FINANCIAL RISKS AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

RICHARD JONES MWANIA

D53/28053/2019

A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS AND TOURISM IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF DEGREE OF MASTERS IN BUSINESS ADMINISTRATION (FINANCE OPTION) OF KENYATTA UNIVERSITY

APRIL, 2023

DECLARATION

Declaration by the student

I declare that the work shown here is entirely my own and has not been submitted elsewhere for grading.

Signature……. Date …….

JONES MWANIA RICHARD

D53/28053/2019

Declaration by the supervisor

Signature  **Date** 22/4/2023

DR Mark Suva

Department of accounting and finance

School of business

Kenyatta University

DEDICATION

I would like to dedicate this research project to my Lord and Savior, who has given me the strength and wisdom to complete this work. I am grateful for His unwavering love and guidance throughout my academic journey. I would also like to express my heartfelt gratitude to my parents, Richard Muteti and Rose Richard, for their unconditional love, support, and encouragement. Their sacrifices and unwavering faith in me have been instrumental in my success.

Lastly, I would like to dedicate this project to my dear siblings, Evelyn Mbithe, John Muteti, Cecilia Nthenya and David Muloki, for their constant support and motivation. Their love and encouragement have been a source of strength and inspiration for me. Thank you, Lord, for blessing me with such wonderful parents and siblings who have made this journey possible.

ACKNOWLEDGEMENT

I would like to begin by acknowledging the grace and blessings of God, who has given me the strength, wisdom, and perseverance to complete this research project. His unwavering love and guidance have been my constant source of inspiration. I am deeply grateful to my parents, for their unconditional love, support, and encouragement throughout my academic journey. Their sacrifices and unwavering faith in me have been instrumental in my success.

I would like to acknowledge the invaluable support and guidance of my academic supervisor, Dr. Mark Suva whose mentorship and expertise have been invaluable throughout this research project. I would also like to thank my dear siblings, for their love, support, and motivation. Their unwavering belief in me has been a source of strength and inspiration.

Lastly, I am grateful for the support of my friends, colleagues, and research participants, who generously gave their time and support for this project. Thank you all for your contributions to this work.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

OPERATIONAL DEFINITION OF TERMS

Commercial Banks	Refers to financial institutions that provide wide range of financial services to individuals, businesses and other organizations.
Credit Risk	The likelihood that a borrower will fail to repay a loan or meet their financial obligations as agreed, is measured by loan loss provision ratio.
Financial Performance	Refers to the evaluation and analysis of a company's financial results, which reflects its overall health and effectiveness in generating profits and managing its financial resources, is measured by return on equity.
Financial Risks	Is the summation of credit risk, liquidity risk, foreign exchange rate risk, and interest rate risk.
Foreign Exchange Rate Risk	Refers to the risk that changes in foreign exchange rates will impact the value of investment or financial transactions denominated in foreign currencies, is measured by the translation exposure ratio.
Interest Rate Risk	The risk that changes in interest rates will adversely impact the value of investment or the financial performance of an entity, is measured by net interest margin.

Liquidity Risk	The probability that an enterprise may face difficulty meeting the short-term financial needs as they follow due is measured by the liquid assets-to-total assets ratio.
Return on Equity	Refers to the financial metric that measures the profitability and efficiency of a company's equity investment.

ABBREVIATIONS AND ACRONYMS

CBK	Central Bank of Kenya
GDP	Gross Domestic Product
LLP	Loan Loss Provision
LP	Liquidity Preference
NACOSTI	National Commission for Science and Technology
NIM	Net Interest Margin
OLS	Ordinary Least Square
PPP	Purchasing Power Parity
ROA	Return on Assets
ROE	Return on Equity
ROP	Return on Profit
SACCOs	Savings and Credit Co-Operative Societies

ABSTRACT

Commercial banks in Kenya frequently record unpredictable financial performance, with some being placed under statutory receivership by the central bank of Kenya due to their inability to meet their stakeholder commitments. Although commercial banks constantly use thorough risk management procedures, the banking industry nonetheless suffers losses. These results from the banking industry's exposure to risks related to liquidity, credit, interest rates, and foreign exchange rates. The purpose of this research was, thus, to assess the impact of credit, interest rate, and foreign currency rate risks on financial performance of Kenyan commercial banks. The research study examined how financial risks affect commercial banks' performance in Kenya. The study was founded on agency theory, maturity gap analysis theory, purchasing power parity theory and liquidity preference theory. This study employed a causal analysis approach. The participants in this study comprised all of the 39 commercial banks operating in Kenya between 2017 and 2021. The data collecting sheet was used to compile the secondary data. The study adhered to ethical considerations to the later. STATA was used to analyze the data using a panel regression model at a 95% level of significance. Tests for multicollinearity, heteroscedasticity, and normality as well as the Hausman test were established. Descriptive statistics such as mean, standard deviation and both the minimum and maximum were used to present the data. From the data analyzed, R-square for the regression was 0.7308 depicting that the four financial risks jointly account to 73.08 percent of the variation in financial performance of banks. The study established that while credit risk had a significant negative impact on commercial banks' performance, liquidity risk had a significant positive benefit with beta coefficients of -0.6795 and 0.2079 respectively. Furthermore, exchange risk improved commercial banks' bottom lines with a beta coefficient of 0.9125; however, this benefit was not statistically significant. Finally, interest rate risk with a beta coefficient of -0.1137 impacted commercial banks' bottom lines negatively but not statistically significantly. The research study recommended that commercial banks management should consider credit worthiness of their customers, put in place strict processes to edge out loan defaulters and should be careful when granting loans to new customers. To support failing banks, the study also recommended that the government and the Central Bank of Kenya should increase the minimum liquidity ratio required by law. The central bank should closely monitor the liquidity ratios of commercial banks to give warning to banks struggling in meeting the minimum statutory requirement.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Commercial banks throughout the world play a vital role in promoting global economic progress. They are financial intermediaries that ascent monetary fund's mainly by issuing saving deposits (deposits payable on request) and time deposits (deposits with strict maturity terms) (Mwai, 2021). Commercial banks perform their duties in highly volatile and dubious surroundings. Due to competition and globalization of firm activities, the performance of banks has pulled out a lot of attention. It has resulted in firms' cost minimization to acquire more new clients and retain their existing clients; however, the challenge is experienced in selecting the most lucrative form of sound liquidity position.

Globally, in the banking sector, there has been a financial crisis at different periods in the world. This clarifies that no economy is exempt from a financial crisis (Alqahtani *et al.*, 2017). Several markets reported a fall in growth rate. Inconsistencies in ROE were apparent between 2017 and 2021. According to the worldwide commercial banks' ROE performance in 2021, the average ROE in the third quarter of that year was 5.31 percent in Germany, 9.3 percent in France, 15.7 percent in Russia, 5.31 percent in the USA, and 8.760 percent in India. Germany's GDP was predicted to fall by 6.3 percent by the European Commission in 2020, compared to declines of 9.7 percent in the United Kingdom, 10.6 percent in France, 10.9 percent in Spain, 11.2 percent in Italy, and an EU-wide decline of 8.3 percent.

Regionally, according to Kablan, (2009) the performance of commercial banks in Sub-Saharan Africa has been deteriorating due to financial risks. These risks include rising non-performing loans, increasing credit risk, liquidity risk, interest rate risk, and foreign exchange risk. These challenges have resulted in declining profitability, reduced lending

activities, and regulatory pressures. Additionally, economic instability, political uncertainties, and weak governance have further contributed to the deterioration of commercial banks' performance in Sub-Saharan Africa, necessitating effective risk management practices and regulatory reforms to address these issues (Kablan, 2009).

Locally, Kenya's commercial banks have been doing worse (CBK, 2020). The ROE of these banks, according to the trend, was 24.4% in 2016 and 23.6 % in 2017, respectively. Furthermore, the decline stretched to 22.5% in 2018, 21.8% in 2019 and a further decline to 13.9% in 2020.

1.1.1 Financial Risks

All firms operate in a risky environment, and for them to be successful, they must adopt effective risk mitigation strategies. The firm's management controls the internal environment, but the external environment is beyond its control. The firm's management also experience challenges emanating from systematic risks or non-diversifiable risks which include the following risks; political risks, purchasing power risks and corruption index, among other. Risks in the financial sector include, but are not limited to, those related to foreign exchange, credit, interest rates, and liquidity (Juma & Atheru, 2018). Furthermore, the aforementioned risks make it challenging to forecast a company's financial performance.

The risk that transpires due to variation in interest rates which affects a firm's assets and liabilities, is referred to as interest rate risk (Drechsler *et al*., 2021). The likelihood of deteriorating asset prices due to unanticipated interest rate swings can also be used to characterize the risk. Interest rate risk is measured by net interest margin.

The risk emanating from customers (borrowers) failing to honor debt obligations at maturity or due date is credit risk. According to Isanzu (2017), credit risk can be defined as the peril

to profits and, ultimately, capital caused by a debtor's inability to meet the terms of a credit agreement with the financial institutions. Credit risk is measured by loan loss provision ratio.

Mabati and Onserio (2020) assert that financial risks resulting from unanticipated fluctuations in the exchange rate between two coinages or currencies are defined as exchange rate risks. Currency fluctuations have a detrimental effect on economies because they affect the cost of imported goods and it's measured by translation exposure.

Charmler *et al*. (2018) posit that the probability that an enterprise may be facing difficulties in meeting short-term financial needs as they follow due referred to as liquidity risk. This type of risk typically occurs when a firm faces challenges converting its short-term immediate assets into liquid cash. An asset's liquidity relates to how easy it may be changed into cash without affecting its current stated price or market price and it is measured by liquid assets-to-total assets ratio.

1.1.2 Financial performance of commercial banks in Kenya

The word "financial performance" refers to the financial metrics used to evaluate and identify the relationship between the company's predetermined objectives and actual performance. It aids management in determining if corporate resources are effectively utilized to create value or significance, hence maximizing shareholder wealth. It can also refer to how well an entity uses available resources to produce a return to financiers or investors. Commercial banks' financial performance has been dwindling taking a dip in 2020 as opposed to before 2017 (CBK, 2020). Jagongo and Rop (2021) argue that financial performance (ROE) and shareholder capital efficiency can be quantified using ROA, ROP, and ROE (ROE). The ratios evaluate the bank's capacity to make money utilizing the resources available to the organization.

The performance of a bank shows how profitable it may be over the long term. By bolstering their capital position and investing their retained earnings, banks protect their profits from unforeseen losses and increase future earnings (Jagongo & Rop, 2021). A bank with ongoing losses will eventually lose all of its capital, endangering the security of its equity and debt investors. A bank can be considered successful if its return on equity (ROE) is greater than its cost of equity.

Nzuve (2016) asserts that Return on Assets discloses how sound a firm's resources might be used to produce income. A firm with effective utilization of resources results in a higher ROA hence maximizing shareholder wealth. ROE is the most effective statistic for assessing the performance of commercial banks. For the last two decades, the Sub–Saharan African commercial bank has undergone significant shifts. Additionally, Kenya's commercial banks have been doing worse (CBK, 2020). The ROE of these banks, according to the trend, was 24.4% in 2016 and 23.6 % in 2017, respectively. Furthermore, the decline stretched to 22.5% in 2018, 21.8% in 2019 and a further decline to 13.9% in 2020. It is a clear indication of declining progress in ROE, suggesting a steadily reduced financial performance.

1.1.3 Financial risk and financial performance of commercial banks

Several theories have been advanced in an attempt to explain the association between financial risk and how well commercial banks do financially. The agency theory, for instance, explains that a shareholder's value is maximized by reducing agency problems that occur between agent and principal (Kutlu, Mamatzakis & Tsionas, 2022). Different theorists have tried to derive the association between the different types of risk and how they affect overall performance (Muthinja & Chipeta, 2018). Theoretically, therefore, an upsurge in additional financial risks lowers the financial performance of banks.

Financial risks emanate from uncertainties related to variations in foreign exchange rates, interest rate volatility, liquidity management, and bank loan evasions. This indicates that other indicators should be taken into account when making judgments about banking activities in addition to the return on assets (ROA) ratios and return on equity (ROE) ratios. According to Umar and Dikko (2018), banks' capacity to identify, assess, manage, and repair problems have an impact on a company's or organization's profitability.

Numerous studies have linked financial success to risk. Charmler et al (2018) looked at how liquidity risk affects how well commercial banks do their jobs. In a unique study, Isanzu (2017) wanted to find out how credit risk affects how well banks do financially. When analyzing the relationship between the two variables, these two research serve as a baseline. The scope of the risk that has to be evaluated must be determined before one can determine the link between the two variables. The investigations in the two examples were based on liquidity and credit risk. It was determined how the variables related to one another. If banks had access to greater credit and liquidity, their efficiency would likely suffer.

1.1.4 Commercial Banks in Kenya

According to CBK's (2020) annual supervision report, commercial banks perform a crucial roles in developing the economy by acquiring stakes and giving or lending them to entrepreneurs as seed capital for business, they directly give loan to government and offer managerial intelligences to small scale business people. However, it's difficult to avoid financial perils or risks (Hassan, Khan & Paltrinieri, 2019). Moreover, the financial performance and chances are interdependent, and they must be assessed together to determine the sustainability or closure of the banks. The business environment factors affect both the financial performance and the risk aspects.

Commercial banks are essential in helping society allocate its scarce resources to the most lucrative projects and in supporting the wise allocation of risk across the investors (Mwai, 2021). The financial crisis revealed the importance of bank regulation to hedge against risk which attributes to banks' financial potion imbalance.

According to Ndagara et al. (2020), every state ought to have a central bank that should stabilize the economy by limiting inflation to prevent the depreciation of Kenyan money. To prevent citizens from losing money, the central banks make sure commercial banks are properly regulated. Since CBK is the only entity with a license to regulate banks, it has the authority to exclude any bank that does not adhere to its standards. The efficiency of management determines the stability of commercial banks. Magadi (2021) posits that one of the regulations provided by CBK is that all sound financial risk management must be adhered to the latter by commercial banks.

From a global point of view, the undertaking related to high-level and low-level performing dealings is the principal concern in modifying the managerial execution or performance. According to Olowo *et al*. (2021), in conjunction with other shareholders, the state put an effort by resuscitating the liquidating organizations in an endeavor to reconstruct the confidence of possible capitalists or investors and shareholders.

The Basel II standard, according to Zins and Weill (2017), provides guidelines on how much money commercial banks should set aside to safeguard themselves against specific risks. Basel II created capital management and risk techniques to guarantee banks have enough capital reserves.

The Central Bank of Kenya Act, the Banking Act, the Companies Act, and other provident procedures established by the CBK Act govern the banking business in Kenya. According to CBK's (2020) annual supervision report, out of 42 commercial banks, 28 are held

domestically, and 14 are foreign possessed with agencies, branches, and outlets all over the country. Foreign banks account for the most significant percentage in terms of asset holding. The Companies Act, the Banking Act, and the CBK Act, and several supplementary provident mechanisms established by the CBK Act all regulate the banking sector in Kenya: Tiers 1, Tier 2, and Tier 3 (Munge, 2020). Tier 1 includes major banks with billions in assets. The Tier consists of top banks in Kenya. Tier 2 and Tier 3 include medium-sized banks and small banks, respectively.

The liberalization of the banking area and the lifting or revitalization of exchange regulation occurred in 1995. The Central Bank of Kenya mandates liquidity, fiscal policy insight, and effective monetary area operation. The CBK publishes the guidelines on the data or information concerning non-banking financial institutions and banks in Kenya. The report entails inflation, macroeconomic variables, and interest rates. The Kenyan government claimed that Chase Bank and Dubai Bank went bankrupt in August 2015 and April 2020, respectively (Mwangi & Jagongo, 2021). Since Chase and Dubai banks fell into receivership due to credit and liquidity concerns, Kenya's central bank stated it had to pay them close attention.

1.2 Statement of the problem

Commercial banks' performance has steadily declined over time (CBK, 2020). The ROE of these banks, according to the trend, was 24.4% in 2016 which declined to 23.6 % in 2017. Furthermore, the decline stretched to 22.5% in 2018, 21.8% in 2019 and a further decline to 13.9% in 2020. It is a clear indication of deteriorating ROE growth, implying consistently lower financial performance over the stated periods.

Over the last few years, firms have attempted to explain the low performance of these institutions. Nevertheless, it has not been easy to achieve. Therefore, for banks to establish

profitability, it has to consider the macro and micro environmental demands (Chidozie & Ayadi, 2017). For firms to improve their performance, then they must put into practice prudent risk mitigation practices. Financial risk threatens Kenya's banking system. The biggest risks for banks include liquidity, credit, currency rate, and interest rate (Jagongo & Rop, 2021). Interest rate and exchange rate risks, which are macroeconomic risks, don't have much to do with managers. On the other hand, the microeconomic variables include factors that face specific individual banks and managers having complete control over them, and the variables are liquidity and credit risk.

Numerous aspects of banks' financial risk and performance have been the subject of empirical studies in the past, although the results have varied. Empirical data is used in the following studies on bank financial risk and performance: Maniagi (2018), Abdulrehman and Nyamute (2018), Hoque *et al*., (2020), Gikombo and Mbugua (2018), Juma and Atheru (2018), Mabati and Onserio (2020), Muriithi (2016), Charmler *et al.*, (2018), Maniagi (2018), Isanzu (2017), Ndalu (2018), Paul and Musiega (2020).

As an illustration, Charmler et al., (2018).'s research found a negligible correlation between commercial banks' financial performance and liquidity risk. According to research by Abdulrehman and Nyamute (2018), commercial banks performed significantly better. While the findings of other researchers, such as Maniagi (2018), show that interest rate risk is strongly linked to the same variable, commercial banks' profits are negatively affected by credit risk.

Comprehensive studies examining the link between financial risks and financial success have yielded mixed results. While some studies identified a link between risk and financial success, others discovered a weak or nonexistent link (both negative and positive).

The researchers used alternate financial risk operationalization, and several of these results or studies are focused on governments other than Kenya. The research assessed Kenyan commercial banks' financial risks and performance. It attempted to fill the knowledge gap by analyzing financial risk in Kenyan business banks. The study examined how the interest rate, currency, loan, and liquidity risks affect Kenyan commercial banks' profitability.

1.3 Objectives of the Study

1.3.1 General Objective

The overall or primary goal was to assess financial risks and financial performance of commercial banks in Kenya.

1.3.2 Specific Objectives

The following were the specific objectives of the study:

1. To determine the effect of credit risk on the financial performance of Commercial Banks Kenya.
2. To establish the impact of liquidity risk on the financial performance of Commercial Banks in Kenya.
3. To determine the effect of exchange rate risk on the financial performance of Commercial Banks in Kenya.
4. To investigate the effect of interest rate risk on the financial performance of Commercial Banks in Kenya.

1.4 Research Hypotheses

The following null hypotheses guided the research.

H_{01}: Credit risk has no significant effect on the financial performance of Kenyan commercial banks in Kenya.

H_{02}: Liquidity risk has no significant effect on the financial performance of Kenyan commercial banks in Kenya.

H_{03}: Exchange rate risk has no significant effect on the financial performance of Kenyan commercial banks in Kenya.

H_{04}: Interest rate risk has no significant impact on the financial performance of Kenyan commercial banks in Kenya.

1.5 Significance of the Study

There are several ways in which the research will contribute to the successful completion of the project. Investors, including shareholders and potential investors in commercial banks in Kenya, can benefit from such a study by gaining a deeper understanding of the financial risks faced by banks and how these risks impact their financial performance. The study may provide insights into risk management practices, such as credit risk management, interest rate risk management, liquidity risk management, and foreign exchange risk management, which are critical for investors to assess the risk-return tradeoff of their investments in commercial banks. The findings of the study may help investors make informed investment decisions and manage their portfolios effectively.

Bank managers and executives can benefit from the study by gaining insights into the various financial risks faced by commercial banks in Kenya and understanding their impact on financial performance. The study may highlight risk mitigation strategies, best practices, and areas of improvement for managing financial risks in the banking sector. This can assist managers in developing effective risk management policies, procedures, and strategies to safeguard the financial health and stability of their banks. Additionally, the study findings may provide benchmarks and performance indicators that can help managers evaluate their bank's financial performance relative to industry peers and make informed decisions to enhance profitability and sustainability.

Lastly, Scholars, researchers, and academics in the field of finance, banking, or risk management can benefit from the study by utilizing the findings as a basis for further research, analysis, or academic discussions. The study may contribute to the existing literature on financial risks and financial performance of commercial banks in Kenya, and provide insights into the unique characteristics of the Kenyan banking sector. Scholars can use the study findings to develop new theories, models, or frameworks related to financial risk management, financial performance evaluation, or banking practices in Kenya or other similar contexts.

1.6 Scope of the Study

The study was conducted to assess the effects of financial risks and financial performance of commercial banks in Kenya, using data from the year 2017-2021. Thus, the study's special setting was made up of Kenya's 39 commercial banks. Archived annual reports and the CBK website served as secondary data sources for the study. The study employed the following variables liquidity, credit, foreign exchange, and interest rate risks. The study employed a causal research design.

1.7 Limitations of the Study

Secondary data studies have difficulty with originality. The researcher handled this problem by gathering information from reputable or approved sources. The websites of commercial banks and CBK have recognized sources that provide annual financial reporting.

1.8 Organization of the Study

Chapter one described the context, problem description, objectives, hypotheses, significance, scope, and limitations of the study. The literature review, which is the second chapter, examined recent research that was pertinent to the study conducted. It is segmented into an introductory section, a theoretical review of the underlying theories, an empirical

study of previous research projects that are similar to or related to the study, and a conclusion section that highlights the remaining research questions. In chapter 3, the study dived into the research methodology and explained the strategies and techniques that were applied to carry out the research. The sections include research methods, populations of interest, sample planning, data collection tools, data collection techniques, data analysis, and presentation. The fourth chapter dealt with the data analysis, study findings, and the study discussions. Lastly chapter five presented summary of research, study conclusions and finally recommendations of the study.

.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter discusses hypotheses, examines the literature that has been studied, and supports the study's variables. The literature review, gaps, and conceptual framework were all examined in this study. The conceptual framework was developed in this chapter, and the chapter was closed by discussing the research gaps that still need to be filled.

2.2 Theoretical Review

The theory is an explanation of a phenomenon and the interaction of its factors. It may also be described as a logical collection of generalizations that have been verified and are generally accepted as valid and that can be used to predict or explain a group of events or phenomena. The term "theoretical framework" refers to a group of connected ideas (Reimann & Jain, 2021). The theoretical framework defines the study's parameters. The study theories included agency, maturity gap analysis, purchasing power parity and liquidity preference theory.

2.2.1 Agency Theory

The theory was first developed by Michael Jensen and William Meckling in the late 1970s. Other scholars who have contributed to the development of the theory include Ross Watts, Jerold Zimmerman, and Eugene Fama (Gindis, 2020). The features of agency theory that are relevant to the study of credit risks and financial performance includes the principal-agent relationship and information asymmetry.

Kutlu, Mamatzakis and Tsionas, (2022) argue that in principal-agent relationship the theory assumes that there is a contractual relationship between the principal and the agent, where the principal delegates decision-making authority to the agent while in information

asymmetry the theory assumes that there is an imbalance of information between the principal and the agent, where the agent has more information about the firm's operations and financial performance than the principal.

Agency theory is relevant to credit risks and financial performance of commercial banks in Kenya in that it provides a framework for understanding how credit risks can create agency problems between bank managers and shareholders. The study can use agency theory to analyze how these conflicts may affect the bank's financial performance and to suggest ways to align the interests of managers and shareholders to mitigate the agency costs associated with credit risk-taking.

2.2.2 Maturity Gap Analysis Theory

Proponents of maturity gap analysis theory include Donald Simonson (1965) and Frank Fabozzi (1995). Maturity gap analysis theory suggests that banks should use maturity gap analysis to manage interest rate risk. Lubinska, (2020) asserts that maturity gap analysis involves comparing the maturity of a bank's assets and liabilities to identify any gaps that could expose the bank to interest rate risk.

The tenets of this theory suggest that banks should monitor their maturity gaps regularly and take steps to manage their interest rate risk by adjusting their asset and liability portfolios (Ugoani & Uju, 2023). The relevance of maturity gap analysis theory to interest rate risk is that it helps banks to identify potential mismatches in their asset and liability portfolios and to take steps to manage their interest rate risk.

2.2.3 Purchasing Power Parity (PPP)

Proponents of PPP theory include Gustav Cassel (1918) and John Maynard Keynes (1923). Purchasing power parity theory suggests that exchange rates between currencies should be determined by the relative purchasing power of each currency (Nakorji *et al*, 2021). The

main features of PPP that are relevant include the relative price level and the purchasing power.

PPP suggests that the exchange rate between two currencies should reflect the relative price levels of goods and services in each country. In other words, if a basket of goods costs more in one country than in another, the currency of the country with the higher prices should depreciate relative to the other currency in order to restore the balance of trade (Nakorji *et al*, 2021).

The tenets of this theory suggest that banks should use PPP theory to estimate the fair value of currencies and to identify potential mispricing's that could expose them to foreign exchange rate risk. The relevance of PPP theory to foreign exchange rate risk is that changes in exchange rates can affect the value of a bank's assets and liabilities denominated in foreign currencies.

2.2.4 Liquidity Preference Theory

Keynes created the liquidity preference theory in the year 1936, He argued that shareholders tend to petition high-interest rates in securities involving long-term maturities, which is riskier because the shareholders or investors end up opting for highly liquid holdings or cash (Khan *et al*, 2021). Keynes, in this theory, also argued that short-term securities are charged lower interest rates since rational investors or shareholders scarify their liquidity by purchasing assets on long-term or medium-term securities (Rubini, 2019). In relevance to this study, the theory is linked to liquidity risk and assumes that the more liquid the investment is, the more traded for its entire worth.

According to Krisnasari (2019), individuals have different preferences or motives for liquidity, including transaction motives, precautionary motives, and speculative motives. The three explanations define how liquidity is necessitated by individuals. The desire to hold

cash balances necessary for day-to-day transactions is devoted to the transaction purpose or motive of money. This purpose or motive necessitates individuals and business units to meet payments of arising obligations by keeping minimum cash balances. The gap between expenditure and receipts of income can be bridged through individuals holding cash. This is because an individual's income is continuous although, the expense occurs daily. Keynes argues that people's need for cash is proportional to their level of national income.

The precautionary motive is termed as the unpredictable or unforeseen contingencies which occur daily and involve money payments (Gan, 2019). Businesses and individuals keep a share or portion of their revenue to cater to such unpredicted expenditures. The size of income is the primary determinant of the level of income demanded under this motive. The other reason or justification apart from the two motives is the speculative motive. Chireka and Fakoya (2017) contents that the speculative motive of money reflects an individual's aspiration to hold cash to exploit any eye-catching investment prospect. According to Keynes, individuals have money to take advantage of impending variations in bond prices and variations in the rate of interest.

This theory is pertinent to my research since it focuses on liquidity risk, one of the main independent variables, and attempts to illuminate the significance of people owning cash assets. It suggested that customers choose liquid assets and stay away from banks' high liquidity risks.

2.3 Empirical Review

2.3.1 Interest rate risk and financial performance

The financial health of commercial banks in Kenya was scrutinized by (Maniagi (2018). The independent variables that were examined were a market risk, interest rate risk, and credit risk. This study used a descriptive approach to research. The outcomes hurt Kenya's

commercial banks' interest rates and financial performance. Before generating conclusions and judgments, the study did not evaluate the data's accuracy and sufficiency.

In their study, Abdulrehman and Nyamute (2018) examined how mortgage financing affected Kenyan commercial banks' financial results. The study focused more on Kenyan commercial banks that provide mortgage services. The study's data analysis employed both correlation and regression analysis. Interest rates were also one of the variables explored. The research showed that commercial banks' interest rates on mortgage loans are related to their financial stability. Financial institutions can grow more quickly by charging higher interest rates on mortgage loans. This analysis determined how interest rate risk affects Kenyan commercial banks' bottom lines.

Hoque et al. (2020) looked into how Nigerian commercial banks' profitability was affected by monetary policy. They conducted their investigations using a variety of money supply indicators, including interest rates and the cash reserve ratio. They employed cash ROA as their performance metric. Regression analysis employed by the researchers found a weak correlation between and commercial bank profitability and interest rate risk.

2.3.2 Exchange Rate Risk and Financial Performance

Researchers in Kenya looked into how different economic variables affected publicly traded companies (Gigombo & Mbugua, 2018). Real interest rates, inflation, currency exchange rates, and gross domestic product (GDP) were employed as independent variables in this study. The connection between factors and Kenya's commercial banks' profitability was described using descriptive approaches. According to the 2016 annual supervisory report, all 44 commercial banks were included in the probe. The investigation revealed that the influence of exchange rates on commercial banks' earnings was the least of all the factors

included. To evaluate the effectiveness of commercial banks, this study focused on their Return on Equity (ROE).

Juma and Atheru (2018) investigated Kenyan commercial banks' financial risk assessments and performance appraisals. Some of the independent elements taken into account in this study include interest rates, credit, liquidity, and currency risk. Return on Assets was used to assess how well commercial banks performed. Data was analysed using statistical data panels and explanatory research designs. Data indicated a very substantial association between exchange rate risks and bank performance. Return on equity was used to find out how profitable Kenyan were commercial banks.

Mabati and Onserio (2020) investigated the effects of central bank rates on the operations of commercial banks. In this study, we used several foreign exchange risk indicators as independent variables. To examine the study's data, regression analysis was used. The study's foundations were private banks rather than the central bank.

2.3.3 Liquidity Risk and Financial Performance

Muriithi (2016) examined how financial risks affected the profitability of Kenyan banks. The Breusch and Chow tests were applied to a sample of 43 Kenyan banks drawn from the 2015 Annual Bank Supervisory Report to ascertain whether the fixed-effect model was accurate. The model made use of some financial risk indicators, including those related to liquidity, operations, credit, and the market. Profitability among Kenya's commercial banks was found to be significantly impacted by liquidity risk.

Researchers in Ghana looked into the role that bank liquidity played in the success of commercial banks (Charmler et al., 2018). During the course of ten years, research was carried out utilizing a panel design with a sample size of twenty-one different financial institutions. Analyses such as regression and descriptive statistics were used, and also a

correlation analysis. A modest inverse relationship was found between the prosperity of Ghanaian banks and the possibility of insolvency. Despite Kenya's relative backwardness, the research was conducted in Ghana.

Chukwunulu et al. (2019) looked into how risk management affects how well commercial banks in Nigeria do their jobs. There were two additional independent criteria utilized in the study: credit risk and liquidity risk. Data collection for the study was spread out across 23 years the data's utility was evaluated using OLS regression. There was no correlation between liquidity risk and profitability at investigated banks. This research only looked at Nigerian banks, which serve a different clientele than their Kenyan counterparts.

2.3.4 Credit Risk and Financial Performance

Ndalu (2018) researched credit risk management, focusing on Kenyan deposit-taking saving and credit cooperatives. SACCOS managed credit risk. This descriptive analysis of Nairobi SACCOs shows credit evaluation influences their success. Muriithi (2016) researched how financial risks affect Kenyan banks' profitability. Breusch and Chow tests were used on data from 43 banks in Kenya to examine the performance of the fixed effect model. Operations, market, liquidity, and credit concerns all pointed to a financially unstable environment. The efficiency of Kenya's commercial banks has been shown empirically to be significantly impacted by credit risk.

To investigate how microfinance institutions in Nairobi County deal with credit risk, Paul and Musiega (2020) conducted a study. Researchers in this study interviewed 1,147 people working at a single Nairobi-based microfinance organization. This study's data analysis was performed using SPSS by the researcher. Inferential and descriptive statistics were utilized during data analysis. Credit risk management strategies affected Kenyan microfinance

banks' profitability, the study found. This research increased understanding regarding Kenya's commercial banks' profitability.

2.4 Financial performance of commercial banks in Kenya

The financial condition of Romanian commercial banks listed on the Bucharest Stock Exchange was examined by Maria-Daciana (2015). Using the Du Pont model, researchers analyzed the financial profitability of three successful commercial banks. The research demonstrated that financial institutions need a constant leverage ratio to increase financial performance and reduce capital expenditures. Since the study's primary focus was on the correlation between leverage and financial success while neglecting to take into accounts any other aspects, there is a gap that has to be addressed. To bridge the knowledge gap, this study analysed the profitability of commercial banks traded on Kenya's Nairobi Stock Exchange.

2.5 Summary of Literature Review and Research Gaps

Commercial banks' exposure to financial risk and their overall performance has been the subject of a great deal of empirical study, both domestically and internationally. The examined literature recommended various areas for more research. The research's conceptual, contextual, and knowledge deficiencies ranged from.

Table 2.1: Summary of Literature Review and Research Gaps

Study	Context and Focus	Key Findings	Research Gaps	The focus of this Study
Maria-Daciana (2015)	Focused on Bucharest Stock Exchange commercial banks' financial performance.	For banks to enhance their financial performance, they must keep their leverage ratio stable to cut capital expenditures	This study's independent variable was the sample's financial performance.	Financial uncertainty level was the independent variable, while the number of profitable investments was the dependent variable
Abdulrehman and Nyamute (2018)	Focused on how interest rate uncertainties affect mortgage finance.	Interest rate risk affects home finance and commercial bank performance positively.	The study focused on mortgage financing	This study examined Kenyan commercial banks' financial risks and performance.
Hoque *et al*. (2020)	The study focused on monetary policy's impact on Nigerian banks' profitability.	The study selected ROA as their indicator for performance. The profitability of Nigeria's commercial banks correlates poorly with the possibility of fluctuating interest rates.	The study focused on Nigeria state. The study focused on monetary policies and not financial risks.	The current investigation included Kenyan commercial banks. The study examined four financial risks affecting Kenyan commercial banks' profitability. This study evaluated bank performance using ROE.
Gikombo and Mbugua (2018)	Macroeconomic variables on Kenyan banks' performance were studied. The study assessed Kenyan commercial banks' currency risk.	The study concluded that exchange rates don't affect commercial bank profitability.	Macroeconomic variables were studied, not financial risks.	Financial dangers, not macroeconomic variables, were studied.

Mabati and Onserio (2020)	The impact of commercial banks on Kenya's central bank rate. The independent variable was the risk involved in trading foreign currencies.	The performance of banks and the dangers posed by exchange rate variations were significantly inversely correlated.	The Central Bank of Kenya, as opposed to Kenya's commercial banks, was the primary focus of this research.	The current research was centered on the economic dangers faced by commercial banks in Kenya as well as their overall performance.
Charmler *et al*, (2018)	This study's overall focus was to assess commercial banks in Ghana and how their liquidity problems affected their performance as a whole.	Liquidity risk and bank performance in Ghana were shown to have a little negative link, although this association was not statistically significant.	Liquidity risk was the sole focus of the study; other forms of risk were disregarded.	This research focused on the commercial banks of Kenya. The study was carried out to detect and counteract any additional financial dangers that might not have been apparent without it.
Ndalu (2018)	The researchers of this study set out to assess the state of deposit-taking Kenyan credit and savings cooperatives by looking at how well they handle credit risk.	The study's hypothesized link between credit risk assessment and SACCO success in Nairobi was confirmed.	The studies mostly concentrated on SACCOs, rather than on commercial banks. It was decided to study credit risk management, which left the topic of financial risks unexplored.	Financial risks and commercial banks' performance from 2016-2020 were the key focus of this analysis; credit risk was included in this larger definition of financial risk. The data for the study came from commercial banks rather than SACCOs.

Paul and Musiega (2020)	This research focused primarily on credit risk management and the efficiency of Kenya's microfinance organisations.	Study findings suggest that microfinance institutions in Kenya can benefit from adopting credit risk management practices.	Examining how various credit risk management strategies have influenced the overall success of Kenya's commercial banks.	The study opted to examine financial risks rather than using more conventional approaches to handling such risks.

Source. Author (2022)

2.6 Conceptual Framework

A group of connected ideas presented in a logical sequence to show how they relate to one another is known as a conceptual framework (Varpio *et al.*, 2020).

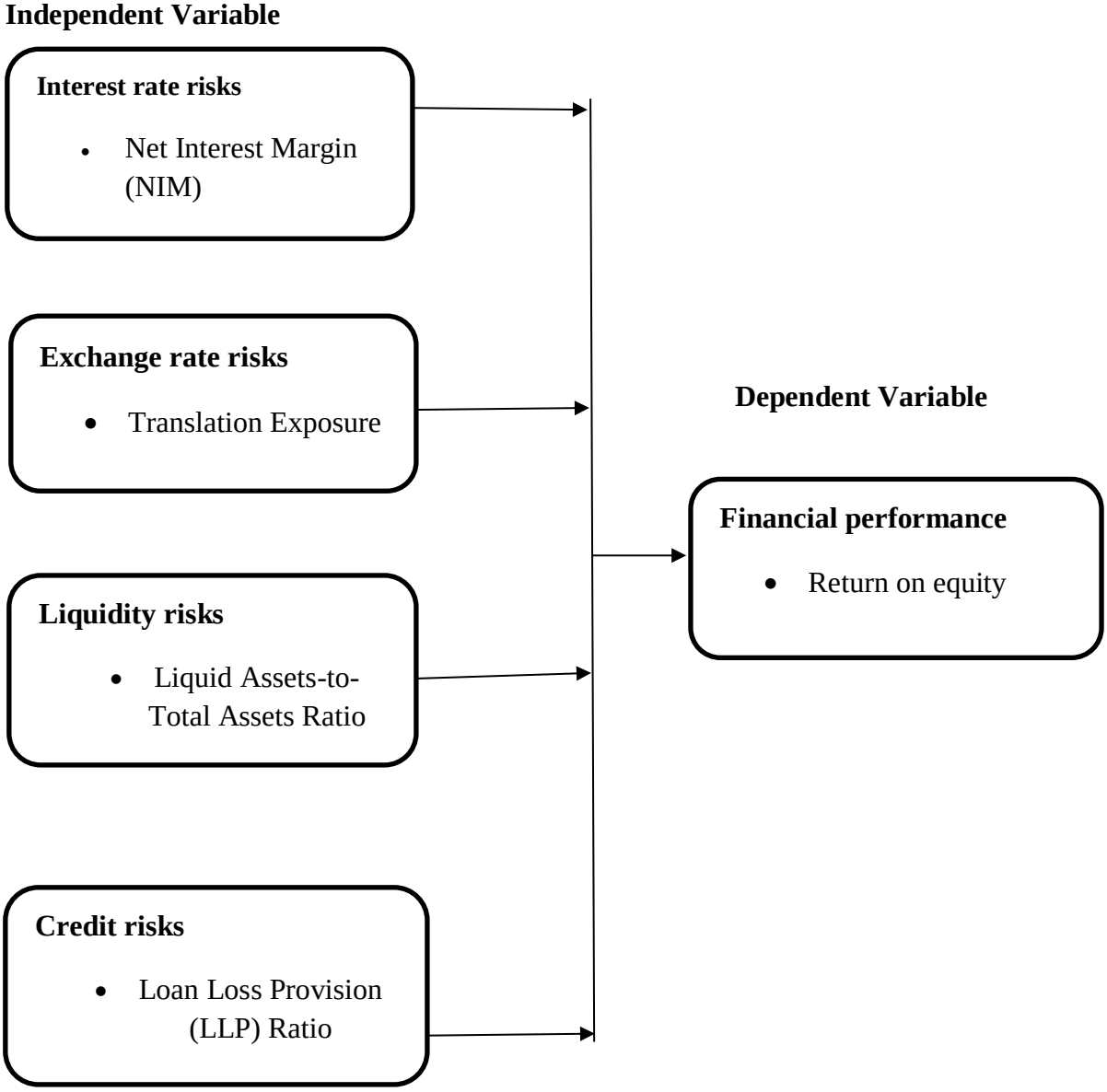

Figure 2.1: Conceptual Framework

Source: Researcher (2022)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

A methodology would be essential to describe the research's approach and reveal or determine how financial risks impact Kenyan commercial banks' financial performance. This section gives details on the methodology for the study, its design, the target population, sampling procedure, techniques of data collection, data processing and presentation procedures, the instruments used and the ethical considerations to be adhered to.

3.2 Research Design

To carry out this analysis, a design for a causal study was utilized. Given that causal research designs gauge how specific modifications to accepted norms and premises affect those already in place, the study design was suited for the research topic (Iacus et al., 2019). The study's causal methodology, which aims to shed light on how the presence of financial risks affects Kenyan banks' financial performance, was thus demonstrated to be reliable.

3.3 Target population

All of the pertinent observations from a collection make up the population, such as the events or subjects that an investigator in charge of the study has opted to concentrate on (Asiamah et al., 2017). Between 2017 and 2021, 39 Kenyan commercial banks that were operational were the subject of this investigation.

3.4 Sampling Technique

Kenya had 39 commercial banks in operation between 2017 and 2021. All of these were looked at in our study. Due to the study's focus on the relatively small population, a census

of the 39 banks was conducted. When a population is large enough to include every survey component, a census sampling approach is used (Mugenda &Mugenda 2003).

3.5 Empirical Model

A panel regression model was used by the study because the data was in a panel format. Banks' bottom lines were broken down into four categories based on the correlation between credit, interest, currency exchange rates, and liquidity problems:

$$Y = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \epsilon.$$

Where:

Y – Annual financial performance information provided by ROE.

β0 – y intercept of an equation

X1 –credit risk.

X2 – The ratio of liquid assets-to-total assets is a measure of liquidity risk.

X3 – Exchange rate risk calculated as the difference between foreign currency assets and foreign currency liabilities divided by Total Assets

X4– Interest rate risk

β1 – β4 – The regression coefficients that assess the sensitivity of Y to variations in X.

Є - Error term that compensates for variables that are left out of the function.

t – The time span (year).

3.6 Operationalization and Measurement of Variable

Table 3.1: Operationalization and measurement of the variable

Type of variable	Variable	Operationalization	Measurement
Independent variable	Credit risk	The likelihood that a borrower will fail to repay a loan or meet their financial obligations as agreed, is measured by loan loss provision ratio.	LLP Ratio = (Loan Loss Provisions / Total Loans) x 100%
Independent variable	Liquidity risk	The probability that an enterprise may face difficulty meeting the short-term financial needs as they follow due is measured by the liquid assets-to-total assets ratio.	Liquid Assets Ratio = (Liquid Assets / Total Assets) x 100%
Independent variable	Foreign exchange risk	Refers to the risk that changes in foreign exchange rates will impact the value of investment or financial transactions denominated in foreign currencies, is measured by the translation exposure ratio	Translation Exposure = (Net Investment in Foreign Subsidiaries x Change in Exchange Rates) / Total Assets
Independent variable	Interest rate risk	The risk that changes in interest rates will adversely impact the value of investment or the financial performance of an entity, is measured by net interest margin.	NIM = (Interest Income - Interest Expense) / Average Interest-Earning Assets
Dependent variable	Financial performance	Refers to the evaluation and analysis of a company's financial results, which reflects its overall health and effectiveness in generating profits and managing its financial resources, is measured by return on equity.	Return on Equity = Net Profit / Shareholders' Equity * 100%

Source: Researcher (2022)

3.7 Data Collection

The research made use of open-access sources; specifically, data entered from annual reports of banks operating between January 2017 and December 2021. The banks' annual reports and the CBK Website contributed greatly to the available data for the research.

3.8 Data Collection Procedures

The annual reports for 39 commercial banks that are available on the website of Kenya's central bank were used as secondary data in this study. To proceed, the National Commission for Science and Technology (NACOSTI) provided its final approval. A data capture sheet was utilized to collect data.

3.9 Data Analysis and Presentation

The act of transforming raw data into a format that can be used to conclude, recommend policies, and identify areas that need more research in other studies is what is known as data analysis. The multiple regression data analysis models used STATA for the analysis. Inferential and descriptive analysis are the two primary categories used in data analysis.

Panel regression was the methodological framework employed for the inferences drawn. Inferences were drawn about the study population using the panel regression model's statistical output. By using a 95% confidence interval, the null hypothesis was either accepted or denied.

The mean, the lowest and maximum number of observations, and the standard deviation were also included in the descriptive analysis. Tables and graphs were used to display the results.

3.10 Diagnostic Tests

Before performing the panel regression analysis, a diagnostic test was performed to see if the fundamental assumptions are correct. In research studies that make use of multiple regressions, testing hypotheses is essential. The hausman test, multicollinearity, normality, and heteroscedasticity tests were also carried out.

3.10.1 Normality Test

The residual of the response variable is assumed to resemble a normal distribution around the mean, which is verified by the normality test. The data was subjected to a Shapiro-Wilk normality test. If the p-value of any independent variable is more than 0.05, the null hypothesis will not be tested.

3.10.2 Multicollinearity Test

The level of multicollinearity was determined by the variance inflation factor. Reduced multicollinearity is indicated by an acceptable mean-variance inflation factor of 5. The variance inflation factors of all variables in the study must be less than 3 to rule out multicollinearity. However, if the variance inflation factor is higher than 3, collinearity exists among the study's variables. When the variance inflation factor is more than 5, multicollinearity is likely present (Ringle et al., 2015). So, we have to get rid of or transform the affected variables into a composite.

3.10.3 Heteroscedasticity Test

The heteroscedasticity that multiple linear regression models assume must be assessed and adequately accounted for if it is found in the data. It investigates the independent variable's influence on the error variance of the regression model. To detect heteroscedasticity, the Breusch Pagan test was applied. If the p values are more than 0.05, it is assumed that the variables are homoscedastic.

3.10.4 Hausman Test

The Hausman test determines whether the model of regression effects is fixed or random. This check is crucial as it allows researchers to separate fixed effects from random ones. The null hypothesis can be rejected and definitive conclusions made if a p-value of less than 0.05 is realized.

3.11 Ethical Considerations

The Kenyatta University ethics committee reviewed the study to ensure that it meets ethical standards and that the researcher follows those standards. Similarly, a research authorization from the NACOSTI was obtained before the researcher began contacting the relevant parties to collect data.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presented the findings of this study that was conducted to determine the connection between Kenyan commercial banks' susceptibility to economic risk and their overall financial success. The research's findings were arrived at by employing several different types of data analysis, including but not limited to descriptive statistics, a panel regression analysis model and diagnostic tests.

4.2 Descriptive Statistics

In this section, the statistics of the study were broken down into their parts, including the number of observations, the mean, the standard deviation and the maximum and minimum values of the research study as presented in the table below:

Table 4.1: Descriptive Statistics

Variables	Observations	Mean	Std. Dev.	Min	Max
Return on Equity	195	2.34	43.46	-375.7	82.1
Credit Risk	195	18.54	15.50	0	76.20
Liquidity Risk	195	43.40	19.41	-3.1	123.6
Exchange risk	195	2.11	0.05	0.008	2.51
Interest Risk	195	0.90	0.01	0.86	0.98

Source: Research Data (2022)

The descriptive results above indicated that there were 195 observations from 39 commercial banks that were consistently in operation from 2017 to 2018. The findings showed that financial performance measured by Return on Equity (ROE) had a mean of 2.34 and standard deviation of 43.46 with a maximum 0f 82.1 and a minimum of -375.7. Credit risk had a mean of 18.54 with a standard deviation of 15.50 and a maximum of 76.20 and a minimum of 0

while liquidity risk had a mean of 43.40 and a standard deviation of 19.41 with a maximum of 123.6 and a minimum of -3.1. Exchange risk showed a mean of 2.11 with a standard deviation of 0.05 and a maximum of 2.51 and a minimum of 0.008 lastly interest rate risk had a mean of 0.90 with a standard deviation of 0.01 and a maximum of 0.86 and a minimum of 0.98.

4.3 Diagnostic Tests

Tests for normality, multicollinearity, heteroscedasticity, and the Hausman test were used to confirm the study's data quality.

4.3.1 Normality Test

To collaborate these results after the normality test was carried out the researcher applied the Shapiro Wilk Test to make sure the data were evenly distributed. The results below show the results of the study;

Table 4.2: Normality Test

Variables	Observations	W	V	z	Prob>z
ROE	195	0.5002	72.946	1.292	0.9018
Credit risk	195	0.8427	22.951	1.072	0.8581
Liquidity risk	195	0.9812	2.751	1.258	0.8958
Exchange risk	195	0.5260	69.176	1.289	0.9013
Interest rate risk	195	0.8392	23.471	7.678	0.7186

Source: Research Data (2022)

Given that Prob>z was more than 0.05 in the results presented above, we may infer that data was distributed normally and that the variables were suitable for regression analysis. Therefore, this investigation accepted the null hypothesis that there was a normal distribution of the data.

4.3.2 Multicollinearity Test

The Variance Inflation Factor was used to verify multicollinearity after a multicollinearity test was performed to ensure that the independent variables are not correlated. The data from the study is presented in the table below.

Table 4.3: Multi-collinearity Test

Variable	VIF	1/VIF
Liquidity Risk	1.20	0.8328
Credit Risk	1.13	0.8850
Exchange Risk	1.08	0.9280
Interest Risk	1.02	0.9843

Source: Research Data (2022)

The data acquired led to the conclusion that the independent variables were not multi-collinear because none of them had a variance inflation factor higher than 3.

4.3.3 Heteroscedasticity

To determine how the independent factors affected the variation in the error, the heteroscedasticity test was applied in this research. This analysis employed the Breusch Pagan test and the outcomes of the study test are presented in the table below;

Table 4.4: Heteroscedasticity results

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity
Ho: Constant variance
Variables: fitted values of ROE
chi2 (1) = 2.58
Prob > chi2 = 0.102

Source: Research Data (2022)

The probability value is greater than 0.05, as seen above, proving that the null hypothesis was upheld and that there is homoscedasticity among the variables.

4.3.4 Hausman Test

To choose the fixed effects model over the random effects model for this inquiry, the Hausman Test was carried out. The fixed effects model was deemed to be unfit if the p values were less than 0.05, which was the threshold for rejecting the null hypothesis. The results highlighted below highlight the study's findings;

Table 4.5: Hausman Test

	(b) fixed	(B) random	(b-B) Difference	sqrt(diag (V_b- V_B)) S.E.
Credit Risk	-0.7207	-0.6795	-0.0412	0.2550
Liquidity Risk	-0.6157	0.2079	-0.4074	0.3815
Exchange Risk	0.0528	0.9125	- 0.8597	0.9086
Interest Risk	0.5243	- 0.1137	0.6380	0.9645

b = consistent under Ho and Ha; obtained from xtreg

B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

chi2 (1) = (b-B)'[(V_b-V_B) ^(-1)] (b-B)

= 3.61

Prob>chi2 = 0.074

The data was not well described by the fixed effect model (Hausman test p = 0.074), hence the random effects model is chosen instead.

4.4 Regression Analysis

To confirm the variables were appropriate for the study, a regression analysis was conducted after the diagnostic test was run. To determine how financial risks, affect the productivity of Kenya's commercial banks, this research employed a panel regression analysis approach. The data was analysed using panel random regression, and the table below displayed the results.

Table 4.6: Panel Regression Analysis Results

Random-effects GLS regression Number of obs = 195

Group variable: ID Number of groups = 39

R-squared: Observations per group

within = 0.5951 min =5

between = 0.6302 avg =5.0

overall = 0.7308 max =5

Wald chi2(4) =10.80

corr (u_i, X) = 0 (assumed) Prob > chi2 =0.029

ROE	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Credit Risk	-0.6795	0.2338	2.91	0.004	-1.1379	-0.2211
Liquidity Risk	0.2079	0.3460	-2.08	0.039	-1.4045	-0.0371
Exchange Risk	0.9125	1.1045	0.83	0.409	-3.0773	1.2522
Interest Risk	-0.1137	0.2035	0.56	0.576	-0.2851	0.5125
cons	2.1363	19.71	0.11	0.914	4.7857	3.6513

sigma_u 0.7303

sigma_e 0.8181

rho = 0.6576 (fraction of variance due to u_i)

Source: Research Data (2022)

The preceding figures reveal that commercial banks' financial performance (ROE) drops by 0.6795 times for every unit rise in credit risk, with a significant p-value of 0.004. Secondly, a p-value of 0.039 indicates that an increase of one unit in liquidity risk is associated with a 0.2079-fold improvement in financial performance. Thirdly, there was no statistically meaningful link between currency volatility and economic growth (p = 0.409), but a 0.9125-fold increase in foreign exchange risk did result in a higher financial return. For every one-unit rise in interest risk, commercial banks' financial performance decreased 0.1137 times, with a p-value of 0.576. An overall R square of 0.7308 indicates that the independent variable return on equity (ROE) in Kenya's commercial banks may be partially explained by foreign exchange risk, interest risk credit risk and liquidity risk. The difference of 0.2692 was brought about by other factors that were left out of the analysis. Consequently, the panel regression equations

$$Y = 2.1363 - 0.6795X_1 + 0.2079X_2 + 0.9125X_3 - 0.1137X_4 + 0.6576\ \varepsilon_t$$

4.5 Hypothesis Testing

Using the aforementioned regression results as a foundation, this section outlined the goals of the study at the 5% significant level.

H_{O1}: Effect of Credit risk on the financial performance of commercial banks in Kenya.

The primary purpose of this research was to examine how lending practices affect the bottom lines of commercial banks in Kenya. For this reason, the researchers hypothesized that commercial banks in Kenya would not be negatively impacted by credit risk. The study's findings were contrary to the null hypothesis at the 5% level, proving that commercial bank profits were drastically impacted by credit risk. But the relationship between financial outcomes and credit risk is inverse. The research study findings are in agreement with Ndalu

(2018) and Muriithi (2016) that increase in credit risk has a significant impact on the financial performance.

H_{O2}: Effect of Liquidity risk on the financial performance of commercial banks in Kenya.

The secondary objective of this research was to examine the impact that liquidity risk has on the profitability of Kenya's commercial banks. This study aimed to disprove the widespread belief that Kenya's commercial banks are immune to liquidity shocks by examining their profitability in the face of these events. Commercial banks in Kenya were found to be highly dependent on available financial resources, which significantly impacted their fiscal performance. The results indicate that the null hypothesis cannot be rejected (at the 5% level of significance). The findings of the research collaborated a claim made by Muriithi (2016), to the extent that commercial banks' financial performance is significantly impacted by their liquidity positions.

H_{O3}: Effect of exchange risk on the financial performance of commercial banks in Kenya.

The third objective of the study sought to find out how much commercial banks' financial performance was impacted negatively by currency exchange risk. The primary assumption of the study was that currency risk had a minimal impact on the financial performance of commercial banks in Kenya. The results show that Kenyan commercial banks' profits are unaffected by the current exchange rate. At the 5% significance level, the results did not rule out the possibility of an incorrect null hypothesis. There was a substantial correlation between exchange risk and profitability among Kenyan commercial banks. This result conformed with the results by Gigombo and Mbugua (2018) that exchange risk improved the commercial banks' financial performance. This finding runs counter to the work of Juma

and Atheru, who discovered that currency fluctuations have a major impact on the bottom lines of Kenya's businesses.

H_{O4}: Effect of interest risk on the financial performance of commercial banks in Kenya.

The fourth objective was to determine the effect Kenyan commercial banks went realised on interest rate risk. The research was conducted to disprove the idea that interest-rate uncertainty significantly impacts Kenya's commercial banks' profitability. The results debunked the theory that commercial banks in Kenya are vulnerable to interest rate risk. The lack of a significant rejection of the null hypothesis at the 5% level further supports its validity. Commercial banks in Kenya typically have a bad financial performance when interest rates fluctuate. In line with the findings of Maniagi (2018), which discovered that rising interest risk reduces a company's revenue-generating potential, this analysis confirmed that hypothesis. However, contrary to the findings of Hoque et al (2020), the researchers discovered that commercial banks' financial performance was unaffected by interest rates.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter discussed in detail the summary of the research study, conclusions and policy recommendations for various sections of the study. It gave suggestions on areas for further research in the future.

5.2 Summary of the Research Study.

The primary objective of the research was to evaluate how Kenyan commercial banks fared in the face of various financial dangers. The study's main objectives were to examine how Kenya's commercial banks fared when exposed to credit risk and to determine what policies would assist reduce that risk. The researcher also wished to know more about how liquidity risk affects Kenyan commercial banks. The effect of currency risk on the profitability of Kenyan commercial banks was analysed objectively to understand how interest rate risk affects the profits of Kenya's commercial banks. The study was grounded in the following theories, Agency Theory, Maturity Gap Analysis Theory, Purchasing Power Parity Theory (PPP) and Liquidity Preference (LP). The study, which applied a causal research technique, comprised all Kenyan commercial banks that had been operational consistently between 2017 and 2021. A panel regression analysis model was used to analyse the data. The investigation's compass points were the research questions and goals. The results of this study showed that commercial banks in Kenya had a high level of credit risk, which had a significant and negative influence on their financial performance. A 5% level of significance was used to accept the alternative hypothesis. The second main conclusion was that the relationship between commercial banks' exposure to liquidity risk and their financial performance was both positive and substantial. Therefore, at a 5% level of significance, the null hypothesis was rejected.

Thirdly, based on the data, it seems that exchange risk positively affects the financial performance of Kenyan commercial banks, however, the impact is statistically insignificant. Therefore, the null hypothesis was accepted at the 5% level of significance. Even though this result was not statistically significant, the study also discovered that interest risk negatively impacted the financial performance of Kenya's commercial banks. At the 5% level of significance, however, the absence of evidence favoured the null hypothesis.

5.3 Conclusion

Despite how carefully risk management is implemented, financial losses are an unavoidable element of operating a commercial bank. Commercial banks experience the poor financial performance as a result of the financial risks they pose, which dilute their earnings.

A few generalizations were made in light of the study's findings. For Kenya's commercial banks, credit risk was demonstrated to have a negligible but detrimental impact on profitability. The reduction of commercial banks' exposure to liquidity risk, according to Kenyan academics, was advantageous. In addition, the analysis found that Kenyan commercial banks benefited from exposure to exchange risk, even if the impact was not statistically significant. The research found that commercial banks in Kenya did feel the negative consequences of interest risk, but the effects were not statistically significant.

5.4 Policy Recommendations

The study made some policy recommendations based on the factors that were shown to have the greatest influence on Kenya’s commercial banks. According to this study's findings, credit risk has a major detrimental effect on Kenya's commercial banks. The study suggests that commercial bank management implements rigorous processes to evaluate the creditworthiness of customers applying for loans and that commercial banks should not advance loans to new customers without learning their credit history to evaluate their ability

to pay. This is because many credit defaulters borrow from various credit lending institutions without clearing their loans.

The study concluded that liquidity risk has a notable beneficial effect on the financial outcomes of Kenya's commercial banks. The study's results prompted researchers to recommend that Kenya's Central Bank (CBK) maintain a close check on commercial banks' liquidity ratios, providing warnings to those that are falling short of the required 20% and taking action in extreme circumstances. The Kenyan government, backed by the Central Bank of Kenya, is considering raising the minimum statutory requirement for commercial banks to further restrict those that are particularly weak.

5.5 Suggestions for Further Research

The primary focus of the study was the overall financial performance and sensitivity to the financial risk of Kenya's commercial banks. More research on the same issue might be useful because the independent variables (Credit risk, Liquidity risk, Exchange risk, and Interest risk) explain a great deal about the dependent variable (financial performance; ROE). Even if it's important to analyze Kenya's commercial banks' financial stability and growth, a better suitable dependent variable metric is recommended.

REFERENCES

Abdulrehman, A. A., & Nyamute, W. (2018). Effect of mortgage financing on the financial performance of commercial banks in Kenya. *Journal of International Business, Innovation and Strategic Management, 2*(2), 91-122.

Alqahtani, F., Mayes, D. G., & Brown, K. (2017). Islamic bank efficiency compared to conventional banks during the global crisis in the GCC region. *Journal of International Financial Markets, Institutions and Money*, *51*, 58-74.

Asiamah, N., Mensah, H. K., & Oteng-Abayie, E. F. (2017). General, target, and accessible population: Demystifying the concepts for effective sampling. *The Qualitative Report*, *22*(6), 1607

Central Bank of Kenya. (2020). Bank supervision annual report. Retrieved from https://www.centralbank.go.ke/uploads/banking_sector_annual_reports/1375903848_Bank%20Supervision%20Annual%20Report%202020.pdf. Accessed 24/08/2022.

Charmler, R., Musah, A., Akomeah, E., & Gakpetor, E. D. (2018). The impact of liquidity on the performance of commercial banks in Ghana. *Academic journal of economic studies, 4*(4), 78-90.

Chidozie, U. E., & Ayadi, F. S. (2017). Macroeconomy and banks' profitability in Nigeria. *African Research Review*, *11*(2), 121-137.

Chireka, T., & Fakoya, M. B. (2017). The determinants of corporate cash holdings levels: evidence from selected South African retail firms. *Investment Management & Financial Innovations*, *14*(2), 79.

Chukwunulu, J. I., Ezeabasili, V. N., & Igbodika, M. N. (2019). Risk Management and the performance of commercial banks in Nigeria (1994-2016). *International Journal of Banking and Finance Research*, *5*(1), 64-71.

Drechsler, I., Savov, A., & Schnabl, P. (2021). Banking on deposits: Maturity transformation without interest rate risk. *The Journal of Finance*, *76*(3), 1091-1143.

Gan, P. T. (2019). Economic uncertainty, precautionary motive and the augmented form of the money demand function. *Evolutionary and Institutional Economics Review*, *16*(2), 397-423.

Gikombo, E. M., & Mbugua, D. (2018). Effect of select macro-economic variables on the performance of listed commercial banks in Kenya. *International Academic Journal of Economics and Finance*, *3*(1), 80-109.

Gindis, D. (2020). On the origins, meaning and influence of Jensen and Meckling's definition of the firm. Oxford Economic Papers, 72(4), 966-984.

Hassan, M. K., Khan, A., & Paltrinieri, A. (2019). Liquidity risk, credit risk and stability in Islamic and conventional banks. Research in International Business and Finance, 48, 17-31.

Hoque, M. A., Ahmad, A., Chowdhury, M. M., & Shahidullah, M. (2020). Impact of Monetary Policy on Bank's Profitability: A Study on Listed Commercial Banks in Bangladesh. *International Journal of Accounting & Finance Review*, *5*(2), 72-79.

Iacus, S. M., King, G., & Porro, G. (2019). A theory of statistical inference for matching methods in causal research. *Political Analysis*, *27*(1), 46-68.

Isanzu, J. S. (2017). The impact of credit risk on the financial performance of Chinese banks. *Journal of International Business Research and Marketing*, *2*(3).

Jagongo, A., & Rop, E. (2021). Liquidity Risk Management and Financial Performance of State Owned Enterprises in Kenya. *International Journal of Finance and Accounting*, *6*(2), 12-28

Juma, A. M., & Atheru, G. (2018). Financial Risks Analysis and Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting*, *2*(2), 76-95.

Kablan, S. (2009). Banking efficiency and financial development in sub-Saharan Africa (SSA). *African Finance Journal*, *11*(2), 28-50.

Kalemli-Ozcan, S., & Varela, L. (2019, April). Exchange rate and interest rate disconnect: The role of capital flows, currency risk and default risk. In *Society for Economic Dynamic Meeting Papers* (Vol. 351).

Krisnasari, A. R. (2019). Analysis of Money Demand in Indonesia Period 2009-2018 (Doctoral dissertation, Universitas islam Indonesia).

Kutlu, L., Mamatzakis, E., & Tsionas, M. G. (2022). A principal–agent approach for estimating firm efficiency: Revealing bank managerial behavior. *Journal of International Financial Markets, Institutions and Money*, *79*, 101576.

Lubinska, B. (2020). Asset Liability Management Optimisation: A Practitioner's Guide to Balance Sheet Management and Remodelling. John Wiley & Sons.

Mabati, J. R., & Onserio, R. F. (2020). The Effect of Central Bank Rate on Financial Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting*, *4*(5), 25-40.

Magadi, s. O. (2021). Effect of central bank risk management guidelines compliance on financial performance of commercial banks in kenya (doctoral dissertation, kabarak university).

Maniagi, G. M. (2018). Influence of financial risk on the financial performance of commercial banks in Kenya (Doctoral dissertation, JKUAT).

Maria-Daciana, R. C. (2015). The Financial Performance of Commercial Banks Listed and Traded On Bucharest Stock Exchange. *Revista Economica*, *67*(Supplement), 135-144.

Mugenda, O. & Mugenda, P (2003).Qualitative and Quantitative Research Methods. Kenya.

Munge, S. K. (2020). Enforcement of the Prudential Guideline no. 13 (enforcement of banking laws and regulations-CBKPG13) by The Central Bank of Kenya (CBK) a case study of Chase Bank (Now SBM) for the period before and after its being placed under statutory management (Doctoral dissertation, Strathmore University).

Muriithi, J. A (2016). Effect of Financial Risk on Financial Performance of Commercial Banks in Kenya.

Muthinja, M. M., & Chipeta, C. (2018). What drives financial innovations in Kenya's commercial banks? An empirical study on firm and macro-level drivers of branchless banking. *Journal of African Business*, *19*(3), 385-408.

Mwai, A. M. (2021). Financial Innovations and Financial Deepening of Commercial Banks in Kenya (Doctoral dissertation, JKUAT-COHRED).

Mwangi, B. M., & Jagongo, A. O. (2021). Effect of Organization Redesign Strategy on Performance of Commercial Banks in Nairobi County, Kenya. *Journal of Finance and Accounting*, *1*(2), 23-33.

Nakorji, M., Agboegbulem, N. T., Gaiya, B. A., & Atoi, N. V. (2021). Purchasing power parity approach to exchange rate misalignment in Nigeria. *CBN Journal of Applied Statistics*, *12*(1), 45-75.

Ndagara, M. M., Mugendi, L. K., & Galo, N. M. (2020). Effectiveness of monetary policy intervention on exchange rate volatility in Kenya.

Ndalu, C. N. (2018). Effect of Credit Risk Management on Financial Performance of Deposit *Taking Saving and Credit Co-Operatives Societies in Kenya* (Doctoral dissertation, University of Nairobi).

Nzuve, R. M (2016). Impact of Macroeconomic Factors on Financial Performance of Deposit- Taking Micro Finance Institutions in Kenya

Olowo, S. O., Edewusi, G. D., & Dada, J. D. (2021). Effects of Selected Macroeconomic Variables on Commercial Banks Performance in Nigeria. *Fudma Journal of Management Sciences, 1*(1), 42-53

Paul, S., & Musiega, M. (2020). Effect of Credit Risk Management Practices on Financial Performance of Micro-Finance Institutions in Nairobi. *International Journal of Recent Research in Social Sciences and Humanities, 7*(3), 22-39.

Payne, G. T., & Petrenko, O. V. (2019). Agency theory in business and management research. In *Oxford Research Encyclopedia of Business and Management*.

Reimann, M., & Jain, S. P. (2021). Maladaptive Consumption: Definition, Theoretical Framework, and Research Propositions. *Journal of the Association for Consumer Research*, *6*(3), 000-000.

Ringle, C. M., Wende, S & Becker. J. C. (2015). SmartPLS 3. Bonningstedt: SmartPLS. Retrieved on 2018.06.012 from http://www.smartpls.com.

Ugoani, J., & Uju, A. O. (2023). Dynamics of Asset and Liability Management Determinants of Bank Profitability. *Available at SSRN 4402820*.

Umar, H., & Dikko, M. U. (2018). The effect of internal control on the performance of commercial banks in Nigeria. *International Journal of Management Research*, *8*(6), 13-32.

Varpio, L., Paradis, E., Uijtdehaage, S., & Young, M. (2020). The distinctions between theory, theoretical framework, and conceptual framework. *Academic Medicine*, *95*(7), 989-994.

Zins, A., & Weill, L. (2017). Islamic banking and risk: The impact of Basel II. *Economic Modelling*, *64*, 626-637.

APPENDICES

Appendix 1: Letter of Introduction

TO WHOM IT MAY CONCERN

The purpose of this study is to conduct an analysis of the "financial risks and financial performance of commercial banks in Kenya". I would like to inquire into this matter further with your company, but I need your permission to do so. I assure you that any information you provide will be held in strict confidence and will be utilized purely for scholarly purposes.

Thank you.

Mr. Jones Mwania

MBA (Finance) student; Student Registration Number: D53/28053/2019

School of Business, Economics and Tourism

Kenyatta University

Appendix 2: List of commercial banks in Kenya

1. Absa Bank Kenya Pic
2. Access Bank Plc
3. African Banking Corporation Ltd
4. Bank of Africa (K) Ltd
5. Bank Of Baroda (Kenya) Limited
6. Bank of India
7. Citibank N.A. Kenya
8. Consolidated Bank of Kenya
9. Co-operative Bank of Kenya Ltd
10. Credit Bank Ltd
11. Development Bank Of Kenya
12. Diamond Trust Bank Kenya Ltd
13. DIB Bank Kenya Ltd
14. Ecobank Kenya Ltd
15. Equity Bank Kenya Ltd
16. Family Bank Ltd
17. First Community Bank
18. Guaranty Trust Bank
19. Guardian Bank Ltd
20. Gulf African Bank Ltd
21. Habib AG Zurich
22. HFC Ltd
23. 1&M Bank Ltd
24. KCB Bank Kenya Ltd
25. Kingdom Bank Ltd
26. Mayfair CIB Bank Ltd
27. Middle East Bank (K) Ltd
28. M-Oriental Commercial Bank Ltd
29. National Bank of Kenya Ltd
30. NCBA Bank Kenya PLC
31. Paramount Bank Ltd
32. Prime Bank Ltd
33. SBM Bank Kenya Ltd
34. Sidian Bank Ltd
35. Spire Bank Limited
36. Stanbic Bank Kenya Ltd
37. Standard Chartered Bank Kenya Ltd
38. UBA Kenva Bank Ltd
39. Victoria commercial Bank Limited

Source: CBK, 2022

Appendix 3: Data Collection Guide

Bank	Year	Interest rate risk	Exchange rate risk	Liquidity risk	Credit risk	Financial performance
1	2017-2021					
2	2017-2021					
3	2017-2021					
4	2017-2021					
5	2017-2021					
6	2017-2021					
7	2017-2021					
8-39	2017-2021					

Appendix 4: Research Approval and Authorization

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 26th October, 2022

TO: Richard Jones Mwania
C/o Accounting and Finance Dept.

REF: D53/28053/2019

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 19th October, 2022 approved your Research Project Proposal for the M.B.A Degree Entitled, **"Financial Risks and Financial Performance of Commercial Banks in Kenya".**

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and progress report Forms per semester. The Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your project before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

Thank you.

ANNBELL MWANIKI
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Accounting and Finance.

Supervisors:

1. Dr. Mark Suva
   C/o Department of Accounting and Finance
   Kenyatta University

AM/lnn

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke

Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D53/28053/2019

DATE: **26th October, 2022**

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR RICHARD JONES MWANIA – REG. NO. D53/28053/2019.

I write to introduce **Richard Jones Mwania** who is a Postgraduate Student of this University. The student is registered for M.B.A degree programme in the **Department of Accounting and Finance.**

Richard intends to conduct research for a M.B.A Project Proposal entitled, **"Financial Risks and Financial Performance of Commercial Banks in Kenya".**

Any assistance given will be highly appreciated.

Yours faithfully,

PROF. ELISHIBA KIMANI
DEAN, GRADUATE SCHOOL

AM/lnn

Appendix 7: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **139701**

Date of Issue: **10/November/2022**

RESEARCH LICENSE

This is to Certify that Mr.. JONES MWANIA RICHARD of Kenyatta University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: FINANCIAL RISKS AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA for the period ending : 10/November/2023.

License No: **NACOSTI/P/22/21742**

139701

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions