

COST OF CREDIT AND ECONOMIC GROWTH IN ESWATINI



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MBONGENI WELCOME SHONGWE

COST OF CREDIT AND ECONOMIC GROWTH IN ESWATINI

By

MBONGENI WELCOME SHONGWE

STUDENT NUMBER: 2753295

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Supervisor: Professor Odongo Kodongo

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DECLARATION

I Mbongeni Welcome Shongwe declare that the thesis, which I hereby submit for the degree Master of Management in Finance and Investment at the University of the Witwatersrand, Johannesburg, is my work and has not previously been submitted by me for a degree at this or any other tertiary institution.

SIGNATURE: M.W Shongwe

Date: September 2023

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ABSTRACT

The sluggish economy and low GDP growth in Eswatini have sparked concerns regarding the efficient allocation of high liquidity towards productive sectors. There is a pressing need to determine if the high cost of credit plays a role in exacerbating this issue. Despite the availability of ample liquidity, it remains unclear if it is effectively channeled into sectors that can fuel economic growth. Therefore, it is intriguing to investigate whether the high cost of credit is a contributing factor to this problem. This study examined the relationship between the cost of credit and economic growth in Eswatini, as well as the impact of banking sector liquidity on cost of credit and the role of excess liquidity in promoting economic growth. The study used the Autoregressive Distributed Lag model (ARDL) to analyse time series data from 1975 to 2021, the study found that factors such as domestic credit, GDP growth, liquid assets to liabilities, and trade significantly influence cost of credit in the short run. In the long run, variables like budget deficit, domestic credit, exchange rate, GDP growth, liquid assets to liabilities, and trade continue to significantly impact cost of credit. The study recommends that policymakers should increase credit availability, diversify credit risk and increase liquid assets relative to liabilities to lower cost of credit. Additionally, promoting financial inclusion and access to credit for SMEs can further stimulate economic growth. A thoughtful and measured approach by policymakers is crucial for creating a stable financial system that supports economic growth.

Key words: Autoregressive Distributed Lag model, Cost of Credit, Budget Deficit, Economic Growth, Liquidity, Liabilities, Policymakers, Risk, Time series data.

DEDICATION

First and foremost, I would like to dedicate this project to the Almighty God, who has bestowed upon me the grace and strength to embark on and complete this thesis. I am deeply grateful for the divine guidance and support throughout this entire journey.

I would also like to extend my heartfelt appreciation to my friends and the entire Shongwe family. Your unwavering financial, spiritual, and emotional support has been instrumental in my educational career. I am profoundly grateful for your love, prayers, and encouragement. This journey has not been without its challenges, but your presence has made it easier to overcome them.

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ABBREVIATIONS

ARDL	Auto Regressive Distributed Lag
CBE	Central Bank of Eswatini
ECM	Error Correction Model
FDI	Foreign direct investment
GDP	Gross Domestic Product
IMF	International Monetary Fund
SADC	Southern African Development Community
SME	Small and Medium-sized Enterprise
RGDP	Real Gross Domestic Product
USA	United States of America

CHAPTER 1

INTRODUCTION

1.1. Background and Setting

The relationship between the cost of credit, financial development, and economic growth has been a subject of ongoing debate. Monetization and the development of the financial sector are widely recognized as important factors driving economic growth. However, the precise nature of the relationship between the cost of credit and growth remains a topic of contention, with differing perspectives among economists. This issue is characterized by two main categories of theories: supply-side and demand-side theories. Understanding this relationship is crucial for policymakers aiming to foster sustainable economic growth (Tesso, 2015).

Baoko and Ibrahim (2017) emphasize the significance of financial banking institutions in funding economic activities within a nation. In the African context, banking systems exhibit certain characteristics such as adequate capitalization, low leverage, limited reliance on external financing, and high levels of liquidity. These features enhance the ability of banks to issue loans and provide depositors with accessible cash reserves (Gungoraydinoglu et al., 2017). This study focuses on the bank lending channel, which operates based on two fundamental principles: the central bank's ability to regulate the cost of credit in the banking sector and banks' responsibility to protect borrowers. These assertions indicate that banking systems play a crucial role in driving economic growth and require effective regulatory measures to ensure their stability and functionality.

The supply-leading theory proposes that the availability of credit is essential in promoting economic growth and job opportunities. This theory emphasizes the crucial role of credit as a catalyst for providing funding to businesses and entrepreneurs, ultimately leading to a boost in the production of goods and services. Jerome et al. (2022) argue that credit is an essential engine of growth; without it, the economy cannot thrive, and investment opportunities and expansion will be diminished. Schumpeter (1912) also contends that a robust and dynamic banking sector is critical to economic expansion.

Patrick (1966) adds that a well-developed financial system, besides promoting finance for economic growth, also facilitates financial transactions and mobilizes savings. In contrast, the demand-side theory suggests that economic growth stimulates the demand for financial services. Robinson (1952) supports this view, stating that finance follows where enterprise leads. This presents a finance-led growth relationship that contrasts with the supply-side theory. The theories present two distinct

perspectives on the relationship between credit availability and economic growth, highlighting the importance of a well-functioning financial system.

According to Demir and Danisman (2021) financial institutions play a vital role in the economy by enabling the smooth transfer of funds from surplus agents to deficit agents across diverse economic sectors. In Eswatini's economy, commercial banks represent the most dependable sources of credit, with four commercial banks acting as providers of credit and facing potential risks of loan defaults by consumers ¹. Deposits constitute the primary source of funding for the banking industry, accounting for 77.0 percent of all assets and they increased by 10.5 percent in 2021 increase, reaching E16.9 billion (\$ 880 Million). The value of time deposits increased by 13.3 percent, while demand deposits and savings deposits rose by 6.3 and 9.6 percent, respectively. Total shareholders' equity, constituting the second-largest source of finance, amounted to E3.2 billion (\$160 Million) in 2020 and they represented 14.9 percent of all assets ².

According to Bordo, Duca, and Koch (2016), banks play a crucial role in transferring funds from surplus units to deficit units, enabling the financing of illiquid projects with liquid cash that depositors can access at any time. However, this process also carries risks, as banks use liquid assets to finance illiquid projects. This is one of the reasons why banks need to be regulated. While this process is vital for the economy, it necessitates the regulation of banks. The minimum capital requirements for banks were set at 20 percent for 2021 and 2022. However, despite these liquidity levels, commercial banks in Eswatini continue to have excess liquidity. Three of the banks have liquidity that is twice the amount of the minimum capital required, indicating an excess liquidity of 20 percent. This suggests that efforts to increase capital holdings by enforcing capital requirements after the commencement of a crisis can often worsen a liquidity constraint and lower asset quality for banks³.

Several authors, including Nyasha et.al (2015), Akani (2018), Demir and Danisman, (2021), have extensively discussed the benefits of the bank lending channel. According to this theory, multiple variables influence the availability of loanable funds for commercial banks, some of which can be directly influenced by the central bank's monetary policy stance. As a result, changes in the cost of extending credit are observed. To comprehensively capture the impact of fluctuations in loanable funds on credit extension and the bank lending channel, it becomes essential to consider demand-side characteristics as control variables within the supply-demand framework.

The bank lending channel has been extensively studied by Deminar and Ozturk (2021), Amidu (2014) and Ananzeh (2016). This theory posits that banks, leveraging their position and ability to

¹ Central Bank of Eswatini Research Bulletin, Issue 6 2021

² Recent Economic Developments Report, Central Bank of Eswatini March 2021

³ Central Bank of Eswatini, Financial Stability Report, Issue 5 June 2021

manage asymmetric information in credit markets, can attract consumers. In light of this information asymmetry, commercial banks, influenced by the central bank's discount rate, become the primary source of funding. When monetary policy takes an expansionary stance, boosting bank liquidity, loanable funds increase. As a result, banks extend credit in the form of cash to maximize profits through interest charges. This implies that banks rely on liquidity to provide credit to both individuals and businesses. The basic assumption of the bank lending channel theory is that the economy's cost of credit will decrease as liquidity increases. This information highlights the importance of bank liquidity in the credit market and its role in the monetary transmission mechanism, (Mishkin, 1996).

Samad (2004) highlights the importance of liquidity for commercial banks, as it impacts their ability to meet their financial obligations in a timely and efficient manner. In this regard, retail and wholesale distribution networks play a crucial role, with money obtained from retail channels considered more dependable and less sensitive to interest rates. To assess liquidity, financial ratios can be used, such as the current ratio, quick ratio, and cash ratio. This emphasises the significance of liquidity within the banking sector and its function in guaranteeing the bank's capability to fulfill its monetary responsibilities.

In Eswatini's banking sector, liquidity requirements are measured through the ratio of total liquid assets to total liabilities, with a minimum ratio of 20 percent expected for banks. Any amount exceeding this is considered excess liquidity.⁴ To calculate excess liquidity, the total liquid assets ratio to total liabilities is subtracted from the minimum liquidity requirement set by the central bank (Gatev, 2004), which was 20 percent for the year 2021. The central bank adjusts liquidity requirements according to the economic environment, emphasizing the need to maintain adequate liquidity in the banking sector to ensure the bank's ability to meet financial obligations and respond to changes in the economic environment. The regulation of liquidity in Eswatini's banking sector is crucial for ensuring financial stability.

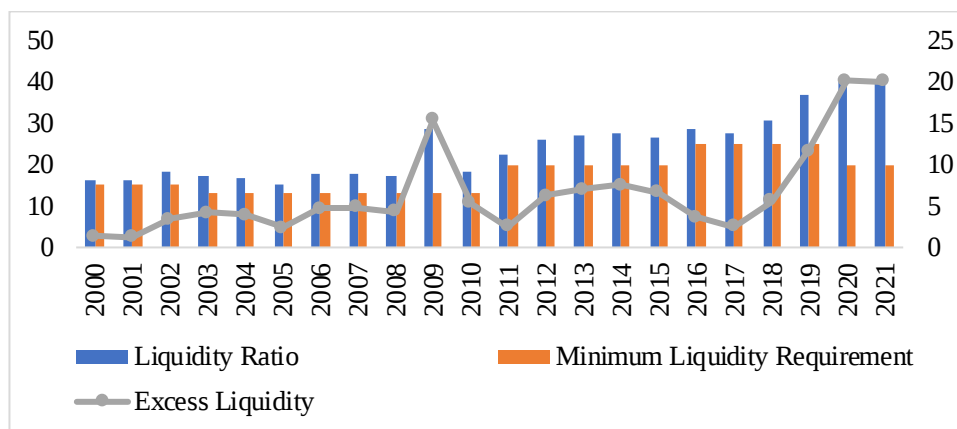
Over the 20-year period, commercial banks in Eswatini have maintained liquidity above the minimum requirement, with excess liquidity rising consistently. However, in 2009, there was a sharp increase in excess liquidity by 11 percentage points after a drop of 4 percent due to the world financial crisis, leading to credit rationing as banks were hesitant to lend. From 2017 to 2021, excess liquidity has been on an upward trend, with the excess liquidity in 2020 and 2021 recorded at 20.1 percentage points despite the minimum liquidity requirement being set at 20 percent for both years⁵. This indicates that banks had twice the required liquidity, highlighting a liquidity glut in Eswatini where banks held liquidity instead of extending credit to households and corporations. These emphasise the need for finding the right balance between maintaining adequate liquidity levels in

⁴ Central Bank Data Quarterly Review Tables, March 2023

⁵ Central Bank of Eswatini Integrated Annual Report 2021

commercial banks and providing credit to support economic growth in Eswatini. Ultimately, this will lead to a more stable banking sector and support increased economic growth.

Figure 1: Bank Liquidity Outlook of Eswatini.



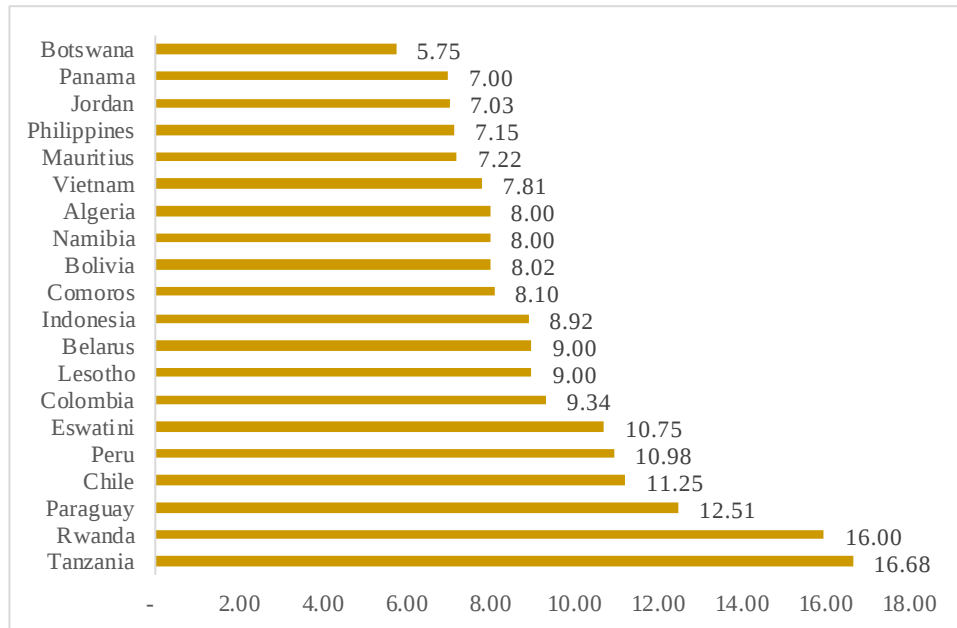
Source: Author's Computations (Central Bank of Eswatini Database)

Tsiang (1980) argued that Keynes' liquidity preference theory was vulnerable to criticism from those who claimed that financing was necessary to cover unpaid investment expenses. Conversely, Ohlin, (1937) presented the interpretation of neoclassical theory, which examined the relationship between the supply of credit from planned savings and the demand for funding, largely driven by planned investments. However, Keynes believed that banks should generate credit or cash balances to finance households and firms. Keynes contended that the interest rate was determined by the demand for liquidity and the supply of liquidity, generated either by banks or savings. Throughout this discussion, Timsina and Pradhan (2016). presented unique monetary policy perspectives, but Keynes' liquidity theories are still relevant to the present economic climate.

The excess liquidity in the banking sector of Eswatini does not seem to have expected benefits as the country has one of the highest lending rates compared to countries with similar liquidity ratios. According to a report, Eswatini was ranked the 16th highest country out of 20 in terms of high lending rates with similar levels of excess liquidity. Several other countries such as Chile, Paraguay, and Tanzania had higher lending rates or prime rates than Eswatini yet they have similar liquidity levels ⁶.

⁶ World Bank Database, assessed at <https://data.worldbank.org/indicator/FD.RES.LIQU.AS.ZS> on the 5th of June 2023

Figure 2: Prime Rates of Countries with the same Liquidity Ratios as Eswatini for 2022



Source: Author's Computations (World Bank Database)

According to Akey & Lewellen (2017) policymakers need to explore different ways to address the high lending rates, including measures to enhance financial stability by managing credit and liquidity risks. Additionally, there is the need to attract foreign investment as it could provide alternative funding sources, reducing the country's reliance on local deposits. Tran (2021) added that promotion of SMEs could also lead to greater liquidity, reducing borrowing costs, particularly for this crucial sector of the economy. This implies that policymakers must strategically address these issues to ensure sustainable economic growth and financial stability in Eswatini.

According to Khaw (2019), economic policy is a critical tool for regulating economic performance. Creel, Hubert & Labondance (2022). argue that poor economic performance can raise debt costs by causing policy uncertainty, which results in an increase in the risk premium, hence pushing up the costs of credit. Akey and Lewellen (2017) suggest that economic performance can influence debt financing costs in two ways. Firstly, significant economic policy uncertainty increases information asymmetry between enterprises and their creditors, leading creditors to raise interest rates to compensate for this information disadvantage. Secondly, according to the real options theory, enterprises that face uncertainty are more likely to postpone their investment until the uncertainty is resolved. This means that maintaining a stable economic environment is important as it can help to reduce the cost of credit, making it easier for businesses to access financing and invest in future growth.

According to Guangli Zhang (2015), Gungoraydinoglu et al., (2017) if there are low levels of economic growth in a jurisdiction, cashflows of firms become more volatile resulting in higher risks of default. This also leads to a rise in corporate finance costs. Bordo, Duca, and Koch (2016) found there is a negative relationship between policy uncertainty brought about by a deteriorating

economy and access to bank credit. They used the global financial crisis as an exogenous shock to study the relationship between policy uncertainty and costs of credit. They found that during a financial crisis banks had liquidity challenges since capital financial markets do not operate fully. The liquidity channels are disturbed which then results to high costs of credit and hence results to fluctuations in cash flows of firms (Bajaj et.al., 2021).

Literature has different views on the level or the extent to which banks through credit extension promote economic growth. Bernanke (1983) found that during periods of credit contraction, credit rationing can lead to a decline in investment and a subsequent slowdown in economic growth. Shimeles and Gugsu (2006) found that the impact of credit on growth is positive but weak, indicating that the effectiveness of credit in promoting growth varies by region. On the other hand, Mlachila et al. (2010) found that credit provided by banks supports economic growth, but its effectiveness varies across countries, depending on the level of financial development and institutional quality.

This may appear surprising considering the numerous theoretical reasons claiming that access to well-functioning global finance markets enhances growth in a variety of ways. According to Alquist & Chabot (2014) globally linked banks sever the relationship between a country's amount of savings and its ability to invest by distributing finances across investment projects until the marginal rates of return are equalised. As a result, globally interconnected capital markets are rendered important in equitable wealth distribution.

1.1.1.Eswatini Financial Sector.

Eswatini has a small developing financial sector, generally dominated by the banking sector. The banking sector, composed of 4 commercial banks with 74 branches across the country. It remains a well-capitalized and profitable financial system, with South African banks accounting for the larger share of the market. The banking sector of Eswatini is regulated by the Central Bank of Eswatini (CBE). The fourth lending institution in Eswatini is the locally owned Eswatini Development and Savings Bank (SBS). However, the fifth financial institution, the Eswatini Building Society, is not considered in this context. This is primarily due to the fact that it does not maintain reserves with the Central Bank and does not rely on borrowing from the Central Bank⁷. Eswatini's financial markets are characterized by their underdeveloped nature and limited integration with international financial markets. The Non-banking Financial Institutions such as the pension funds, money market funds, insurance companies, cooperatives and micro lenders are regulated by the Financial Services Authority⁸. According to Samouel & Aram (2016) the country is dominated by excessively liquid banking sector and there is no functional stock markets. Bank lending is therefore the reliable form of raising capital for firms and they act as a dependable conduit of monetary policy transmission.

⁷ Central Bank of Eswatini, Financial Stability Report June 2019 Issue 5

⁸ Financial Services Regulatory Authority Quarterly Report March 2022

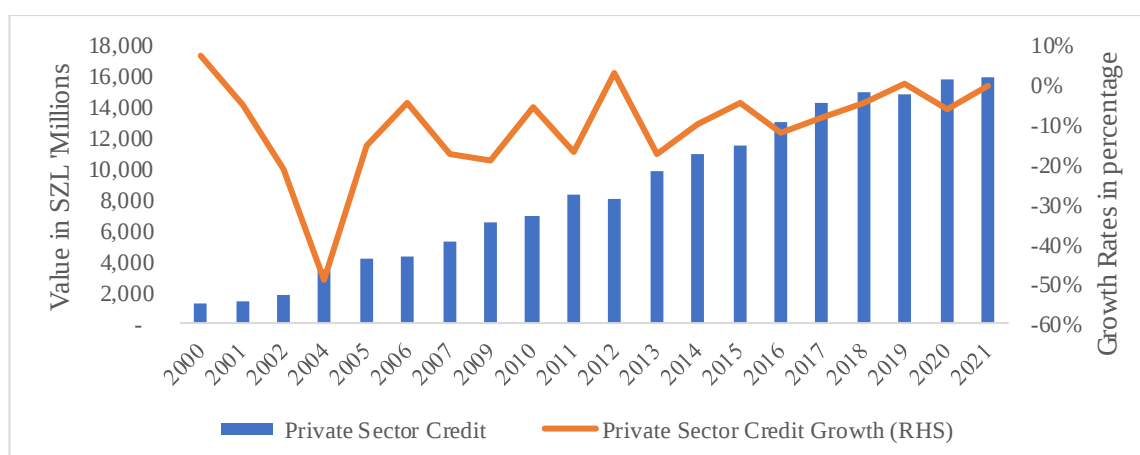
The crucial role of the financial sector in driving economic growth has long been recognized, with early economists such as Schumpeter (1911) advocating for finance-led growth. Through the efficient allocation of savings, the financial sector plays a vital role in directing funds towards productive investments, particularly in the formal sectors of the economy. Among the various components of the financial sector, the banking sector stands out as a significant channel for financial intermediation within the economy.

Eswatini's discount rate tracks South African Reserve Bank's (SARB) repo rate, like all Common Monetary Area member states. For instance, the discount rate of Eswatini was reduced from 11.5 percent in 2008 to a low of 5 percent in 2013, after South Africa reduced their repo rate to counter the impact of the 2008 Global financial crisis⁹. In 2021 Eswatini's discount rate was recorded to be 3.75 percent to counter the effects of the COVID 19 pandemic, in 2022 it was increased to 6.75 percent as monetary policy tightening was happening around the globe to curb inflation. Treasury bills (TB) and bonds, on the other hand, are valued higher than the South African TB rate and bond prices, but the local market for these assets remains limited. The government is the primary issuer of TBs and bonds, while the primary holders are pension funds and commercial banks¹⁰.

1.1.2 Trends in Bank Credit to the Private Sector

The private sector was resilient in 2021, which was aided by increased economic activity resulting from the relaxation of COVID-19 restrictions and supportive monetary policy. As a result, credit extension to the private sector increased by 3.3 percent year on year to E15.8 billion (\$839 million) at the end of 2022, up from 9.3 percent the previous year. This further indicates that credit for private households has grown rapidly due to competition within the industry, resulting in a variety of credit products, including personal unsecured loans. The extension of credit to the private sector started to pick up again in 2013-2018 as more digital credit products were introduced due to the banks automating their systems during this period.¹¹.

Figure 3: Private Sector Credit of Eswatini for the Period 2000-2021



Source: Author's Computations (Central Bank of Eswatini Database)

⁹ Central Bank of Eswatini Research Bulletin 2018, Issue 4

¹⁰ Central Bank of Eswatini Research Bulletin 2019, Issue 5

¹¹ Eswatini Financial Stability Report, Issue 4 June 2021

1.1.3.Economic Growth Developments

Eswatini's economic activity as measured by real GDP, was estimated to have grown by 7.9 percent in 2021 rebounding from a revised 1.6 percent contraction in 2020¹². The stronger-than-expected recovery was mainly driven by activities in the secondary sector and due to base effects. In the advent of COVID-19, weak external demand as well as stiff lockdown restrictions on non-food processing (mainly manufacturing of beverages) weighed more negatively on export-oriented manufacturing. The easing of lockdown restrictions locally and internationally, in 2021, despite emergence of new COVID-19 variants, supported a strong rebound in the affected subsectors within the secondary sector¹³. In 2022 the economy was forecasted to have expanded by 3.6 percent due to base effects depicting a decline of 4.3 percentage points compared to 7.9 percent growth that was recorded in 2021¹⁴.

On another note, Eswatini's GDP growth averaged 6.1 percent between 1980 and 1989, with a high of more than 10 percent in 1987. This was during a period of political upheaval among the country's neighbors, which made the country an ideal investment destination. Eswatini had rapid economic expansion as South Africa confronted the issues of political turmoil and investors used Eswatini as a conduit to conduct business. However, that picture reversed in the 1990s as such unrests faded in South Africa, resulting in average growth rates of 3.8 percent between 1990 and 1999¹⁵. The GDP of Eswatini grew by an average of 2.9 percent between 2010 and 2016, but the trend has largely declined from the peak in roughly 2006.

The banking industry was crucial to Eswatini's economic growth under such benevolent economic circumstances. Eswatini was not immune to the effects of the global financial crisis-induced economic recession, which changed the outlook for an already weakening economy dramatically in late 2007 (Banu, 2013). The Eswatini economy was negatively impacted by slower economic development in important export markets, reduced commodity prices, and a decrease in capital flows to developing nations which resulted to a deteriorating in profitability of Eswatini's banking sector ¹⁶.

1.1.4.Cost of Credit

The cost of credit refers to the interest rate charged on loans and other forms of credit. Higher interest rates can make borrowing more expensive, which may reduce the amount of credit demanded by consumers and businesses. This can potentially slow down economic growth because credit is often used to finance investment and consumption, both of which contribute to economic activity, (Markauskas & Saboniene, 2020). Depending on the degree of risk to the lender, a few variables may raise the cost of credit. These include a lengthier payback term since the time value

¹² Central Statistics Office of Eswatini, Annual GDP Figures 2021 Report

¹³ Central Bank of Eswatini Annual Integrated Report 2021/2022

¹⁴ International Monetary Fund, Kingdom of Eswatini 2023 Article IV Consultation

¹⁵ Central Bank of Eswatini Quarterly Review, December 2016

¹⁶ Ministry of Economic Planning and Development, Economic Outlook Report 2013

of money and opportunity expenses increase the longer a debt is outstanding. According to Arena, Reinhart & Vazquez (2016) the economic environment also determines the risk of default, since in poor economic environment the risk of default tends to be high hence increasing the cost of credit .

The economic outlook, recent macroeconomic and financial developments in Eswatini have highlighted an increase in the cost of credit, rising from 7.25 percent in 2021 to 10.50 percent in 2022. This change could potentially impact economic growth in the country. The report states that Real GDP growth fell to 3.6 percent in 2022 from 7.9 percent in the previous year , which could be partly attributed to factors such as fiscal constraints and an increase in the cost of credit¹⁷. In addition, it was noted that private sector credit growth in Eswatini declined slightly from 4.8 percent in 2021 to 4.4 percent in 2022. This suggests that the availability of credit may be decreasing in the country, which could have negative implications for economic growth¹⁸. The relationship between the cost of credit and economic growth is complex and context-specific, but in general, higher borrowing costs can make it more expensive to finance investment and consumption, which can reduce demand and slow down economic growth. Furthermore, higher costs of credit can also increase the risks associated with borrowing, such as default risk, which can discourage lending and borrowing thus resulting to a decrease in economic growth, (Markauskas & Saboniene, 2020).

1.2. Problem Statement

Eswatini is facing a sluggish economy, with the country's GDP growth remaining low, averaging between 1 to 3 percent in real terms over the 2019-2022 period. In 2021 the economy grew by 7.9 percent due to base effects brought about by the COVID 19 pandemic. The manufacturing sector plays a significant role in Eswatini's economy, contributing approximately 27 percent to the country's GDP. Additionally, the trade sector also makes a notable contribution, accounting for around 15 percent of the GDP. These productive sectors are crucial in driving economic activity and growth in the country¹⁹. In the years 2020, 2021, and 2022, there was a consistent excess liquidity of 20.2 percent, 20.1 percent, and 21.1 percent, respectively, which is twice the minimum liquidity required ²⁰. The high liquidity is not being effectively channeled into productive sectors to drive economic growth as suggested by Lay (2020). It is interesting to establish whether the high cost of credit is a contributing factor to this problem. Furthermore, private sector credit has been fluctuating over the years, and this has hindered the private sector's ability to serve its purpose of boosting economic growth in the country ²¹. The ineffective use of excess liquidity to promote economic growth and the unclear reasons why the liquidity is not being channeled to productive sectors indicate significant barriers to the country's economic growth (Creel , Hubert & Labondance, 2022).

¹⁷ African Development Bank Group's eSwatini Economic Report 2023

¹⁸ IMF 2023 Article IV Consultation-Press Release

¹⁹ Central Bank of Eswatini, Annual Economic Review Report 2021

²⁰ Central Bank of Eswatini, Financial Stability Report, Issue 6

²¹ Central Bank of Eswatini, Research Bulletin Issue 5 2020

In order to promote sustainable economic growth in Eswatini, it is crucial to identify and address any existing barriers to the effective utilization of liquidity and explore solutions for strategic financing. This requires a comprehensive examination of the relationship between aggregate liquidity and the cost of credit, as well as the interplay between the cost of credit and economic growth. Additionally, it is essential to understand the reasons behind the inefficiencies in channeling excess liquidity into productive sectors and the implications of fluctuations in private sector credit for driving economic growth.

However, the existing literature on Eswatini's economic challenges and the utilization of excess liquidity has certain limitations and gaps that need to be addressed. While there is recognition of the high levels of liquidity in the country, there is a lack of in-depth analysis regarding the specific factors that contribute to the ineffective allocation of this liquidity towards productive sectors that can drive economic growth. Furthermore, the literature fails to provide a clear understanding of the underlying causes of fluctuations in private sector credit and how it affects the country's ability to stimulate economic growth. These gaps in the existing literature impede a comprehensive understanding of the barriers to efficient liquidity utilization and hinder the development of targeted solutions for strategic financing (Creel, Hubert & Labondance, 2022)

1.3. Research Questions

The study aims to address the following research questions:

1. What is the relationship between banking sector liquidity and the cost of credit in Eswatini?
2. How does the cost of credit impact economic growth in Eswatini?
3. What role does excess liquidity play in promoting economic growth in Eswatini's economy?

1.4. Objectives of the Study

The main objective of the study is to examine the nature of the relationship that exist between cost of credit and economic growth of Eswatini in the short run and in the long run.

The specific objectives of the study are to:

1. Establish relationship between banking sector liquidity and cost of credit in Eswatini.
2. Ascertain the relationship between cost of credit and economic growth in Eswatini.
3. Establish the possible role of excess liquidity in promoting economic growth in Eswatini's economy.

1.5. Hypothesis

H₁: High liquidity lowers the cost of credit.

H₁: High cost of credit leads to low economic growth.

1.6. Significance of the Study

The proposed study that aims to deepen the understanding of the interaction between the cost of credit and economic growth in Eswatini and assist local monetary policy authorities in making better-informed policy decisions regarding the cost of credit. The study intends to fill a gap in knowledge as there are no existing studies on the relationship between the cost of credit and economic growth in Eswatini. The study will provide empirical findings on how the cost of credit affects the economy in Eswatini, which will contribute to the body of knowledge and may suggest possible strategies for distributing the liquidity of Eswatini's banking sector to promote economic growth. Overall, the proposed study appears to be a potentially valuable contribution to understanding the Eswatini economy and improving related policy decisions.

1.7. Chapter Summary

In this chapter an overview of cost of credit and economic growth was made. First, the chapter presented some background information with necessary statistics to give a clear picture of where Eswatini stands. The last sections included the problem statement, objectives, research hypotheses, justification of the study. The next chapter will discuss the literature review.

CHAPTER 2

LITERATURE REVIEW

This chapter provides a review of literature related to cost of credit and economic growth. The chapter also describes the theoretical approaches, empirical studies and methodological review on the macroeconomic variables that are linked to cost of credit and economic growth both directly and indirectly.

2.1. Theoretical Literature

2.1.1.Liquidity Theory Review

During periods of uncertainty, banks tend to reduce their liquidity creation as they prioritize holding more liquid assets and limit lending activities. This cautious approach is driven by concerns over potential liquidity shortages and funding difficulties, as indicated by the work of Diamond and Rajan (2011).. External funding costs also increase, limiting access to liquid funds, and uncertainty reduces credit demand (Bloom et al., 2013). This decrease in liquidity creation also applies to loan commitments, as banks cannot provide more guarantees due to limited loanable funds. Effective policy interventions are necessary, as researchers have studied methodologies to understand bank liquidity creation and credit availability (Diamond & Rajan, 2011; Bloom et al., 2013). The bank lending channel theory offers a solution, allowing banks to increase credit availability in credit markets even when funding is tight. Policymakers can adopt this theory to maintain financial stability, ensure credit availability, foster economic growth and job creation (Diamond and Rajan, 2011 and Bloom et al., 2013).

However according to targets Dell’Ariccia et al. (2014), an increase in uncertainty can have competing impacts as well. According to the "search for yield" hypothesis, banks may take on more risk to offset their eroded profits due to uncertainty. This behavior could result in an increase in risky loans, but it may also lead to a decrease in off-balance sheet activities. As customers gain more credit in the spot market, their demand for credit commitments may decrease. On the other hand, uncertainty can also lead to an increase in the deposit supply from the public into banks, where they serve as safe havens due to the availability of deposit insurance (Gatev and Strahan, 2006).

Existing literature has investigated the direct impact of income diversification on bank liquidity creation and found that dispersed resources may have drawbacks that negatively affect liquidity creation (Dang, 2020). However, other studies suggest that various factors, such as income structure and diversification, could indirectly influence how bank liquidity creation reacts to uncertainty. Diversifying income sources can allow banks to take advantage of scope economies, like cross-selling opportunities, which may mitigate the negative effects of adverse shocks on lending (Gertler

and Kiyotaki, 2015). Additionally, the "loss leader" hypothesis suggests that banks may adopt lower interest margins or lending rates to attract customers and build long-term relationships after acquiring non-interest income, which could help maintain bank liquidity creation during uncertain times (Petersen & Rajan, 1995). Overall, it appears that a flexibly adjusted interest rate framework and a diversified income structure may both have positive impacts on bank liquidity creation during uncertainty shocks.

According to Houcine (2020), the interbank market allows banks to hoard liquidity from each other through reduced federal funds sold or other interbank loans on the asset side of the balance sheet, causing liquidity shocks to spread to other banks. On the liability side of the balance sheet, banks may raise more liquid deposits and other liquid liabilities as a response to more uncertainty, hoarding liquid funds that may otherwise be intermediated through other banks or nonbank financial institutions and markets. According to (Demoussis et al., 2017), increasing liquid liabilities is more consistent with standard liquidity management practices, as it is easier to reverse compared to changes in illiquid liabilities such as 10-year bonds. Quarterly changes in Economic Policy Uncertainty (EPU) may result in banks raising illiquid liabilities to fund more liquid assets, but increasing liquid liabilities is more common.

Merton and Thakor (2019) suggest that high leverage in banks compared to non-financial firms can be attributed to factors such as deposit insurance, tax benefits of debt, and reduced bankruptcy costs. These factors can distort the attitudes of stakeholders towards risk. Due to the diversity of banks' stakeholders, including insured and uninsured depositors, regulators, other creditors, investors, and borrowers, banks' management faces different pressures. Barinov et.al (2020) also emphasised the importance of the priority structure of debt, specifically in terms of the contracting costs that arise from conflicts of interest between bondholders and shareholders.

Merton and Thakor (2019) suggest that insurance can facilitate more effective contracting because depositors function as both customers and investors. Depositors provide funding but are unwilling to bear credit risk. Though insurance cannot eliminate risk entirely, it can prevent depositor runs, thereby significantly reducing the probability of default. This creates an incentive for banks to take on as much debt as necessary to outweigh taxable earnings up to 100 percent, less the minimum required amount of equity. According to Mourouzidou-Damtsa (2019) theory, when the costs of financial distress are disregarded, utilizing debt helps minimize the cost of credit and maximises the value of a firm without any constraints. However, it should be noted that there is no evidence suggesting that losses are lower in the event of default.

2.1.2.Credit Rationing

The topic of credit rationing by lending institutions has witnessed substantial research efforts in recent decades, although theoretical justification for how different forms of credit rationing appear in markets is limited. According to Müller (2022) regulators, comprehending the emergence of such

rationing methods is essential to maintain economic and financial stability during crises and pandemics and for effective decision-making concerning monetary policy. Even though there are empirical indications regarding credit rationing, further research is required to better understand this phenomenon and determine the potential causes behind the problem. Demoussis et al. (2017) documents that in the product market, a price below the equilibrium price generates excess demand over supply and results in a form of rationing. However, in a credit market, this is not the case as rationing can persist despite a lack of regulatory price control. This implies that the credit market behaves differently from the typical product market and exhibits an anomaly in this regard.

Stiglitz and Weiss (1981) define credit rationing as the limitation of lenders of the supply of additional credit to borrowers who demand funds at a set quoted rate by the financial institution. This situation can occur when lenders and borrowers cannot overcome the inherent informational asymmetries that give rise to adverse selection and moral hazard. They divided the concept of credit rationing into two concepts namely; Type 1 rationing where a borrower receives a loan below the requested amount, and Type 2 rationing where credit is entirely denied. On another note, according to Evans and Jovanovic, et al (1989) Credit rationing is an important banking market outcome as it can adversely affect the performance and even survival prospects of businesses by constraining investment and employment choices.

Drakosa & Giannakopoulos (2018) posits that rationed firms were a subset of loan applying firms at the early stages of the literature, and unless a company explicitly revealed its demand for credit, there was no possibility of being classified as rationed. The phenomena of credit rationing can be challenging to manage and present a significant problem for regulators responsible for monetary policy. Such regulators play a vital role in maintaining economic and financial stability, especially during pandemics and crises. Credit rationing leads to suboptimal decision-making as businesses face constraints in accessing credit, resulting in reduced employment and investment opportunities. This adversely affects businesses' performance and has detrimental effects on their survival prospects.

Accessing affordable financing poses a significant challenge for small and medium-sized enterprises (SMEs) worldwide, as highlighted by Cheng et al. (2014). This challenge, often referred to as the "Macmillan gap," is particularly prevalent in developing countries and transitioning economies. The gap arises due to information asymmetry between lenders and borrowers, with financial institutions perceiving SMEs as high-risk due to factors such as weak collateral quality, limited guarantee capacities, small loan sizes, frequent loan requests, and complex loan procedures. Consequently, financial institutions prefer to lend to larger enterprises with more substantial funds, resulting in reduced productivity and misallocation of resources.

Kaplan and Zingales (1997) argued that financially constrained firms exhibit a higher sensitivity of physical investments to cash flow shocks. Whited and Wu (2006) estimated the Euler equation for investment with financial constraints by incorporating the long-term debt-to-asset ratio and cash-flow-to-asset ratio. Nahla and Kutan (2016) discovered a non-linear relationship between the debt-to-asset ratio and firm labor productivity. Additionally, credit scores are commonly assessed based on liquidity conditions, indebtedness, and payment behaviors (Wagner, 2014). Moreover, Hadlock and Pierce (2010) identified firm scale and age as useful predictors of financial constraint levels. Ferrando and Ruggieri (2018) developed a synthetic indicator of financial constraints using a classification based on specific firm characteristics and financial pressures.

Credit rationing is an important topic in economics that has been extensively researched. Jaffee and Stiglitz (1989) have highlighted that credit markets differ from standard markets in that they involve promises for future repayment, leading to moral hazard and adverse selection issues. To reduce firms' credit constraints and overcome information asymmetry and incentive problems, banks can adequately screen and monitor borrowers and make appropriate use of information (Diamond, 1984).

The literature on bank lending highlights two ways in which SMEs are financed, based on the type of information exchanged between the borrower and the bank, as noted by (Berger and Udell, 2006). The first approach, transaction lending technology, involves information exchange based on quantitative and transferable 'hard' information. In contrast, relationship lending relies on qualitative information obtained through long-term interaction. The success of banks in providing appropriate incentives for borrowers and overcoming information asymmetry depends on their lending technology. Another area of research has investigated whether discouraged borrowers have correctly or incorrectly assessed the likelihood of their rejection, as studied by Diagne (1999) and Vochozka (2017).

In their study, Calabrese et al. (2021) examined the concept of credit rationing, which manifests in various forms for firms. This includes being partially satisfied with a loan, being completely denied a loan, or facing high costs that make it impossible to obtain a loan. These instances represent credit constraints from the supply side. Despite banks implementing more stringent screening processes and evaluation techniques for loan applicants, many small and medium-sized enterprises (SMEs) still face financial constraints (Artola & Genre, 2011).

It is important to note that credit rationing resulting from imperfect information only applies to those who actively apply for loans. However, to achieve unbiased estimates of the relationship between borrowers and lenders, it is crucial to model not just loan applicants, but also those who require external bank lending but choose not to apply. These firms belong to a group known as discouraged

potential bank borrowers. By considering both loan applicants and discouraged borrowers, a more comprehensive understanding of the borrower-lender relationship can be obtained.

Research on the constraints faced by small and medium-sized enterprises (SMEs) in accessing finance has expanded beyond the traditional definition of credit rationing proposed by Stiglitz and Weiss (1981). Discouraged borrowers refer to firms that would have applied for credit but chose not to because they anticipated rejection (Cavalluzzo et al., 2002; Kon & Storey, 2003). This form of rationing represents constraints on the demand side of credit.

Calabrese et al. (2021) argue that the level of discouragement among borrowers is influenced by factors such as application costs, screening errors, and the interest rate difference between banks and other lenders. Previous empirical studies support the prevalence of discouragement among potential borrowers (Freel et al., 2012; Qi & Nguyen, 2021). Therefore, it is crucial to include discouraged borrowers when measuring credit rationing, as their exclusion would underestimate the phenomenon (Freel et al., 2012). Additionally, another line of research has examined whether discouraged borrowers accurately perceive the likelihood of loan rejection (Diagne, 1999; Vochozka, 2017).

The traditional focus of research on finance for SMEs, as highlighted by Stiglitz and Weiss (1981), has primarily centered on firms that actively apply for funding, with an emphasis on credit rationing. The analysis of credit markets based on the theory of imperfect information has a long history, with Jappelli (1990) explaining how differences in borrower quality that go unnoticed can lead to credit rationing. Furthermore, empirical evidence has shown that many firms are unable to secure bank loans for reasons unrelated to their quality. Stiglitz and Weiss (1981) highlighted the significance of informational asymmetries in justifying a form of credit rationing where the market withholds funds to protect itself from asymmetric information, thereby excluding borrowers with characteristics similar to those who receive loans. They also noted that banks are concerned about the interest rates they receive from granting loans and the associated risks. However, the interest rates charged by banks can also influence the risk profile of the loan pool, either by adversely selecting prospective borrowers (adverse selection effect) or by impacting borrowers' behavior (incentive effect or moral hazard), as suggested by Bloom et al. (2007).

Regulators must undertake research to identify the various forms of credit rationing and study their impact on businesses and economies to develop policies that address credit rationing. Understanding the phenomenon of credit rationing is crucial for policymakers to maintain economic and financial stability, especially during pandemics and crises. The negative repercussions of credit rationing on businesses highlight the need for regulators to have an accurate understanding of the implications of credit rationing. Further, it is imperative to develop policies that can overcome the information asymmetries responsible for such market failures

2.1.3. Bank Credit

Haq et.al (2018) have presented a theoretical evaluation of the transmission mechanism linking credit and economic growth. They use the neoclassical growth model as a foundation to demonstrate how credit interventions can promote economic growth by increasing savings, which subsequently lead to capital accumulation and gross domestic investment. By increasing the liquidity of deposit-taking institutions or banks, savings create an opportunity for them to offer credit to borrowers who require liquidity. Based on a distinct group of theoretical models, Amoo, Eboreime, and Adamu (2017) suggest that financial credit can impact growth by reducing inequality through the equitable distribution of liquid assets from those with excess to those in need of them. This process results in investment opportunities that generate employment and income for those in need, leading to a reduction in social inequalities (Kirikkalel & Athari, 2020).

According to Amidu (2014) bank lending is a vital facilitator of economic expansion since credit plays a crucial role in the movement of money by financing capital formation, consumption, and production, all of which impact economic activity. However, for the monetary policy transmission mechanism to function effectively in support of the policy objectives, the financial sector must be properly managed and regulated. To achieve maximum potential for growth and productivity, credit must be provided to the private sector within a controlled banking environment. This helps to foster economic growth, promotes employment opportunities, and enhances the competitiveness of the economy, as Qi and Nguyen (2020) suggest based on their own class of theoretical models.

Rajwani and Azaaviele (2018).) assert that the demand-side processes of economic policy have a significant impact on the investment decisions of economic players. Therefore, it is crucial to have policies that foster a positive economic outlook. Clear and transparent economic policies are necessary to enable firms to make well-informed investment decisions. On the other hand, Cheong, et.al (2014) argue that if the decision-making process is unclear and unpredictable, it can negatively affect the credit needs of corporations and their investment activities. This might even result in the postponement or cancellation of investment plans.

Qi and Nguyen (2020) suggest that firms tend to avoid taking credit from financial institutions during uncertain times, such as during war threats, terrorist attacks, military tensions, conflicts, and economic meltdowns. During such uncertain times, household demand for credit is also negatively impacted. Firms become more likely to default, which leads to an increase in the unemployment rate and a reduction in household savings, reducing the likelihood of households applying for financing for their consumption and investment needs. Economic uncertainties make households less confident about the future economic outlook of their jurisdiction. In terms of supply-side processes, Deminar and Ozturk (2021) point out that in an uncertain economy, banks are less willing to fund the investments of both businesses and individuals, as default risks for borrowers increase. The future prospects of investment ventures become less certain. As economic uncertainty rises,

banking institutions tend to charge higher interest rates for loans, resulting in a decline in credit levels, as an extra risk premium is added to loan pricing.

Saunders (2022) state that private sector lending is a crucial indicator of financial progress. Therefore, the study of bank loans and growth is of significance in examining the relationship between finance and economic development. Through their research, they provide evidence that the financial sector, as measured by the ratio of bank credit extended to the private sector to GDP, plays a significant role in enhancing investment productivity by improving capital allocation and facilitating greater levels of investment. By modifying the composition of deposits, the financial system can positively impact the actual economic performance by providing valuable information.

According to Timsina (2014), Şenay & Deniz (2019) and other similar studies, the financial sector is crucial in channeling funds towards profitable investments, especially in the formal sectors of the economy. They highlight that the banking industry has a significant role to play in financial intermediation in the economy. These studies also suggest that financial development can promote economic growth by improving the efficiency of loanable funds allocation, increasing savings, and encouraging capital accumulation. They argue that well-developed financial markets are indispensable to the overall economic progress of developing and less developed countries. Ketteni and Kottaridi (2019) contend that banks perform an important social function by extending credit, which enhances output, encourages capital investment, and ultimately improves the standard of living.

Steward, Chowdury, and Arjoon (2021) contend that the availability of credit plays a crucial role in actual economic activity, as changes in loan growth, both in terms of volume and credit standards used for enterprise loans, have a significant positive impact on GDP. Ketteni and Kottaridi (2019) draw a similar parallel to the role of financial services in raising the income of the underprivileged by increasing the supply of financial services they can access, which directly contributes to poverty decline. Private sector lending serves a crucial function as a means of monetary policy transmission, with its influence on the credit of the banking sector having a potential impact on inflation and actual economic activity that cannot be disregarded.

Shabir et.al (2022) argue that increasing rates of accumulation of physical and human capital is necessary for effective utilization of resultant productive assets and ensuring universal access to them. This can only be accomplished by having access to bank finance. Financial intermediation, which involves collecting funds from the surplus sector as deposits and lending them to various economic sectors, promotes economic growth. According to Bordo, Duca, and Koch (2016), credit extension is one of the primary responsibilities of financial institutions.

Wu, Yao, Chen, and Jeon (2021) propose that according to the neo-classical growth hypothesis, labour and capital are the primary determinants of production. In other words, production can be represented as $Y = f(K, L)$ where Y represents total production, K represents total capital stock, and L represents the labor force. When technology and human capital are combined, this equation can be expressed as $Y_{i,t} = AK(Lh)$. Obtaining bank loans allows for the acquisition of more capital under this production function. In the presence of new technology, adjustments to labor and capital are necessary to maintain growth equilibrium. Alternatively, other theoretical models argue that increasing the accumulation of human capital may also promote growth. However, Galor and Zeira's (1993) model suggests that growth may be hindered by income inequality and credit market frictions, preventing some individuals from investing in education.

According to Khawa et.al (2021), the role of financing offered by banks would be of great assistance in acquiring new technologies and so increasing total factor productivity. Credit provided by the private sector encourages growth by boosting investment and productivity. In particular, the capital accumulation channel is mostly relevant for advanced countries. In standard neoclassical theories investment-savings is the engine of growth, (Ketteni & Kottaridi, 2019)

2.1.4 Cost of Credit

The theoretical literature on the impact of competition on credit access has been fueled by the studies of Petersen and Rajan (1995) and Dell'Ariccia and Marquez (2006). Abbassi et al. (2016) present two contrasting hypotheses: the market power hypothesis and the information hypothesis. The market power hypothesis suggests that an increase in competition within the banking sector would lead to a decrease in lending rates and an easing of financing constraints. This is based on the idea that increased competition would result in lower prices, following the general economic theory that competition leads to price reduction.

On the other hand, the information hypothesis argues against this notion. It posits that increased competition among banks actually worsens financing impediments, leading to higher lending rates. According to this hypothesis, reduced competition would incentivize banks to focus on building relationships with borrowers to gather "soft" information. This, in turn, would reduce information asymmetries and facilitate credit access. Essentially, the increase in bank competition may lead to a decrease in investments in relationships, which could have a negative impact on credit access. This suggests that both bank competition and relationship building are crucial in determining the cost of credit or credit access. Boissay et al. (2017) further support the idea that both bank competition and relationship building play vital roles in shaping the dynamics of credit access.

Beck et al. (2013) and Ryan et al. (2014) highlight the ongoing debate over the implications of bank competition for economic welfare and growth. While competition can be advantageous in several sectors, it can pose problems for the banking industry due to its unique characteristics and the importance of information. The negative consequences of increased competition in the banking

sector can manifest in various ways, which include weakening financial stability, and influencing the relationship between bank competition and the cost of credit due to information asymmetries. Keynes (1937) defined finance as the demand for cash in exchange for a postponement of payment and the supply of bonds and planned investments. Finance and saving behavior were closely related, where the cost of credit is an essential aspect.

According to Robertson and Ohlin (1940), saving behavior can significantly impact the economy, while Keynes maintained that the cost of credit is crucial in balancing the attractiveness of capital assets with cash, which is independent of current saving. Keynes believed that current savings equal current income minus consumption, and the supply of savings can never be depleted until full employment is reached, irrespective of how much investment occurs. Keynes also argued that a shortage of savings that clogs the investment market cannot exist, and new investment would lead to appropriate levels of income (Dalziel, 1996). Therefore, the cost of credit, which plays a vital role in influencing investment levels, should be taken into account when analysing finance and saving behavior in macroeconomic models (Dalziel, 2001).

According to Durkin (1997) the cost of credit is an important factor to consider when discussing the intermediation of loanable funds (ILF) banking model in macroeconomic models. The model assumes that bank loans act as intermediaries for savings between non-bank savers and borrowers. Nilsen (2002) posits that, in reality, banks create new monetary purchasing power through loans, and the primary function of banks is to create funding through deposits when lending, without any intermediation. The cost of credit should be taken into consideration when borrowers or depositors seek assurance that others will accept their new deposits as payment for goods, services, or assets. Understanding the difference between resources (saving) and debt-based money (financing) is crucial in defining respective macroeconomic roles and the cost of credit (Bianchi et al., 2014).

According to Baltensperger (1978), the creation of new monetary purchasing power through bank loans has implications for the cost of credit in the economy. Due to the greater supply of credit, the increased availability of credit can lead to lower interest rates, which can incentivize more borrowing and investment in the economy. Furthermore, the cost of credit can be influenced by various factors such as inflation, central bank policies, and market conditions, which can affect the demand for credit and the willingness of lenders to supply it. Therefore, it can be argued that the cost of credit plays a critical role in driving investment and fostering economic growth (Clerc et.al, 2015). This is because lower interest rates can incentivize borrowing and investment, while higher rates can restrict borrowing and slow down economic activity (Manaresi, et.al, 2019). In analysing the cost of credit and its impact on the economy as a whole, it is essential to consider the role of banks and the creation of new purchasing power.

Bibow (1995) argued that the cost of credit plays a critical role in driving investment and fostering economic growth, particularly during boom periods of financial cycles when banks decide to lend more. While banks have no technical limits to increasing the stocks of loans and deposits instantaneously and discontinuously, they must also consider other limitations, such as the implications of new lending for their profitability and solvency. Additionally, when creating deposits too fast, they face increased credit risk and liquidity risk. The deposit multiplier model of banking is fundamentally mistaken as it disregards the fact that modern central banks target interest rates and supply as many reserves and cash as banks demand, making the quantity of reserves a consequence and not a cause of lending and money creation (Arestis & Howells, 1999).

Avery (1981) introduced a credit screening model under imperfect information that expands on the Phelps approach to include a wider range of cases, and the cost of credit plays a crucial role in this model. In Avery's model, the creditor gathers information on the applicant's financial and economic attributes (known as "economic variables" in Avery's model, or "test scores" in Phelps' approach) and summarizes this data as a probability distribution of rates of return, considering the costs that may arise due to default. The creditor also takes into account the group membership alongside the economic factors as this provides insights into the probability distribution of returns. However, the creditor's decision rule, according to Chick (1993), remains the same, only granting credit if the expected return exceeds the expected costs, including a provision for potential default costs that the cost of credit captures.

During an economic boom, banks tend to be more willing to lend money and compete for credit, which can result in a lower cost of credit for borrowers. As Decker and Goodhart (2018) note, the cost of credit is subject to various factors, such as demand for loans, the central bank's interest rates, and expected return on investment. However, during an economic downturn or recession, the cost of credit can be higher, limiting access to loans and investments. This is an issue raised by Deleidi (2019), who suggests that the cost of credit can increase during a recession since banks are trying to minimise the risk of losses.

2.2. Empirical Literature

2.2.1. Bank Credit

Timsina (2014) looked at the supply side effects of commercial bank loans to the private sector on economic growth in Nepal. With the use of time series data covering the years 1975 through 2013, the study employed the Johansen co-integration technique and the Error Correction Model. The empirical findings demonstrated that bank loan to the private sector only contributes to Nepal's long-term economic growth. The findings show that a 1 percentage point increase in real private sector lending over the long term results in a 0.40 percentage point rise in real GDP. The empirical findings suggest that policymakers should concentrate on long-term strategies to encourage economic

growth, including the establishment of a modern banking sector, an effective financial market, and infrastructure so as to expand private sector lending, which is essential for fostering long-term economic growth.

Ananzeh (2016) investigated the association between bank loans and economic development in Jordan across a variety of industries from 1993 to 2014. Granger Causality Test and the Vector Error Correction Model (VECM) were applied. The study found a long term relationship between bank credit, credit for the agricultural sector, credit for the industrial sector, credit for the construction sector, and credit for the tourism industry. On another note, Granger causality tests for the Jordanian economy's construction and agricultural sectors showed a causal link between economic development and bank loans. A bidirectional causal relationship between economic growth and bank loan to the construction sector, one of the most significant economic sectors, as reported by the results. Furthermore, the findings demonstrated that the effectiveness of bank credit facilities in stimulating key sectors of the Jordanian economy. This then resulted in highlighting the need to strengthen the role of the financial sector for various economic sectors by adopting more suitable macroeconomic policies.

Dey & Flaherty (2005), analysed the impact of bank credit and stock market liquidity on GDP growth using a two-stage regression model. Their results indicated that bank credit and stock market liquidity were not consistent determinants of GDP growth. However, Dey & Flaherty's findings were contradicted by Cappiello et al (2010) in their study of the European Area. They found that, contrary to recent findings in the US, the supply of credit had a significant impact on economic activity, both in terms of credit volumes and credit standards applied to loans to enterprises. Specifically, a change in loan growth had a positive and statistically significant effect on GDP.

Ho & Saadaoui (2022) looked at whether there were any threshold effects in the connection between bank loans and economic development. Simple probability sampling was used to select ASEAN nations between 1993 and 2019. In a dynamic panel with the possibility of an endogenous set of explanatory factors, the Kremer et al. (2013) was employed to estimate threshold effects. A threshold for the credit-to-GDP ratio of 96.5 percent (significant at the 5 percent level) was found. The short-term beneficial impact of bank credit expansion on economic growth was roughly 0.08 (significant at the 1 percent level) for observations below or equal to the threshold. For data over the threshold, however, the impact of increased bank lending on economic growth is just marginally favorable (around 0.01) and not statistically significant. Exporting companies are extremely important in ASEAN countries since their economies are more export-oriented than those in other regions of the world. The findings indicated that the loan recipient (firms against households), the structural factors (export-led development), and the geographical heterogeneity needed to be taken into consideration in empirical investigations of threshold effects.

Akpansung & Babalola (2011) studied the relationship between banking sector credit and economic growth in Nigeria between 1970 and 2008. Granger causality test and a Two-Stage Least Squares (TSLS) estimation technique were used to establish the causal links between the pairs of variables of interest and for the regression models. The Granger causality test results showed evidence of a unidirectional causal relationship from GDP to private sector credit (PSC) and from industrial production index (IND) to GDP. The regression models' estimated results indicated that private sector credit has a positive impact on economic growth during the study period. However, lending (interest) rate impedes economic growth.

Banu (2013) discovered a link between credit and economic development using Ordinary Least Squares. Since one of the variables that contributed to the global financial crisis was credit, the aim was to demonstrate in this article if there is a link between credit and economic development given that the economy cannot expand without credit. The study attempted to establish the alleged existence of a relationship between the GDP, credits supplied to public administration, and credits offered to families using statistical software. The research findings indicated that home credit offerings have a larger impact on the GDP creation than do public administration credit offerings. Wu, Yao, Chen, Jeon (2021) examined the influence of economic growth on four aspects of banking soundness—loan growth rates, interest rate spreads, capitalization, and risk. The study used panel data from roughly 500 commercial banks in seven emerging Asian economies, analysed through the Autoregressive Distributed Lag Model. They found consistent evidence that a decline in economic growth slows down banks' loan growth, reduces their interest rate spreads, and increases their risk, but encourages banks to increase their capital holdings by using bank-level.

Tinoco-Zermeno, Hugo, Torres-Preciado & Venegas-Martinez (2014) investigated the long-term effects of inflation on the dynamics of private sector bank credit and economic growth in Mexico between 1969 and 2011 using an ARDL-type model. The study's results indicated that the availability of private sector bank credit had a positive impact on real GDP. Furthermore, inflation rates had a negative contribution to the increase in private credit, liquid liabilities, and financial development. The study found that a one percent increase in inflation was linked to a 0.07 percent decrease in the long-run real rate of output through its effect on bank credit to the private sector. Additionally, the study found that financial liberalization policies had stimulated economic growth. The study's outcomes identified inflation rates as detrimental to long-run financial development and economic growth, thus reinforcing the literature on finance and growth.

Abubakar & Kassim (2016) examined the effects of bank credit on economic output in five major economic sectors in Malaysia, including agriculture, manufacturing, mining and quarrying, construction, and services, using quarterly data from 1997Q1 to 2014Q4 and the ARDL and ECM approaches. The study found varying impacts of bank credit on economic sectors, with significant effects, especially in the short run, on the mining and quarrying and manufacturing sectors, but no

effect on the agriculture sector. In contrast, bank credit has a larger long-term impact on the output of the construction and services sectors. These findings suggested that it is essential to account for sector-specific characteristics when extending bank financing to effectively support sectoral growth. For the agriculture sector, concessional financing is necessary since it is not sufficiently being served by the banking system.

Kirikalelia & Alireza (2020) studied the causal link between bank credit supply and economic growth in Turkey for the banks with the different ownership structures between 1993Q4 and 2017Q3. Wavelet coherence test was used to determine the casual relationship between bank credit and economic growth. The findings from wavelet coherence were that economic growth leads credit supply in the short to medium term, but in the long run causality between credit supply and economic growth for only public and private banks. The findings also suggested that bank ownership affects the strength of the linkage between credit supply and economic growth in Turkey especially in the short and medium terms.

2.2.2. Cost of Credit

Ağca & Igan (2019) conducted a study on the relationship between fiscal consolidation and the movement of credit spreads or sovereign risks. They found that the impact of fiscal consolidation on the cost of credit is not solely dependent on the transmission channel of sovereign risk premium. The study accounted for contemporaneous GDP growth and sovereign risk indicators, and concluded that their results were not affected by crises, change in expected future growth, or policy uncertainties. Ağca & Igan (2019) suggested that the credibility channel is also a factor, and even after adjusting for crisis episodes or including forward-looking indicators of growth and policy uncertainty, there was no significant change in the coefficient on fiscal consolidation. Therefore, the cost of credit is seen to be affected by multiple factors, one of which is fiscal consolidation.

Ağca & Igan (2019) utilized loan-level data from 15 advanced economies from 1990-2014 to demonstrate that fiscal consolidations lead to an increase in the cost of credit. The study utilized a formula that includes loan spread, fiscal indicator, country, loan, and firm as controls, as well as fixed effects for each country, industry, and year. Loan spread measures the difference between the rate charged for a firm's loan and the benchmark rate (proxy for the cost of credit), while fiscal represents the percentage of GDP allocated toward fiscal consolidations. Country, Loan, and Firm are sets of controls for the same level.

According to Ağca & Igan (2019) an increase is observed when fiscal consolidation measures involve both tax hikes and spending cuts, but is somewhat less pronounced when the consolidation is substantial. The cost of credit increases with tax hikes affecting specific sectors, whereas spending cuts directed at certain sectors do not lead to a noticeable increase in credit costs. Firms that face higher credit costs typically tend to be small, domestically-based operations with high levels of leverage, government dependence, and financial constraints. Thus, there are potential costs

associated with fiscal consolidations that extend beyond the impact on aggregate demand and primarily affect firms operating in sectors directly affected by the consolidation measures and those with limited access to alternative financing sources and international markets

Agostino, Coin, and Marinelli (2017) studied the impact of bank competition on economic welfare and growth has been debated extensively, few single-country studies have focused on the influence of bank competition on the cost of credit. This study aimed to contribute to the literature on this topic by examining the effects of bank competition on the cost of credit across 20 European countries over the period 2001-2011, using a panel of firms. The findings suggest that bank competition leads to an increase in the cost of credit, with the positive impact of competition being stronger for smaller companies. These results are in line with the information hypothesis, which suggests that a lack of competition incentivizes banks to invest in soft information, leading to higher credit costs. However, the study also highlights the impact of the institutional and economic framework, as well as the crisis, on the relationship between bank competition and credit costs.

Tran (2021) conducted a study to explore the relationship between economic policy uncertainty and the cost of credit in different countries. Using OLS (ordinary least squares) analysis, Tran argued that economic policy uncertainty influences the cost of credit through two main mechanisms: information asymmetry and default risk. Economic policy uncertainty is typically associated with low levels of economic growth. Tran's study analysed a sample of 163,243 firm-years from 17 countries, spanning the period from 2003 to 2016. The findings shed light on the significant impact of economic policy uncertainty on the cost of credit.

In a separate study, Saunders (2022) focused on examining prices in the secondary corporate loan market to develop a novel credit spread metric. This metric demonstrated strong predictive capabilities for economic activity across various macroeconomic outcomes in Europe and the US. Importantly, Saunders' credit spread metric contained exclusive information that was not available through public market credit spreads. This highlights the potential for using alternative sources of data to gain valuable insights into economic trends and market dynamics. Together, the studies by Tran (2021) and Saunders (2022) contribute to our understanding of the relationship between economic policy uncertainty, the cost of credit, and their implications for economic activity.

The cost of credit was the dependent variable and economic policy uncertainty as an exploratory variable to examine how economic policy uncertainty impacts the cost of corporate debt financing. To control the 2008–2009 crisis, a dummy variable was utilised, and additional controls are both at the company and national levels. Lagged operational cash flow values, Tobin's Q, financial leverage, asset tangibility, and company size were examples of firm-level variables. These lagged numbers were utilised to remove any potential endogeneity that might result from the causality issue between loan cost and business characteristics. The anti-self-dealing index, the creditor protection

index, the four cultural dimensions identified by Hofstede, private credit, market capitalization, GDP growth, inflation, and real interest rate are among the factors at the national level. It was found that that economic policy uncertainty positively affects cost of credit and this effect is stronger during the global financial crisis from 2008 to 2009. Moreover, the research findings show that large firms' debt financing cost is less affected by economic policy uncertainty.

Carvalho, Gao & Ma (2023) presented evidence indicating that changes in lender optimism can cause excessive fluctuations in credit spreads during the credit cycle. By analysing data on the real estate properties of loan officers originating large corporate loans, the study reveals that credit spreads overreact to sophisticated lenders' recent local economic experiences, specifically local housing price growth. These effects are most evident when borrowers possess real estate assets and during times of greater uncertainty about real estate values, such as during boom-and-bust cycles in housing prices. The analysis suggested that recent personal experiences shape sophisticated lenders' beliefs about real estate values, which in turn impacts their pricing decisions.

Blanco and García (2021) conducted a comprehensive study to investigate the role of trust in lender-borrower relationships and its impact on the interest rate spread. Their research utilized a sample of 20,699 loans from 47 countries, covering the period from 2003 to 2018. In addition to examining the role of trust, the study also explored the moderating effects of the country's legal enforcement and level of economic development. The researchers aimed to understand how these factors influence the relationship between trust and the interest rate spread. The findings of the study revealed that trust alone does not have a significant impact on loan spreads. However, an interesting observation emerged when considering the strength of the country's formal institutions. In cases where the formal institutions were weak, trust was found to have the potential to reduce loan spreads, consequently lowering the cost of credit. This suggests that trust and formal institutions can act as substitutes in mitigating interest rates.

Furthermore, the study highlighted that both trust and legal enforcement exerted a more substantial influence on the interest rate spread in countries with lower levels of economic development. This implies that the interplay between trust, legal enforcement, and economic development is complex and warrants further examination. Overall, the research conducted by Blanco and García sheds light on the multifaceted nature of trust in lender-borrower relationships and its implications for interest rates. By considering the moderating effects of legal enforcement and economic development, the study provides valuable insights into the mechanisms at play in different contexts.

2.3. Summary of the Literature Review

According to the existing literature on the subject, there is a negative correlation between the cost of credit, which is measured through loan spread and lending rates, and the growth of the economy. This indicates that an increase in the cost of credit could be detrimental to economic growth.

Therefore, it is essential for lending entities and policymakers to strike a balance between profit-making motives and the need to promote a thriving and healthy economy. By doing so, they can ensure a sustainable and inclusive environment for both borrowers and lenders, thereby contributing positively to the overall economic growth of the country.

Based on the reviewed literature, there are several theories concerning credit channels, including loan-to-funds ratio, credit rationing, and liquidity theory, which offer informed ways to approach the concept of credit and its cost. Information asymmetry and risk were also found to be contributors to the cost of credit. From literature the predictor variables for the cost of credit were found to be; GDP growth rates, private sector credit, exchange rates, budget deficits, Foreign direct investment, banks liquidity ratio and trade to GDP ratio. The autoregressive model was the best for developing countries with a few data points like Eswatini. This is because of its ability to capture short and long-term dynamics using the Error Correction Model, the model also works with I (0) and I (1) variables which is normally the case with economic variables. The model is robust enough to regress the variables even if they are off different order of cointegration.

The existing literature has overlooked the topic of the cost of credit and its influence on economic growth, particularly in Eswatini. Understanding the relationship between aggregate liquidity, cost of credit, and economic growth is essential for grasping the broader economic climate. Countries with high liquidity levels may struggle to effectively allocate funds to productive sectors, which can impede economic growth. The impact of the cost of credit, loan spreads, and lending rates on economic growth varies across different jurisdictions, with both positive and negative effects observed. This knowledge can assist policymakers and stakeholders in making informed decisions regarding macroeconomic policies that foster sustainable economic growth. While there is considerable research on bank credit and economic growth in specific countries, there is a lack of focus on the specific impact of the cost of credit on economic growth. This study aims to fill this gap in the field of finance and banking and contribute to the existing body of knowledge.

CHAPTER 3

METHODOLOGY

3.1. Introduction

The goal of this study is to examine the impact of the cost of credit on economic growth in Eswatini. To achieve this, the researchers have chosen to apply the autoregressive distributed lag (ARDL) bounds testing cointegration method developed by Shin et al (2014). The ARDL model is preferred for this study because it offers several advantages. Firstly, it allows for a clear assessment of whether a long-run relationship exists between the variables of interest. Additionally, it provides insights into the short-run dynamics of the relationship, which aligns with the study's objectives.

One key advantage of the ARDL model is its ability to handle variables with different orders of integration. This is commonly encountered when working with macroeconomic variables, as they can have a mix of stationary and non-stationary components. Unlike other methods like the Johansen procedure, the ARDL model can accommodate this heterogeneity and is more flexible in estimating cointegrating relationships. Another strength of the ARDL model is its robustness to model misspecification. It can be effectively used with small sample sizes and is not overly sensitive to potential errors in the model specification.

By employing the ARDL model, the study aims to investigate both the short-run and long-run relationships among the variables of interest. The error correction mechanism (ECM) and cointegration techniques will be used to analyze these relationships. The ARDL approach follows a two-step procedure. The first step involves testing for the presence of a long-run relationship between the variables. In the second step, the F-test is conducted to examine the joint significance of the coefficients of the lagged levels of the variables. The ARDL bounds testing cointegration method for its ability to analyze the effects of the cost of credit on economic growth in Eswatini. This approach allows for the examination of both short-run dynamics and long-run relationships, and is well-suited for handling variables with different orders of integration.

3.2. Estimation of Cost of Credit

Measuring the cost of credit is of vital importance for assessing the economic health of an economy. As noted by Bauwhede et al. (2015), bank interest rate spreads and bond spreads can be utilised as a measure for estimating the cost of credit ($COC_{i,t}$). Bank interest rate spreads refer to the difference between the lending rate charged by banks and the deposit rate paid to savers, while bond spreads refer to the difference between the yield on corporate bonds and the risk-free rate. Both measures are commonly used to assess the cost of credit in an economy and provide insight into the health of the financial system.

Another commonly used method for measuring the cost of credit is the lending rate, as proposed by Liu et al. (2016), Wang (2021), and Tran (2021) is the lending rate, which is the rate of interest charged by banks on loans. The lending rate provides insight into the cost of lending at the macro level and is particularly relevant for analysing the cost of credit for small and medium-sized enterprises (SMEs). SMEs often have limited access to alternative sources of funding, making them particularly sensitive to changes in lending rates.

Using both bank interest rate spreads (or bond spreads) and lending rates as measures for the cost of credit allows for a more comprehensive assessment of the cost of credit in an economy. Furthermore, employing multiple measures can also help to address the potential limitations of using a single measure, which can lead to incomplete assessments of the cost of credit. Thus, this research will utilize multiple measures for the cost of credit to gain a more accurate understanding of the factors that drive the cost of credit in the economy.

3.3. Empirical Model

The study mentioned attempted to fill a gap in research by investigating the relationship between cost of credit and economic growth using the ARDL-Bounds test procedure. The use of time series techniques suggests that when the variables are integrated of order (1) or they have a unit root, classical regression results may produce spurious results. Therefore, it recommended that stationary or differenced variables are used to avoid this problem. However, the use of differenced variables may remove the important long-run equilibrium relationship this necessitates the cointegration test necessitates. The existence of a long-run equilibrium relationship among time series variables can be tested using various techniques, including the Residual based Engel Granger test (1987) and the maximum likelihood-based Johansen (1991) and Johansen and Juselius (1990) tests. According to the definition established by Enders (2004), cointegration necessitates that two variables must be integrated in the same order as the Engel Granger technique.

The primary benefit of using ARDL modelling is its flexibility, as it can accommodate variables with different levels of integration (Pesaran, 1997). Additionally, because the model captures the general-to-specific process, it uses a sufficient number of lags to better capture the data generating process. Another advantage of this approach is that the ARDL allows us to derive a dynamic error correction model through simple linear transformation, without sacrificing long-run information (Laurencsn and Chai 2003). The use of ARDL modelling helps to avoid issues that may arise from analysing non-stationary data. Macroeconomic indicators and financial sector indicators are normally a mix of both $I(0)$ and $I(1)$ series. The ARDL model is widely used in empirical economic research and has been shown to perform well in a variety of applications.

A proxy measure widely used to determine the cost of credit in loan studies is the loan spread (Ağca et al., 2019 and Müller, 2022). It is the difference between the interest rate charged by the banks on

a particular loan issued in a specific year of a company based in a particular country and the benchmark rate or the rate set by the central bank. Alternatively, Agostino et al. (2017) and Tan (2021) used the prime lending rate or implicit interest rate as a measure for the cost of credit at a macro level. The study used both the loan spread and the prime lending rates as dependent variables. Hence the two ARDL models will follow this specification. The cointegration test proposed by Johansen (1991:1995) requires all variables to have the same degree of integration, specifically I (1). As a result, this method cannot be utilized for this study. Instead, an ARDL modelling approach with the following specification was adopted:

Regression Equation 1

$$\begin{aligned} MLR = & \alpha_0 + \sum_{j=0}^p \beta_j \Delta MLR_{sp_{t-j}} + \sum_{j=0}^p \gamma_j \Delta BD_{t-j} + \sum_{j=0}^p \phi_j ER_{t-j} + \sum_{j=0}^p \zeta_j \Delta LIQAR_{t-j} + \\ & \sum_{j=0}^p \eta_j GDP_{G_{t-j}} + \sum_{j=0}^p \varphi_j \Delta TRADE_{t-j} + \sum_{j=0}^p \psi_j \Delta RISK_{t-j} + \sum_{j=0}^p \omega_j \Delta CREDIT_{P_{t-j}} + \\ & \sum_{j=0}^p \delta_j \Delta FDI_{t-j} + \sigma_1 MLR_{t-1} + \sigma_2 BD_{t-1} + \sigma_3 ER_{t-1} + \sigma_4 LIQAR_{t-1} + \sigma_5 GDP_{t-1} + \\ & \sigma_6 TRADE_{t-1} + \sigma_7 RISK_{t-1} + \sigma_8 CREDIT_{P_{t-1}} + \sigma_9 FDI_{t-1} + \mu_t \end{aligned} \quad (1)$$

Regression Equation 2

$$\begin{aligned} Credit\ Sp_t = & \alpha_0 + \sum_{j=0}^p \beta_j Credit_{sp_{t-j}} + \sum_{j=0}^p \gamma_j \Delta BD_{t-j} + \sum_{j=0}^p \phi_j ER_{t-j} + \\ & \sum_{j=0}^p \zeta_j \Delta LIQAR_{t-j} + \sum_{j=0}^p \eta_j GDP_{G_{t-j}} + \sum_{j=0}^p \varphi_j \Delta TRADE_{t-j} + \sum_{j=0}^p \psi_j \Delta RISK_{t-j} + \\ & \sum_{j=0}^p \omega_j \Delta CREDIT_{P_{t-j}} + \sum_{j=0}^p \delta_j \Delta FDI_{t-j} + \sigma_1 Credit_{sp_{t-1}} + \sigma_2 BD_{t-1} + \sigma_3 ER_{t-1} + \\ & \sigma_4 LIQAR_{t-1} + \sigma_5 GDP_{t-1} + \sigma_6 TRADE_{t-1} + \sigma_7 RISK_{t-1} + \sigma_8 CREDIT_{P_{t-1}} + \sigma_9 FDI_{t-1} + \mu_t \end{aligned} \quad (2)$$

Where $\Delta Credit\ Sp_t$: credit spread, MLR: Market Lending Rates BD: Budget deficit, LIQAR: liquid assets ratio, $GDP_{G_{t-j}}$: GDP growth rate, Trade: trade to GDP ratio, $CREDIT_P$: private sector credit, $RISK$ is the sovereign risk premium and ER , Exchange rate and FDI: Foreign Direct Investment. Before estimating this model, stationarity test was conducted. The ARDL involves testing for the bounds test first. This involves estimating Equation (1) using Ordinary Least Squares (OLS) and conducting an F-test to determine the existence of a long-run relationship among the variables. The null hypothesis in the equation is that $\alpha_1 = \alpha_2 = \alpha_3$ which means there is no long-run relationship, while the alternative suggests the presence of a long-run relationship. The calculated value is then compared to two sets of critical values, provided by Narayan (2005) for small samples.

3.4. Data Description

This study used the secondary data, loan spread, GDP growth rates, private sector credit, exchange rates, budget deficit, budget deficit, liquid assets to total liabilities, Foreign direct investment and trade to GDP ratio. The datasets for loan spread, private sector credit, bank liquidity ratio (liquid assets to total liabilities), budget deficit to GDP and exchange rates was obtained from the Central Bank of Eswatini Quarterly Tables. Bank interest spread, trade to GDP ratio and Foreign direct investments Database was obtained from World Bank Database. Due to availability constraints on data, the reported data covers the period between 1975-2021 and is presented on an annual basis.

3.4.1. Justification of Variable Selection

The inclusion of the budget deficit as a control variable is justified based on its potential impact on the government's borrowing capacity. When a government's expenses surpass its revenue, a budget deficit arises and borrowing becomes necessary to bridge the gap. This borrowing has the potential to affect credit availability and the functioning of credit markets. Therefore, considering the budget deficit as a control variable allows for an examination of its influence on credit availability, independent of its possible effects on interest rates (Dang, 2020). Domestic Credit to private sector by banks is relevant as it directly relates to credit availability in the economy. Effective Exchange Rate may affect the cost of imports and exports, which can impact the availability of credit and economic growth. FDI (Foreign Direct Investment) may impact the availability of credit and economic growth through investment in the economy. GDP Growth is included as it is a key indicator of the overall health of the economy. Interest Rate Spread may impact credit availability and the cost of borrowing. Lending Rates are directly related to the cost of credit and may impact borrowing and economic growth.

Trade to GDP may reflect the openness of the economy and may impact the availability of credit and economic growth. Bank liquidity on the other hand is justified because it plays a crucial role in determining the availability of credit in the economy. Bank liquidity is the ability of banks to meet their financial obligations, such as deposit withdrawals and loan disbursements. When banks have sufficient liquidity, they can lend more money to businesses and individuals, which can stimulate economic growth. On the other hand, if banks experience liquidity shortages, they may be unable to meet the demand for credit, resulting in credit rationing and a slowdown in economic growth.

The variables in question are relevant in establishing the relationship between cost of credit, and economic growth in Eswatini. Specifically, they may help establish the relationship between banking sector liquidity and cost of credit, the relationship between cost of credit and economic growth, and the possible role of excess liquidity in promoting economic growth in Eswatini's economy. Analysis of these variables can provide insights into the relationship between the cost of credit and economic growth in Eswatini, as well as the impact that various factors may have on them.

3.5. Data Analysis

Time series data consisting of Eswatini cost of credit and all the other variables listed above for the period 1975 – 2021 will be used. Quantitative data will be tabulated and presented in graphs. EViews was used for data analysis to achieve the objectives of the study model. After presentation of the descriptive statistics the data the ARDL model was estimated using the following steps.

1. **Checking data stationarity:** Firstly, the data stationarity was verified using the Augmented Dickey-Fuller (ADF) and Philips Peron tests. Since ARDL models require that the time series data is stationary, this step is critical to ensure accurate results.

2. **Determine the cointegration rank:** After checking for data stationarity, the long-run relationship between the variables was investigated by testing for cointegration using the bounds testing approach.
3. **Choosing appropriate lag length:** To determine the optimal lag length for the ARDL model the Akaike Information Criterion (AIC) was used since it balances the trade-off between model fit and model simplicity, leading to a more accurate and reliable model.
4. **Specification of the ARDL model:** Once the appropriate lag length has been determined, the ARDL model was specified, taking into consideration the selected criteria.
5. **Formulation of the Error Correction Model:** The ECM facilitates the detection of short-run relationships between variables in the model and captures the adjustment process back towards the long-run equilibrium relationship.
6. **Estimation of the coefficients:** In this step, the Ordinary Least Squares (OLS) method was used to estimate the coefficients of the ARDL model. This was necessary in establishing the relationships between the variables.
7. **Checking for model diagnostics:** After estimating the coefficients, the ARDL model was validated by checking for autocorrelations, heteroscedasticity, model specification problems, and white noise residuals. This helped in ensuring that the model is accurate and reliable.

3.5.1 Unit Root Test for Stationarity

A unit root test was employed to investigate the stationarity of the time series data in the proposed study. This procedure is crucial in time series analysis since it facilitates the identification of whether the data is stationary or non-stationary. The Augmented Dickey-Fuller (ADF) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) tests are the two most widely accepted unit root tests. The ADF test was utilised to establish the presence of a unit root in the data by regression on its lagged values and differenced values. Rejecting the null hypothesis of a unit root implies the series being stationary. Nonetheless, the limitation of the ADF test is inaccurate outcomes resulting from structural breaks, trends, or small sample size datasets (Enders, 2010).

On the contrary, the KPSS test is appropriate in identifying non-stationarity in shorter time series or series with structural breaks. The process involves regression of data on its deterministic trend and allowing for autocorrelation in the errors. This test is deemed efficient, showing remarkable performance when compared to the ADF in some situations (Yao et al., 2018). However, it may be less effective in detecting non-stationarity in longer time series data. The study was conducted both the ADF and KPSS tests on the time series data, and the results was compared to determine the appropriate test for the data. The comparison results aided in identifying non-stationarity in the data and choosing the relevant statistical models for further analysis. The study revealed crucial insights into the time series data through the interpretation of results presented.

3.5.2 Bounds Testing

Bounds Tests is for determining the existence of a long-run relationship for a group of time-series data that is stationary. An "F-test" of the hypothesis, $H_0: \theta_0 = \theta_1 = \theta_2 = 0$; against the alternative that H_1 is not true is performed. A rejection of H_0 implies that we have a long-run relationship. If the statistic lies between the bounds, the test is inconclusive. If it is above the upper bound, the null hypothesis of no level effect is rejected. If it is below the lower bound, the null hypothesis of no level effect cannot be rejected.

3.5.3 Lag Selection

To select the optimal lag length for each variable, the ARDL method estimates several regressions where p is the maximum number of lags, and k is the number of variables in the equation. The model is chosen based on the Schwartz-Bayesian Criteria (SBC) and Akaike's Information Criteria (AIC). In selecting the lag length for an ARDL model, the SBC is used to identify the lowest possible lag while the AIC was used to identify the maximum lag.

3.5.4 Error Correction Model

Error Correction Models (ECMs) are a category of multiple time series models that directly estimate the speed at which a dependent variable Y – returns to equilibrium after a change in an independent variable(x). ECMs are useful for estimating both short term and long-term effects in time series. ECMs are useful models when dealing with integrated data but can also be used with stationary data. The basic structure of an ECM:

$$\Delta Y_t = \alpha + \beta \Delta X_{t-1} - \beta EC_{t-1} + \varepsilon_t \quad (3)$$

Where EC is the error correction component, ΔY_t change in response variable, ΔX_{t-1} is the change in the predictor variable, β regression coefficient and ε_t is the error term. Once a model is selected, the long-run relationship is determined using either the SBC or AIC criterion. If a long-run relationship exists, an error correction model can be established and its equation short-run model by approximating the ECM as follows:

where ECM_{t-1} is the error correction term that in turn is equal to:

Error Correction Model 1

$$ECM_{t-1} = \sigma_1 Credit_{sp_{t-1}} - (\sigma_2 BOD_{t-1} + \sigma_3 ER_{t-1} + \sigma_4 LIQAR_{t-1} + \sigma_5 TRADE_{t-1} + \sigma_6 CREDIT_P_{t-1} + \sigma_7 GDP_{t-1} + \sigma_8 FDI_{t-1}) \quad (4)$$

Error Correction Model 2

$$ECM_{t-1} = \sigma_1 MLR_{sp_{t-1}} - (\sigma_2 BOD_{t-1} + \sigma_3 ER_{t-1} + \sigma_4 LIQAR_{t-1} + \sigma_5 TRADE_{t-1} + \sigma_6 CREDIT_P_{t-1} + \sigma_7 GDP_{t-1} + \sigma_8 FDI_{t-1}) \quad (5)$$

The coefficients $\sigma_1 \dots \sigma_8$ represent the short-run dynamics of the variables, while the coefficients indicate the long-term dynamics. The error correction model (ECM) demonstrates the pace at which adjustment moves back to the long-term equilibrium after a short-term shock. To ensure the model's fitness, diagnostic and stability tests were done, checking for serial correlation, functional form,

normality, and heteroscedasticity. Cumulative and cumulative sum-of-squares tests was also performed and plotted against break-even points. If the CUSUM and CUSUMSQ statistics plots remain within the critical bounds of 5% significance level, the null hypothesis of all coefficients is that the stability of the given regression cannot be rejected.

3.5.5 Model diagnostics

The process of validating an ARDL (Autoregressive Distributed Lag) model involved model diagnostics, which will check for potential issues with the model's validity and accuracy. There were diagnostic tests that were performed on an ARDL model, including tests for serial correlation, heteroscedasticity, model specification, and white noise.

Firstly, checking for serial correlation was performed using residual autocorrelation tests, such as the Durbin-Watson test or the Breusch-Godfrey test, to ensure that there is no serial correlation in the model's residuals. This step was crucial in verifying that the model is not missing any important variables or relationships. Secondly, heteroscedasticity was tested using tests such as the Breusch-Pagan or White test to determine if the error term is consistent across all values of the independent variables. If heteroscedasticity is present, it can indicate that the model's assumptions are incorrect or that there is a misspecification in the model. Thirdly, model specification checks will be carried out using tests such as the RESET (Regression Specification Error Test) and Ramsey's Reset test to check that the model is appropriately specified. These tests helped in detecting if the model is missing any relevant variables or complex non-linearities. Lastly, checking for white noise residuals was done using an Ljung-Box test to verify that the residuals are independently and identically distributed. This test was used to ensure that no variables are correlated with the model's error term.

3.6. Methodology Chapter Summary

This chapter basically sought to describe in detail the type of data necessary to describe the relationship between cost of credit and economic growth effects of Eswatini. It also assisted in developing the relevant model to be used for purpose of manipulating the data to yield the needed results. The autoregressive distribute lag model was chosen as the appropriate model for analysing the data necessary because of its effectiveness in capturing long and short-term effects of the independent variables on the dependent variable.

CHAPTER 4

DISCUSSION OF RESULTS

This chapter presents the results and discussions of the study. Firstly, Section 4.1 outlines the descriptive statistics of all the variables that have been analysed. Secondly, Section 4.2 discusses the trend of cost credit and its predictor variables for the last 46 years and, lastly, Section 4.3 captures the results of the autoregressive distributed lag model.

4.1. Descriptive Statistics

Table 1 presents the descriptive analysis of various economic indicators. Starting with the mean values, the average budget deficit is E8.033 billion (\$446.280 Million). A high budget deficit can have a negative impact on economic growth as it may lead to increased borrowing and higher interest rates, which can increase the cost of credit for both businesses and consumers. This is consistent with the theory that a higher cost of credit can dampen economic growth (Creel, 2022). The average domestic credit to the private sector by banks is 18.53 percent of GDP. This statistic represents the amount of credit available to businesses and individuals from domestic banks. Higher levels of credit availability can stimulate economic growth by facilitating investment and consumption. However, if credit is not managed effectively, it can lead to excessive borrowing and potential financial instability. This statistic highlights the importance of maintaining a balance between credit availability and financial stability, (Carvalho , 2023).

Additionally, the exchange rate has an average value of E6.29/USD, and foreign direct investment averages at E47.132 billion (\$2.618 billion). The exchange rate plays a crucial role in determining the cost of credit, particularly for economies that rely heavily on imports or exports. A depreciating exchange rate can increase the cost of imported goods and services, potentially leading to higher inflation and interest rates. Conversely, an appreciating exchange rate can reduce the cost of imported goods and services, which may have a positive impact on the cost of credit and economic growth. This statistic emphasizes the need to consider exchange rate dynamics when analysing the cost of credit and its impact on economic growth, (Deleidi, 2019). The mean foreign direct investment (FDI) in Eswatini is E47.132 million (\$2.618 Billion). FDI can contribute to economic growth by providing capital, technology, and employment opportunities. Higher levels of FDI can indicate a favorable investment climate, which may lead to increased economic activity and credit demand. This statistic suggests that a higher level of FDI can potentially stimulate economic growth and impact the cost of credit positively, (Gracia, 2021).

Moving on, the mean GDP growth rate stands at 4.64 percent, and the interest rate spread has an average of 6.05 percent. A higher GDP growth rate is generally associated with increased economic activity, which can drive higher demand for credit. Conversely, a lower GDP growth rate may

indicate subdued economic activity, potentially leading to reduced credit demand. This statistic highlights the link between economic growth and credit demand, with higher growth rates potentially contributing to lower credit costs. The mean interest rate spread is 6.0544. The interest rate spread represents the difference between lending rates and deposit rates. A wider interest rate spread suggests higher borrowing costs for businesses and consumers. This can inhibit credit demand and economic growth, as higher costs of credit can deter borrowing and investment. This statistic indicates that a narrower interest rate spread may contribute to more affordable credit and potentially stimulate economic growth. Market Lending rates average 12.95 percent. High market lending rates can hinder credit demand and economic growth, as they increase the cost of borrowing and reduce affordability. Lower market lending rates, on the other hand, can encourage borrowing and investment, potentially stimulating economic growth. This statistic highlights the importance of affordable credit in fostering economic growth, (Ketteni , et.al, 2019).

The Total Liquid Assets to Total Liabilities ratio is 17.31 percent. A higher ratio indicates a more stable and liquid financial sector, which can support credit availability and economic growth. Conversely, a lower ratio may suggest potential liquidity constraints, which can limit credit availability and negatively impact economic growth. This statistic emphasizes the importance of a strong and liquid financial system in facilitating credit provision and economic growth, (Khaw, et.al, 2019). Finally, trade accounts for an average of 131.01 percent of GDP. Higher levels of trade can stimulate economic activity and credit demand, as they create opportunities for businesses to expand and engage in international trade. This statistic suggests that trade openness can positively influence the cost of credit and economic growth, (Nahla and Kutan,, 2016).

Moving on to the median values, it is found that the median budget deficit is E32.52 million (\$1.81 million), slightly higher than the mean. The domestic credit to the private sector by banks has a median value of 19.06 percent of GDP, and the exchange rate has a median of 6.1095. Median foreign direct investment stands at E37.493 billion (\$2.0829 billion). The median GDP growth rate is 3.11 percent, and the median interest rate spread is 6.41 percent. Market Lending rates have a median of 11.87 percent, Total liquid Assets to total liabilities 15.9 percent and trade accounts for 134.04 percent of GDP.

The maximum budget deficit is E16.701 million (\$0.927 million) , while the minimum value is E74.485 million (\$4.137 million). The maximum domestic credit to the private sector by banks is 25.96 percent of GDP, while the minimum value is 8.69 percent. The maximum exchange rate is E16.46/US, and the minimum is E0.79/US. Foreign direct investment ranges from a maximum of E152.720 million (\$8.48 million) to a minimum of E60.190 million (\$3.3438 million). The maximum GDP growth rate is 21.02 percent, while the minimum is -2.12 percent. The specific range for market lending rates can vary significantly depending on multiple factors such as the country, the type of loan, the borrower's creditworthiness, and prevailing market conditions. The

maximum value of 40.20 percent represents the highest ratio of liquid assets to liabilities, while the minimum value of 5.67 percent represents the lowest ratio. This is further supported by the positive skewness value of 0.9176.

The budget deficit, the data exhibits a leptokurtic distribution with a kurtosis value of 6.0904. This indicates heavy tails and a more peaked shape compared to a normal distribution. Such a distribution suggests significant fluctuations in the budget deficit, which can have consequences for the cost of credit and economic growth. A high budget deficit may lead to increased borrowing and higher interest rates, potentially hindering economic growth. Moving on to the domestic credit to the private sector by banks as a percentage of GDP, the distribution is less leptokurtic with a kurtosis value of 2.9078. This implies that the distribution is closer to a normal distribution.

In terms of the exchange rate, the data displays a distribution that is less leptokurtic compared to the budget deficit, with a kurtosis value of 2.3145. This suggests a distribution closer to normal. Fluctuations in the exchange rate can affect the cost of credit, particularly for countries heavily reliant on imports or with significant foreign currency exposure. A stable exchange rate can foster a favourable environment for economic growth. The distribution of foreign direct investment (FDI) data has a kurtosis value of 2.8465, indicating a distribution that is less leptokurtic compared to the budget deficit. This suggests a distribution closer to normal. FDI can have a positive impact on economic growth by providing capital, technology transfer and employment opportunities. Higher levels of FDI may lead to increased economic activity and a lower cost of credit.

The distribution of GDP growth data exhibits a leptokurtic shape with a kurtosis value of 5.1848. This suggests significant fluctuations in economic growth in Eswatini. Economic growth is a crucial factor in determining the cost of credit, as it influences the demand for credit and borrowers' ability to repay loans. Higher GDP growth rates can contribute to lower borrowing costs and stimulate economic activity. The interest rate spread, representing the difference between lending rates and deposit rates, has a leptokurtic distribution with a kurtosis value of 4.0680. A higher interest rate spread can indicate higher borrowing costs for businesses and individuals, potentially impacting the cost of credit and hindering economic growth. Market lending rates data, on the other hand, displays a platykurtic distribution with a negative kurtosis value of (-2.2667).

This indicates a distribution with lighter tails and a flatter shape compared to a normal distribution. The total liquid assets to total liabilities data exhibits a leptokurtic distribution with a kurtosis value of 3.2598. This suggests significant fluctuations in the liquidity position of banks, which can influence their ability to lend and the cost of credit in the economy. Finally, the distribution of trade as a percentage of GDP data is less leptokurtic compared to the budget deficit, with a kurtosis value of 1.9004. This indicates a distribution closer to normal. Trade plays a vital role in economic growth,

contributing to increased productivity, job creation, and access to new markets. The dynamics of trade, such as import and export levels, can influence the cost of credit.

ARDL effectively addresses the non-normality of the dependent variable by tackling the issue of non-stationarity through the inclusion of lagged values in the model. By incorporating these lagged values, ARDL captures the long-run relationships between the variables and facilitates the estimation of coefficients, (Nyasha & Odhiambo, 2015). Importantly, ARDL models can accommodate non-normality in the dependent variable by leveraging the asymptotic properties of the estimators. These estimators are both consistent and asymptotically normal, which means that as the sample size increases, the estimates progressively converge to the true values and exhibit a normal distribution, (Zermeno, et.al, 2014).

Another important variable is the domestic credit to the private sector by banks as a percentage of GDP. With a standard deviation of 3.9041, this variable demonstrates a moderate level of variation. A higher credit-to-GDP ratio can indicate increased access to credit for businesses and individuals, which can stimulate economic growth. This aligns with the theory that a well-functioning financial sector and access to credit are crucial for economic development, (Schumpeter, 1912). The exchange rate variable, with a standard deviation of 4.7330, which indicates a moderate level of fluctuation in the exchange rate. Changes in the exchange rate can impact the cost of credit, particularly for countries heavily reliant on imports or exports. A depreciation in the domestic currency can increase the cost of imported goods, potentially leading to higher interest rates. This finding links to the theory that exchange rate movements can affect borrowing costs and, consequently, economic growth, (Blanco, 2021).

Foreign direct investment (FDI) is another variable of interest. With a relatively high standard deviation of 48,215,576.9382, it suggests substantial variation in FDI inflows. FDI can contribute to economic growth by providing capital, expertise, and technology to the host country. The findings highlight the importance of attracting foreign investment to support economic development. GDP growth, with a standard deviation of 4.7247, indicates a moderate level of variation in economic performance. The positive relationship between GDP growth and economic growth aligns with the well-established theory that higher GDP growth rates are associated with greater economic development, (Akani, et al., 2018).

Interest rate spread, with a standard deviation of 1.3024, suggests a relatively stable interest rate environment. A narrower interest rate spread indicates lower borrowing costs, which can encourage private sector investment and spur economic growth. This finding is consistent with the theory that lower interest rate spreads are favorable for economic development. Market lending rates, with a standard deviation of 3.5721, indicate moderate variation in lending rates. Higher market lending rates can increase the cost of credit, potentially impeding investment and economic growth. This

finding underscores the importance of affordable credit access for fostering economic development. (Alquist, 2014).

The variable measuring total liquid assets to total liabilities, with a standard deviation of 8.8710, suggests varying levels of liquidity within the financial system. Higher liquidity levels can support credit availability and lower borrowing costs, which can positively impact economic growth. This finding aligns with the theory that a well-capitalized financial system can facilitate economic development, (Akpanung & Babalola, 2011). Lastly, the trade variable, with a standard deviation of 31.2708, indicates significant fluctuations in trade as a percentage of GDP. International trade plays a crucial role in economic growth, as it allows for specialization, economies of scale, and access to a broader market, (Linnemann, 1966) . The findings highlight the potential impact of trade dynamics on the cost of credit and economic growth. The Jarque-Bera test tests the hypothesis that the data is normally distributed. The null hypothesis is that the data is normally distributed, and a p-value less than 0.05 indicates that the null hypothesis can be rejected. In this case, the Jarque-Bera test has a p-value of 0.0346, which is less than 0.05, suggesting that the data is not normally distributed, (Nyasha & Odhiambo, 2015).

Table 1: Descriptive Statistics

Statistic	Budget Deficit	Domestic credit to private sector	Exchange Rate	Foreign direct investment	GDP growth (annual %)	Interest rate spread	Market Lending rates	Total Liquid Assets to Total	Trade (% of GDP)
Mean	(8,033.0499)	18.5295	6.2939	47,132,652.6979	4.6444	6.0544	12.9452	17.3099	131.0122
Median	(32.5202)	19.0606	6.1095	37,493,846.2379	3.1069	6.4083	11.8683	15.9870	134.0393
Maximum	16,701.9782	25.9605	16.4591	152,720,441.7404	21.0180	7.6158	20.6250	40.1972	188.6475
Minimum	(74,485.2110)	8.6892	0.7788	(60,190,680.4797)	(2.1194)	2.7500	7.2500	5.1938	79.6669
Standard Deviation	19,799.2435	3.9041	4.7330	48,215,576.9382	4.7247	1.3024	3.5721	8.8710	31.2708
Skewness	(2.0369)	(0.5098)	0.6471	(0.0397)	1.5847	(1.2126)	3.5721	0.9176	(0.2094)
Kurtosis	6.0904	2.9078	2.3145	2.8465	5.1848	4.0680	(2.2666)	3.2598	1.9004
Jarque-Bera	51.2031	2.0527	4.2008	0.0585	29.0201	13.7258	3.0842	6.7274	2.7114
Probability	-	0.3583	0.1224	0.9712	-	0.0010	0.2139	0.0346	0.2578
Observation	47	47	47	47	47	47	47	47	47

Source: Author's Own Calculations, 2024

4.2. Correlation matrix

The correlation matrix is a statistical tool that offers valuable insights into the relationships between variables. It facilitates an examination of the relationships' strength and direction and understand the extent to which variables are related to one another. Through the calculation of the correlation coefficient for each variable pair, a correlation matrix can be generated. This matrix visually represents the interconnections present within the data, making it a powerful analytical tool in various fields such as finance, social sciences, and data analysis. The analysed variables include Budget Deficit, Domestic credit to private sector by banks (% of GDP), exchange rate, foreign direct investment, GDP growth, interest rate spread, market lending rate and trade (% of GDP). By examining the correlation matrix, this study provides insights into the interdependencies and potential impacts of these variables on each other.

The selected economic variables were used to construct a correlation matrix, which calculated pairwise correlations between them based on historical data. The resulting correlation coefficients

indicate the strength and direction of the linear relationship between the variables, ranging from -1 to 1. Notable relationships among the economic variables are revealed by the correlation matrix, such as the strong negative correlation between Budget Deficit and Exchange Rate (-0.7246). This suggests that an increase in the budget deficit is likely to coincide with an appreciation of the Lilangeni. Another relationship observed is the positive correlation between Budget Deficit and Trade (% of GDP) (0.5407), indicating a positive relationship between these variables.

The correlation coefficient between Total Liquid Assets to Total Liabilities and Domestic credit to private sector by banks (% of GDP) is negative (-0.0009), indicating no significant correlation between these two variables. However, the correlation coefficient between Total Liquid Assets to Total Liabilities and Exchange Rate is high (0.7430), indicating a strong positive correlation between these two variables. This suggests that changes in the exchange rate can have a significant impact on the ratio of liquid assets to liabilities. Market Lending rates has a negative correlation with Total Liquid Assets to Total Liabilities -0.6323, indicating that the ratio of liquid assets to liabilities is influenced by the lending interest rate. Total Liquid Assets to Total Liabilities and Trade (% of GDP) -0.7859 has a strong negative correlation, suggesting that both variables have a significant impact on the ratio of liquid assets to liabilities.

Table 2: Correlation matrix

Variable	Budget Deficit	Domestic credit to private sector	Exchange Rate	Foreign direct investment	GDP growth (annual)	Interest rate spread	Market Lending rate	Total Liquid Assets to Total Liabilities	Trade (% of GDP)
Budget Deficit	1	(0.1635)	(0.7246)	(0.0842)	0.1884	(0.1127)	0.4203	(0.7500)	0.5407
Domestic credit to private sector by banks (% of GDP)	(0.1635)	1	(0.0874)	(0.1318)	(0.0098)	(0.5636)	(0.4006)	(0.0009)	(0.2454)
Exchange Rate	(0.7246)	(0.0874)	1	0.1951	(0.3473)	0.4656	(0.4471)	0.7430	(0.7556)
Foreign direct investment, net inflows	(0.0842)	(0.1318)	0.1951	1	(0.0262)	0.1316	(0.0734)	0.2252	(0.1596)
GDP growth (annual %)	0.1884	(0.0098)	(0.3473)	(0.0262)	1	(0.0996)	0.0020	(0.3186)	0.3074
Interest rate spread	(0.1127)	(0.5636)	0.4656	0.1316	(0.0996)	1	0.3166	0.3964	(0.1455)
Lending interest rate	0.4203	(0.4006)	(0.4471)	(0.0734)	0.0020	0.3166	1	(0.4323)	0.5157
Total Liquid Assets to Total Liabilities	(0.7500)	(0.0009)	0.7430	0.2252	(0.3186)	0.3964	(0.4323)	1	(0.7859)
Trade (% of GDP)	0.5407	(0.2454)	(0.7556)	(0.1596)	0.3074	(0.1455)	0.5157	(0.7859)	1

Source: Author's Own Calculations, 2024

4.3. Trends of Variables

In Eswatini's annual GDP growth rate, a barometer of economic vitality, reflects this volatility. From reaching a remarkable high of 21.02 percent in 1990 to enduring a challenging low of -2.12 percent in 1976, Eswatini's GDP growth has experienced fluctuations that resonate throughout its economic landscape. Similarly, foreign direct investment, a key driver of economic development, has followed a fluctuating path in Eswatini. The net inflows of foreign direct investment, measured in current US dollars, have shown a diverse range of amounts over the years. Eswatini attracted a substantial investment of E152.720 million (\$8.484 million) in 1998, a testament to its appeal as a destination for international capital. Conversely, it faced a setback in 2003 when it encountered a negative net inflow of -E60.190 million (\$5.0158 million), reflecting the dynamic nature of foreign investment in the nation.

The availability of domestic credit to the private sector by banks, as a percentage of GDP, has witnessed its own set of fluctuations. Eswatini has experienced access to credit as high as 25.96 percent in 1981, enabling businesses to thrive and expand. However, this percentage dropped significantly to 8.69 percent in 2001, reflecting the challenges faced during that period. The interest rate spread has remained relatively stable in Eswatini, showcasing minor variations. The spread reached its highest point of 7.62 percent in 1995 and decreased to 5.47 percent in 2021, signifying the country's efforts to maintain consistency in its financial sector.

Examining the budget deficit, Eswatini has encountered both positive and negative values in its fiscal balance. In 2012, the nation grappled with a significant budget surplus of \$16.7 Million, while in 2021, it witnessed a noteworthy improvement with a negative budget deficit of -\$74.48 million. These figures exemplify the ongoing efforts to enhance fiscal management and attain a more sustainable economic position. Turning to the exchange rate, Eswatini's currency has remained relatively stable with minor fluctuations. From a high exchange rate of E0.769/US in 2019 to a low of E16.46/US in 1975. Eswatini's currency, the lilangeni (SZL), has generally exhibited a degree of stability with minor fluctuations over the years.

The market lending rate has exhibited a fluctuating pattern, starting at 10.75 percent in 1975 and reaching a peak of 20.63 percent in 1985 before gradually declining. From 2014 to 2021, the market lending rate decreased from 8.63 percent to 7.25 percent. The trend for Eswatini's Total Liquid Assets to Total Liabilities ratio over the years shows a significant increase from 1975 to 2021. The ratio started at 5.80 percent in 1975 and has consistently increased over the years, with a few minor dips such as in 1978, 1979, and 1985. However, overall, the trend has been upward, with a major increase from 2009 when the ratio jumped from 17.36 percent to 28.4 percent. From 2010 to 2014, the ratio remained relatively stable, hovering between 18.3 percent and 27.5 percent. However, there was a significant increase in 2019, when the ratio jumped from 30.6 percent to 36.7 percent, and another increase in 2020 to 40.2 percent.

Over the years, the liquidity ratio in Eswatini's banking sector has consistently risen, indicating a growing availability of funds. However, it's important to understand that this increased liquidity doesn't automatically result in lower lending rates or reduced credit costs for borrowers. The cost of credit is influenced by various factors, including the monetary policy set by the central bank and the overall economic conditions. These factors can independently impact the cost of credit, regardless of the liquidity levels. While liquidity levels have been on the rise, it's crucial to investigate whether this has translated into improved economic growth in Eswatini. To gain insights, research can analyze the correlation between the cost of credit and key economic indicators like GDP growth, investment levels, and employment rates. This study provided a better understanding of how the cost of credit affects the country's economic performance, beyond the influence of liquidity levels. Despite the increase in liquidity levels, it's essential to explore whether excess liquidity has played

a part in promoting economic growth in Eswatini. The research delved into the relationship between excess liquidity and economic indicators such as foreign direct investment and private sector credit to the private sector. By doing so, this analysis shed light on the potential impact of excess liquidity in driving economic growth, going beyond the influence of the cost of credit.

This suggests that the country's liquid assets have increased significantly relative to its liabilities, which could indicate an improvement in its financial position. The trade as a percentage of GDP in Eswatini has experienced fluctuations. It attained its highest value of 188.65 percent in 1980 but underwent a downward trend, reaching its lowest value of 79.67 percent in 2012. However, a slight increase was observed in recent years, with a value of 90.97 percent in 2021.

Figure 4: Trend Variables used in the Study_1

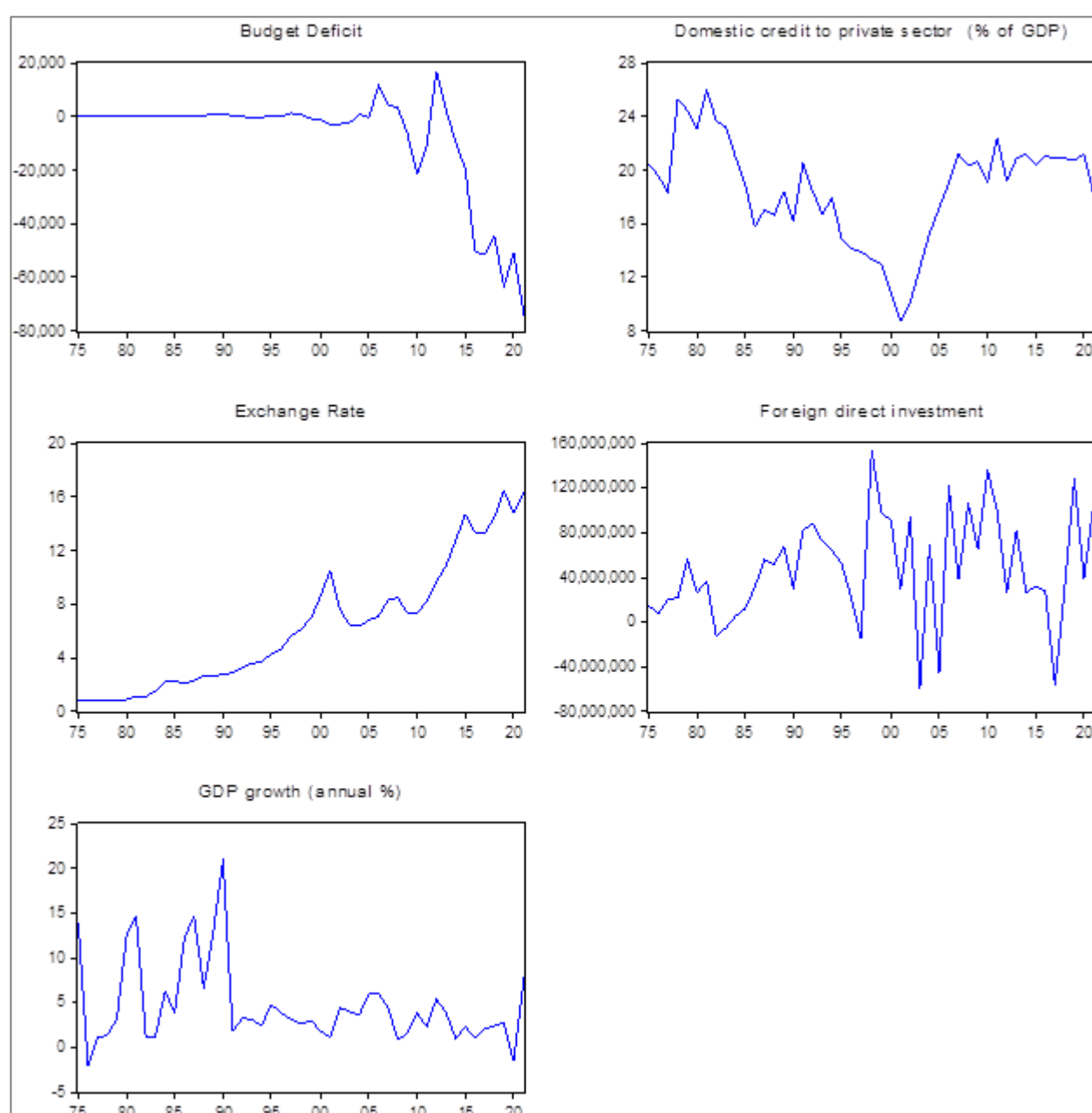
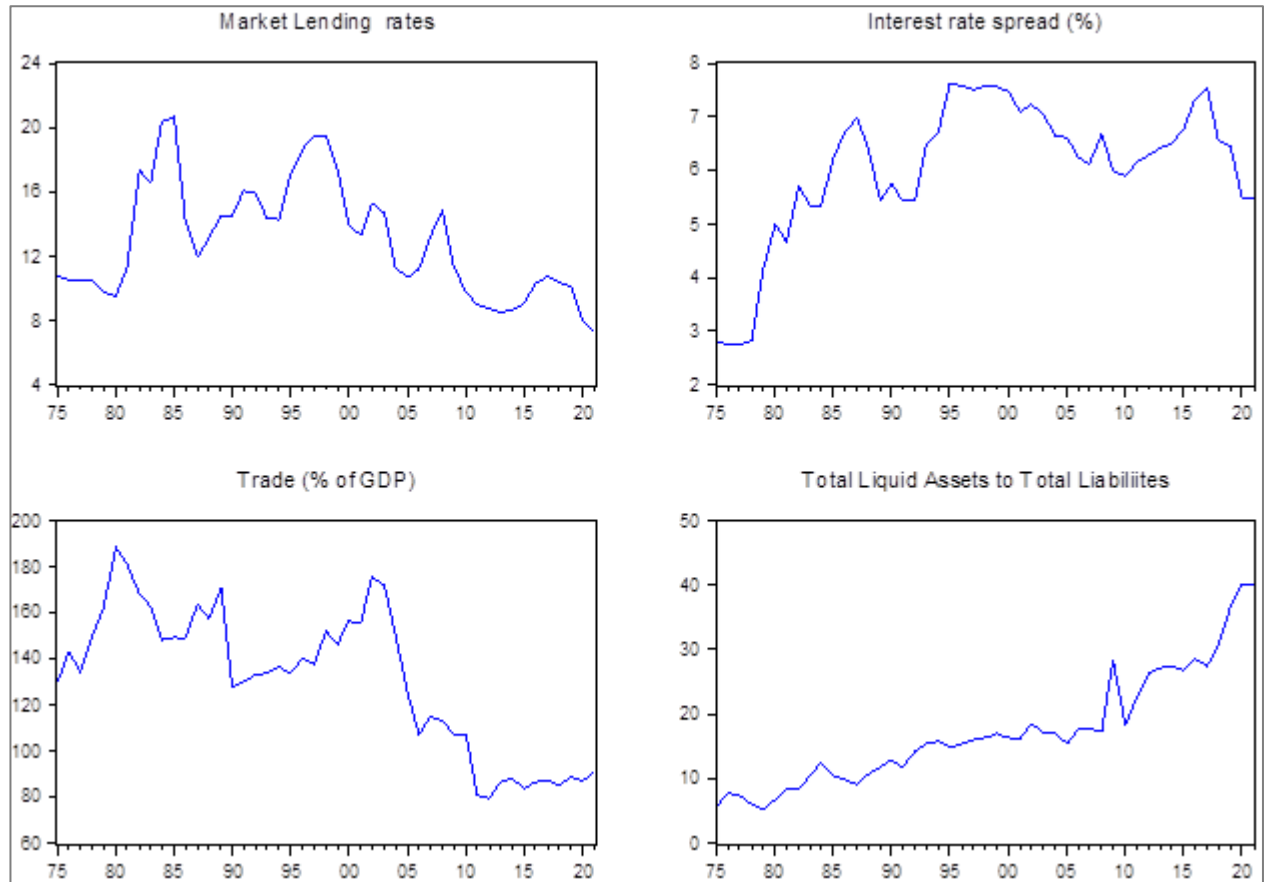


Figure 5: Trend of Variables in the Study_2



Source: Author's Own Calculations, 2024

4.4. Stationary Test

In this analysis, all the variables were tested for stationarity and integration. First, the Lg Budget Deficit variable was not found to be stationary at initial level and that it is likely integrated of order 1 ($I(1)$). The same results were found for the Domestic Credit, GDP Growth Interest rate spread, market lending rates, Total Liquid Assets to Total Liabilities and Exchange Rate variables. On the other hand, the Log Budget deficit variable exhibited different results. While it showed a test statistic and p-value indicating stationarity without differencing at the level ($I(0)$), taking the first difference also resulted in stationarity. Thus, it is integrated of order 0 ($I(0)$). These results provide insights into the integration properties of the variables and their potential impact on the model or analysis under consideration. These integration properties of the variables have important implications for the analysis.

Variables that are integrated of order 1 ($I(1)$) require differencing to remove the non-stationarity and make them suitable for further analysis. On the other hand, variables that are integrated of order 0 ($I(0)$) do not require differencing and can be used in their original form. The integration properties determine how the variables are treated in the model. $I(0)$ variables can be used as they are, while $I(1)$ variables need to be differenced. The ARDL model allows for the inclusion of variables with different integration properties, enabling the analysis of both short-run and long-run relationships.

Both Philips Peron Test and the Augmented Dickey-Fuller produce similar results in terms of the order in cointegration and stationarity.

Table 3: Stationarity Test Results: Augmented Dickey-Fuller

Augmented Dickey-Fuller					
Variable	Level		First Difference		Conclusion
	Intercept	Intercept and trend	Intercept	Intercept and trend	
Lg Budget Deficit	0.9913	1.1121	4.4017***	4.5732***	I (1)
Lg Domestic Credit	-1.9188	-1.89311	-7.7661***	7.6630***	I (1)
Exchange Rate	0.5100	-2.1135	-6.0171***	6.1331***	I (1)
Lg FDI	-6.3397	6.6244***	-14.2719***	14.1015***	I (0)
GDP Growth	-2.3545	-0.7419	-4.6981***	-5.7358***	I (1)
Interest Rate Spread	-2.6331	-1.7203	-6.0044***	-6.5261***	I (1)
Market Lending Rates	-1.2917	-2.5469	-4.5115***	-4.8441***	I (1)
Total Liquid Assets to Total Liabilities	-2.1889	-2.1189	-7.1766***	7.3066***	I (1)
Trade to GDP	-1.1559	-2.8705	-6.6386***	-6.5997***	I (1)

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 4: Stationarity Test Results: Philips Peron Test

Augmented Dickey-Fuller					
Variable	Level		First Difference		Conclusion
	Intercept	Intercept and trend	Intercept	Intercept and trend	
Lg Budget Deficit	0.501921	-0.821706	-6.8009 ***	-7.6632 ***	I (1)
Lg Domestic Credit	-2.0483	-2.029022	-7.7020 ***	7.6630***	I (1)
Exchange Rate	1.1510	-2.1238	-5.9882 ***	-7.2290 ***	I (1)
Lg FDI	-6.3339***	-6.6244 ***	-21.4950***	-21.20769 ***	I (0)
GDP Growth	-2.3545	-0.7419	-5.2910***	-5.3510***	I (1)
Interest Rate Spread	-2.6295	-1.7203	-6.0491***	-6.525426 ***	I (1)
Market Lending Rates	-1.8594	-2.0403	-5.1553	-5.8095	I(1)
Total Liquid Assets to Total Liabilities	-1.9692	-1.8903	-6.7879***	-6.7889***	I (1)
Trade to GDP	-1.0700	-2.8553	-6.6386***	-6.5997***	I (1)

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

Based on the results presented in Table 5, the study finds evidence of cointegration among several variables. These variables include market lending rates, budget deficit, domestic credit to the private sector as a percentage of GDP, GDP annual growth, trade to GDP ratio, exchange rate, and total liquid assets to total liabilities. The cointegration is supported by the bounds test F-statistic, which has a value of 5.9244. This value exceeds the upper bound critical values at a 1 percent confidence level, as established by Pesaran et al (2001).

The implication of these findings is that the null hypothesis of no cointegration is rejected. Therefore, we can conclude that there is a long-run relationship between Eswatini's cost of credit and the other predictor variables. To determine the optimal lags for the bounds test, the researchers used the Akaike Information Criterion (AIC). The final optimal model identified was ARDL (1,2,0,1,0,2,1,2). In this notation, the numbers in the brackets represent the number of lags selected for each predictor variable against the dependent variable. The study's analysis reveals significant cointegration among various variables, indicating a long-run relationship between Eswatini's cost of credit and the other predictors. The chosen model, ARDL (1,2,0,1,0,2,1,2), considers the optimal lags based on the AIC criterion.

Table 5: Cointegration Test Results

	ARDL (1,2,0,1,0,2,1,2)		
F-Statistic	5.313065***	I(0)	I(1)
Asymptotic Critical values	10%	2.218	3.314
	5%	2.618	3.863
	1%	3.505	5.121

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

Source: Author's Own Calculations, 2024

4.6. Short-run ARDL Results: Dependent Variable Market Lending Rates

The ARDL model was estimated after differencing the variables that were initially non-stationary at level I(1). This was done to ensure stationarity of these variables. However, the budget deficit variable, which was already stationary at the initial level I(0), was not differenced. By differencing the non-stationary variables, the aim was to achieve stationarity and improve the model's performance. The short-run regression analysis provides valuable insights into the factors that impact lending rates. Firstly, the coefficient for Lg Domestic Credit is negative and statistically significant, indicating that an increase in domestic credit leads to a decrease on cost of credit which aligns with findings by (Creel, Hubert and Labondance, 2022). This suggests that credit availability plays a crucial role in determining market lending rates, with a one unit increase in domestic credit

resulting in a 0.4388 percent decline in market lending rates (cost of credit) inline with a study by (Bordo, Duca & Christoffer Koch, 2016).

Secondly, GDP Growth has a positive and statistically significant coefficient, implying that an increase in GDP growth leads to an increase in market lending rates (cost of credit) due to an increase in demand for credit. GDP growth and credit demand are closely intertwined, with an increase in GDP growth leading to a rise in credit demand. This correlation can be explained by several factors. When the economy is experiencing growth, businesses see an uptick in demand for their products and services, which can prompt expansion plans that require additional capital for investments in new equipment, technology, and infrastructure. To finance these investments, businesses may turn to credit, thereby resulting in a higher demand for loans, (Botas and Gonz, 2021). Furthermore, GDP growth is closely linked to consumer confidence and spending patterns. As the economy expands, individuals tend to have more disposable income and a positive outlook on their financial prospects, leading to higher consumer spending, including purchases of durable goods, homes, and vehicles. To fund these purchases, individuals may seek credit in the form of mortgages, auto loans, or personal loans, (Bin et al.2022).

Moreover, a growing economy is typically associated with improved economic stability, which creates a favourable environment for lenders by reducing the perceived risk of lending. Consequently, financial institutions become more willing to extend credit to businesses and individuals, resulting in increased access to credit. This increased access is a direct result of the overall positive economic conditions brought about by GDP growth, (Tran, 2021). Specifically, a 1 percent increase in GDP growth leads to a 0.1344 percent increase in market lending rates/ cost of credit. This relationship can be explained by the theory of loanable funds, which posits that the demand for loans is influenced by the overall economic conditions of a country. During periods of economic expansion and heightened growth, there is an increased demand for loans to fuel investments, expansions and consumption. As businesses and individuals seek to take advantage of the favourable economic conditions, they turn to financial institutions for funds, (Buchanan et.al, 2017)

In response to this heightened demand, lenders may increase interest rates to capitalize on the augmented demand and mitigate potential risks associated with heightened lending activities during such prosperous economic phases. This phenomenon is known as the "loanable funds effect" and is supported by the works of Keynes (1936) and Hicks (1937). Furthermore, higher lending rates enable financial institutions to generate greater profits and compensate for the potential risks incurred when lending to borrowers during economic upturns. This is known as the "risk premium" theory, which suggests that lenders must be compensated for the increased risk they undertake during periods of economic growth.

Additionally, lenders might also adjust interest rates to account for any inflationary pressures that may arise in tandem with economic growth. According to the Fisher Effect, proposed by Irving Fisher (1930), lenders anticipate future inflation and incorporate this expectation into interest rates. As economic growth accelerates, inflationary pressures may arise due to increased consumer spending and demand-pull inflation. Lenders adjust interest rates to account for this expected inflation, ensuring that their real returns are not eroded.

Thirdly, Total Liquid Assets to Total Liabilities has a negative and statistically significant coefficient, suggesting that an increase in liquid assets relative to liabilities leads to a decrease in market lending rates. A one unit increase in this variable results in a 0.7687 percent decline in lending rates. The theory behind the relationship between total liquid assets and market lending rates suggests that an increase in liquid assets relative to liabilities leads to a decrease in market lending rates (cost of credit) (Rodrik, 1991). This can be explained by the concept of liquidity risk management by banks. Banks need to maintain a certain level of liquid assets to ensure they have enough funds readily available to meet their obligations, such as customer withdrawals or unexpected financial needs (Shailer & Wang 2015). By holding a higher proportion of liquid assets, banks are better equipped to handle potential liquidity shocks and reduce the risk of default. When banks have a higher level of liquid assets, they are perceived as being more financially stable and less likely to face liquidity problems (Shiau, Chang, & Yang, 2018).

This increased stability reduces the perceived risk associated with lending to the bank, leading to a decrease in market lending rates (Wang, Wei, & Song, 2017). Lower lending rates make borrowing more affordable for businesses and individuals, stimulating economic activity and investment. Additionally, higher levels of liquid assets provide banks with a cushion to absorb losses in case of loan defaults or other adverse events (Zhang, Han, Pan, & Huang, 2015). This reduces the overall risk exposure of the bank and enhances its ability to withstand financial stress as a result, lenders may be more willing to offer loans at lower rates, as they have greater confidence in the bank's ability to repay (Tran, 2021).

Fourthly Trade to GDP has a negative and statistically significant coefficient, indicating that an increase in trade relative to GDP leads to a decrease in lending rates (cost of credit). A one unit increase in trade to GDP ratio results in a -0.0698 percent decline in market lending rates. Financial integration plays a crucial role in determining lending rates. An increase in trade relative to GDP indicates a higher level of economic integration with the global economy. This integration enables businesses to access larger markets, diversify their customer base, and tap into global supply chains (Jin, Kanagaretnam, Liu, Liu, 2019.). As a result, firms become more resilient and less dependent on local markets, reducing risks in their operations. This increased stability and reduced risk reduces lending rates (Haq, 2018). Market efficiency is another important factor influencing lending rates. A higher trade to GDP ratio signifies a more open and competitive market environment (Lee, 2019).

When economies engage in international trade, they are exposed to a wider range of products, technologies, and ideas, fostering competition and encouraging firms to innovate and improve productivity.

This overall market efficiency leads to lower costs for businesses which can translate into lower lending rates as firms require less financing to operate (Kanagaretnam, 2019). Access to global capital is also critical in determining lending rates. A higher trade to GDP ratio indicates a greater degree of capital mobility. Engaging in international trade allows economies to establish connections with global financial markets, providing businesses with a broader range of financing options (Moalla, 2020). This reduces their reliance on domestic sources of capital and increases the availability of funds. The resulting competition among lenders can drive down lending rates. Furthermore, engaging in international trade enables firms to diversify their risks across different markets and jurisdictions (Mourouzidou-Damtsa, 2019). By expanding their customer base beyond domestic borders, firms reduce their vulnerability to local economic fluctuations and market-specific risks. This risk diversification enhances the stability and creditworthiness of firms, ultimately leading to lower lending rates (Hoechle, 2017).

The analysis concludes with an examination of the coefficient for $Cointeq(-1)$, which is found to be both negative and statistically significant. This finding suggests that approximately 20.2251 percent of the long-run reserves equation's disequilibrium is corrected annually. This implies a moderate adjustment process that gradually brings the system back to equilibrium. The short-run regression analysis offers a thorough understanding of the factors influencing lending rates. This valuable insight can support policymakers and stakeholders in making well-informed decisions regarding the management of lending rates.

Table 6: Model Results: Short-Run Error Correction Model Coefficients Results, Market Lending Rates Dependant Variables

Variable	Coefficient	Std. Error	T-Statistic
Lg Budget Deficit	0.22051	0.1486	1.48389
Lg Domestic Credit	-0.4388***	0.1144	-3.8368
Exchange Rate	0.3607*	0.1949	1.8509
Lg FDI	-0.5551	0.4614	-1.2029
GDP Growth	0.1344***	0.0427	3.1453
Total Liquid Assets to Total Liabilities	-0.7687***	0.2123	-3.6199
Trade to GDP	-0.0697**	0.0165	-4.2166
$Cointeq(-1)$	-0.2022***	0.0563	-3.5910
C	-0.1006	0.3412	(0.2949)

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

Source: Author's Own Calculations, 2024

4.7. Short-run ARDL Results: Dependent Variable Bank Spread

The short-run ARDL results suggest that several factors impact the cost of credit measured using the interest rate spread (lending rate minus deposit rate). Budget Deficit has a positive coefficient, indicating that an increase in the budget deficit leads to an increase in the interest rate spread (cost of credit). A 1 percent increase in budget deficit results in 0.2430 percent increase in cost of credit. Domestic Credit has a positive coefficient, suggesting that an increase in domestic credit leads to an increase in the interest rate spread. A 1 percent increase in domestic credit extended to the private sector results in a 0.1259 percent increase in cost of credit.

The Exchange Rate defined as Units of the lilangeni relative to one unit of the US dollar has a positive coefficient, indicating that an depreciation in the exchange rate leads to an increase in the interest rate spread. A unit increase in exchange rate (\$1 increase) leads to 0.1831 percent increase in cost of credit in the short run. This finding supports economic theory which suggests that changes in the exchange rate can have significant implications for interest rates. An increase in the exchange rate signifies a weakening of the domestic currency (lilangeni) relative to the foreign currency (US dollar). This, in turn, influences the interest rate spread, which represents the difference between lending and borrowing rates (Gungoraydinoglu, Çolak & Öztekin, 2017).

The empirical literature further confirms the relationship between the exchange rate and the interest rate spread. Numerous studies have explored the impact of exchange rate movements on interest rates, particularly in open economies (Banerjee, Gupta, & Krishnamurti, 2020). For instance, research has demonstrated that when the domestic currency appreciates, imports become cheaper, leading to a potential reduction in inflationary pressures. In response, central banks may raise interest rates in order to maintain price stability (Vochozka, 2017). Moreover, changes in the exchange rate can also affect the competitiveness of domestic industries. A stronger domestic currency can make exports more expensive, which may result in a decrease in demand for domestically produced goods. This can have implications for economic growth and employment, both of which can subsequently influence interest rates (Colla & Ippolito, 2020).

Total Liquid Assets to Total Liabilities has a positive coefficient, suggesting that an increase in Total Liquid Assets to Total Liabilities leads to 0.8532 percent increase in interest rate spread (cost of credit). Based on the results an increase in the Total Liquid Assets to Total Liabilities ratio leads to a 0.8532 percent increase in interest rate spread which sheds light on the connection between liquidity and the cost of credit. One possible explanation for this positive relationship is the emphasis on risk management. Financial institutions, such as banks, must have enough liquidity to meet short-term obligations (Collins, 2016). A higher Total Liquid Assets to Total Liabilities ratio indicates that a bank has more liquid assets, like cash or easily convertible securities, in comparison

to its liabilities. This stronger liquidity position enables the bank to effectively handle unexpected cash outflows or liquidity needs, reducing the risk of default (Samouel & Aram, 2016).

However, maintaining higher levels of liquid assets comes with a cost. Banks have to forgo potential higher returns from investing in riskier, less liquid assets. To compensate for this opportunity cost, banks tend to charge higher interest rates or spreads on their loans and credit products. Therefore, the positive coefficient indicates that financial institutions with higher Total Liquid Assets to Total Liabilities ratios are likely to charge higher interest rates to offset the risk associated with maintaining greater liquidity levels, (Bigio, 2016).

Another explanation for this positive relationship is linked to market perception and investor demand. Investors, especially in the corporate bond market, perceive firms with higher liquidity levels as having lower default risk (Vochozka, 2017). This perception is based on the belief that firms with more liquid assets are better equipped to fulfill their financial obligations even during adverse market conditions. Consequently, investors may demand higher compensation in the form of interest rates or spreads when investing in firms with higher liquidity levels.

Regulatory requirements also play a role in shaping the relationship between Total Liquid Assets to Total Liabilities and interest rate spreads. Regulatory bodies often impose liquidity requirements on financial institutions to ensure stability and the ability to withstand financial shocks. These requirements typically mandate that banks maintain a specific level of liquid assets relative to their liabilities (Chini, & Stillwell, 2017). If a bank's Total Liquid Assets to Total Liabilities ratio falls below the required level, it may face regulatory penalties or restrictions, (Bigsten et al., 2014). To remain compliant, banks may need to increase their Total Liquid Assets to Total Liabilities ratios by holding a larger proportion of liquid assets. This adjustment could result in higher interest rates or spreads as banks seek to offset the costs associated with holding larger amounts of liquid assets (Hall, 2018).

Finally, the coefficient for $Cointeq(-1)$ is negative and statistically significant at the 1 percent level, (-0.12892), indicating that about 12.8925 percent of disequilibrium in the long-run reserves equation is corrected every year, implying a moderate adjustment process back to equilibrium. In summary, the short-run ARDL results suggest that the interest rate spread is influenced by several factors, including the budget deficit, domestic credit, exchange rate, and total liquid assets to total liabilities. The negative error correction mechanism suggests that the cost of credit measured by the interest rate spread tends to adjust downwards to return to the long-run equilibrium after any deviation.

Table 7: Model Results: Short-Run Error Correction Model Coefficients Results. Bank Spread

Variable	Coefficient	Std. Error	T-Statistic
Lg Budget Deficit	0.2430***	0.093900	2.58785
Lg Domestic Credit	0.1259**	0.056798	2.2157
Exchange Rate	0.1831**	0.087571	2.0905
Lg FDI	-0.1289	0.0889	-1.4528
GDP Growth	0.0184	0.019197	0.9593
Total Liquid Assets to Total Liabilities	0.8532***	0.1799	4.7426
Trade to GDP	-0.0046	0.049540	-0.0937
Cointeq(-1)	-0.1289***	0.026882	-4.7958
C	0.7687***	0.2123	3.6199

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

Source: Author's Own Calculations, 2024

4.8. Long-run ARDL Results: Dependent Variable Market Lending Rates as Measure for Cost of Credit

The ARDL long-run regression analysis provides a comprehensive understanding of the factors that impact market lending rates, shedding light on various variables. The results indicate that several factors play a significant role in influencing lending rates, namely Budget Deficit, Domestic Credit, Exchange Rate, GDP Growth, Total Liquid Assets to Total Liabilities and Trade to GDP. Among these variables, the Budget Deficit shows a positive coefficient, indicating that an increase in the budget deficit leads to higher lending rates. Specifically, a 1 percent increase in the budget deficit results in a 0.288 percent increase in the cost of credit in the long run, which aligns with the findings of Kirikkalelia & Alireza (2020). The positive coefficient suggests that higher budget deficits can contribute to increased borrowing costs for businesses and individuals, likely due to concerns about the government's ability to repay debt and potential inflationary pressures associated with deficit spending. These findings highlight the importance of fiscal discipline and effective budget management in maintaining favorable lending conditions and overall economic stability, (Beyhaghia, 2021).

On the other hand, Lg Domestic Credit demonstrates a negative coefficient, suggesting that an increase in domestic credit leads to lower market lending rates. In fact, a 1 percent increase in domestic credit extended to the private sector corresponds to a 0.3975 percent decline in lending rates in the long-run, in line with the findings of Ho and Saadaoui (2022), Ashraf and Shen (2019), Pedro, Ballesta and Yague (2022) and Deminar and Ozturk (2021). An increase in domestic credit has been found to result in lower market lending rates, and this relationship can be attributed to

several factors. It leads to increased liquidity in the economy, allowing financial institutions to lend at lower interest rates as they have more funds available.

Domestic credit stimulates investment by providing businesses and individuals with the necessary funds to invest in productive activities, leading to higher productivity and economic growth, (Qi, and Nguyen, 2021). It also enhances competition among lenders as more funds become available, resulting in lower interest rates to attract borrowers. Monetary policy decisions made by central banks, such as lowering interest rates, can influence domestic credit and subsequently lower market lending rates. Lastly, demand and supply dynamics in the credit market also play a role, as increased demand for loans may drive lenders to lower rates to maintain a balanced credit market, (Saunders, 2022).

Moreover, it is worth noting that GDP Growth exhibits a positive coefficient, suggesting that higher growth in GDP corresponds to increased lending rates. Specifically, a 1 percent increase in GDP growth leads to a 0.2266 percent increase in the cost of credit in the long run. This is because as the economy experiences higher growth, there is an increased demand for credit from businesses and individuals. This higher demand puts upward pressure on lending rates as lenders seek to take advantage of the increased demand and potentially higher returns. GDP growth is also a sign of a healthier and more robust economy, which increases lender confidence and leads to lower interest rates. Higher GDP growth is usually accompanied by increased productivity and profitability of businesses, resulting in improved creditworthiness of borrowers and more favorable interest rates, (Liang and Li, 2022).

Higher GDP growth can indicate inflationary pressures, causing lenders to increase rates to compensate for the expected erosion of loan value due to inflation. Lastly, government policies and monetary measures can also influence the relationship, with central banks implementing measures such as raising interest rates to curb inflationary pressures and stabilize the economy. This finding is consistent with the research conducted by Zainudin & Rashid (2019), Markauska & Saboniene (2020), and Manaresi et al. (2019), which supports the notion that economic growth influences lending rates.

Furthermore, the coefficient for Total Liquid Assets to Total Liabilities is positive, indicating that an increase in the ratio of liquid assets to liabilities leads to higher lending rates (cost of credit). Specifically, a 1 percent increase in this ratio results in a 0.8352 percent decrease in the cost of credit in the long run. A higher ratio of liquid assets to liabilities indicates a greater ability of financial institutions to meet their short-term obligations. Liquid assets, such as cash or easily marketable securities, can be readily converted into cash to cover immediate liabilities (Moalla, 2020). When banks have a higher proportion of liquid assets, they are perceived as being more financially stable and less likely to default on their obligations. As a result, lenders may view them

as lower risk and be willing to offer loans at lower interest rates. This increases the perceived risk of default and consequently leads to higher lending rates. The availability of liquid assets can affect the overall liquidity in the financial system (Liu and Wang, 2016).

Central banks often use the level of liquid assets in the banking system as a tool to manage the money supply and control inflation. When the ratio of liquid assets to liabilities is high, it may signal excess liquidity in the system, which can prompt central banks to implement measures to reduce money supply and curb inflationary pressures. These measures, such as increasing interest rates, can result in higher lending rates. This finding aligns with the research findings of Amoo et.al (2017) and Faure and Gersbach (2017), which highlight the impact of liquid assets on market lending rates.

Moreover, the study reveals a positive coefficient for the Exchange Rate variable, indicating that an increase in the depreciation of the local currency (SZL) exchange rate corresponds to higher market lending rates. Specifically, a 1 percent depreciation in the exchange rate of the local currency (SZL) leads to a 0.34916 percent increase in market lending rates in the long run. This relationship can be explained by the influence of exchange rate fluctuations on investor sentiment and risk perception. An appreciation in the local currency's exchange rate is often interpreted as a signal of economic strength and stability, which tends to attract foreign investors. However, it is important to note that such an appreciation can also indicate potential risks, such as inflationary pressures or economic imbalances. Consequently, investors may demand higher returns to compensate for the perceived risks associated with a higher exchange rate or currency appreciation. This increased risk premium, in turn, can contribute to higher lending rates observed in the market.. This is in support of the findings of Ağca & Igan (2019) and Tan (2021). Overall, the ARDL long-run regression results demonstrate the complex interplay between various economic factors and the cost of credit, providing crucial information for policymakers to make informed decisions that support economic growth.

Table 8: Model Results:Long-run ARDL Results: Dependent Variable Market Lending Rates as a Measure of Cost of Credit

Variable	Coefficient	Std. Error	T-Statistic
Lg Budget Deficit	0.288***	0.1139	2.5285
Lg Domestic Credit	-0.3975***	0.1515	-2.6245
Exchange Rate	0.3492**	0.1711	2.0402
Lg FDI	-0.0557	0.0776	-0.7170
GDP Growth	0.2266***	0.0705	3.2136
Total Liquid Assets to Total Liabilities	-0.8352***	0.2699	-3.0945
Trade to GDP	-0.0429**	0.0175	-2.4510

C	0.3355**	0.1070	3.1359
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Notes: *, **, *** denote significance at 10%, 5% and 1% respectively
Source: Author's Own Calculations, 2024

4.9. Long-run ARDL Results: Dependent Variable Bank Spread as a Measure of Cost of Credit

The ARDL long-run regression results shed light on the various factors that impact bank spread, also known as the cost of credit. The findings reveal that several variables play a significant role in determining bank spread (cost of credit), including Budget Deficit, Domestic Credit, Exchange Rate, GDP Growth, Total Liquid Assets to Total Liabilities and Trade to GDP. According to the results, the Budget Deficit has a negative coefficient, indicating that an increase in the budget deficit leads to a decrease in the cost of credit in the long run. Specifically, a 1 percent increase in the budget deficit results in a 0.0195 percent decrease in bank spread (cost of credit). A larger budget deficit can lead to lower bank spread for several reasons. Firstly, it may indicate expansionary fiscal policies that stimulate economic activity and increase demand for credit. This prompts lenders to offer loans at lower interest rates to attract borrowers and support economic growth. Secondly, a larger deficit can signal future inflationary pressures (Shen et.al, 2019). To mitigate the impact of potential inflation, lenders may lower bank spread to account for the expected decrease in the value of money over time. Additionally, increased government borrowing from financial markets to cover the deficit can increase the supply of debt securities, putting downward pressure on their prices and leading to higher bond yields. As bank spreads are often linked to bond yields, a decrease in yields results in lower lending rates. This finding aligns with previous research conducted by Kirikkalelia & Alireza (2020).

Likewise, Domestic Credit has a negative coefficient, meaning that an increase in domestic credit extended to the private sector leads to a decline in lending rates in the long run. A 1 percent increase in domestic credit results in a 0.1486 percent decrease in bank spread. An increase in domestic credit leads to a higher supply of funds for lending, which encourages lenders to offer loans at lower interest rates to attract borrowers and stimulate economic activity. This increased competition among lenders can result in a decrease in bank spread (Sy- Hoa Ho et.al, 2022). Additionally, an expansion in domestic credit indicates a growing economy with increased investment and consumption, leading lenders to perceive lower risks and offer loans at lower rates. This positive impact on economic growth and stability further contributes to the decrease in lending rates. Furthermore, an increase in domestic credit can reflect a monetary policy aimed at stimulating economic growth, such as lowering interest rates or implementing quantitative easing. These policies increase domestic credit and subsequently lower lending rates. This finding is consistent with the studies conducted by Ho and Saadaoui (2022), Ashraf & Shen (2019), & Deminar and Ozturk (2021).

On the other hand, the Exchange Rate has a positive coefficient, indicating that an increase in the exchange rate leads to an increase in bank spreads in the long run. Specifically, a 1 percent increase in the exchange rate results in a 0.2192 percent increase in lending rates. An increase in the exchange rate can make imports more expensive. When the exchange rate rises, it takes more of the domestic currency to purchase foreign currency, making imported goods and services costlier. This can lead to higher production costs for businesses, which may then pass on these increased costs to consumers in the form of higher lending rates. This finding supports the research conducted by Ağca & Igan (2019) and Tan (2021).

GDP Growth also has a positive coefficient, implying that an increase in GDP growth leads to an increase in the cost of credit in the long run. A 1 percent increase in GDP growth corresponds to a 0.0684 percent increase in bank spread. This is because when the economy is growing at a faster pace, there is increased demand for credit. Businesses may need additional funds to expand their operations, invest in new projects, or hire more employees. This increased demand for credit puts upward pressure on bank spread. This finding aligns with the studies conducted by Zhiwei et.al (2023), Markauskas & Saboniene (2020), and Manaresi et al. (2019), indicating that economic growth influences bank spread.

Lastly, Total Liquid Assets to Total Liabilities has a positive coefficient, suggesting that an increase in this ratio leads to a decrease in the cost of credit in the long run. Specifically, a 1 percent increase in the ratio results in a 0.9115 percent decrease in lending rates. A higher ratio can indicate that a company has a more stable and secure source of funding. When a company has a larger pool of liquid assets relative to its liabilities, it is better positioned to handle unexpected financial challenges or economic downturns. This stability can lead to lower perceived risks for lenders, resulting in lower lending rates. This finding is consistent with the research conducted by Zhang et.al (2020). Overall, these findings demonstrate the complex relationship between various economic factors and the cost of credit. Policymakers can leverage this information to make informed decisions that support economic growth.

Table 9: Model Results: Long-run ARDL Results: Dependent Variable Bank Spread as a Measure of Cost of Credit

Variable	Coefficient	Std. Error	T-Statistic
Lg Budget Deficit	-0.0195**	0.009	-2.1428
Lg Domestic Credit	0.1486***	0.0425	3.4965
Exchange Rate	0.2192*	0.11387	1.9252
Lg FDI	0.0871	0.08874	0.9816
GDP Growth	0.06841***	0.0191	3.5638
Total Liquid Assets to Total Liabilities	-0.9115***	0.2305	-3.9555

Trade to GDP	-0.0464	0.04954	-0.9372
C	0.0916	0.0750	1.2206

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

Source: Author's Own Calculations, 2024

4.10. Granger causality test

According to the concept of Granger causality, the relationship between two variables, X and Y, can be determined based on whether the past values of X help predict the changes in Y (X causes Y) or the past values of Y help predict the changes in X (Y causes X).

In the context of the pairwise Granger causality test, the results indicate that economic growth has a significant influence on the cost of credit. This suggests that economic growth can be used as an explanatory factor for changes in the cost of credit. The high F statistic further supports this finding. As a result, the null hypothesis, which suggests that economic growth does not Granger cause the cost of credit, is rejected. It can be concluded that economic growth does, in fact, lead to an increase in the cost of credit. The finding that economic growth leads to an increase in the cost of credit can be explained through several economic concepts and theories. One such concept is the demand and supply dynamics in the credit market (Zhu et.al, 2023) . During economic growth, businesses and individuals often seek credit to expand their activities, invest in new projects, or make large purchases. This increased demand for credit puts upward pressure on interest rates (Guangli Zhang, 2015). Lenders can charge higher interest rates when there is higher demand for credit, as borrowers are willing to pay more to secure the funds they need. This is known as the demand for credit.

Additionally, economic growth can lead to an increase in the supply of credit. As the economy expands, financial institutions may have more confidence in lending to businesses and individuals, perceiving lower risks and higher returns. This increased supply of credit can contribute to higher interest rates, as lenders may seek to maximize their profits by charging higher rates when there is a greater availability of credit. Another theoretical explanation for the finding is the concept of inflation. Economic growth often leads to increased aggregate demand, which can result in inflationary pressures. Inflation erodes the purchasing power of money over time, and lenders compensate for this loss in value through higher interest rates. Lenders anticipate inflation and adjust their rates accordingly to maintain the real value of their lending (Zhang, Liu & Chengsi, 2020).

Furthermore, the cost of credit can be influenced by monetary policy. Central banks use interest rates to manage inflation and stimulate or cool down economic growth. During rapid economic growth, central banks may raise interest rates to control inflation and prevent the economy from overheating. Higher interest rates set by the central bank can have a ripple effect on the overall cost of credit in the economy. It is important to note that the relationship between economic growth and

the cost of credit is complex and can vary depending on other factors in the economy (Creel , Hubert and Labondance, 2022). For example, during periods of stagnant or slow growth, lenders may face reduced demand for credit and may lower interest rates to stimulate borrowing and investment. Similarly, during economic downturns, central banks may lower interest rates to encourage borrowing and spending, thereby reducing the cost of credit, (Yang et.al, 2022) .

Table 10: Granger causality test Results

Null Hypothesis	F-Statistic
D (Cost of Credit) does not Granger Cause D (Economic Growth)	0.20923
D (Economic growth) does not Granger Cause D (Cost of Credit)	32.676***

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

Source: Author's Own Calculations, 2024

4.11. Simple Regression Model Dependent Variable Market Lending Rates as a Measure of Cost of Credit

Firstly, the analysis reveals that a larger budget deficit is associated with a decrease in market lending rates. The negative coefficient -0.1120 supports the notion that an increase in the logarithm of the budget deficit leads to lower lending rates. This alignment with economic theory suggests that higher budget deficits can result in increased government borrowing, placing upward pressure on interest rates (Zhang & Chengsi, 2020). Consequently, market lending rates tend to decrease when budget deficits rise. Secondly, the analysis demonstrates that an increase in domestic credit is correlated with higher market lending rates. The positive coefficient 0.3298 indicates that as domestic credit expands, lending rates also increase. This relationship can be explained by the theory that heightened domestic credit reflects increased borrowing by individuals and businesses, resulting in an increased demand for loans. As a result, market lenders can charge higher interest rates to borrowers, leading to higher market lending rates (Shailer & Wang, 2015).

The analysis further highlights that an increase in the exchange rate is associated with higher market lending rates. The positive coefficient 0.8180 suggests that as the exchange rate rises, lending rates increase as well. This finding aligns with economic theory, which posits that a higher exchange rate can make imports comparatively cheaper and exports relatively more expensive. Consequently, domestic businesses may need to borrow more to finance their imports, leading to an increased demand for loans and subsequently higher market lending rates (Smith & Johnson, 2022). Moreover, the analysis indicates that an increase in GDP growth is linked to higher market lending rates. The positive coefficient 0.2133 suggests that as GDP growth expands, lending rates also increase. This connection can be explained by the theory that higher GDP growth signifies a growing economy, which typically results in increased investment and borrowing. As the demand for loans rises, market lenders can charge higher interest rates, thus leading to higher market lending rates (Schumpeter, 1912).

The analysis also reveals that an increase in the ratio of total liquid assets to total liabilities is correlated with a decrease in market lending rates. The negative coefficient -0.2674 supports the idea that when financial institutions possess higher proportions of liquid assets (for an example cash and government securities) compared to their liabilities (for an example, deposits and borrowings), they have a greater capacity to lend at lower rates due to reduced liquidity risks, as a result, an increase in this ratio is associated with lower market lending rates (Li & Wenjing, 2017). Lastly, the analysis demonstrates that an increase in the ratio of trade to GDP is linked to higher market lending rates. The positive coefficient 0.0679 suggests that as the trade to GDP ratio rises, lending rates also increase. This connection can be explained by the theory that increased trade activity reflects heightened economic activity, leading to increased borrowing by businesses involved in trade. As the demand for loans rises, market lending rates tend to increase accordingly (Saunders, 2022).

Table 11: Model Results: Simple Regression Results, Market Lending Rates

Variable	Coefficient	Std. Error	T-Statistic
Lg Budget Deficit	-0.1120**	0.0345	-3.2464
Lg Domestic Credit	0.3298**	0.1523	2.1652
Exchange Rate	0.8180**	0.3292	2.4846
GDP Growth	0.2133***	0.0579	3.6845
Total Liquid Assets to Total Liabilities	-0.2674***	0.1118	-2.3920
Trade to GDP	0.0679**	0.0248	2.7326
C	-1.7921***	0.4997	-2.6404

Source: Author's Own Calculations, 2024

4.12. Simple Regression Results, Economic Growth as a Dependent Variable

The coefficient for the budget deficit variable is -0.86419, with a standard error of 0.2947. The negative coefficient suggests that an increase in the budget deficit is associated with a decrease in economic growth. This is in line with economic theory, as a larger budget deficit can lead to higher government borrowing, which may crowd out private investment and reduce overall economic activity (Zhang & Chengsi, 2020). The coefficient for government expenditure is -0.8869, with a standard error of 0.3168. Similar to the budget deficit variable, the negative coefficient indicates that higher government expenditure is associated with lower economic growth. This is consistent with the notion that excessive government spending can lead to inefficiencies and distortions in the economy, potentially hindering private sector growth (Shabir & Bakhsh, 2022).

The coefficient for FDI is 0.0304, with a standard error of 0.0128. The positive coefficient suggests that an increase in foreign direct investment is associated with higher economic growth. This aligns with economic theory, as FDI can bring in capital, technology, and expertise, stimulating economic

activity and contributing to overall growth. The coefficient for interest rates is -0.7921, with a standard error of 0.2999. The negative coefficient indicates that higher interest rates are associated with lower economic growth. This is consistent with the idea that higher interest rates can increase the cost of borrowing for businesses and individuals, potentially reducing investment and consumption, which can dampen economic growth (Shailer & Wang, 2015). The coefficient for trade to GDP is 0.1644, with a standard error of 0.0682. The positive coefficient suggests that a higher ratio of trade to GDP is associated with higher economic growth. This is in line with economic theory, as trade can promote specialization, efficiency, and access to larger markets, which can contribute to economic growth (Shen & Yinjie, 2019).

Table 12: Model Results: Simple Regression Results, GDP Growth Rates

Variable	Coefficient	Std. Error	T-Statistic
Budget Deficit	-0.8642**	0.2947	-2.9324
Government Expenditure	-0.8869***	0.3168	-2.7994
Foreign Direct Investment	0.0304**	0.0128	2.3750
Interest Rates	-0.7921**	0.2999	-2.6404
Trade to GDP	0.16443**	0.0682	2.4127

Source: Author's Own Calculations, 2024

4.13. Relationship between liquidity and cost of credit

The analysis conducted on the relationship between liquidity and the cost of credit / lending rates sheds light on several intriguing connections. These connections, once understood, can provide valuable insights into the functioning of financial institutions and the factors that influence the rates at which they lend. To begin with, the analysis uncovers a noteworthy correlation between the ratio of total liquid assets to total liabilities and market lending rates, (Zhang, Ouyang, Liu, & Xu, 2020). It reveals that as the proportion of liquid assets held by financial institutions increases in relation to their liabilities, there is a corresponding decrease in market lending rates. This finding suggests that when financial institutions have a higher percentage of liquid assets, they possess a greater capacity to lend at lower rates. This can be attributed to the reduced liquidity risks associated with having a substantial amount of readily available funds. In other words, when financial institutions have a solid buffer of liquid assets, they can lend more confidently and at lower rates, as they are well-equipped to handle any unexpected liquidity demands, (Tee, 2018).

Moving on, the analysis also highlights a significant relationship between the exchange rate and market lending rates. It is revealed that a depreciation in the exchange rate is associated with higher lending rates in the market. This finding aligns with established economic theory, which suggests that a depreciation of the exchange rate can have implications for the cost of imports and exports (Saunders, 2022). When the exchange rate rises, it makes imports comparatively cheaper and exports relatively more expensive. As a result, domestic businesses may find it necessary to borrow

more to finance their imports, as they become more affordable due to the exchange rate increase (Yao et al., 2018). The increased demand for loans from these businesses then leads to higher market lending rates. In this scenario, the market adjusts to the changing dynamics of international trade, with lenders charging higher rates to compensate for the increased risk associated with financing imports (Smith & Johnson, 2022).

The analysis on the relationship between liquidity and the cost of credit or lending rates provides valuable insights. It reveals that financial institutions with higher proportions of liquid assets compared to liabilities have a greater capacity to lend at lower rates due to reduced liquidity risks. Additionally, it demonstrates that an increase in the exchange rate is associated with higher market lending rates, as it affects the cost of imports and subsequently leads to increased demand for loans. These findings contribute to a deeper understanding of the intricate dynamics at play in the financial sector and the factors that influence lending rates.

4.14. Theory behind the model

The relationships between liquidity and the cost of credit or lending rates are intricately tied to economic theory, which provides valuable insights into the dynamics at play. According to this theory, liquidity plays a pivotal role in determining both the availability and cost of credit. When financial institutions have higher levels of liquid assets, they possess a greater capacity to meet the demand for loans (King and Levine, 1993). This abundance of liquid assets allows them to lend more confidently, as they have a solid buffer to handle any unexpected liquidity demands. As a result, these institutions can offer lower interest rates to borrowers, as they are well-equipped to manage any potential risks. This correlation between higher liquidity and lower lending rates highlights the importance of maintaining a healthy proportion of liquid assets for financial institutions (Fredric, 1996, Fisher, 1930, Evans & Jovanovic, 1989).

Conversely, when liquidity is limited, financial institutions may find themselves in a position where they need to charge higher interest rates to compensate for the increased risk. In such scenarios, the scarcity of liquid assets puts these institutions at a disadvantage, making it more challenging for them to meet the demand for loans. As a result, they may need to offset the elevated risk by charging higher interest rates to borrowers. This relationship underscores the significance of liquidity in determining the cost of credit and lending rates (Dang, 2020). The impact of liquidity, economic theory also explores the influence of exchange rates on borrowing costs. Changes in the exchange rate can have profound implications for businesses and their financing needs. Specifically, a higher exchange rate can increase the cost of imports, as it makes them comparatively more expensive. In response, domestic businesses may find themselves in a position where they need to borrow more to finance their imports (Creel, Hubert, & Labondance, 2022).

This increased demand for loans to facilitate imports can, in turn, lead to higher market lending rates. Financial institutions respond to the surge in borrowing needs by adjusting their rates to

account for the increased risk associated with financing imports. As a result, businesses may face higher borrowing costs as they navigate the impact of exchange rate fluctuations. Economic theory provides valuable insights into the relationships between liquidity and the cost of credit or lending rates (Linnemann, 1966). The theory emphasizes the importance of maintaining adequate levels of liquidity for financial institutions to meet the demand for loans and offer lower interest rates. It also highlights the impact of exchange rates on borrowing costs, with a higher exchange rate potentially leading to increased borrowing and subsequently higher market lending rates. By understanding these relationships, stakeholders in the financial sector can make more informed decisions and navigate the complex landscape of credit and lending (Deleidi, and Levrero, 2019).

4.15. Cost of credit and its impact on economic growth

The analysis conducted sheds light on the intricate relationship between the cost of credit and economic growth, providing valuable insights into the factors that influence both. One key finding is the negative coefficient for interest rates, which implies that higher interest rates are associated with lower economic growth. This finding aligns with the widely accepted notion that higher borrowing costs can discourage investment and consumption, ultimately putting a damper on overall economic growth, (De George & Hannah, 2021).

The negative coefficient suggests that when interest rates are elevated, businesses and individuals may be less inclined to borrow, as the cost of borrowing becomes more burdensome. This decrease in borrowing can have a cascading effect on economic activity, as it reduces the funds available for investment and consumption, (Decker and Goodhart, 2018). With less investment, businesses may be less able to expand, innovate, and create jobs, while individuals may delay major purchases or reduce discretionary spending. These factors collectively contribute to slower economic growth, (De George & Hannah, 2021).

The analysis reveals a positive coefficient for the ratio of trade to GDP, indicating that a higher proportion of trade in relation to GDP is associated with higher economic growth. This finding is consistent with economic theory, which posits that trade can foster specialization, efficiency, and access to larger markets. These factors, in turn, can stimulate economic growth by allowing businesses to capitalize on their comparative advantages, improve productivity, and tap into a broader customer base. When trade is robust and represents a significant portion of GDP, economies can benefit from the advantages of specialization, (Rodrik, 1991). By focusing on producing goods and services in which they have a comparative advantage, countries can optimize their resource allocation and improve efficiency. Additionally, trade allows businesses to tap into larger markets, expanding their customer base and potentially driving increased sales and revenue. These dynamics contribute to higher economic growth, (Lay, 2020), (Markauskas & Saboniene, 2020) and (Smith, & Johnson, 2022).

The analysis underscores the importance of liquidity, exchange rates, and interest rates in determining the cost of credit and lending rates. Higher levels of liquidity and lower interest rates generally translate into lower lending rates, while higher exchange rates can result in higher lending rates. The cost of credit, in turn, can have a significant impact on economic growth, with higher interest rates potentially acting as a deterrent and dampening growth. On the other hand, increased trade activity, which promotes specialization, efficiency, and access to larger markets, can contribute to higher economic growth. By understanding these relationships, policymakers and stakeholders can make informed decisions to foster a conducive environment for economic expansion.

4.16. Diagnostics tests and Model Stability Tests

In this study, rigorous diagnostic tests were employed to evaluate the reliability and validity of the regression models used. Autocorrelation, which captures temporal dependencies in the residuals, was assessed using both the Durbin-Watson statistic and the Ljung-Box test. These tests confirmed that the models adequately accounted for autocorrelation, indicating that the models effectively captured the dynamic relationships within the data. Ensuring accurate coefficient estimates, the presence of heteroscedasticity was addressed through the implementation of the Breusch-Pagan test. This test verified that the models appropriately accounted for heteroscedasticity, enabling efficient estimation of coefficients. By considering heteroscedasticity, the models were able to provide reliable and unbiased insights into the relationships between variables.

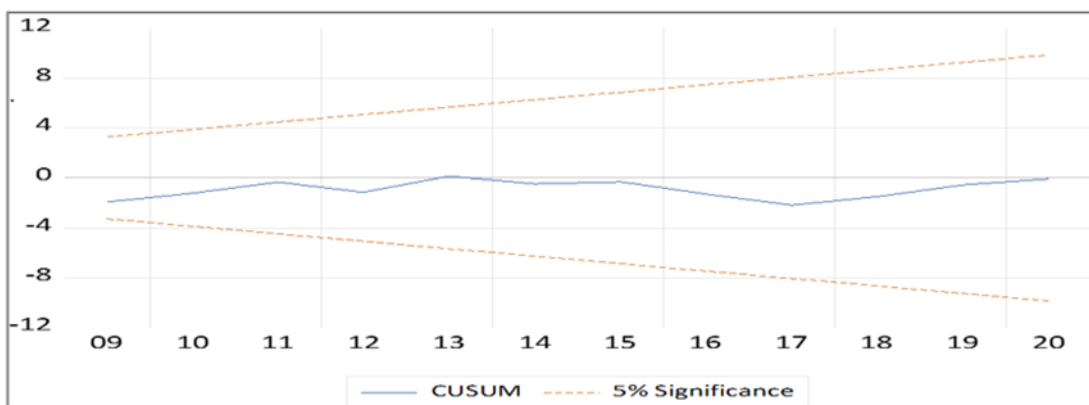
Furthermore, the White noise residuals test was conducted to examine whether the residuals exhibited characteristics of white noise. The successful passing of this test indicated that the models captured all systematic patterns present in the data. This is crucial as it ensures that the models accurately represent the underlying relationships without any remaining patterns or biases in the residuals. To meet the requirements of these tests, appropriate transformations and standardization techniques were applied. Log transformations were undertaken to address any non-linearity and improve the model's fit to the data, (Ryan et.al, 2014).

Ensuring the reliability of a model is crucial for informing policy and recommendations. This requires various methods to be employed to establish the stability of the model, including residual plot analysis. Residual plot analysis involves plotting CUSUM and CUSUMQ to determine whether the model is stable or unstable. If values fall outside of the boundaries, it suggests the model may be unstable due to noise in the error term or disturbance, potentially caused by structural breaks in the dataset. This method is commonly used to assess the stability of a model and provides valuable insights into its reliability. In this case, the model was found to be stable, indicating that it can be used to inform policy decisions and recommendations with confidence. Ultimately, testing the reliability of a model is essential for making informed decisions that benefit society, (Kim, 2004).

4.17. Residual Plot

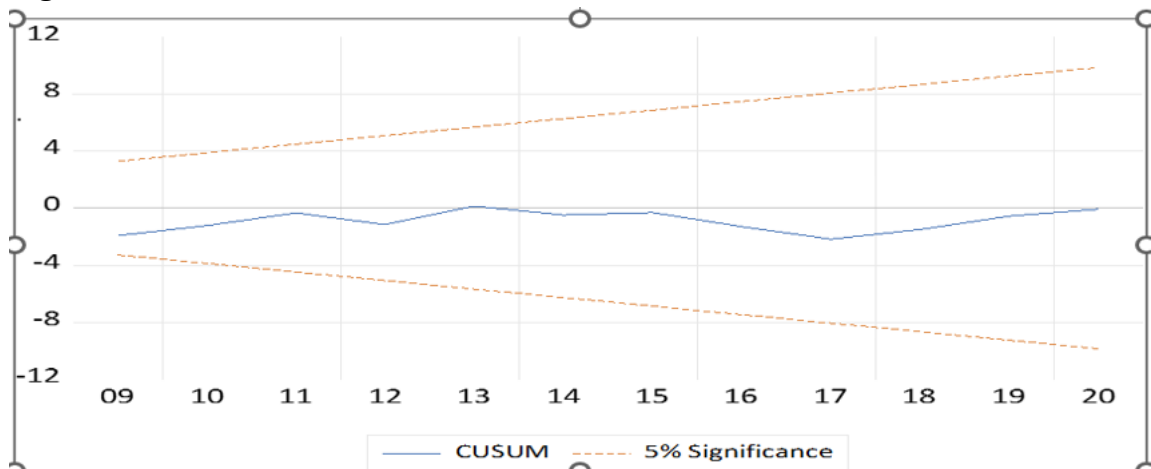
The plots of the cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMQ) displayed in Figures 4 and 5 are widely used to evaluate the stability of a model. If the CUSUM and CUSUMQ values fall outside of the boundaries, it implies that the model may be unstable due to noise in the error term or disturbance, possibly caused by structural breaks in the dataset. These tests provide a diagnostic tool to identify unknown structural breaks in the data set. The CUSUM and CUSUMQ statistics reported in this study were found to be within the boundaries, indicating the stability of the model. This outcome confirms the effectiveness of the autoregressive distributed lag (ARDL) model in analysing the dataset and implies that it can be considered both stable and reliable for this analysis.

Figure 6: Cumulative Residuals Plot



Source: Author's Own Calculations, 2024

Figure 7: Cumulative Residuals Plot



Source: Author's Own Calculations, 2024

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter concludes and a summary of the research is presented; the conclusion and recommendations of the study are made. Recommendations for further research are at the end the chapter.

5.1. Summary of findings

The primary goal of this study is to investigate the relationship between the cost of capital, credit, and economic growth in Eswatini. The analysis examines this relationship in both the short run and the long run. Additionally, the study aims to identify and measure the determinants or drivers of the cost of credit, an aspect that has received limited attention in existing literature. By identifying the macroeconomic variables that influence the cost of credit, this study provides valuable insights for policymakers. These insights can inform decision-making and enable policymakers to focus on these variables in order to effectively manage the cost of credit in Eswatini. The ultimate aim is to stimulate the economy by implementing strategies to control the cost of credit.

This study is primarily quantitative in nature, and it utilized data from different sources for the predictor variables of Eswatini's cost of credit. EViews was used to analyse the data. The data used in the study was secondary data obtained from the Central Bank of Eswatini, World Bank data portal and Ministry of Finance. The study used the autoregressive distributed lag model to analyse the relationship between cost of credit and economic growth.

The short-run ARDL results indicate that factors such as Domestic Credit, GDP Growth, Risk Premium, Total Liquid Assets to Total Liabilities, and Trade to GDP significantly impact lending rates. The findings suggest that credit availability, GDP growth, and credit risk are crucial determinants of lending rates. The ARDL long-run regression results show that multiple variables, including Budget Deficit, Domestic Credit, Exchange Rate, GDP Growth, Total Liquid Assets to Total Liabilities, and Trade to GDP, significantly impact lending rates. The results indicate that policymakers need to consider a complex interplay of economic factors to make informed decisions that support economic growth. Overall, the findings of the search results provide a comprehensive understanding of the factors.

The R-squared for all the regression models conducted in the study ranged between 0.8234 to 0.8697 means that the models explain over 80 percent of the total variation of Eswatini's cost of credit. The study was mainly centered around cost of credit and economic growth, but more other variables were included based on literature to ensure that the model is stable and the regression for the variables has enough controls.

5.2. Conclusion

The short-run and long-run ARDL results suggest that multiple factors significantly impact Market lending rates or the cost of credit in Eswatini. The short-run analysis indicates that factors such as Budget Deficit, Domestic Credit, Exchange Rate, Total Liquid Assets to Total Liabilities, and GDP Growth influence the interest rate spread. Meanwhile, the long-run analysis highlights the impact of variables such as Budget Deficit, Domestic Credit, Exchange Rate, GDP Growth, Total Liquid Assets to Total Liabilities, and Trade to GDP on lending rates.

The results suggest that an increase in domestic credit leads to an increase in the interest rate spread in both the short-run and long-run. On the other hand, an increase in liquid assets relative to liabilities leads to a decrease in lending rates in both the short run and long run. The findings also indicate that a rise in the budget deficit leads to an increase in lending rates in both the short run and long-run. Moreover, the impact of GDP growth on lending rates is positive in both the short-run and long-run.

The relationship between cost of credit and economic growth can be explained by the fact that credit availability plays a crucial role in determining lending rates. An increase in demand for credit due to an increase in GDP growth leads to an increase in lending rates, resulting in an increase in the cost of credit. Additionally, a decline in GDP leads to an increase in credit risk leading to an increase in market lending rates or the cost of credit.

Moreover, an increase in budget deficit results in an increase in the cost of credit because it increases the risk of default, resulting in higher interest rates demanded by lenders. Conversely, an increase in domestic credit extended to the private sector leads to a decrease in lending rates, resulting in a decrease in the cost of credit. An increase in liquid assets relative to liabilities leads to a decrease in lending rates and the cost of credit. These results imply that policymakers in Eswatini should focus on improving credit availability and reducing budget deficits to decrease lending rates and promote economic growth. Additionally, policymakers should consider the impact of exchange rates and liquid assets relative to liabilities on lending rates to support economic growth and stability.

To establish the possible role of excess liquidity in promoting economic growth in Eswatini's economy, Total Liquid Assets to Total Liabilities was analysed and the finding was that it has a negative coefficient, suggesting that an increase in this ratio leads to a decrease in the cost of credit in the long run. This finding implies that higher levels of liquidity can potentially stimulate economic growth in Eswatini. By having excess liquidity, banks and financial institutions in Eswatini can have more funds available for lending to businesses and individuals. This increased availability of credit can encourage investment, entrepreneurship, and consumption, all of which can contribute to economic growth.

After conducting a thorough statistical analysis and testing all relevant assumptions, the study accepted the alternative hypothesis that high liquidity reduced the cost of credit reserves at a significance level of 0.01 percent. This hypothesis implied that when a financial institution

possessed a greater amount of liquid assets, it had the ability to borrow money at a lower cost. Furthermore, the study also adopted another alternative hypothesis, which stated that a high cost of credit resulted in low economic growth at a significance level of 0.01 percent.

5.3. Recommendations

The short-run ARDL results suggest that the interest rate spread, which measures the cost of credit, is influenced by several factors, including the budget deficit, domestic credit, exchange rate, and total liquid assets to total liabilities. On the other hand, the ARDL long-run regression results indicate that multiple variables, including budget deficit, domestic credit, exchange rate, GDP growth, , total liquid assets to total liabilities, and trade to GDP, significantly impact lending rates, which in turn affect the cost of credit.

Domestic credit plays a crucial role in determining cost of credit, as evidenced by the finding that an increase in domestic credit leads to a decrease in lending rates. Policymakers should, therefore, focus on increasing credit availability to reduce cost of credit. Similarly, an increase in GDP growth leads to an increase in lending rates due to an increase in demand for credit. The relationship between credit and lending rates can be complex, but it is clear that policymakers must take steps to ensure that credit is available to those who need it. By increasing credit availability, they can help reduce cost of credit and make it easier for individuals and businesses to access the credit they need to grow and succeed. Similarly, by promoting GDP growth, policymakers can create an environment that is conducive to economic growth and development. However, they must also be mindful of the potential impact of GDP growth on cost of credit and take steps to manage this impact effectively. By balancing these factors, policymakers can create an environment that supports economic growth and provides access to credit for all.

Policymakers should therefore, focus on diversifying credit risk to reduce market lending rates. In addition, an increase in liquid assets relative to liabilities leads to a decrease in market lending rates. Policymakers should also focus on increasing liquid assets relative to liabilities to reduce cost of credit. It is worth noting that managing credit risk and increasing liquid assets relative to liabilities are both complex issues that require careful consideration by policymakers. They must take a balanced approach to managing these factors, as overly restrictive policies can limit access to credit, while overly permissive policies can lead to financial instability. Additionally, policy makers should introduce policies that promote financial inclusion and access to credit for small and medium-sized enterprises (SMEs) can further stimulate economic growth. By taking a measured and thoughtful approach, policymakers can create an environment that promotes access to credit while also managing risk effectively. This can help to create a stable financial system that supports economic growth and development.

The negative and statistically significant coefficient for trade to GDP in the short-run regression analysis indicates that an increase in trade relative to GDP leads to a decrease in cost of credit.

Policymakers should, therefore, prioritize promoting trade to reduce lending rates. This can be achieved through measures such as reducing trade barriers, incentivizing exports, and promoting foreign investment. On the other hand, an increase in the budget deficit leads to an increase in cost of credit. Policymakers should, therefore, focus on reducing the budget deficit to help lower lending rates. This can be achieved through measures such as reducing government spending, increasing tax revenue, and promoting economic growth. It is important to note that trade and the budget deficit are complex issues that require careful consideration by policymakers. They must take a balanced approach to managing these factors, as overly restrictive policies can limit trade and economic growth, while overly permissive policies can lead to financial instability. By taking a measured and thoughtful approach, policymakers can create an environment that promotes trade and economic growth while also managing the budget deficit effectively. This can help to create a stable financial system that supports lending and economic development.

Finally, the positive coefficient for the exchange rate in both short-run and long-run regression analysis suggests that an increase in the exchange rate leads to an increase in cost of credit. Policymakers should, therefore, focus on managing the exchange rate to reduce its impact on cost of credit. This can be accomplished through a variety of measures, such as implementing monetary policies that aim to stabilize the exchange rate, promoting trade and investment to increase demand for the domestic currency, and reducing currency speculation. In conclusion, policymakers should consider all these factors and take the necessary steps to manage them effectively to cost of credit and promote economic growth.

5.4. Recommendations for further study

Future research should be focused on a comparative analysis of the cost of credit in Eswatini and neighboring countries within the Southern African Development Community (SADC) region. This study can examine the factors that affect the cost of credit in Eswatini and compare it to the cost of credit in other SADC countries. Furthermore, this study can investigate the impact of regional economic integration on the cost of credit in Eswatini. Regional economic integration initiatives, such as the SADC free trade area, may have a significant impact on the cost of credit in Eswatini by increasing competition and promoting cross-border investments. Therefore, it is important to examine the extent to which regional integration initiatives have impacted the cost of credit in Eswatini and other countries in the SADC region.

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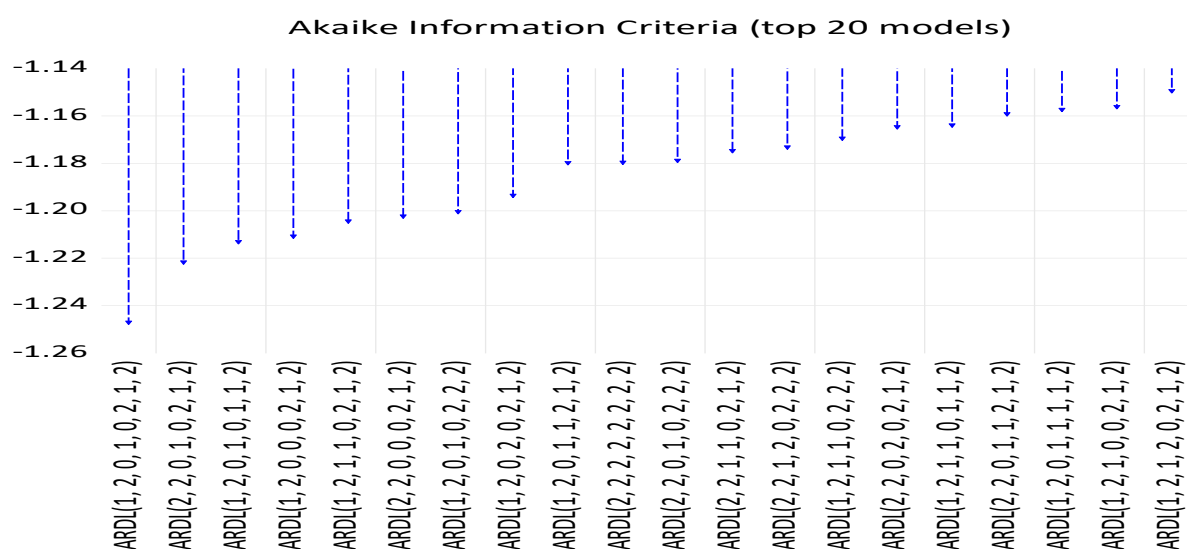
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APPENDIX

Multicollinearity Test Results

Variable	Centred VIF
Lg Budget Deficit	7.1512
Lg Domestic Credit	2.0095
Exchange Rate	3.6126
Lg FDI	7.7281
GDP Growth	2.8617
Interest Rate Spread	1.5216
Market Lending Rates	3.3137
Total Liquid Assets to Total Liabilities	2.9928

Lag Selection



Partial Autocorrelation

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob*
		1 -0.226	-0.226	1.6407	0.200
		2 -0.094	-0.153	1.9334	0.380
		3 -0.225	-0.307	3.6899	0.297
		4 -0.095	-0.304	4.0116	0.404
		5 0.281	0.090	6.9692	0.223
		6 -0.053	-0.083	7.0805	0.313
		7 -0.068	-0.163	7.2682	0.401
		8 -0.096	-0.125	7.6650	0.467
		9 -0.019	-0.113	7.6805	0.567
		10 0.088	-0.137	8.0437	0.625
		11 0.104	0.010	8.5801	0.661
		12 -0.103	-0.119	9.1360	0.691

*Probabilities may not be valid for this equation specification.