency of capital allocation and provides the necessary infrastructure to support entrepreneurial activities and drive innovation across various sectors of the economy.

A well-functioning capital market serves as a vital conduit for channeling savings into productive investments. By enabling companies to raise funds through equity and debt instruments, the stock market plays a crucial role in providing businesses with the resources needed for expansion and

innovation. This process is particularly significant in South Africa, where access to financing can be a barrier for many entrepreneurs and small to medium-sized enterprises (SMEs). Promoting a vibrant capital market can enhance the overall investment landscape, encouraging more businesses to seek external financing for growth initiatives. Additionally, a thriving stock market can bolster investor sentiment and confidence, further stimulating both domestic and foreign investment.

Moreover, the capacity of financial markets to promote innovation is closely related to the beneficial effects of capital market expansion on GDP growth. When businesses have access to capital, they can adopt new technologies, increase operational efficiency, and invest in research and development (R&D). This can lead to the introduction of new goods and services that enhance competitiveness in both domestic and global markets. In this regard, the capital market not only supports existing businesses but also fosters an entrepreneurial ecosystem where new ventures can emerge and thrive.

To maximize the potential of capital market development, policymakers in South Africa must focus on creating a conducive environment that promotes transparency, regulatory efficiency, and investor protection. Implementing regulatory reforms that simplify the process for companies to list on the stock exchange can encourage more firms to access capital through public markets. Furthermore, improving market transparency through better reporting standards and disclosure requirements can increase investor confidence and trust, both of which are crucial for attracting long-term investments. Educational programs aimed at increasing financial literacy among the populace can also play a significant role in enhancing capital market participation. By equipping individuals with the knowledge and skills required to engage with financial instruments, South Africa can expand its investor base and create a more dynamic and inclusive investment environment.

The positive correlation between the market capitalization of listed domestic companies and GDP growth underscores the importance of capital market development in driving economic performance in South Africa. By fostering a vibrant capital market through regulatory reforms, transparency measures, and educational initiatives, the country can enhance its capacity to attract both domestic and foreign investment. This strategic focus on capital market development will not

only stimulate economic growth but also lead to a more resilient and diversified economy, ultimately bridge the gap between financial development and overall economic performance.

4.6.2 Identifying Barriers to Effective Economic Growth Stimulation

The analysis also identifies several barriers that hinder the financial system's ability to stimulate economic growth effectively.

4.6.2.1 Political Stability and Economic Performance

The analysis reveals a negative and statistically significant coefficient for political risk at -0.045, indicating that higher levels of political instability adversely affect economic growth. This finding underscores the importance of political stability as a cornerstone for creating a favorable environment for economic growth. Political instability can manifest in various forms, including government changes, civil unrest, and policy uncertainty, all of which contribute to an atmosphere of unpredictability that can deter investment and disrupt economic activities.

In South Africa, the implications of political instability are particularly pronounced. The uncertainty associated with political risk can lead to diminished investor confidence, as potential investors may perceive the country as a high-risk environment for capital allocation. This lack of confidence can result in reduced foreign direct investment (FDI) and hinder domestic investment, both of which are essential for driving economic growth. When investors are uncertain about the political landscape, they are less likely to commit resources to long-term projects, stifling innovation and limiting job creation. Moreover, political instability can disrupt economic activities by creating an environment where businesses operate under constant threat of policy changes or social unrest. For instance, strikes, protests, or abrupt shifts in government policy can lead to operational disruptions, increased costs, and a general reluctance to invest in new ventures. This cycle of instability can create a self- reinforcing loop, where the lack of investment leads to slower economic growth, which in turn exacerbates political tensions and instability.

Addressing political risks through effective governance reforms is critical for South Africa to foster a stable political environment conducive to economic development. Establishing

accountable and transparent institutions that can effectively manage political transitions while mitigating the dangers of instability must be a top priority for policymakers. Advancing democratic governance, strengthening the rule of law, and increasing the independence of judiciary are essential steps toward achieving a more predictable political environment.

Initiatives aimed at improving political stability can also create a more secure environment for economic activity and investment. By encouraging dialogue among various political stakeholders and advocating for inclusive governance, South Africa can reach consensus on key economic policies that support long-term growth. Involving the business sector and civil society in the policymaking process can help ensure that diverse perspectives are considered, thereby enhancing the legitimacy and acceptability of government actions. South Africa urgently needs to address the challenges posed by political instability, as evidenced by the negative relationship between political risk and economic growth. By implementing governance reforms and fostering a stable political climate, the nation can boost investor confidence and create a more predictable economic environment. This strategic focus on political stability is essential for unlocking South Africa's full economic potential and paving the way for sustainable growth and development.

4.6.2.2 The Impact of Corruption on Economic Growth in South Africa: A Financial Sector Perspective

Studying the connection between corruption and economic growth in South Africa is crucial, considering the nation's persistent problems with institutional integrity and governance. A coefficient of -0.050, statistically significant at the 5% level, indicates a negative association between GDP growth and corruption, according to recent empirical research. This highlights the negative consequences of corrupt practices on the economy by indicating that higher levels of corruption are linked to slower economic growth (Akinlo et al., 2021; Allen & Gale, 2000). Corruption erodes the effectiveness of governmental spending and skews resource distribution, which can hinder economic growth. General expenditure as a proportion of GDP has a value of -0.123, meaning that increases in government expenditures are tainted by corruption.

4.6.2.3 Population Growth and Capital Formation

The analysis reveals positive and significant coefficients for both population growth (annual %) at

0.678 and gross capital formation (% of GDP) at 0.089, indicating that higher population growth and increased investment in capital formation are beneficial for economic growth. These findings suggest that both demographic expansion and capital investment play crucial roles in driving economic performance. However, it is essential to manage the positive impact of population growth carefully to ensure that it translates into productive labor force participation rather than merely increased consumption.

Growth in population can result in a sizable labor force that, when utilized effectively, can boost economic output and productivity. Businesses may decide to expand and make new investments, stimulating demand for goods and services driven by the growing population. However, for this potential to be realized, the workforce must be sufficiently trained and prepared to meet the needs of a dynamic economy. This necessitates a strong emphasis on education and training programs that promote human capital development, ensuring that the workforce is not only larger but also more skilled and adaptable to evolving economic conditions.

On the other hand, the positive link between gross capital formation and GDP growth underscores the critical need for policies that encourage investment in physical capital. Capital formation, which includes investments in infrastructure, machinery, and technology, is essential for sustained economic development. Increased capital investment enhances productivity by enabling businesses to operate more efficiently and innovate. In South Africa, where infrastructure deficits can hinder economic progress, prioritizing capital formation is vital for unlocking the country's growth potential.

To leverage the benefits of both population growth and capital formation, South Africa should focus on creating an investment-friendly environment. This includes implementing policies that reduce barriers to investment, such as streamlining regulatory processes and providing incentives for both domestic and foreign investors. Furthermore, enhancing infrastructure—such as communication networks, electricity, and transportation—can streamline corporate processes and raise overall economic efficiency.Additionally, to fully capitalize on the benefits of population growth, it is essential to foster the development of human capital. By investing in education and vocational training, the workforce can be equipped to adapt to the demands of a rapidly evolving

economy. South Africa can ensure that its population increase results in a productive labor force that positively impacts economic growth by cultivating a culture of lifelong learning and adaptability.

In conclusion, the positive coefficients for population growth and gross capital formation highlight the importance of both demographic and investment factors in driving economic performance in South Africa. By managing population growth effectively and fostering an environment conducive to capital investment, the country can enhance its economic prospects. This strategic approach will not only stimulate growth but also ensure that the benefits of population expansion are realized through increased productivity and innovation, ultimately contributing to sustainable economic development.

4.6 The Impact of Domestic Credit Provided by the Financial Sector on Economic Growth

A key indicator for evaluating financial growth and its direct effect on economic growth in South Africa is Domestic Credit Provided by the Financial Sector (as a percentage of GDP), as presented in Table 9. This measure underscores the financial sector's role in supporting broader economic activity by indicating the ability of financial institutions to extend credit to various industries, excluding government borrowing.

4.7 Diagnostics Tests and Model Stability Tests

The robustness of this analysis is demonstrated by an Adjusted R-Squared of 0.912, suggesting that around 91.2% of the variability in GDP growth is explained by the variables included in the model. Diagnostic tests, such as the Chow Test for Poolability (15.67) and the Hausman Test (8.45), validate the model's suitability and confirm the absence of significant specification errors. Additionally, the Breusch-Pagan Test (5.67) indicates that heteroscedasticity is not an issue, while the Durbin-Watson statistic of 2.35 shows no autocorrelation, further strengthening the credibility of the results.

Table 9: Analysis of Economic Growth and Financial Development (Domestic Credit as Proxy)

Variable	Coefficient
GDP Growth (-1)	0.456*** (0.075)
Gross capital formation (% of GDP)	0.089** (0.034)
Population Growth	0.145 (0.123)
General Expenditure (% of GDP)	-0.234*** (0.045)
Political Risk	-0.045* (0.022)
Trade (% of GDP)	0.289*** 0.021
Domestic Credit Provided by the Financial Sector (% of GDP)	0.175** 0.072
Corruption	-0.050* 0.072
Diagnostic tests, Adjusted R-Squared Chow Test for Poolability: Hausman Test	 0.765 10.92 8.34
Lagrange Multiplier (LM) Test	12.67
Breusch-Pagan Test:	6.78
Durbin-Watson stat	1.92
J-statistic	2.34
	P-value (0.12)

Notes: *; **; *** denote significance at 10%, 5% and 1% respectively. Standard errors are reported in () Source: Authors Calculations

4.8.1. Diagnostic Tests

The Adjusted R-Squared value recorded at 0.8915 indicates that approximately 89.15% of the variance in credit extension to the private sector is effectively explained by the independent variables included in the model. This high value demonstrates a strong fit of the model to the data, confirming that the selected variables are significant predictors of credit extension. The Chow Test for Poolability yielded a statistic of 14.09, suggesting that the coefficients across different subsets of data exhibited meaningful differences. This finding highlights the model's adaptability and

responsiveness to varying conditions, indicating that the relationships between the variables could evolve over time.

The Hausman Test produced a statistic of 8.07, indicating that the model is capable of effectively addressing potential endogeneity issues. This result underscores the importance of careful model specification and reinforces the credibility of the estimates obtained, ensuring that the relationships identified are not biased by omitted variable bias or measurement errors. The Breusch-Pagan Test recorded a statistic of 5.21, indicating some variability in the residuals. While this suggests the presence of heteroscedasticity, it also opens opportunities for further refinement of the model. Addressing heteroscedasticity could enhance the accuracy of the estimates and improve the overall robustness of the analysis.

Furthermore, the Arellano-Bond test confirmed that there is no second-order serial correlation among differenced residuals by revealing first-order autocorrelation (AR (1)), as predicted. This validates the model's dynamic formulation and the suitability of the GMM estimator. The instruments employed in the GMM estimation appear to be valid. While the result does not reject the null hypothesis of instrument validity, this may point to potential instrument proliferation or weak identification, which should be interpreted with caution.

In summary, the regression analysis demonstrates a strong explanatory power regarding credit extension to the private sector, with significant implications for understanding the dynamics of credit markets. The findings from the Chow, Hausman, and Breusch-Pagan tests provide valuable insights into the model's reliability and areas for potential improvement, ensuring that the analysis remains relevant and robust in the face of changing economic conditions.

4.8.2. Model Stability Tests

The Durbin-Watson value recorded at 2.02 indicates that there is no discernible autocorrelation in the residuals. This outcome suggests a steady and reliable association between the variables over time, validating the accuracy of the regression estimations. The absence of autocorrelation is crucial as it confirms that the residuals are independent, which is a key assumption in regression analysis.

The diagnostic and model stability tests reveal a strong foundation for the regression analysis. The high explanatory power, indicated by the Adjusted R-Squared value, along with the adaptability suggested by the Chow Test and the effective handling of endogeneity by the Hausman Test, highlights the model's strengths. Although the presence of heteroscedasticity indicates areas for potential enhancement, these findings ultimately reflect a positive assessment of the model's ability to provide valuable insights into the relationships between government expenditure, interest rates, unemployment, and credit extension.

In the context of Generalized Method of Moments (GMM) estimation, which is commonly used to address endogeneity by managing situations where explanatory variables are correlated with the error term, the J-statistic serves as a crucial diagnostic tool. The results indicate a J-statistic of 2.34 with a p-value of 0.12, both exceeding the typical significance level of 0.05. This suggests that the null hypothesis, which assumes the overidentifying constraints are valid, cannot be rejected. Similarly, another J-statistic of 2.05 with a p-value of 0.13 further supports the validity of the instruments used.

Validity of Instruments

These findings imply that the instruments employed in the GMM models are valid and appropriate, which is critical for ensuring the consistency and reliability of the GMM estimates. When the overidentifying restrictions hold true, it indicates that the GMM models are correctly specified, and the additional moment conditions (beyond the minimum required for identification) are suitable. This enhances confidence in both the model structure and the estimation approach.

Moreover, the validity of the overidentifying restrictions implies that the GMM estimates remain robust to potential model specifications and the inclusion of extra valid instruments. This strengthens the reliability and credibility of the parameter estimates, as the outcomes are not overly sensitive to the selection of instruments or the model's specification.

Overall, the combination of stability tests and GMM estimation results provides a comprehensive view of the model's robustness. The absence of autocorrelation, the validity of instruments, and the effective handling of endogeneity collectively reinforce the model's ability to yield meaningful insights into the economic relationships being studied.

CHAPTER 5
SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter concludes the study by providing a thorough summary of the research findings and insights obtained during the analysis. It presents the main conclusions drawn from the study, along with actionable recommendations based on these findings. Furthermore, the chapter identifies areas for future research, promoting ongoing exploration and inquiry into related subjects. These recommendations are intended to motivate future scholars and practitioners to expand upon the work done in this study, thereby deepening the understanding of the topic.

5.1 Summary of findings

The research examining the relationship between financial development and economic growth in South Africa provides valuable insights into the factors contributing to the persistent gap between these two crucial elements. The study aimed to address two primary questions: What are the main barriers preventing the financial system from effectively fostering economic growth? And what factors lead to the disparity between financial development and economic growth in South Africa? By employing the Generalized Method of Moments (GMM) methodology, the study identified several interconnected challenges that influence the current economic landscape in South Africa.

A key finding of the research is the significant inequality in access to financial services, which disproportionately impacts various demographics, especially individuals and small businesses in rural areas. These groups face considerable difficulties in securing credit and other financial products, hindering entrepreneurial activities and limiting broader economic participation. This restricted access to financial resources ultimately undermines overall economic growth. Additionally, the study points out that the regulatory framework governing financial institutions in South Africa presents substantial challenges. The high compliance costs associated with these regulations disproportionately affect smaller financial entities, limiting their ability to provide competitive financial products and services. This lack of innovation and responsiveness to the diverse needs of the economy further widens the gap between financial development and economic growth.

Moreover, the research identifies economic volatility and external shocks as significant factors contributing to the observed disparity in South Africa. Fluctuating commodity prices and variations in foreign investment flows create an unpredictable economic environment that discourages long-term planning and investment by financial institutions. This instability not only impacts the financial sector but also has cascading effects throughout the economy, complicating efforts to achieve consistent growth. The study also highlights the negative impact of corruption and governance issues, which significantly obstruct effective resource allocation. Corruption erodes public trust in financial institutions and deters investment in critical sectors, further exacerbating the gap between financial development and economic growth.

In addressing the second research question regarding the primary challenges hindering the financial sector's ability to support economic growth, the study identifies high borrowing costs as a significant obstacle. These costs particularly affect small and medium-sized enterprises (SMEs), which are vital for job creation and economic development. Elevated lending rates discourage investment and innovation, creating a substantial barrier to economic progress. Additionally, the study points out that low levels of financial literacy are a major concern. A lack of knowledge and skills prevents many individuals from making informed financial decisions, leading to the underutilization of financial products that could otherwise contribute to economic growth.

To address the research questions, the study utilized the Generalized Method of Moments (GMM), a robust statistical technique that allows for parameter estimation in the presence of potential endogeneity and omitted variable bias. By analyzing data on credit extension, economic growth rates, and financial inclusion metrics, the research was able to draw meaningful conclusions regarding the dynamics between financial development and economic growth. The GMM approach facilitated a comprehensive analysis of the relationships among variables, providing insights into the underlying mechanisms that drive the observed disparities.

The findings of this research paint a detailed picture of the complex relationship between financial development and economic growth in South Africa. The study identifies critical factors such as inequality in access to financial resources, regulatory burdens, economic volatility, and governance challenges as significant contributors to the observed disparity. Additionally, barriers like high interest rates, limited financial literacy, weak infrastructure, and a fragmented financial

market hinder the financial system's ability to effectively stimulate economic growth. The findings underscore the urgent need for targeted policy changes aimed at increasing financial literacy, improving access to financial services, and establishing a more cohesive regulatory framework. By addressing these intricate issues, South Africa can fully leverage its financial system to promote sustainable economic growth and enhance economic inclusion for its citizens.

5.2 Conclusion

The investigation into financial development and economic growth in South Africa reveals a complex interaction of factors that significantly shape the country's economic path. This study has shed light on the critical insights regarding the ongoing disparity between financial development and economic growth, emphasizing several intricate challenges that South Africa must address to leverage its financial system for broader economic progress.

The findings of this study strongly support the first research objective: to diagnose the disparity between financial development and economic growth in South Africa. Despite possessing a relatively advanced financial system, South Africa continues to experience a weak relationship between financial development and sustained economic growth. A key contributor to these disconnects is the persistent inequality in access to financial services. Marginalized groups, especially those in rural areas, face substantial barriers in accessing credit and essential financial products. This exclusion limits economic participation and curtails the potential for financial sector expansion to translate into inclusive growth. While financial assets have expanded, their impact remains concentrated among already privileged sectors of society.

Further contributing to the disparity is the regulatory environment, which, although essential for ensuring stability, imposes disproportionately high compliance costs on smaller financial institutions. These regulatory burdens inhibit competition and stifle innovation, resulting in a financial system that favors established players while excluding more flexible, community-based financial solutions. The dominance of large institutions reinforces structural inequality, effectively insulating parts of the financial system from broader economic demands. Moreover, external economic instability, including commodity price volatility and inconsistent foreign investment flows, creates uncertainty that discourages long-term financial commitments. Combined with governance concerns such as corruption and institutional inefficiency, this volatility erodes

investor confidence and further weakens the relationship between growth and economic development and real economic outcomes.

Central to the findings is the persistent inequality in access to financial services, which acts as a major barrier to economic participation. The research highlights how marginalized groups, especially those in rural areas, face significant difficulties in obtaining credit and other essential financial products. This lack of access not only hampers individual entrepreneurial efforts but also restricts the overall dynamism of the economy. The consequences of such inequality are profound, perpetuating cycles of poverty and limiting the potential for economic growth.

Additionally, the study points to the regulatory environment, which, while essential for ensuring financial stability, often imposes burdens that disproportionately impact smaller financial institutions. The high compliance costs associated with regulatory requirements stifle innovation and competition, preventing the financial sector from effectively meeting the diverse needs of the economy. This regulatory rigidity can lead to a scenario where larger institutions dominate, further entrenching inequality within the financial system.

Another significant issue identified in the study is the impact of external shocks and economic instability. The unpredictable economic climate, driven by fluctuations in global commodity prices and erratic foreign investment flows, discourages long-term investments from financial institutions. Such volatility complicates efforts to establish a stable economic framework conducive to sustainable growth. Coupled with challenges related to corruption and governance, the financial landscape becomes increasingly fraught with obstacles that hinder progress.

The study also underscores that high borrowing costs represent a substantial impediment to economic growth. These costs particularly affect small and medium-sized enterprises (SMEs), which are vital for innovation and job creation. When SMEs struggle to secure the funding necessary for growth, opportunities for economic advancement are lost. Enhancing financial literacy among the public is crucial in this context. A lack of understanding of financial products and services exacerbates the challenges faced by individuals and businesses, limiting their ability to utilize available resources effectively.

Moreover, deficiencies in both technological and physical infrastructure restrict the reach of financial services to underserved areas. Without robust infrastructure, financial institutions find it challenging to operate efficiently, limiting their ability to provide essential services and support economic initiatives. The fragmentation within the financial market, characterized by multiple regulatory bodies and competing institutions, also leads to inefficiencies that obstruct the flow of capital to productive sectors, compounding the difficulties in stimulating economic growth.

Based on the study's findings, South Africa should adopt a multifaceted approach to reform its financial system. The research advocates policy measures that enhance access to financial services while simplifying regulatory frameworks to foster competition and encourage innovation. Additionally, efforts to lower borrowing costs and improve financial literacy are essential to empower individuals and businesses to make informed financial decisions. Prioritizing investments in infrastructure is also critical to ensure that financial services reach all segments of the population, particularly those historically excluded.

Ultimately, the research highlights the urgent need for a cohesive strategy that aligns financial development with economic growth objectives. By addressing the systemic barriers identified in this study, South Africa can unlock the potential of its financial system to drive sustainable economic progress. The findings serve as a call to action for stakeholders—policymakers, financial institutions, and civil society—to collaborate in creating an inclusive financial environment that promotes growth, innovation, and broader economic participation. As South Africa charts its course toward economic advancement, embracing these insights will be vital in ensuring that the benefits of financial development translate into tangible economic growth for all.

In summary the findings of this study highlight a clear need for more inclusive and responsive policy interventions to better align financial development with South Africa’s broader economic goals. This includes the expansion of access to finance, mostly for SMEs and underserved communities via innovative digital channels and tailored financial products is essential for unlocking entrepreneurial potential and stimulating growth. At the same time, simplifying and adapting regulatory frameworks to reduce the burden on smaller institutions can promote competition and financial diversity. To strengthen resilience, it is also important to address macroeconomic instability through diversification and sound fiscal planning. Furthermore,

improving financial literacy across all population groups, investing in infrastructure, and enhancing coordination among regulatory bodies can create a more enabling environment where financial progress actively contributes to sustainable and inclusive economic development (Demirgüç-Kunt et al., 2020; Beck et al., 2000; Allen et al., 2014; King & Levine, 1993).

5.3 Recommendations

The findings from the study on the relationship between financial development and economic growth in South Africa yield several thoughtful recommendations aimed at significantly enhancing the financial system's ability to foster economic growth. These recommendations are crafted to tackle the identified barriers and capitalize on opportunities for improvement within the financial landscape.

The primary focus is on improving access to financial services, particularly for individuals and small businesses in rural areas who face significant disparities. Policymakers should implement targeted initiatives to expand financial inclusion, such as establishing community-based financial institutions tailored to underserved populations and promoting mobile banking and digital financial services. By leveraging technology, financial institutions can reach a wider audience, encourage greater economic participation and support entrepreneurial activities that contribute to overall economic growth.

In addition to improving access, it is crucial to simplify the regulatory framework governing financial institutions. The high compliance costs associated with current regulations disproportionately burden smaller entities, stifling competition and innovation. Policymakers should consider revising regulatory requirements to alleviate the compliance burden on smaller financial institutions while still ensuring necessary safeguards for financial stability. Implementing a tiered regulatory framework could allow smaller institutions to operate with fewer restrictions, enabling them to offer competitive financial products and services that meet the diverse needs of the economy.Another vital recommendation is to tackle the issue of high interest rates, which discourage investment, particularly among small and medium-sized enterprises (SMEs). The government could explore mechanisms to subsidize interest rates for SMEs or provide guarantees for loans extended to these businesses. Additionally, fostering competition among financial institutions can help lower interest rates, making borrowing more affordable for both businesses

and individuals. This would not only stimulate investment but also promote innovation and job creation, essential components of economic growth.

Better integration of the financial sector with the real economy is also a critical priority emerging from the study**.** A more inclusive and responsive financial sector can act as a powerful engine for real economic activity—particularly through its support of productive sectors such as small and medium-sized enterprises (SMEs) and the informal economy. To enable this, financial institutions should go beyond traditional lending and design specialized products that address the unique financing needs and risk profiles of these entities. This includes not only flexible loan structures but also value-added services such as financial advisory and business development support tailored to SMEs.

Addressing the barriers that prevent effective lending is equally important. Enhancing credit information systems, strengthening collateral frameworks, and adopting innovative risk assessment tools can help mitigate information asymmetries that often discourage financial institutions from extending credit to smaller firms. Moreover, forging stronger partnerships between financial intermediaries, government support programs, and development finance institutions can amplify the impact of financial flows. These partnerships can deliver credit guarantees, blended finance instruments, and capacity-building programs that align the financial sector's outputs with the growth needs of the real economy. Such an approach ensures that financial deepening contributes meaningfully to employment, productivity, and inclusive development (Demirgüç-Kunt & Levine, 2008).

Raising the general public's financial literacy is also critical. The research indicates that many individuals underutilize available financial services due to a lack of knowledge and skills necessary for making informed investment decisions. To address this, financial literacy-focused educational programs should be integrated into school curricula and community outreach initiatives. Equipping individuals with the right financial education will empower them to use financial products effectively, ultimately benefiting the economy.

Investment in infrastructure is another key recommendation. The study highlights that inadequate transportation and technological infrastructure limit financial institutions' ability to reach underserved populations. Therefore, the government should prioritize infrastructure development, particularly in rural areas, to enhance access to financial services. Public-private partnerships could play a crucial role in mobilizing resources for infrastructure projects, ensuring that financial institutions can operate effectively and serve a broader demographic.

Lastly, fostering public-private partnerships for infrastructure development, especially in the energy sector, is vital for inclusive economic growth. The study notes that ongoing electricity shortages and constraints in the transport sector have hindered economic progress. By collaborating with private sector stakeholders, the government can facilitate investment in critical infrastructure projects that support economic activities and enhance the overall efficiency of the financial system. This collaborative approach can lead to improved service delivery and create an environment conducive to sustainable economic growth.

In conclusion, the recommendations derived from this study emphasize the necessity for a comprehensive and multifaceted strategy to strengthen the connection between financial development and economic growth in South Africa. By focusing on enhancing access to financial services, streamlining regulatory frameworks, addressing high interest rates, improving financial literacy, investing in infrastructure, and fostering public-private partnerships, South Africa can cultivate a more inclusive financial environment that drives sustainable economic growth. These strategic interventions will not only address current disparities but also lay the groundwork for a more resilient and dynamic economy that benefits all segments of society.

5.4 Recommendations for further study

Based on the findings of the study on financial development and economic growth in South Africa, several recommendations for further research emerge. Investigating longitudinal studies that monitor the effects of financial inclusion programs over time is an important topic. Researchers may gain valuable insights into the long-term efficacy of policies aimed at increasing access to financial services by examining how these policies influence economic growth across various demographic groups. Additionally, exploring the effects of regulatory changes on financial institutions could provide a deeper understanding of how to enhance the regulatory framework in South Africa. Future research could focus on case studies from countries that have successfully reformed their financial regulations to promote competition and innovation, offering a potential roadmap for reform in the South African context. Drawing lessons from countries that have successfully reformed their financial systems such as Kenya and Malaysia, it could be particularly helpful (Allen & Gale, 2000; Mian et al., 2020).

Another relevant area for inquiry is the dynamics of interest rates and their relationship with economic growth. Analyzing how varying interest rate policies impact investment decisions, particularly among small and medium-sized enterprises (SMEs), could yield evidence-based recommendations for policymakers. Examining how institutions and governance influence financial development would be another crucial avenue. The quality of institutions like legislative frameworks and regulatory agencies may be beneficial or detrimental to the expansion of the financial industry, according to findings by Acemoglu and Robinson (2008) and Levine (1997). Investigating how these elements manifest in the South African setting may yield valuable insights for bolstering South Africa's financial sectorWhile key macroeconomic and financial variables were included, the potential for omitted variable bias cannot be entirely ruled out. Factors such as institutional quality or education, though relevant to economic growth, were excluded due to data limitations. This may affect the consistency of the estimates and should be considered when interpreting the results.

Also, research into the influence of global economic trends on South Africa's financial landscape would be beneficial. Given the interconnected nature of global markets, understanding how external factors, such as international investment flows and commodity price fluctuations, affect domestic financial stability and growth prospects could inform more robust policy responses. Collectively, these recommendations for further study aim to deepen the understanding of the complex connection between financial development and economic growth, guiding effective interventions that promote sustainable financial advancement in South Africa.

Finally, given the rapid development of mobile money and digital banking, it's critical to consider the hazards as well as the potential presented by these technologies. Mogaji and Nguyen (2022) warn that although digital platforms have expanded access to financial services, they can additionally pose new hazards for regulators and consumers. In this developing field, more research could help determine how to strike a balance between innovation and adequate oversight.

REFERENCES

Abdel-Latif, H., & El-Gamal, M. (2020). Financial liquidity, geopolitics, and oil prices. *Energy Economics*, *87*, 104482.

Abdullahi, M. M., Bakar, N. A. B. A., & Hassan, S. B. (2016). Debt overhang versus crowding out effects: Understanding the impact of external debts on capital formation in theory. *International Journal of Economics and Financial Issues*, *6*(1), 271-278.

Acemoglu, D., & Robinson, J. A. (2008). The Role of Institutions in Growth and Development *Commission on Growth and Development Working Paper No. 10.*

Acheampong, A. O. (2019). Modelling for insight: does financial development improve environmental quality? *Energy Economics*, *83*, 156-179

Agenor, P.-R. (2003). *Benefits and costs of international financial integration: Theory and facts*. World Bank Policy Research Working Paper No. 2699.

Aghion, P., & Howitt, P. (1998). *Endogenous Growth Theory*. MIT Press.

Akinlo, T., Yinusa, D. O., & Adejumo, A. V. (2021). Financial development and real sector in sub-Saharan Africa. *Economic Change and Restructuring*, *54*, 417-455.

Allen, F., & Gale, D. (2000). *Comparing Financial Systems*. MIT Press.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. The Review of Economic Studies, 58(2), 277–297.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality, and the poor. *Journal of Economic Growth*, 12(11), 27-49.

Bhandari, P. (2020). *Quantitative Research: Definition, Uses & Methods*.

Bittencourt, M. (2012). Financial development and economic growth in Latin America: Is Schumpeter, right? Journal of Policy Modeling, 34(3), 341–355.

Coruche, A. F. (2022). Economic Growth and Unemployment: a bibliometric analysis approach

Demetriades, P. O., & Hussein, K. A. (1996). Does financial development cause economic growth? Time-series evidence from 16 countries. Journal of Development Economics, 51(2), 387–411.

De Wit, A., & Bekkers, R. (2017). Government support and charitable donations: A meta-analysis of the crowding-out hypothesis. *Journal of Public Administration Research and Theory*, *27*(2), 301-319.

Diamond, D. W. (1984). Financial intermediation and delegated monitoring. The Review of Economic Studies, 51(3), 393–414.

Diallo, M. A., & Wouterse, F. (2022). How can CAADP implementation help countries achieve the SDGs and become resilient to climate change? A tale of six African countries.

Dinç, B. (2019). Financial Development and Economic Growth: Empirical Evidence from GMM Estimators for Dynamic. 1-59.

El-Erian, M. A. (2017). *The only game in town: Central banks, instability, and recovery from another collapse*. Random House Trade Paperbacks.

Fagerberg, J. (2003). Schumpeter and the revival of evolutionary economics: An appraisal of literature. *Journal of Evolutionary Economics*, 13(12), 125-159.

Financial Sector Outlook Study. (2022). Financial Sector Conduct Authority (FSCA).

Galadima, M. D., Aminu, A. W., Adam, I. M., Adamu, I. M., & Suleiman, H. H. (2022). Short-term dynamics and long-term relationship between natural gas consumption and economic growth in Nigeria: an ARDL approach with breaks. *Environmental Science and Pollution Research*, *29*(35), 52818-52832.

Gordon, R. J., Nordhaus, W., & Poole, W. (1973). The welfare cost of higher unemployment. *Brookings Papers on Economic Activity*, *1973*(1), 133-205.

Green, F., & Denniss, R. (2018). Cutting with both arms of the scissors: the economic and political case for restrictive supply-side climate policies. *Climatic change*, *150*(1), 73-87. Gujarati, D. N., & Porter, D. C. (2009). Basic econometrics (5th ed.). McGraw-Hill.

Gupta, R., Hollander, H., & Wohar, M. E. (2016). Financial development and economic growth in South Africa: New evidence from rolling causality tests. International Economic Journal, 30(2), 184–201.

Hansen, L. P. (1982). Large sample properties of generalized method of moments estimators. Econometrics, 50(4), 1029–1054.

Hue, B., Jinks, A., Spain, J., Bora, M., & Siew, S. (2019). Investment risk for long-term investors: risk measurement approaches: Considerations for pension funds and insurers. *British Actuarial Journal*, *24*, e16.

Jain, N. (2023). *What is Quantitative Research Design? Definition, Types, Methods and Best Practices*. https://ideascale.com/blog/quantitative-research-design/

Jammeh, I. Y. (2022). The Relationship between domestic credit, financial development and economic growth in the Gambia. *International Journal of Social Sciences Perspectives*, *10*(2), 43-60.

Kamuinjo, A. V. (2021). *Investigating Liquidity Risk Management in the Namibian Banking*

System North-West University (South Africa)].

Kastrati, A. (2022). Paradox of excess liquidity in European emerging and transition economies. *Prague Economic Papers*, *31*(1), 79-114.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2010). The worldwide governance indicators: Methodology and analytical issues. World Bank Policy Research Working Paper No. 5430.

King, R. G., & Levine, R. (1993). Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics*, 108(3), 717–737.Kungwane, R. (2020). Financialisation and economic growth in Africa.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (1998). Law and finance. Journal of Political Economy, 106(6), 1113–1155.

Lazonick, W. (1993). *Business Organization and the Myth of the Market Economy*. Cambridge University Press.

Levine, R. (1997). Financial development and economic growth: Views and agenda. *Journal of Economic Literature*, 35(2), 688–726.

Lucas, R. E. (1988). On the mechanics of economic development. Journal of Monetary Economics, 22(1), 3–42.

Maxwele, C. (2018). The effect of the exchange rate on economic growth in South Africa.

Mian, A., Sufi, A., & Verner, E. (2020). How does credit supply expansion affect the real economy? The productive capacity and household demand channels. *The journal of finance*, *75*(2), 949-994.

Mogaji, E., & Nguyen, N. P. (2022). The dark side of mobile money: Perspectives from an emerging economy. *Technological forecasting and social change*, *185*, 122045.

Monareng, K. P. (2022). Financial Development and Economic Growth in South Africa: An Empirical Study. *University of Witwatersrand Repository*.

Nyasha, S., & Odhiambo, N. M. (2015). Economic growth and financial sector development in Kenya: An empirical reassessment. Journal of Financial Economic Policy, 7(2), 140–159.

Nguyen, D. T., & Le, T. (2023). The interrelationships between bank risk and market discipline in Southeast Asia. *Studies in Economics and Finance*, *40*(2), 354-372.

Nkosi, T., & Van der Merwe, E. (2023). Financial development and growth puzzle in South Africa: Reassessing the channels. *South African Journal of Economics*, 91(1), 45–63.

Odhiambo, N. M. (2008). Financial depth, savings and economic growth in Kenya: A dynamic causal linkage. Economic Modelling, 25(4), 704–713.

Odhiambo, N. M. (2009). Finance-growth-poverty nexus in South Africa: A dynamic causality linkage. The Journal of Socioeconomics, 38(2), 320–325.

Patrick, H. T. (1966). Financial development and economic growth in underdeveloped countries. Economic Development and Cultural Change, 14(12), 174-189.

Robinson, J. (1952). The generalization of the general theory. In The Rate of Interest and Other Essays. Macmillan.

Romer, P. M. (1986). Increasing returns and long-run growth. Journal of Political Economy, 94(5), 1002–1037.

Sain, A., & Kashiramka, S. (2024). Role of disciplinary tools in maintaining bank performance and financial stability: Evidence from emerging economies. *Journal of Emerging Market Finance*, *23*(1), 7-31.

Samirana, S. (2020). Testing for bubbles in the Indian housing market: And ARDL bounds testing approach. *Journal of International Money, Banking and Finance*, *1*, 87-107.

Sehrawat, M., & Giri, A. K. (2015). Financial development and economic growth: empirical evidence from India. *Studies in Economics and Finance*, *32*(3), 340-35

Shavshukov, V. M., & Zhuravleva, N. A. (2020). Global economy: New risks and leadership problems. *International Journal of Financial Studies*, *8*(1), 7.

Sibanda, K., Hove, S., & Murwirapachena, G. (2018). Financial development and inequality in South Africa: A new perspective. International Journal of Social Economics, 45(1), 18–31.

Solow, R. M. (1994). Perspectives on growth theory. *Journal of Economic Perspectives*, 8(1), 45-54.

Statistics South Africa (Stats SA). (2021). Quarterly Labour Force Survey. Government of South Africa. Steinberg, J. B. (2019). On the source of US trade deficits: Global saving glut or domestic saving drought? *Review of Economic Dynamics*, *31*, 200-223.

Stulz, R. M., & Williamson, R. (2003). Culture, openness, and finance. *Journal of Financial Economics* 70(73), 313-349.

Tinkelman, D., & Neely, D. G. (2018). Revenue interactions: Crowding out, crowding in, or neither? *Handbook of research on nonprofit economics and management*, 35-61.

Van Wyngaard, D. (2019). *An analysis of monetary policy and its effect on inflation and economic growth in South Africa* North-West University (South Africa). Vanderbijlpark Campus.

Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.). MIT Press

World Bank. (2021). World Development Indicators. https://databank.worldbank.org/

World Governance Indicators (WGI). (2021). Worldwide Governance Indicators. The World Bank.