

**THE EFFECTS OF INTEREST RATE SPREAD AND FINANCIAL
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

BY

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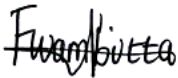
**A RESEARCH PROJECT SUBMITTED IN PARTIAL
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DECLARATION

Declaration by Student

This research project is my original work and has not been presented in any other university for award of a degree.

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This research project has been submitted for presentation with my approval as university supervisor.

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DEDICATION

This research project is dedicated to my dear family members whose constant encouragement, social, emotional, and holistic support aided my studies and completion of this project and lastly to my friends whom I regard highly.

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LIST OF ABBREVIATIONS

BOZ:	Bank of Zambia
CBK:	Central Bank of Kenya
CBR:	Central Bank Rate
CRBs:	Credit Reference Bureaus
DDM:	Dividend Discount Model
KBRR:	Kenya Banks' Reference Rate
LPT:	Liquidity Preference Theory
MFBs:	Microfinance Banks
MRP:	Money Remittance Provider
NIM:	Net Interest Margin
P/E:	Price Earnings or Net Income Ratio
PBTEI:	Profit Before Tax and Exceptional Items
ROA:	Return on Assets
ROE:	Return on Equity
SAP:	Structural Adjustment Programme

ABSTRACT

Commercial banks have a crucial role in the allocation and distribution of economic resources on a global scale. Interest rates play a crucial role in shaping the financial landscape of commercial banks and are significant factors influencing the financial performance of banks. The relationship between interest rate spread and the financial performance of financial institutions is widely recognized, indicating that both short-term and long-term interest rates impact the net interest margins of commercial banks. The main objective of this study was to examine the effect of interest rate spread on the financial performance of commercial banks in Kenya. The study was based on the loanable funds theory and liquidity preference theory. The study used a descriptive research design to examine the relationship between the study variables. A total of 37 commercial banks were studied giving an 88.1% response rate. The study utilized secondary data collected from various sources, including reports from the Kenya Bankers Association, the Kenya Central Bank, and financial statements. This dataset encompasses a period from January 2018 to December 2022, comprising 185 observations. The study employed a comprehensive methodology that encompassed descriptive statistics, correlation analysis, and regression analysis. Pearson correlation indicated a positive and significant relationship between interest rate spread and financial performance. The R Square value indicates that about 40.3% of the variation in ROA can be explained by the combination of the selected independent variables. The ANOVA results indicate statistical significance at the 5% level, as evidenced by the significant F statistic ($P < .05$). The analysis also revealed that interest rate spreads have a significant and positive effect on ROA. Bank size also demonstrated a strong and positive correlation with ROA. Additionally, asset quality was identified as a crucial factor, with a significant negative correlation. The study concludes that interest rate spreads, bank size, and asset quality are pivotal determinants of commercial bank performance in Kenya. The study recommends that policymakers focus on promoting an environment where healthy interest rate spreads can coexist with transparent and competitive practices. Strategies to support growth and efficiency among banks should be balanced with prudent risk management. Bank executives should invest in advanced credit risk assessment technologies, and training programs should enhance risk management skills among bank staff. Future research should consider the influence of macroeconomic factors, and conduct cross-country comparisons to provide a more comprehensive understanding of bank performance dynamics.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Commercial banks play a critical role in the global allocation and distribution of economic resources. They act as intermediaries, enabling the transfer of funds from depositors to borrowers (Ongore, 2013). To effectively fulfil this intermediation function, banks need to generate income that can cover the operational costs associated with the process. Although financial disintermediation and market-based finance have emerged, banks still play a vital role in supporting the performance and operation of modern economies (Dietrich & Wanzenried, 2010).

Interest rates play a pivotal role in shaping the financial landscape of commercial banks by impacting the cost of capital for investors and the returns for savers. Fluctuations in interest rates directly influence a firm's financial decisions, capital costs, and interest rates, which subsequently affect the desired capital stock, returns, savings availability, and adjustments to the real capital stock. The impact of interest rates on banks' financial performance is emphasized by Hualan (2007), who recognizes them as significant factors and key economic indicators that can influence overall economic growth. Moreover, Corb (2012) highlights that regulators employ interest rates as monetary tools to manage inflation and stimulate economic growth.

Scholars and academicians in the economic and financial fields have shown considerable interest in studying interest rates. The classical theory emphasizes that interest rates significantly impact investment and individuals' willingness to save, making them a crucial factor in various financial markets (Maynard, 2014). Conversely, Keynes' liquidity

theory posits that interest rates play a role in determining an economy's liquidity level by influencing both the demand for and supply of money (Keynes, 1936). The loanable fund theory, an extension of classical theory, explores the relationship between investment and the level of money demand and supply in an economy's loanable funds (Kumar, 2015).

The impact of interest rate spread on the financial performance of commercial banks is well-established, with both short-term and long-term interest rates affecting the net interest margins (NIM) of these institutions. Managing and controlling the net interest rate spread is crucial for enhancing the profitability of commercial banks, as their development is integral to overall economic growth (Crowley, 2004). Therefore, this study aims to investigate the influence of interest rate spread on the financial performance of commercial banks in Kenya.

1.1.1 Interest Rate Spread

The interest rate spread, the difference between deposit and loan rates, exhibits variations across regions globally and is influenced by competition within the financial sector. The disparities between lending rates and deposit rates impact the efficiency and performance of the financial sector on a global scale. Economies with inadequate collection systems and high default costs tend to have higher deposit interest rates, resulting in a disproportionate allocation of funds to larger economies with more productive uses (Jayaraman & Sharma, 2013).

Chand (2012) and the Asian Development Bank (2011) identified several factors contributing to high-interest rate spreads based on their study. These factors include economies of scale resulting from small market size, fixed rates and high operating costs,

expensive transportation, stringent telecommunication regulations, control by the Central Bank of Kenya (CBK), perceived market risk, and lack of proper competition. Similarly, Sumaya and Kikuoka (2014) studied Namibia from 2004 to 2011 to determine the key factors influencing interest rate spreads. Their analysis, utilizing data modelling techniques, indicated that deposit-market share, liquidity levels, and operating costs were the primary factors influencing interest rate spreads during that period in Namibia.

1.1.2 Bank Performance

According to Christopher and Thomas (2015), organizational performance refers to a company's ability to effectively and efficiently utilize its resources to achieve its goals. The ultimate objective of every company is to succeed and excel in a dynamic business environment, thereby gaining a sustainable competitive advantage. In the banking industry, which significantly impacts national economic growth, it is crucial for commercial bank management to assess their performance to ensure optimal outcomes comprehensively. Al Tamimi (2010) highlights that various factor, including both internal and external factors, influence commercial bank performance. While internal factors are specific to individual banks and can be controlled by their management and boards, external factors affect the entire banking industry. They are beyond the control of individual banks. Financial performance, as defined by IAI (2016), refers to the evaluation of a company's financial status during a specific period, encompassing the acquisition and utilization of funds, assessed through indicators such as capital adequacy ratio, liquidity, leverage, solvency, and profitability. It reflects the company's ability to manage and control its resources effectively. Return on assets (ROA) measures the success of management in generating revenue through efficient utilization of assets. At the same

time, net interest margin (NIM) represents the difference between a bank's income and the interest paid to depositors.

1.1.3 Interest Rate Spread and Bank's Financial Performance

The interest rate spread is crucial in determining a bank's operating income and expenses. The difference between lending and deposit rates specific to a financial institution significantly influences its profitability. Banks generate profits when borrowers are charged higher lending rates than those offered to depositors. However, changes in the return curve can impact the lending spread, with a flatter curve leading to a decrease in the spread, as highlighted in Genay's study (2014). Additionally, banks that hold fixed-return assets such as loans and bonds may experience a reduction in the present discounted value of their assets when the interest rate spread widens. Moreover, if a bank's assets have longer durations than its liabilities, it may face greater shortfalls, as indicated in King's research (2015). Understanding the dynamics of the interest rate spread is crucial for comprehending its effects on a bank's financial performance.

Empirical evidence from previous studies has consistently shown a significant relationship between interest rates and the financial performance of Kenyan commercial banks. Sattar and Khan (2014) conducted a study highlighting the substantial impact of interest rates on the bank's income. Their findings revealed a strong correlation between bank returns and interest rates, emphasizing the close relationship between the financial performance of commercial banks and the interest rates provided to investors. Similarly, Okoye and Onyekachi (2013) conducted a study supporting the association between interest rate spread and bank financial performance. They further concluded that these two

factors are intertwined, underscoring their significant relationship in influencing the performance of commercial banks.

According to Were and Wambu (2013), interest rate changes directly impact banks' profitability. A decrease in interest rates can lead to higher demand for loans, resulting in increased interest earnings for banks, assuming the interest rate spread remains constant. Interest rates also influence the overall economy, as higher lending rates can discourage borrowing and lead to reduced investment. This reduction in investment can have a multiplier effect, negatively affecting banks' performance by reducing savings. Conversely, in periods of low-interest rates, the situation is reversed. Therefore, the impact of interest rate spread on financial performance can be positive and negative, depending on the fluctuations in interest rates.

1.1.4 Commercial Banks in Kenya

Commercial banks in Kenya operate under regulations set forth by the Banking Act and its supporting regulations and prudential guidelines. These regulations ensure that banks comply with the relevant rules and regulations and undergo thorough inspection during both off-site and on-site surveillance to maintain compliance.

In Kenya, 44 licensed commercial banks and one mortgage finance company exist. Among these institutions, 39 commercial banks and the mortgage finance company are privately owned, while the Kenyan government controls the remaining three commercial banks. The privately owned banks and mortgage finance organizations are 25 per cent locally owned, with dominant owners based in Kenya, and 14 per cent foreign-owned.

Out of the 44 commercial banks, 11 are listed and traded on the Nairobi Securities Exchange.

Despite the regulatory measures imposed by the Central Bank of Kenya (CBK), concerns persist regarding the interest rate in the banking industry, especially after removing the interest rate ceiling on loans. This change has impacted economic growth, leading to a slowdown in certain sectors (Were & Wambu, 2017). Therefore, it is important to understand how interest rates are determined and how they can affect the banking industry's operations, subsequently impacting banks' financial performance.

Although the regulation of interest rates has resulted in a slight reduction in profitability, with a 3.4% decline between December 2016 and March 2017, Kenyan commercial banks have generally maintained stable or improved financial performance despite recent reforms (Cytton, 2015; Were & Wambua, 2013).

1.2 Research Problem

Commercial banks generate revenue by providing loans to individuals and businesses, including mortgages, auto, business, and personal loans. They earn income through the interest charged on these loans, which supports their operations and financial stability. The revenue generated by commercial banks through loans to individuals and businesses is influenced by interest rate spreads, which can have both positive and negative effects on a bank's performance. However, a wide interest rate spread in the banking sector negatively affects both savers and borrowers. It discourages potential savers from depositing their money in banks due to low returns on deposits, leading to limited funds for lending and restricted financing opportunities for borrowers. This occurs when there

is a significant difference between the interest rates charged to borrowers and offered to depositors. On the other hand, increasing loan volumes can enhance banks' financial performance through economies of scale.

Several studies have been undertaken in Kenya to examine the correlation between bank performance and interest rate spreads. According to Mang'eli (2010), a decrease in income resulting from a wider interest rate spread leads to reduced savings, consequently affecting financial performance. Thus, the interest rate spread significantly affects deposit growth and overall financial performance. Ngugi (2011) conducted a study that confirmed the influence of interest rate spreads on the financial well-being of banks. However, it is important to note that this investigation focused on a limited number of Kenyan banks rather than the entire banking sector. Several other studies have also been conducted, although they often analyzed only a few variables related to banks' financial situation. For example, Were et al. (2017) found evidence supporting the impact of interest rate spreads on the financial performance of banks. Still, their study was conducted before implementing interest rate capping measures.

While the studies above have offered valuable insights into the effects of interest rate spreads on financial performance, they mainly focused on a general understanding of interest rate spreads. Consequently, these studies have not thoroughly explored the association between interest rate spreads and other factors impacting bank performance, bank size, liquidity, and asset quality. This research gap underscores the necessity for additional studies, including the present research, which sought to examine the impact of interest rate spreads on the financial performance of commercial banks in Kenya.

1.3 Objective of Study

The objective of this study was to determine the effect of interest rates spreads on the performance of commercial banks in Kenya.

1.4 Value of the Study

The study explored the significant impact of the relationship of interest rates spread and the performance of commercial banks and hence making a positive contribution to practise and knowledge.

1.4.1. Commercial Banks

The study aimed to provide valuable insights into the impact of interest rate spreads on the performance of commercial banks. By understanding how interest rate spreads influence their performance, commercial banks can assess their strategies and operations in the market. This knowledge can help them align their efforts towards achieving their objective of maximizing wealth for their shareholders. The study's findings will guide commercial banks to make informed decisions and adapt their approaches to optimize their financial performance in the dynamic banking industry.

1.4.2. Regulator and Policy Makers

The study will assist the regulator - the Central Bank and policy makers to understand the implications of the interest rate spreads on the performance of banks. From policy and legislative perspective, the regulator and policy makers may draw from the study findings to come with guidelines, policies and regulations on interest rates that advance growth of stock market while sticking a balance among all interested stakeholders.

1.4.3. Academicians and Scholars

This study aims to contribute to the academic literature on the relationship between interest rate spreads and bank performance. It will expand the existing body of knowledge on this topic and provide valuable insights and recommendations based on the findings. The study also can inspire further research in related areas or specific sectors within the financial industry. Researchers and scholars may utilize the study's findings as a foundation for investigating the effects of interest rate spreads on the performance of other financial sector players beyond listed banks. This study can serve as a valuable database for future empirical studies and contribute to a deeper understanding of the impact of interest rate spreads on various aspects of financial markets and the overall economy.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides literature reviewed on interest rates and bank performance. The chapter starts by providing theoretical review, determinant of performance and empirical reviews. At the end of the chapter a summary of literature is provided the gaps to be addressed by the study.

2.2 Theoretical Literature

This section reviews relevant theories in the area of interest rate spread and performance.

2.2.1. Loanable Funds Theory

The theory was proposed by Wicksell and Robertson in 1934 and built upon Keynes' classical investment theory. According to the theory, market interest rates are the foundation of determining loanable funds. The supply and demand for loanable funds determine commercial banks' interest rates. Borrowers' plans for funds influence the demand for commercial bank loans, while lenders' lending plans influence the supply of loanable funds. According to Mayer (2010), the loanable funds model postulates an inverse relationship between the interest rate and the quantity required of loanable funds and a direct link between the interest rate and the quantity supplied of loanable funds. This model analyses bond market supply and demand to calculate the current interest rate. Taylor (2017) defines the equilibrium interest rate as the value of loanable funds (savings) minus the quantity needed of loanable funds (investment and government deficit covered

by local bonds). The loanable funds model focuses on interest rates and can help commercial banks determine loan prices.

The relationship between the supply and demand of loanable funds directly impacts the nominal interest rate. When the supply of loanable funds remains constant, and there is an increase in demand for these funds, the interest rate will rise accordingly, and conversely, a decrease in demand will lead to a decrease in the interest rate (Nizam, 2020). Similarly, if there is an increase in the supply of loanable funds, the interest rate will decrease. However, when both the demand and supply of loanable funds change, the resulting interest rate will depend on the direction and magnitude of the changes in these factors. The demand for loanable funds is driven by the demand for final goods and services, as these are produced using capital financed by loanable funds. Additionally, government borrowing also influences the demand for loanable funds.

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2.2.2 Keynes' Liquidity Preference Theory (LPT)

Keynes proposed the theory in 1930 to explain how interest rates are determined in a free market. According to the theory, a low long-term interest rate, below double digits, is necessary for economic development and social progress. The LPT suggests that individuals hold money not only for transactions but also for precautionary and speculative purposes. As income increases, the demand for transaction and precautionary money also rises, while speculative demand decreases as interest rates rise due to the opportunity cost of foregone interest. The LPT asserts that market forces of supply and demand should determine interest rates, and there may not be a need for interest rate caps (Keynes, 1937).

According to the theory, when market failures and the principles of supply and demand are insufficient to establish equilibrium interest rates, the central bank may need to intervene through monetary policy, particularly by manipulating the money supply (Keynes, 1973). However, the effectiveness of monetary policy can be hindered by a liquidity trap, which occurs when injections of funds by the central bank into the private banking system fail to lower interest rates, rendering monetary policy ineffective. In response to a liquidity trap, the LPT suggests implementing interest rate ceilings and alternative measures to stimulate employment and income growth within the country (Hicks, 1989).

Critics of the Keynesian theory argue that it assumes a direct relationship between the level of income and interest rates. This means that determining the interest rate requires knowledge of the income level and vice versa. As a result, if interest rates are regulated

based on income levels, interest rate caps are likely to have a limited economic impact (Amadeo, 2017).

According to this viewpoint, interest rate caps may have a short-term effect on the performance of the capital market, but their impact in the long term is limited. The theory suggests that the central bank has control over interest rates, thereby influencing the performance of banks. When interest rates increase, the price of assets with certain expectations decreases, leading to a higher demand for money, which can negatively affect the performance of the capital market. However, in the long run, the consequences of interest rate caps may only affect capital markets when there are shifts in income levels (Amadeo, 2017).

2.3 Determinants of Bank Performance

This chapter reviews factors that affecting the performance of commercial banks.

2.3.1 Interest Rates Spread

According to Priti (2016), interest rates play a crucial role in commercial banks' operations as they directly impact the bank's performance, particularly its market capitalization. The author highlights that the interest earned by banks is the difference between the interest paid to depositors and savers and the interest received from borrowers. With a steep yield curve, commercial banks can generate higher interest and income, increasing market capitalization. Rosenbaum (2015) also emphasizes that when evaluating bank stocks, the valuation of bank assets is the primary criterion, followed by considering interest rate

fluctuations. This suggests that financial analysts should focus on assessing bank equities concerning changes in interest rates.

The interest rate spread refers to the difference between the interest rate paid to depositors and the interest rate charged to borrowers (Ngugi, 2013). This variance is influenced by factors such as time and risk. Higher levels of risk are associated with higher interest rate spreads. Additionally, the repayment duration determines the principal amount, and the risk assessment considers various factors, including the borrower's credit score. Lending money involves repayment with interest, compensating for the risk and time involved. Changes in interest rates can impact the magnitude of the interest rate spread.

2.3.2 Bank Size

According to Bakker, Schaveling, and Nijhof (2014), the size of a bank plays a significant role in its financial performance. Larger banks enjoy advantages such as access to low-cost funding, which allows them to offer loans at higher interest rates and generate greater profit margins. These factors contribute to their improved financial performance compared to smaller banks. Conversely, smaller banks face challenges in obtaining funds as creditors may perceive them as higher risks, resulting in higher borrowing costs. This perceived risk leads to higher interest rates, which can impact the financial performance of smaller banks (Berger & Black, 2011).

In a study conducted by Nampewo (2013), the factors influencing the performance of commercial banks in Kenya were examined using data from all licensed banks. The results indicated several factors significantly impacted bank performance, including interest rate spread, bank size, administrative efficiency, and macroeconomic factors. The study also

found a positive relationship between interest rate spread and bank performance. Additionally, positive correlations were observed between bank size, management efficiency, the macroeconomic environment, and the financial performance of the banks. Bank size was measured using the natural logarithm of bank assets.

2.3.4 Liquidity

Liquidity refers to a commercial bank's ability to fulfil its financial obligations promptly. It is commonly assessed through various ratios, such as customer deposits to total assets, total loan-to-customer deposits, and the cash-to-deposit ratio, as Nyanga (2012) highlighted. Banks with higher liquidity levels are better positioned to meet their daily operational needs, including lending to borrowers and providing cash for withdrawals. Optimal levels of liquidity positively impact banks' financial returns, as noted by Ongore and Kusa (2013). Maintaining adequate liquidity is crucial for banks to meet anticipated and unforeseen collateral and cash demands and support the growth of financial assets, ensuring their sustainability. Effective liquidity risk management is essential for banks to fulfil their financial obligations while mitigating potential adverse events, as emphasized by Kumar and Yadav (2013).

2.3.5 Asset Quality

Commercial banks rely significantly on issuing loans, their major assets, to generate revenue. The quality of a bank's loan portfolio significantly impacts its profitability. According to Dang (2011), non-performing loan losses constitute a major risk to the bank and can influence its overall performance. According to Westerhuis (2016), there is an inverse link between credit risk and loan quality. Loan quality declines as credit risk rises.

As a result, banks must maintain more capital to mitigate credit risk and make larger provisions to account for predicted losses. Given the rise in nonperforming loans caused by defaults, asset quality is a critical concern for banks (Olokoyo, 2017). Commercial banks must regularly review their assets' quality to maintain optimal performance. Reducing nonperforming loans is a critical goal for all banks because it is directly related to profitability. When a bank's nonperforming loan ratio is lower, its financial performance is superior (Sangmi & Nazir, 2010).

Bank failures in Kenya are often attributed to poor asset quality, particularly many non-performing loans. When a bank experiences a significant number of non-performing loans, the allocated assets to cover these risks may not be sufficient, posing potential challenges such as loan defaults. The significance of asset quality in ensuring financial stability is highlighted by Truno *et al.* (2017). According to Michael (2018), non-performing assets within loan portfolios can adversely affect a bank's operational efficiency, leading to reduced earnings, liquidity, and solvency. Additionally, non-performing assets can undermine a bank's ability to allocate funds for credit provision.

2.4 Empirical Studies

These sections review studies on interest rates spread and banks performance that have been carried out globally and locally.

2.4.1. Global studies

Al-Shubiri and Jamil (2017) conducted a study in Oman to investigate the determinants of interest rate spread in the banking sector, specifically focusing on banks listed on the Muscat security market. The study utilized secondary data collected from 2008 to 2014.

The identified factors that influenced the interest rate spread were categorized into legal, market, economic, and financial factors, which impacted the interest rate spread significantly. It is crucial to recognize that this study was conducted in Oman, and the financial operating environment in Kenya may differ (Al-Shubiri & Jamil, 2017).

Ahmed *et al.* (2013) conducted a study involving commercial banks in Pakistan to explore the relationship between interest rates and financial performance. The researchers collected secondary data spanning seven years (2007-2014) from twenty selected commercial banks in Pakistan based on their market share and returns. Statistical techniques were employed to analyze the data, including correlation and regression analysis. The findings revealed an inverse relationship between interest rates and deposits with other banks regarding commercial banks' profitability. Additionally, loans and advances were found to impact the financial performance of commercial banks directly. However, it should be noted that this study focused on commercial banks in Pakistan, and the operating environment in Kenya may differ (Ahmed *et al.*, 2013).

Peshev (2015) conducted a study in Bulgaria to examine the factors influencing the interest rate spread. The researcher collected secondary data from 2004 to 2014. The study identified two categories of factors affecting the interest rate spread: short-term and long-term. Long-term factors encompassed profit margins, economic activities, and market concentrations, while short-term factors included unemployment rates and foreign ownership structure. It is important to note that this study was specific to Bulgaria, and

the factors influencing interest rate spread may vary in other countries such as Kenya (Peshev, 2015).

Mettle (2013) conducted a study in Ghana to investigate the factors influencing the interest rate spread among commercial banks. The researcher utilized explanatory and exploratory approaches in the study, collecting secondary data using data collection sheets. The findings indicated that gross domestic product, exchange rate, treasury bill rates, profit margins, and loss provisions influence the interest rate spread. However, it is crucial to note that this study focused on the determinants of interest rate spread rather than its impact on financial performance (Mettle, 2013).

Aikoh (2013) conducted a study in Tanzania to examine the factors influencing the interest rate spread among foreign and local banks. The study utilized secondary data collected from 2006 to 2012. Regression analysis was employed to analyze the data. The findings revealed that the interest rate spread in Tanzania is influenced by factors such as rates on treasury bills, real interest rates, loss provisions, and the level of non-performing loans. It is important to note that the study focused on Tanzania, and the factors influencing interest rate spread may differ in other countries such as Kenya.

2.4.2. Local Studies

Njoroge and Chogii (2017) evaluated to assess the factors contributing to interest rate spread among Kenyan commercial banks. The study employed a descriptive research design and included licensed commercial banks regulated by the Central Bank of Kenya (CBK) as the study population. Secondary data was collected, and regression analysis was

performed for data analysis. The findings revealed a significant and direct relationship between market structure and interest rate spread. However, it is important to note that the study focused on various control variables related to the financial performance of commercial banks (Njoroge & Chogii, 2017).

Mwanzia and Sakwa (2017) conducted a descriptive research study to analyze the impact of interest rate spread on the financial performance of listed banks. The study examined key components of interest rate spread, including operational costs, liquidity, inflation levels, market niche, and conditionalities of the banks. The target population consisted of eleven listed commercial banks, and data was collected through questionnaires. The findings indicated that the interest rate spread among commercial banks is influenced by industry-specific factors (Mwanzia & Sakwa, 2017).

Njeri *et al.* (2015) studied the factors contributing to interest rate spread among Kenyan commercial banks. The study utilized primary and secondary data, with relevant sources including reports from the Central Bank of Kenya (CBK). The target population comprised 1036 employees in the credit departments of the selected banks, and a stratified random sampling technique was employed to select 103 respondents. The analysis of the collected data revealed that credit risk, inflation levels, and liquidity influence interest rate spread. However, it is important to note that the study also focused on other aspects of interest rate spread (Njeri *et al.*, 2015).

Wanjau (2011) examined the effects of interest rate spread on nonperforming assets in commercial banks. The study utilized data from 43 banks in Kenya, gathering information from primary sources through questionnaires and secondary sources such as the Bankers Supervision report. The findings indicated that interest rate spread impacts bank assets,

increasing loan charges' costs. The study also identified a significant relationship between credit risk and interest rate spread. Furthermore, the study highlighted that regulations on interest rate spread can help mitigate the risks associated with nonperforming assets (Wanjau, 2011).

2.5 Conceptual Framework

Interest rates are viewed as the extra payment per unit of the loan offered by bank (Oxford Dictionary of Economics, 2003). Figure 2.1 depicts the conceptual framework of the current investigation. Interest rate spread is the independent variable, operationalized through difference in lending rate. The ROA will examine the dependent variable, bank performance.

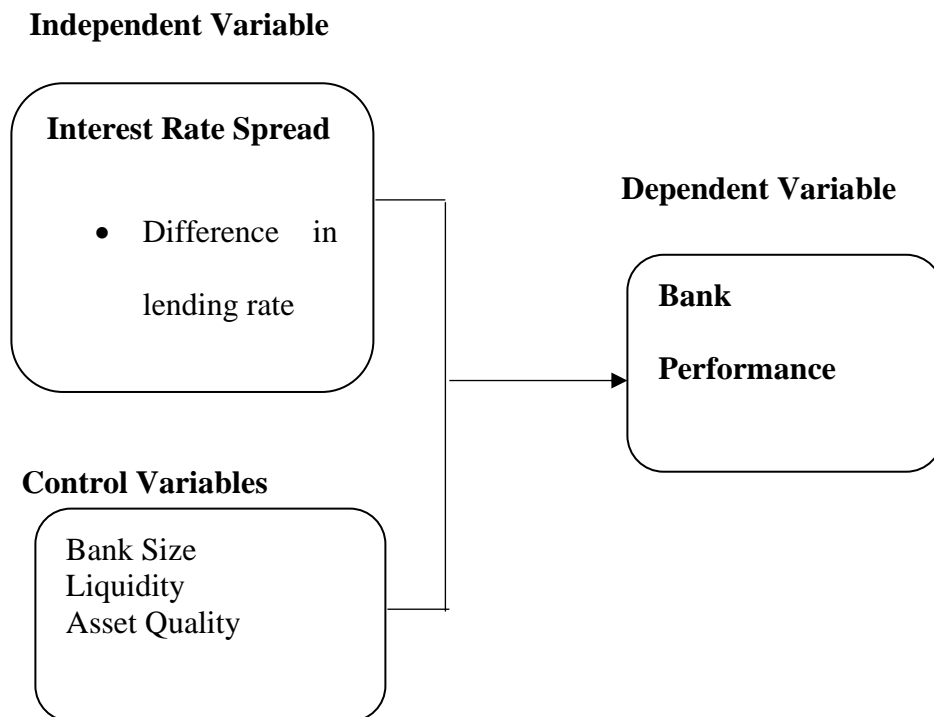


Figure 2.1: Conceptual Model

2.6 Summary of the Literature and Gaps

Table 2.1: Research Gaps

Author	Study	Key Findings	Research Gap
Al-Shubiri and Jamil (2017)	Factors influencing the interest rate spread in the banking sector in Muscat security market	Financial, market, legal and economic factors had an effect on interest rate spread.	Study was conducted in Oman while the current study will be in Kenya hence contextual differences.
Ahmed <i>et al.</i> (2013)	Relationship between interest rates and financial performance of commercial banks in Pakistan	There was an inverse relationship between interest rates and deposits with other banks on the profitability of commercial banks	The focus of study was on interest rates and was conducted in Pakistan while the current study will be in Kenya hence contextual differences.
Peshey (2015)	Factors influencing the interest rate spread in Bulgaria	Long-term factors (profit margins, economic activities, market concentrations) and short-term factors (unemployment rates, the structure of foreign ownership) affected interest rate spread	Study focused on factors influencing interest rate spread. This study examines how IRS affects performance.
Njoroge and Chogii (2017)	Evaluation of the factors contributing to interest rate spread among Kenyan commercial banks.	The findings indicated a direct and significant relationship between market structure and interest rate spread	Study focused on factors affecting IRS; did not address financial performance.
Mwanzia and Sakwa (2017).	Analyzed the impact of interest rate spread on the financial performance of	The findings of the study indicated that the interest rate spread among commercial banks	The study focus was on key components of IRS (operational costs, inflation

Author	Study	Key Findings	Research Gap
	listed banks	is influenced by certain industry-specific factors	levels, market niche and conditionalities). The study only focused on 11 banks listed at NSE.
Njeri <i>et al.</i> (2015)	Factors contributing to interest rate spread among Kenyan commercial banks.	Study indicated that interest rate spread is influenced by credit risk, inflation and liquidity.	The study did not focus on link between IRS and performance of the banks and did not consider bank size and asset quality.
Wanjau (2011)	Effects of IRS on nonperforming assets in commercial banks.	The findings of the study indicated that IRS had an impact on bank assets, leading to increased costs associated with loan charges.	The study was limited to effect of IRS on non-performing assets and not performance of the commercial banks.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

Research is definition of a problem, formulation of possible solutions, collecting, organizing and evaluating data. Research methodology is an operational framework within which facts are placed so that the significance can be understood more clearly. This chapter highlights the study methodology that was used to carry out to achieve the objective of the study.

3.2. Research Design

The descriptive research design was used in this study to assess the impact of interest rate spread on the performance of commercial banks. According to Daniel and Sam (2015), a descriptive research design describes the characteristics of a given population or topic under investigation. Using this research design, the findings can be generalized to a larger population, assisting in generating recommendations to address the issue under investigation.

3.3 Population

This includes all the individuals, entities, or objects that a researcher considers to be relevant to the study (Daniel & Sam, 2015). The target population for the study were the 42 CBK licensed commercial banks operating in Kenya. The banks are classified into three tiers based on the market share as shown in Table. The study used a census approach that targeted all the 42 commercial banks in Kenya. The census approach was appropriate

since the number of commercial banks is few and the census approach yields more reliable results compared to sampling (Abbott & McKinney, 2013).

Table 3.1: Study Population

Bank Category	Number	Percentage
Tier 1 Banks	7	17%
Tier 2 Banks	14	33%
Tier 3 Banks	21	50%
Total	42	100%

Source: Central Bank of Kenya (2023)

3.4 Data Collection

Secondary data acquired from multiple sources, including periodic reports by the Kenya Bankers Association and the Kenya Central Bank, as well as financial statements produced by banks between the period of January 2018 and December 2022, was used for this study. The measures of interest rate spread were the difference in lending rates. The performance of commercial banks was measured using ROA.

3.5 Data Analysis

The data was entered into SPSS for analysis. Descriptive statistics, such as mean and standard deviation, was used to describe the variables. The analysis was carried using the Statistical package for social scientists (SPSS, version 26).

3.5.1 Analytical Model

The study adopted a regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Y_i = Financial Performance (ROA)

X_1 = The interest rate spread (Difference in lending rates between CBK Rate and that of commercial banks)

X_2 = Bank Size (log of total assets)

X_3 = Liquidity (ratio of liquid assets to total assets)

X_4 = Asset Quality (ratio of non-performing loans to gross loans)

β_0 = Constant; β_1 , β_2 , and β_3 coefficients represent the coefficients of interest rate spread and performance.

ε = Error Term

3.5.2 Diagnostic Tests

Diagnostic examinations were completed to establish the normality, heteroskedasticity, multicollinearity, and autocorrelation. Normality tests determine whether a normal distribution appropriately represents a set of data and calculate the probability that a random variable have a normal distribution in data collection. The Shapiro-Wilk test was ideal for normality tests because it allows one to see the relationship between data and corresponding normal scores using power. The null hypothesis was that there is no significance difference between the variables and a normal distribution. Therefore, given a p-value of less than 0.05, the null hypothesis was rejected for the variable, which means

a statistically significant difference between this variable and normal distribution and vice versa.

The existence of a relationship between the variable values based on connected attributes was determined using autocorrelation. To find patterns in the data, the autocorrelation function was used. Durbin Watson was performed to check autocorrelation. The thumb rule applied was that if the Durbin-Watson statistic is above four, there is negative autocorrelation, while if the Dublin Watson is less than four, then there is no autocorrelation. A multicollinearity test was performed to determine a significant correlation between predictor variables. Variance Inflation Factors (VIF) was utilized. When a regression's error variance is distributed throughout the independent variables, heteroskedasticity was used to confirm this. When data do not support the homogeneity of variances assumption, robust standard errors was used. This was checked using the Breusch Pagan test (Abbott & McKinney, 2013).

3.5.3 Test of Significance

In this study, the relationship between the financial performance of banks and interest rate spread was assessed using the coefficient of determination (R square). The overall significance of the model was examined using an F test in the Analysis of Variance (ANOVA) Table. By comparing the calculated F value in the ANOVA Table with the critical F value from the F Table, the significance of the model was determined. Additionally, a T-test was conducted to analyze the individual effect of the independent variables in the study. The interpretation of p-values was based on a 5% significance level.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter primarily presents the analysis of the data collected, the results and the discussion of findings where the current study findings are related with previous studies. Specifically, the chapter covers the descriptive analysis, diagnostic tests, correlation, and regression analysis conducted to achieve the objective of this research study.

4.2 Descriptive Analysis

Table 4.1 contains summary statistics for the study variables, which are essential for understanding the distribution and characteristics of the data. The data was collected for a 5-year period (January 2018 to December 2022). 37 commercial banks had complete data set for the study period leading to 185 data points that were considered adequate.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	185	-37.00	7.40	.4436	5.35214
Interest rate spread	185	-10.30	36.90	10.7007	7.16676
Bank Size	185	3.46	5.99	4.7446	.61359
Liquidity Ratio	185	16.60	207.22	73.0797	15.58857
Asset Quality	185	.00	76.20	19.1238	15.42463
Valid N (listwise)	185				

Source: Research Findings (2023)

The mean ROA for the 185 observations is approximately 0.4436, indicating the average performance level. The dataset's ROA values range from a minimum of -37.00 to a maximum of 7.40, highlighting significant variability in bank performance during the study period. The standard deviation, at 5.35214, demonstrates the extent of this variation,

with some banks experiencing substantial positive or negative deviations from the mean ROA.

The average interest rate spread is approximately 10.7007, indicating the average margin between CBK rates and commercial bank rates. The spread varies widely, with a minimum of -10.30, suggesting instances where commercial bank rates were lower than the CBK rate, and a maximum of 36.90, indicating significant differences in interest rates. The standard deviation of 7.16676 reflects the substantial variation in interest rate spreads across the observations.

The mean bank size is approximately 4.7446, serving as an indicator of the average asset size of the banks in the study. The range of bank sizes goes from a minimum of 3.46 to a maximum of 5.99, which signifies variability in the size of banks. Notably, the standard deviation for this variable is relatively low at 0.61359, indicating less variation in bank size compared to other variables.

The average liquidity ratio is approximately 73.0797, indicating the average proportion of liquid assets held by the banks. The data exhibit variation, with a minimum ratio of 16.60 and a maximum of 207.22, suggesting differences in liquidity levels across banks. The standard deviation of 15.58857 underlines the variability in liquidity ratios, emphasizing that some banks maintain significantly higher levels of liquid assets relative to their total assets.

The average asset quality in the dataset is approximately 19.1238, indicating the average proportion of non-performing loans. The minimum asset quality ratio is 0.00, indicating some banks with no non-performing loans during the study period, while the maximum is

76.20, reflecting banks with a relatively high percentage of non-performing loans. The standard deviation of 15.42463 highlights the variability in asset quality, suggesting that some banks had a substantially higher level of non-performing loans than others.

4.3 Diagnostic Tests

The researcher conducted diagnostic tests to ensure that the assumptions of the statistical tests used in the analysis were met. Diagnostic tests helped to identify potential problems such as outliers, multicollinearity, heteroscedasticity, and normality of residuals, which can influence the validity and reliability of the results. The diagnostic tests conducted are discussed in this section.

4.3.1 Multicollinearity Test

Table 4.2 presents the results of multicollinearity statistics for the variables in the study. Multicollinearity refers to the degree to which independent variables in a regression model are correlated with each other, which can lead to difficulties in interpreting the individual contributions of these variables to the dependent variable. In this table, the multicollinearity statistics include Tolerance and VIF (Variance Inflation Factor) for each variable. All of the variables in this table have tolerance values between 0.494 and 0.859 and VIF values between 1.165 and 2.023. All of these numbers fall significantly below the 10-point threshold that is sometimes used to indicate multicollinearity concerns. They are also within a tolerable range. Based on these findings, it can be concluded that the independent variables in the regression model may be included without causing any serious problems with collinearity, as there is no compelling evidence of severe multicollinearity among them.

Table 4.2: Multicollinearity Test for Tolerance and VIF

Variable	Collinearity Statistics	
	Tolerance	VIF
Interest rate spread	.773	1.294
Firm size	.859	1.165
Solvency margin	.494	2.023
Liquidity	.773	1.294

Source: Research Findings (2023)

4.3.2 Normality Test

Table 4.3 shows the results of the Kolmogorov-Smirnov normality test for the study. The results of the Kolmogorov-Smirnov test for normality indicate the goodness-of-fit of the data to a normal distribution. Higher p-values are generally desirable as they suggest that the data does not significantly deviate from a normal distribution. All the variables in the analysis, have p-values above the common significance level of 0.05. This suggests that there is no strong evidence to reject the null hypothesis that these variables follow a normal distribution.

Table 4.3: Normality Test

	Kolmogorov-Smirnov	P-value
ROA	.161	.300
Interest rate spread	.173	.300
Firm size	.178	.300
Solvency margin	.175	.300
Liquidity	.176	.300

Source: Research Findings (2023)

4.3.3 Heteroscedasticity Test

The findings of the Breusch-Pagan/Cook-Weisberg test, a statistical procedure used to determine if heteroskedasticity exists in regression models, are shown in Table 4.4. When a regression model's error term variance varies across levels of the independent variables, it is referred to as heteroskedasticity. This can result in skewed and ineffective parameter estimations. The p-value for the test, which is 0.6318, is higher than the usual significance level of 0.05. As a result of the p-value not being statistically significant, the null hypothesis cannot be rejected. This indicates that the regression model's heteroskedasticity is not strongly supported by the available data.

Table 4.4: Heteroscedasticity Test

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity		
chi2(1)	=	0.8247
Prob > chi2	=	0.6318

Source: Research Findings (2023)

4.3.4 Autocorrelation Test

The Durbin-Watson statistic, a test for autocorrelation in a regression model, is shown in Table 4.5. When the mistakes in a regression model correlate with one another, autocorrelation—also referred to as serial correlation—occurs, defying one of the traditional presumptions of regression analysis. The values of the Durbin-Watson statistic span from 0 to 4. When a number is near to 2, it means that the model has no discernible autocorrelation. The Durbin-Watson statistic in this instance is less than 2, at 1.933. Even if it is below the optimal value of 2, the statistic still fits within a respectable range. It

implies that the model's assumption of independent mistakes is not seriously broken and that there isn't any compelling evidence of either positive or negative autocorrelation.

Table 4.5: Test of Autocorrelation

Durbin Watson Statistic	
1.933	

Source: Research Findings (2023)

4.5 Correlation Analysis

Table 4.6 shows the correlation coefficients between the independent variables and the dependent variable, ROA.

Table 4.6: Correlation Analysis

		ROA	Interest rate spread	Bank Size	Liquidity Ratio	Asset Quality
ROA	Pearson Correlation	1				
	Sig. (2-tailed)					
Interest rate spread	Pearson Correlation	.349**	1			
	Sig. (2-tailed)	.000				
Bank Size	Pearson Correlation	.561**	-.091	1		
	Sig. (2-tailed)	.000	.219			
Liquidity Ratio	Pearson Correlation	.081	.164*	.160*	1	
	Sig. (2-tailed)	.274	.026	.030		
Asset Quality	Pearson Correlation	-.371**	-.091	-.278**	-.133	1
	Sig. (2-tailed)	.000	.220	.000	.071	

** . Correlation is significant at the 0.01 level (2-tailed).
 * . Correlation is significant at the 0.05 level (2-tailed).
 c. Listwise N=185

Source: Research Findings (2023)

The correlation coefficient between ROA and interest rate spread is approximately 0.349. The correlation is statistically significant at the 0.01 level (2-tailed). This suggests that as the interest rate spread (the difference between the lending rates set by the Central Bank of Kenya and commercial banks) increases, the performance of commercial banks, as measured by ROA, tends to improve.

The correlation coefficient between ROA and bank size is approximately 0.561. The correlation is statistically significant at the 0.01 level (2-tailed). This indicates that larger banks, as represented by the logarithm of total assets, tend to have higher ROA, suggesting that bank size is positively associated with better performance. The correlation coefficient between ROA and liquidity ratio is approximately 0.081. The correlation is not statistically significant at the 0.05 level (2-tailed). This suggests that there is no clear linear relationship between liquidity (the ratio of liquid assets to total assets) and ROA in the dataset.

The correlation coefficient between ROA and asset quality is approximately -0.371. The correlation is statistically significant at the 0.01 level (2-tailed). This indicates that as the quality of assets, as measured by the ratio of non-performing loans to gross loans, deteriorates, ROA tends to decrease. In other words, banks with higher levels of non-performing loans tend to have lower ROA.

4.6 Regression Analysis

Regression analysis was conducted to determine the effect of the selected independent variables on the ROA among insurance firms in Kenya. The results are as shown in Table 4.7, 4.8 and 4.9.

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.635 ^a	.403	.389	4.18215

a. Predictors: (Constant), Asset Quality, Interest rate spread, Bank Size, Liquidity Ratio

Source: Research Findings (2023)

In the Model Summary, the R Square value of approximately 0.403 indicates that about 40.3% of the variation in ROA can be explained by the combination of these independent variables. While this demonstrates that the model provides a reasonable degree of explanatory power, it also suggests that there may be other factors influencing ROA not accounted for in this model.

Table 4.8: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2122.471	4	530.618	30.338	.000 ^b
	Residual	3148.274	180	17.490		
	Total	5270.745	184			

a. Dependent Variable: ROA
b. Predictors: (Constant), Asset Quality, Interest rate spread, Bank Size, Liquidity Ratio

Source: Research Findings (2023)

The Analysis of Variance (ANOVA) in Table 4.8 indicates that the model as a whole is statistically significant. The F-statistic of 30.338 with a p-value of less than 0.001 suggests that the independent variables collectively have a significant impact on explaining the variation in ROA.

Table 4.9: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-18.127	3.097		-5.853	.000
	Interest rate spread	.133	.044	.178	3.016	.003
	Bank Size	4.598	.529	.527	8.689	.000
	Liquidity Ratio	.041	.021	.120	1.921	.056
	Asset Quality	-.087	.022	-.250	-3.940	.000

a. Dependent Variable: ROA

Source: Research Findings (2023)

The Model Coefficients in Table 4.9 provide insight into the impact of each independent variable on ROA. The constant is statistically significant with a negative coefficient of -18.127. This constant represents the expected ROA when all other independent variables are set to zero. Interest rate spread has a positive coefficient of 0.133, and it is statistically significant with a p-value of 0.003. This implies that an increase in interest rate spread is associated with a positive impact on ROA.

Bank size is strongly positively correlated with ROA, as indicated by its coefficient of 4.598 and statistical significance with a p-value less than 0.001. Liquidity ratio, while having a positive coefficient of 0.041, only shows marginal statistical significance (p-value of 0.056). Asset quality has a negative coefficient of -0.087, and it is statistically significant with a p-value less than 0.001. This indicates that deteriorating asset quality is associated with a negative impact on ROA.

The coefficient of regression model was as below;

$$\text{ROA} = -18.127 + 0.178 \text{ Interest rate spread} + 0.527 \text{ Bank size} - 0.250 \text{ Asset quality}$$

4.6 Discussion of Research Findings

The main objective of this study was to examine the effect of interest rate spread on the financial performance of commercial banks in Kenya. The study was based on the loanable funds theory and liquidity preference theory. The study used a descriptive research design to examine the relationship between the study variables. A total of 37 commercial banks were studied giving an 88.1% response rate. The study utilized secondary data collected from various sources, including reports from the Kenya Bankers Association, the Kenya Central Bank, and financial statements. This dataset encompasses a period from January 2018 to December 2022, comprising 185 observations. The study employed a comprehensive methodology that encompassed descriptive statistics, correlation analysis, and regression analysis.

Pearson correlation indicated a positive and significant relationship between interest rate spread and financial performance. The R Square value indicates that about 40.3% of the variation in ROA can be explained by the combination of the selected independent variables. The ANOVA results indicate statistical significance at the 5% level, as evidenced by the significant F statistic ($P < .05$). The analysis also revealed that interest rate spreads have a significant and positive effect on ROA. Bank size also demonstrated a strong and positive correlation with ROA. Additionally, asset quality was identified as a crucial factor, with a significant negative correlation.

The current study's findings provide valuable insights into the factors influencing the performance of commercial banks in Kenya, particularly focusing on interest rate spreads, bank size, and asset quality. Al-Shubiri and Jamil (2017) investigated the determinants of

interest rate spread in Oman and identified legal, market, economic, and financial factors that significantly affected interest rate spreads. While this study focused on Oman, the findings resonate with the current study's observations in Kenya, where interest rate spreads were found to have a significant impact on bank performance. The findings of the current study align with the idea that interest rate spreads are vital determinants of bank profitability.

Similarly, Ahmed et al. (2013) conducted a study in Pakistan to explore the relationship between interest rates and financial performance. Their research highlighted an inverse relationship between interest rates and deposits with other banks and direct impacts of loans and advances on commercial bank profitability. While Pakistan and Kenya have different banking environments, the inverse relationship observed in Pakistan resonates with the current study's findings, which emphasized the importance of interest rate spreads in influencing ROA.

Locally, Njoroge and Chogii (2017) assessed factors contributing to interest rate spread among Kenyan commercial banks and found a direct relationship between market structure and interest rate spread. This aligns with the current study's findings, where the wider interest rate spread positively influenced bank performance in Kenya. The local study offers support to the idea that market dynamics play a critical role in shaping interest rate spreads. Mwanzia and Sakwa (2017) explored the impact of interest rate spread on the financial performance of listed banks in Kenya. Their findings emphasized the influence of industry-specific factors on interest rate spread, corroborating the current study's focus on understanding the impact of interest rate spreads on bank performance within the Kenyan context.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter delves into a comprehensive overview of the study's core outcomes and implications. The chapter begins by summarizing the key findings. Next, the study draws insightful conclusions based on the empirical evidence. The chapter also critically assesses the study's limitations, acknowledging the boundaries of the research and potential areas for future exploration. The chapter also covers practical recommendations derived from the findings, aiming to guide policymakers and decision-makers in enhancing interest rate spread and financial performance.

5.2 Summary

In this study, the research objective was to investigate the impact of interest rate spreads on the performance of commercial banks operating in Kenya, with a focus on the loanable funds theory and liquidity preference theory. The study employed secondary data collected from various sources, including periodic reports from the Kenya Bankers Association and the Kenya Central Bank, as well as financial statements from 37 CBK-licensed commercial banks over a period spanning from January 2018 to December 2022, resulting in a dataset of 185 observations. The data analysis encompassed descriptive statistics, correlation analysis, and regression analysis.

The descriptive statistics unveiled crucial insights into the variables under examination. Return on Assets (ROA) showed significant variation, with a mean of approximately

0.4436, while Interest Rate Spread exhibited a range from -10.30 to 36.90, reflecting varying interest rate dynamics among commercial banks. Bank Size, measured through the logarithm of total assets, revealed an average of about 4.7446, and the Liquidity Ratio showcased a mean of roughly 73.0797, with notable differences in liquidity levels across banks. Lastly, Asset Quality, defined as the ratio of non-performing loans to gross loans, exhibited substantial variability, with an average of around 19.1238. These descriptive statistics serve as the foundation for understanding the characteristics of the dataset.

The correlation analysis revealed valuable insights into the relationships between ROA and the independent variables. A significant positive correlation between ROA and Interest Rate Spread suggests that an increase in the interest rate spread is associated with improved bank performance. Moreover, a strong positive correlation between ROA and Bank Size emphasizes the positive impact of larger bank size on ROA. In contrast, the Liquidity Ratio demonstrated a weak and non-significant relationship with ROA. Most notably, Asset Quality exhibited a significant negative correlation with ROA, indicating that banks with higher non-performing loans tend to have lower ROA. The regression analysis further confirmed the significance and direction of these relationships, offering insights into the factors influencing commercial bank performance in Kenya.

5.3 Conclusion

In conclusion, the analysis of interest rate spreads in this study revealed a significant and positive impact on the performance of commercial banks in Kenya, as measured by Return on Assets (ROA). A wider interest rate spread, reflecting the difference between lending rates set by the Central Bank of Kenya and those of commercial banks, was associated

with improved bank performance. This finding underscores the importance of the interest rate environment in the Kenyan banking sector and suggests that banks with larger spreads may enjoy higher profitability.

The results indicate a robust positive relationship between the logarithm of total assets (a measure of bank size) and ROA. Larger banks, as reflected in their size, tend to exhibit better performance in terms of ROA. This finding is significant for the Kenyan banking industry, as it suggests that the scale of a bank matters, and larger institutions might have certain advantages contributing to their profitability.

Asset quality, as measured by the ratio of non-performing loans to gross loans, revealed a negative impact on bank performance. Banks with a higher proportion of non-performing loans exhibited lower ROA, emphasizing the importance of maintaining sound asset quality. The findings suggest that deteriorating asset quality can significantly hamper bank profitability. Addressing this issue is crucial for banks in Kenya, and it points to the need for effective risk management practices and strategies to reduce non-performing loans.

5.4 Recommendations for Policy and Practice

Policymakers should consider the implications of interest rate spreads on bank performance. A wider interest rate spread was found to be associated with improved ROA. To capitalize on this, it may be beneficial to provide a conducive environment for banks to maintain healthy interest rate spreads while ensuring transparency and fairness in interest rate setting. Regulatory bodies can explore measures to encourage competition and innovation among banks, which can lead to more efficient and competitive interest

rate practices. However, it is essential to strike a balance between promoting profitability and ensuring consumer protection.

The positive relationship between bank size and ROA emphasizes the importance of scale in banking operations. Bank executives and policymakers should acknowledge the advantages of larger banks but also recognize the challenges that come with scale. Practices that support growth and efficiency, such as mergers and acquisitions, can be considered. However, these strategies should be accompanied by prudent risk management to prevent systemic risks associated with the concentration of power in a few large institutions. Moreover, support for smaller banks should not be neglected, as they play a vital role in serving specific market segments.

The negative impact of deteriorating asset quality on ROA underscores the significance of stringent risk management practices and robust credit quality assessment procedures. Banks should prioritize the reduction of non-performing loans through prudent lending practices and continuous monitoring of credit portfolios. Regulatory bodies should enforce strict asset quality standards, and bank executives should invest in advanced credit risk assessment technologies. Additionally, capacity-building programs to enhance risk management skills and knowledge among bank staff can be beneficial.

5.5 Limitations of the Study

The study's reliance on secondary data, particularly financial statements and reports, might limit the depth and specificity of the analysis. The availability and quality of the data are crucial factors in the accuracy of the findings. Variability in the reporting practices of different banks, as well as the potential for data omissions or inaccuracies, can introduce

noise into the analysis. Furthermore, the study's data range spans from January 2018 to December 2022, and economic conditions and regulatory environments may have changed during this period.

While the study identifies significant correlations and relationships, it does not establish causation. Correlation does not imply causation, and the observed associations between the independent variables and ROA do not necessarily indicate a direct cause-and-effect relationship. Additional research, such as causal studies or qualitative investigations, is needed to better understand the mechanisms through which interest rate spreads, bank size, and asset quality impact bank performance.

The study focuses on a specific set of variables and does not account for the potential influence of other factors that may affect bank performance. Banking is a complex industry, and a wide range of variables, including macroeconomic conditions, regulatory changes, and market dynamics, can play a role in bank performance. To develop a more comprehensive understanding of this complex landscape, future research should consider a broader set of variables.

The study's findings are limited to the Kenyan context and may not be directly applicable to other regions or banking systems. The factors influencing bank performance can vary significantly between countries and regions due to differences in economic conditions, regulatory frameworks, and market structures. Therefore, the generalizability of these findings to other contexts may be limited.

5.6 Suggestions for Further Research

This study has primarily focused on microeconomic factors within the banking sector. Future research can explore how macroeconomic conditions, such as inflation rates, interest rate policies, and overall economic health, interact with the variables under consideration. Understanding the interplay between micro and macroeconomic factors can provide a more comprehensive view of bank performance drivers.

Extending the study's time frame and conducting longitudinal analyses can provide insights into how these relationships evolve over time. Examining data over more extended periods can help researchers and policymakers better understand the dynamic nature of the banking industry, assess the impact of regulatory changes, and adapt strategies accordingly.

Future research could complement quantitative analyses with qualitative methods. In-depth interviews and surveys with banking industry experts, regulators, and stakeholders can provide valuable qualitative insights into the intricacies of interest rate spreads, and financial performance. These qualitative data can enhance the understanding of the practical implications of interest rate spread and its impact on financial performance.

To gain insights into the generalizability of findings and to examine the uniqueness of the Kenyan banking sector, comparative studies with other countries or regions can be valuable. By comparing how interest rate spreads, bank size, and asset quality influence bank performance in different contexts, researchers can identify common trends and unique regional factors that impact these relationships.

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APPENDIX

Appendix 1: List of Commercial banks in Kenya

1	KCB Bank Kenya Limited
2	Equity Bank (Kenya) Limited
3	Co-operative Bank of Kenya Limited
4	Standard Chartered Bank Kenya Limited
5	Barclays Bank of Kenya Limited
6	Diamond Trust Bank Kenya Limited
7	I & M Bank Limited
8	Commercial Bank of Africa Limited
9	Stanbic Bank Kenya Limited
10	Citibank N.A Kenya
11	NIC Bank Limited
12	Bank of Baroda (K) Limited
13	Prime Bank Limited
14	Bank of India Ltd
15	HFC Limited
16	Victoria Commercial Bank Limited
17	Gulf African Bank Limited
18	Guaranty Trust Bank (K) Limited
19	Family Bank Limited
20	Habib Bank A.G Zurich

23	Guardian Bank Limited
24	African Banking Corporation Limited
25	National Bank of Kenya Limited
26	Transnational Bank Limited
27	Credit Bank Limited
28	Paramount Bank Limited
29	Development Bank of Kenya Limited
30	Sidian Bank Limited
31	UBA Kenya Bank Limited
32	M-Oriental Bank Limited
33	Bank of Africa Kenya Limited
34	First Community Bank Limited
35	Middle East Bank (K) Limited
36	Consolidated Bank of Kenya Limited
37	Jamii Bora Bank Limited
39	Ecobank Kenya Limited
40	Giro Commercial Bank Limited
41	Habib Bank Limited
42	Chase Bank (K) Limited*
43	Imperial Bank Limited*
44	Fidelity Commercial Bank Limited***

Source: Central Bank of Kenya Website

Appendix III: Data Collected

2018	Total Assets	Bank Size	Liquidity Ratio	ROA	Asset Quality	IRS
1	621,723	5.79	76.46	5.0	6.91	8.20
2	438,509	5.64	77.75	5.6	7.39	8.30
3	408,304	5.61	74.32	4.3	11.24	8.90
4	281,516	5.45	79.35	4.0	16.27	7.10
5	325,363	5.51	63.65	3.2	7.44	7.90
6	284,691	5.45	71.95	3.3	7.25	6.00
7	229,161	5.36	76.44	3.8	14.62	7.10
8	232,317	5.37	78.45	3.4	7.84	5.00
9	280,953	5.45	69.95	3.1	10.70	7.80
10	85,639	4.93	63.22	6.6	3.00	21.80
11	123,014	5.09	81.74	4.2	8.99	15.90
12	98,534	4.99	71.34	2.1	7.39	22.90
13	57,083	4.76	60.06	-0.7	27.09	3.00
14	32,337	4.51	71.77	1.7	3.05	7.10
15	33,326	4.52	78.36	0.9	10.89	9.90
16	25,323	4.40	62.07	1.2	18.93	13.70
17	66,910	4.83	71.64	0.6	17.31	10.30
18	21,521	4.33	70.06	1.7	9.01	25.10
19	16,186	4.21	79.76	2.2	9.88	12.30
20	27,213	4.43	77.28	0.6	0.00	9.00

21	115,143	5.06	85.32	0.5	47.58	15.70
22	10,236	4.01	75.62	-1.0	24.20	9.90
23	17,805	4.25	70.91	1.9	8.28	6.90
24	9,887	4.00	79.26	1.5	17.32	10.00
25	15,323	4.19	36.52	1.1	28.70	-0.80
26	25,329	4.40	65.42	-2.2	20.85	9.50
27	15,332	4.19	37.84	0.2	12.76	24.60
28	10,515	4.02	67.85	1.0	9.64	7.00
29	49,081	4.69	60.47	0.4	36.22	11.00
30	5,361	3.73	74.37	0.0	40.05	14.80
31	12,887	4.11	64.45	-2.7	25.32	7.90
32	10,005	4.00	40.04	-3.8	69.62	2.50
33	54,464	4.74	80.71	0.3	21.67	18.60
34	70,648	4.85	70.35	1.4	69.11	17.60
35	6,857	3.84	79.71	-3.9	0.00	6.60
36	5,251	3.72	59.02	-16.6	0.38	8.60
37	9,223	3.96	70.19	-3.3	43.97	7.00

Source: 2018 CBK Bank Supervision Report & Bank Financial Statements (2018)

2019	Total Assets	Bank Size	Liquidity Ratio	ROA	Asset Quality	IRS
1	674,302	5.83	79.61	4.9	7.43	7.80
2	507,525	5.71	75.10	5.1	9.01	8.30
3	449,616	5.65	73.42	4.5	11.07	8.40
4	302,296	5.48	78.22	4.2	13.88	7.10
5	374,109	5.57	64.79	3.2	6.58	6.90
6	287,251	5.46	76.95	3.2	8.30	5.30
7	254,252	5.41	77.03	4.7	12.30	6.80
8	464,891	5.67	77.50	2.0	12.49	3.20
9	292,705	5.47	70.21	2.8	11.81	7.60
10	96,570	4.98	67.66	5.8	4.12	22.40
11	143,311	5.16	83.27	3.8	8.36	13.40
12	108,786	5.04	74.78	2.3	11.70	19.10
13	54,532	4.74	69.69	0.0	26.88	4.90
14	36,072	4.56	75.82	1.9	4.91	8.60
15	35,123	4.55	79.20	0.6	14.70	9.40
16	29,082	4.46	65.10	1.7	18.47	9.00
17	78,857	4.90	73.97	1.7	15.16	10.40
18	24,823	4.39	82.71	1.6	11.24	26.20
19	16,386	4.21	79.81	1.5	9.54	11.50
20	28,680	4.46	80.13	0.6	17.68	8.40
21	112,029	5.05	86.65	-0.7	41.49	16.60
22	9,318	3.97	76.19	-0.6	30.03	10.40

23	21,541	4.33	80.53	1.4	10.08	9.40
24	10,443	4.02	81.19	0.8	17.60	8.10
25	15,358	4.19	39.26	7.4	34.09	-1.40
26	26,452	4.42	68.10	0.2	20.56	7.50
27	16,088	4.21	84.53	0.7	22.99	25.10
28	12,394	4.09	74.13	0.5	18.93	27.90
29	43,996	4.64	75.75	-6.7	39.91	12.40
30	8,466	3.93	84.31	0.7	14.14	6.40
31	11,866	4.07	74.12	-4.4	29.48	8.60
32	8,585	3.93	55.85	-13.3	56.50	-2.00
33	75,378	4.88	87.98	0.3	19.83	12.90
34	72,519	4.86	69.74	1.6	55.02	33.70
35	8,652	3.94	84.29	-4.2	1.45	7.00
36	8,988	3.95	72.45	-8.8	0.99	4.10
37	6,860	3.84	66.37	-6.6	51.47	6.30

Source: 2019 CBK Bank Supervision Report & Bank Financial Statements (2019)

2020	Total Assets	Bank Size	Liquidity Ratio	ROA	Asset Quality	IRS
1	758,345	5.88	77.62	3.11	12.26	7.80
2	667,650	5.82	74.40	2.13	12.04	7.40
3	496,823	5.70	74.36	3.41	16.85	8.40
4	325,873	5.51	78.71	2.15	14.63	6.50
5	377,936	5.58	67.11	2.2	7.44	6.30
6	312,189	5.49	66.62	1.26	11.90	5.10
7	283,569	5.45	76.93	3.63	12.56	7.80
8	491,614	5.69	79.23	1.41	13.86	5.70
9	318,986	5.50	67.97	1.96	14.18	7.40
10	106,454	5.03	74.39	5.15	2.82	15.70
11	166,313	5.22	81.17	3.48	12.40	12.43
12	116,204	5.07	76.20	1.59	10.86	21.30
13	54,478	4.74	73.44	-1.77	25.81	5.70
14	37,890	4.58	74.65	1.27	6.60	9.10
15	37,653	4.58	79.60	1.49	17.57	6.70
16	31,267	4.50	68.17	1.58	20.80	14.80
17	90,591	4.96	77.41	1.46	14.88	12.10
18	27,212	4.43	79.92	1.66	12.21	29.40
19	16,858	4.23	78.53	0.45	12.77	12.80
20	32,643	4.51	83.63	0.45	15.60	7.70
21	126,842	5.10	78.23	0.25	35.36	8.00
22	10,147	4.01	77.13	-19.81	4.57	24.20

23	23,145	4.36	76.21	0.04	11.52	9.90
24	11,378	4.06	81.43	0.85	17.07	9.10
25	17,222	4.24	36.01	0.11	33.70	0.30
26	33,500	4.53	67.96	0.31	11.45	6.00
27	18,743	4.27	41.47	0.3	40.75	20.50
28	12,985	4.11	75.08	0.33	23.40	12.00
29	44,917	4.65	62.29	-1.51	39.77	11.90
30	11,022	4.04	86.40	0.95	10.34	6.50
31	12,886	4.11	71.58	-2.03	24.05	8.50
32	30,612	4.49	16.60	-0.41	76.20	2.30
33	94,428	4.98	84.97	0.01	16.28	14.80
34	79,190	4.90	70.76	0.78	44.14	23.20
35	12,729	4.10	63.39	-2.76	2.55	12.90
36	13,263	4.12	76.52	-5.22	1.42	3.30
37	5,114	3.71	93.72	-24.59	70.84	3.90

Source: 2020 CBK Bank Supervision Report & Bank Financial Statements (2020)

2021	Total Assets	Bank Size	Liquidity Ratio	ROA	Asset Quality	IRS
1	826,395	5.92	76.75	4.90	15.77	8.60
2	877,415	5.94	74.33	4.70	8.43	6.60
3	540,387	5.73	73.92	3.90	12.96	8.20
4	335,111	5.53	79.33	3.60	15.74	6.20
5	132,972	5.12	207.22	3.40	7.73	2.50
6	326,377	5.51	72.75	1.40	15.80	4.80
7	307,802	5.49	76.53	3.40	10.75	6.10
8	546,734	5.74	81.18	3.10	16.00	5.60
9	319,199	5.50	75.94	3.00	11.20	4.60
10	130,940	5.12	78.82	4.50	1.90	11.70
11	180,381	5.26	83.11	3.70	10.47	25.60
12	126,482	5.10	76.87	2.30	10.93	22.60
13	52,098	4.72	73.70	-1.30	22.05	4.30
14	43,471	4.64	78.32	1.20	13.88	8.70
15	37,678	4.58	77.42	1.80	16.11	6.60
16	34,301	4.54	65.06	2.60	13.79	11.90
17	111,683	5.05	75.85	2.80	15.04	12.40
18	28,554	4.46	86.09	1.90	11.62	36.90
19	17,736	4.25	80.90	0.80	16.40	17.60
20	36,341	4.56	86.54	0.30	19.72	8.00
21	146,543	5.17	84.69	0.90	33.50	14.50
22	13,211	4.12	82.50	0.70	6.46	24.00

23	25,893	4.41	78.65	0.80	28.24	10.50
24	12,448	4.10	81.92	1.20	19.13	12.70
25	17,289	4.24	51.69	0.40	29.31	2.50
26	41,410	4.62	66.59	1.70	11.83	7.70
27	13,598	4.13	90.01	-10.20	47.79	27.60
28	13,657	4.14	75.73	0.50	26.82	11.90
29	43,350	4.64	64.12	0.70	31.71	12.40
30	11,186	4.05	85.51	1.30	7.88	12.20
31	14,283	4.15	79.72	-2.00	27.51	10.30
32	31,691	4.50	20.13	1.60	74.45	2.60
33	103,388	5.01	91.45	0.60	16.12	14.50
34	81,958	4.91	75.04	0.30	34.35	19.50
35	13,461	4.13	66.14	0.60	3.75	10.80
36	15,523	4.19	76.83	-4.40	14.97	5.60
37	3,855	3.59	46.20	-30.20	75.98	-10.30

Source: 2021 CBK Bank Supervision Report & Bank Financial Statements (2021)

2022	Total Assets	Bank Size	Liquidity Ratio	ROA	Asset Quality	IRS
1	971353	5.99	71.50	5.00	19.08	8.30
2	894012	5.95	72.41	4.70	8.54	7.10
3	562082	5.75	72.98	4.80	13.11	8.50
4	381631	5.58	73.08	4.50	13.07	6.80
5	477291	5.68	64.25	4.20	7.46	2.80
6	359270	5.56	69.75	1.80	11.20	5.00
7	315510	5.50	74.10	3.90	14.74	6.10
8	619662	5.79	81.12	3.70	9.89	5.70
9	390320	5.59	72.28	3.10	14.19	5.50
10	139827	5.15	78.70	7.00	22.06	5.00
11	193775	5.29	84.29	3.60	14.10	16.10
12	140403	5.15	76.62	2.50	9.49	23.30
13	55168	4.74	72.25	0.20	13.20	5.00
14	52082	4.72	74.71	1.30	26.97	7.80
15	38162	4.58	82.20	2.20	3.05	5.40
16	32973	4.52	67.82	4.00	13.21	18.10
17	128465	5.11	69.55	2.90	12.18	9.90
18	30856	4.49	83.36	1.60	20.31	33.70
19	15658	4.19	75.84	1.70	23.87	19.20
20	36966	4.57	81.15	0.50	20.01	7.90
21	142769	5.15	74.02	0.60	11.56	14.60
22	14602	4.16	67.40	-2.40	27.38	21.60

23	25722	4.41	68.18	-0.30	12.52	4.50
24	13813	4.14	81.79	1.80	4.06	12.10
25	16892	4.23	43.00	0.50	41.08	0.20
26	42586	4.63	59.75	1.30	49.29	8.20
27	16290	4.21	50.49	-2.70	17.21	23.40
28	13334	4.12	59.62	1.40	25.99	12.50
29	48849	4.69	67.01	0.60	24.77	12.60
30	12962	4.11	75.85	4.20	5.17	13.50
31	15553	4.19	73.02	-2.90	20.80	8.80
32	34660	4.54	27.82	2.30	10.02	2.10
33	101225	5.01	83.74	0.10	6.87	19.10
34	81758	4.91	60.31	0.10	67.60	11.20
35	12929	4.11	72.13	-4.00	11.47	12.10
36	18236	4.26	76.81	-2.90	16.53	4.10
37	2882	3.46	73.40	-37.00	27.26	3.50

Source: 2022 CBK Bank Supervision Report & Bank Financial Statements (2022)