RELATIONSHIP BETWEEN SELECTED RISK GOVERNANCE MECHANISMS, BOARD OVERSIGHT AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

RAYMOND KIPYEGON KEMBOI

A Thesis Submitted to the Board of Graduate Studies in Partial Fulfillment of the Requirement for the Conferment of the Degree of Doctor of Philosophy in Business Administration (Finance) of University of Kabianga

UNIVERSITY OF KABIANGA

OCTOBER 2019

DECLARATION AND APPROVAL

Declaration

I declare that this thesis is my original work and has not been submitted for the conferment of a degree or award of a diploma in this or any other University:

Signature……. Date…….……

Raymond Kipyegon Kemboi
PhD/BSA/003/15

Approval

This thesis has been submitted for examination with our approval as University supervisors: -

Signature…….. Date……

Dr. Peter Kimutai Cheruiyot
Department of Finance and Accounting
University of Kabianga

Signature ……. Date…….

Dr. Isaac Kiprotich Naibei
Department of Finance and Accounting
University of Kabianga

Signature…….. Date…….

Dr. Peter Kipkosgei Sirmah
Department of Agroforestry & Rural Development
University of Kabianga

COPYRIGHT

DEDICATION

Dedicated to my parents Victor and Nelly Rop, my wife Mercy Kemboi and son Hans Kiplangat.

ACKNOWLEDEMENT

This thesis is a product of contributions by several people whose efforts are hereby fondly acknowledged. First, I would like to thank the Almighty God for His protection, wisdom and good health while developing this thesis. I also thank my supervisors Dr. Peter Kimutai Cheruiyot, Dr. Isaac Kiprotich Naibei and Dr. Peter Kipkosgei Sirmah for their academic and scholarly guidance in producing this thesis. I wish to acknowledge the positive comments, constructive criticisms and inspirations of my supervisors in developing and polishing this thesis from the conceptual to the final stage.

I wish to thank the Faculty members of the School of Business and Economics, University of Kabianga, Dr. Willitter Rop, Dr. Lydia Langat, Dr. Hellen Sang, Dr. Alfred Bett, Dr. Joseph Kirui, Dr. Patricia Chepkwony and Dr. Joseph Rotich for their assistance in form of pieces of advice and guidance while developing the proposal and the final thesis. I wish to appreciate my classmates for moral support and motivation. I also thank University of Kabianga, Sotik campus staff for their encouragements. Special appreciation also goes to the religious facet Reverend Philip Cheriro for the spiritual support and prayers while developing this thesis.

I also acknowledge the contribution in form of encouragements from friends and family members and more so my dear wife Mercy Kemboi. Much appreciation also goes to University of Kabianga for giving me a chance to pursue this degree and more importantly for providing a conducive environment for study. I finally want to thank

my course lecturers for the valuable inputs and training that assisted me to produce this thesis. Thank you all.

ABSTRACT

Commercial banks in any country play critical role in the growth of the economy. The shareholders and stakeholders expect the banks to yield good financial returns. However, performance of banks in Kenya has been declining leading to their collapse or receivership. This may be attributed to many factors including risk exposure. In bid to protect the financial sector, Central Bank of Kenya directed all the banks to manage risks by implementing risk governance mechanisms. However, limited knowledge exists on the relationship between risk governance mechanisms and financial performance of financial institutions owing to limited studies and also no study has attempted to investigate whether board oversight has a moderating effect on the relationship between risk governance mechanisms and financial performance. This study therefore sought to establish the relationship between risk committee existence, audit and credit committee sizes, number of risk governance mechanisms and financial performance of commercial banks in Kenya and it also established the moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance of commercial banks in Kenya. The study is significant to financial institution management, Central Bank of Kenya, Scholars and the government. The target population was all the 42 commercial banks operating in Kenya. The study adopted longitudinal research design covering a period of five years (2013 - 2017). The study used secondary data extracted from annual audited financial statements and reports of commercial banks. Regression analysis and multicollinearity tests were carried out using SPSS. The study found a significant positive relationship between risk governance mechanisms: risk committee existence, credit committee size, number of risk governance mechanisms and financial performance. The findings showed a coefficient of regression of r=0.376, R^2= 0.142, $p<0.05$. This indicates that 14.2% of the change in financial performance is explained by the risk governance mechanisms. After introduction of the moderator first measured by board size, change in R^2 became 0.076, $p<0.05$ indicating a significant moderating effect of board size on the relationship between risk governance mechanisms and financial performance. However, when frequency of board meetings was used as a moderator, change in R^2= 0.006 with significance level of $p>0.05$ was established indicating that there was no significant moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and financial performance. The study concludes that risk committee existence, credit committee size, number of risk governance mechanisms have a significant positive relationship with financial performance of commercial banks in Kenya, audit committee size is not significantly related to financial performance, board size has a significant moderating effect on the relationship between risk governance mechanisms and financial performance while frequency of board meetings does not have a significant moderating effect on the relationship between risk governance mechanisms and financial performance. The study recommends commercial banks to focus on risk governance mechanisms so as to manage risk exposure thus enhancing financial performance.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

AIG America International Group

CBK Central Bank of Kenya

CDS Credit Default Swaps

CEO Chief Executive Officer

CIS Credit Information Sharing

CRA Consumer Reporting Agencies

CRB Credit Reference Bureau

DHG Discovery Health Group

EPS Earning Per Share

ERM Enterprise Risk Management

GDP Gross Domestic Product

KPMG Klynveld Peat Marwick Goerdeler

MBS Mortgage-Backed Securities

MDO Micro Enterprise Development Organization

NACOSTI National Commission for Science, Technology and Innovation

NAMA National Association of Mercantile Agencies

NGOs Non-Governmental Organizations

PwC Pricewaterhouse Coopers

ROA Return on Assets

ROI Return on Investment

SACCOs Savings and Credit Corporative Societies

SMEs Small Medium Enterprises

SWOT Strength, Weakness, Opportunities, Threats

UK United Kingdom

UN United Nations

US United States

VIF Variable Inflation Factor

DEFINITION OF TERMS

Audit committee refers to a committee established by the board and assigned the responsibility of overseeing the audits of the bank and generating reports for the board.

Board committee refers to the committees established by the board of a bank and assigned various duties of governance by the board.

Board oversight refers to the duties of governance performed by the board members of a commercial bank. This is the moderating variable for this study. It is measured using board size and frequency of board meetings.

Commercial Bank is a financial institution that is regulated by the Central Bank of Kenya

Credit committee refers to a committee established by the board of a bank with the responsibility of regulating, controlling, monitoring and rationing bank credits.

Credit Information refers to both the positive or negative information about a person, company or any institution and it gives the credit information including the credit worthiness, credit standing, credit capacity, the history or profile of an individual or entity with regard to credit, assets, and any financial obligations

Credit Report refers to published, written information by the credit reference bureaus about the credit information of customers. The report is normally used by the various institutions to make credit information decisions. The report gives the customer's credit ability and past credit records. The credit report can either be

positive or adverse. The credit report informs the credit report users on the eligibility of the customers to the credit and their ability to repay the loans.

Credit risk refers to any risk that the commercial banks face while it tries to manage the use of cash in the bank. It ranges from managing defaults from the debtors, failure to manage banks capital and loan reserves.

Financial institution refers to commercial bank or a micro finance bank which provides financial services to the members and the customers and is regulated by the central bank of Kenya. The financial institution does the function of advancing loans to its customers and the members.

Financial performance refers to the measure of how the commercial banks perform. Financial performance is measured by the return on assets.

Hazard refers to any condition that increases the chances of any form of risk occurring. Hazard is a catalyst of risk.

Negative Information refers to adverse customer information relating to their credit rating, and normally the negative information is because of the customers defaulted loans previously, other failure by the customer to honor the financial obligation, any cases on credit frauds, attempt to defraud any financial institution.

Micro Finance is a financial institution that provides small amounts of loans to its customers/members and it is regulated by the Central bank of Kenya.

Risk refers to the occurrence of an unfortunate event that is measurable and whose occurrence causes financial loss to the bank.

Risk committee refers to a committee established by the board to regulate the risk that a bank may face during its operation. Risk committee minimizes and eliminates the various risks that a bank may face that may affect its operations negatively.

Risk governance mechanism refers to the ways and strategies that banks use to manage risk within the board of governance. The mechanisms include risk committee of the bank that does the role of managing risk exposure, audit committee that is responsible for ensuring accountability and eliminating fraud, credit committee that controls the use and management of credit in the bank and full board of governance that performs the overall role of oversight.

SMEs refer to the companies whose capital is below one million Kenya shillings.

Tier refers to classification of banks by the Central Bank of Kenya according to the sizes. Tier I represent banks with a market share of over 5 %, Tier II represents banks with a market share of between 1-5% and Tier III represents banks with market share of below 1%. (See Appendix I).

CHAPTER ONE

INTRODUCTION

1.1. Overview

This chapter presents the background of the study, the statement of the problem, purpose of the study, objectives, significance, limitations and the assumptions of the study.

1.2 Background of the Study

Commercial banks contribute to economic development of both developed and developing countries (Miencha and Selvam, 2013; Ntow and Laryea, 2012). Despite this crucial role, the banking industry faces risk exposure challenges that may lead to their collapse if not managed. After the collapse of various institutions and financial distress in the world in the 1990s, regulators of financial institutions in various countries developed policies and strategies to minimizing risk occurrence (Mohamed, 2015). This led to the passing of the Basel Accord I, Basel Accord II and Basel Accord III that details the bank supervision rules (Lexicon, 2017). In the United States, the legislators enacted the Sarbes Oxyley Act in 2002, which acted as a risk prevention mechanism (Mohamed, 2015).

Commercial banks have also instituted other banking anti-risk mechanism such as the institution of boards of governance whose mandate includes the bank oversight role executed through various board committees (Nibedita, 2018). The board committees

play the important role in corporate governance of preparing reports for the full board of governance for development of policies (Chen & Wu, 2016).

Africa has had its share of bank failure that has been attributed to poor management and excess risk taking (Odipo, 2007). In South Africa, for the past 30 years, over 20 banks have been deregistered because of poor management and liquidity problems (BusinessTech, 2018). In Democratic Republic of Congo, International Bank for Africa in Congo was forced to limit its cash withdrawals when the Central Bank terminated its credit amount because of mismanagement (Napier, 2016).

In general, the main causes of banks failure include lack of risk management mechanisms, poor management of the banks and too much lending and failure to comply with directives of the Central Bank (Khomotso, 2015; Kangali, 2016). In East Africa, several banks have been closed down and their operation licences cancelled or placed under receivership for breach of capital rules. Twiga Bancorp a state owned financial institution in Tanzania made huge losses and its management was replaced by Bank of Tanzania (Githaiga, 2018). In Uganda, Crane Bank was taken over by the Central Bank after it faced huge undercapitalisation.

In Kenya, 22 commercial banks have collapsed since independence (InfoHub Kenya, 2016). Since 2014, three banks namely Dubai Bank, Imperial Bank and Chase Bank have been placed under receivership. The trend of collapse of banks is worrying despite the role they play in the economy. The collapse of banks in Kenya has been attributed to failed financial obligations, financial malpractices and failure to meet the required

financial ratios and undisclosed insider loans respectively (Gathaiya, 2017). In general, the risk issues affecting commercial banks range from insider dealings, weak corporate governance practices, weak regulatory and supervision systems, poor risk management strategies and lack of strong internal controls (Gathaiya, 2017). In particular Cooperman, Mills and Gardner (2000), classified these forms of risks as due to credit, interest, operational, political, foreign exchange, market and liquidity risks. Credit risk is the major determinant of the financial performance of commercial banks (Poudel, 2012). The defaults by the borrowers lead to slow growth or even collapsing of the institutions and is the major problem facing commercial banks in Kenya (Waweru & Kalani, 2009).

1.2.1 Risk governance mechanisms

Risk Governance mechanisms refers to various ways through which a firm manages its risk exposure. It involves identification, analysis and implementing strategies of reducing and eliminating risk faced by firms (Cetina and Preda, 2005). Commercial banks can adopt risk management mechanisms such as establishing risk committee, audit committee, credit committee and board of governance that does the oversight role. According to Kallamu (2015), good returns are attributed to the existence of risk committee in the organization. Audit committee does the role of ensuring effective financial reporting, effectiveness in the internal audit, integrity of the financial statements and providing oversight on external report from auditors. A study done by (Samoei and Rono, 2016) found a significant effect of audit committee size on performance of firms. Credit committee ensures implementation and adherence to

credit policies and monitoring credit portfolio while the board of governance does the overall mandate of oversight (Ndegwa, 2017). Mumbi and Omagwa (2017) did a study on credit risk management and financial performance of commercial banks in Kenya and found a significant positive relationship between the two variables. The study recommended that commercial banks should maintain credit risk at lower levels to ensure better performance.

1.2.2 Financial performance

Financial performance is a measure of returns of a firm from its operations over a certain period. It can be measured in terms of return on assets (RoA) and return on equity (RoE) (Ntuite, 2015). The occurrence of risks and mismanagement directly results in decrease in the financial performance of banks (Wanjohi and Ndambiri, 2017). To ensure stability in financial performance, banks need to deal with risks by identifying their various sources (Wanjohi and Ndambiri, 2017). This will require banks to have better information about the current and potential customers and their financial conditions. Banks may need to implement risk governance mechanisms to evaluate money flow and minimize risks that the money is facing (Alshatti, 2015).

Improper management of risk may result in liquidity risk brought about by the indebtedness of the banks. Commercial banks may collapse if there is poor management of loans or reduction in the quality of the loans advanced to the creditors (Sufi and Qaisar, 2015). While the link between risk and financial performance is evident in literature, the relationship between risk governance mechanisms and financial performance is not clear owing to limited studies. The risk controls adoption by an

institution depends on risk decision made at corporate level as per governance structures and mechanisms of different institutions.

The major risks faced by commercial banks is due to credit, that changes the net asset value hence the perceived ability of debtors to meet their contractual obligations (Pyle, 1997). Credit risk occurs when one party to a contract fails to honor their obligations or agreement to make payments or failure to pay taxes insurance and premium due. Tshorhe, Aboagye and Coleman (2011) defines credit risk as the probability that some of the assets of the banks, especially its loans, will decline in value and possibly become worthless. To deal with the credit risks exposures, commercial banks should identify the various sources of the risks and to screen their exposures. These exercises mean a better information of the current and potential customers and their financial conditions, by implementing new scoring techniques (Alshatti, 2015; Koch and MacDonald, 2000; Tshorhe, Aboagye and Coleman, 2011).

1.3 Statement of the Problem

Commercial banks in Kenya play a significant role in the economic development by providing financial access and savings. Over the years, commercial banks have increased in number, as is the value of their investments. They are expected to report good financial performance and stability for the interest of the shareholders and all the stakeholders. Despite the growth and expansion, commercial banks are exposed to risks hence reporting poor financial performance and subsequently collapse (Labie, 2011). Indeed, so far, a total of twenty-two commercial banks have collapsed in Kenya, while

three namely Chase, Imperial and Dubai Banks have recently been placed under receivership by the Central Bank of Kenya. Gathaiya (2017) found that the problems affecting the commercial banks in Kenya range from insider lending, weak corporate governance practices, weak regulatory and supervisory systems, poor risk management strategies as well as lack of strong internal controls. Similarly, (Kinuthia, 2007) found that commercial banks are making losses because of non-performing loans. The collapse of commercial banks result in loss of shareholder investments, loss of customer deposits and loss of employment. To curb this trend, the Central Bank of Kenya has developed a policy requiring all banks in Kenya to minimize risks by adopting various risk mechanisms. Previous studies on risk management have focused on corporate governance and types of risks excluding the risk governance mechanisms (Poudel, 2012 and Ojulari 2014). There is no study that has investigated the relationship between selected risk governance mechanisms and financial performance and also the moderating effect of board oversight. The current study therefore sought to establish the relationship between risk governance mechanisms and financial performance of commercial banks in Kenya. The results is useful to banking industry for improved financial performance and management.

1.4 General Objective of the Study

The general objective of this study was to establish the relationship between selected risk governance mechanisms, board oversight and financial performance of commercial banks in Kenya

1.5 Specific Objectives of the Study

The specific objectives of this study were to;

i. Determine the relationship between risk committee existence and the financial performance of commercial banks in Kenya
ii. Establish the relationship between audit committee size and the financial performance of commercial banks in Kenya
iii. Derive the relationship between the credit committee size and the financial performance of commercial banks in Kenya
iv. Establish the relationship between the number of risk governance mechanisms and the financial performance of commercial banks in Kenya
v. Establish the moderating effect of board size on the relationship between selected risks governance mechanisms and the financial performance of commercial banks in Kenya
vi. Establish the moderating effect of frequency of board meetings on the relationship between selected risks governance mechanisms and the financial performance of commercial banks in Kenya

1.6 Hypotheses of the Study

The following hypotheses were tested:

Ho_1: There is no statistically significant relationship between risk committee existence and the financial performance of commercial banks in Kenya

Ho_2: There is no statistically significant relationship between audit committee size and the financial performance of commercial banks in Kenya

Ho_3: There is no statistically significant relationship between the credit committee size and the financial performance of commercial banks in Kenya

Ho_4: There is no statistically significant relationship between the number risk governance mechanisms and the financial performance of commercial banks in Kenya

Ho_5: There is no statistically significant moderating effect of board size on the relationship between selected risk governance mechanisms and the financial performance of commercial banks in Kenya

Ho_6: There is no statistically significant moderating effect of frequency of board meetings on the relationship between selected risk governance mechanisms and the financial performance of commercial banks in Kenya

1.7 Justification of the Study

The demand for financial services and increasing customers of commercial banks in Kenya has led to increased savings and deposits. This has subsequently led to increased borrowings therefore exposing commercial banks to potential mismanagement and risk, hence affecting their financial performance. Some bank customers borrow funds and default in the repayment. In the event that the commercial banks fail to manage the number of defaulters, then its ability to lend will be affected leading to liquidity crisis. The level of default may become extreme leading to the closure of commercial banks,

hence the need to understand relationships between risk governance mechanisms and bank financial performance.

Previous studies have focused on the types of risks while little attention has been given to the mechanisms of managing risks by the banks. This therefore, presents a unique area of study on the relationship between risk governance mechanisms and financial performance of commercial banks. When a bank collapses, the shareholders and stakeholders suffer financial losses. This study therefore adds a pool of knowledge on the effects of various risk governance mechanisms hence enabling the bank management and policy makers to make informed policy decisions to prevent risks.

1.8 Significance of the Study

The outcome of this research is beneficial to various groups in various ways. The benefits are as discussed below; -

1.8.1 Financial institution management

The findings from this study are useful to the commercial banks in the management of risk. Furthermore, the findings inform the commercial banks on the type and a standard mix of risk mechanisms to adopt.

1.8.2 Central Bank of Kenya

It is in the best interest of the Central Bank of Kenya (CBK) that commercial banks are sustainable. From the findings of this study, CBK being the regulator of the commercial banks, it benefits from information about relationship of various risk governance

mechanisms studied and the financial performance. Proper proportion of risk mechanism and financial performance are established. The CBK can pass policies on the standard ratio of risk governance mechanism that helps the commercial banks to manage and minimize risks exposures for better financial performance. From the findings of the research, the CBK will make informed policies to roll out to other financial sectors.

1.8.3 Scholars

The scholars in the field of financial risk, governance and performance benefits through referencing when doing similar or related research. The findings provide direction for researchers interested in this study area. Suggestions for further studies have been made from the study.

1.8.4 Government

The government is the regulator of the financial system in the country. The published findings of the study can be referred to by respective government departments when drafting and passing legislation and formulation of policies. This enables them to regulate the financial system and prevent it from failure due to risk, hence help its citizens from losing funds invested in the various banks. Similarly, the findings will enable the respective Government departments to make informed legislation on risk management in the country resulting in good performance.

1.9 Scope of the Study

This study was limited only to the 42 commercial banks licensed by the Central Bank of Kenya. The study focused on the risk governance mechanisms in all commercial banks and their respective financial performance. The risk governance mechanisms covered by the study are; risk committee, audit committee, credit committee and number of risk governance mechanisms. The performance of banks was measured by RoA. The period of the study covered five years 2013-2017.

1.10 Limitations of the Study

While conducting this study, there were limitations. The study intended to use the most recent financial reports from the commercial banks however the latest financial reports were for the financial year 2017. This is due to the fact that commercial banks have to subject the annual financial reports through a series of processes including external auditing and annual general meetings and this may delay the publication of this reports. For this study the latest financial reports were used.

1.11 Assumptions of the Study

The study assumed that; risk governance mechanisms exist in all the commercial banks, that the audited information obtained from the website of banks is true and represents the true financial and corporate position for the years under study, that banks have been in operation within the period of study and that at least some banks have risk committees.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews both theoretical and empirical literature regarding the risk governance mechanisms and the financial performance of the commercial banks in Kenya.

2.2 Review of Related Literature

This section reviews literature related to risk governance mechanisms (risk committee existence, audit, credit committee sizes, number of risk governance mechanisms and board oversight) and financial performance of commercial banks.

2.2.1 Risk committee and financial performance of commercial banks in Kenya

According to Kithinji (2010), risk management is the procedure that commercial banks put in place to prevent its financial exposures. Risk committee is a group of members established by the banks to manage risk exposure. The composition of the risk committee includes members from the board of directors. The function of the risk committee is to ensure optimization of assets and liabilities, ensuring compliance with statutory and legal requirements, reviewing and assessing the quality and integrity of risk management. The risk committee also ensures risk policies and strategies are effectively managed (Equity Bank, 2017).

The main objective of any business and as is the case of commercial banks is to maximize the profit level. However, according to Alshatti (2015) there is no banking practice without risk. All banks face different risks in their operations and therefore it is important for every bank to manage its risks by analyzing and determining corrective action of prevention. In the banking industry, there are internal and external indicators of profit level (Ali, Muhammad and Hafiz, 2011). The internal indicators may include size of the bank, the efficiency of the operations, capital and credit level, portfolio composition and asset management of the bank. On the other hand, the external indicators may include the factors that cannot be controlled by the banks for example inflation level (Ali *et al.*, 2011).

A study by Cheplel (2013) on the impact of enterprise risk management practices on the financial performance of commercial banks in Kenya observed that risk management practices are determined by the extent to which managers understand risk and risk management. The study outlined, enterprise risk management factors such as risk control, self-assessment, compliance of both internal and external regulations, tracking key risk indicators and incident management. This suggested a need to look at other risk management mechanisms to establish the impact of risk governance mechanisms on financial performance.

Indeed, according to Kallamu (2015), a risk committee that is composed of independent directors, increases firm market valuation. The presence of executive in risk management committee has a significant negative relationship with the return on asset

(Kallamu, 2015). These observations were made in a developed country Malaysia, therefore the findings may not be generalized to developing country Kenya.

Makokha (2014) while conducting a study on the effect of corporate governance on financial performance of insurance companies in Kenya observed that corporate governance has an influence on the performance of the insurance companies. However, number of the risk management committee had no significant relationship with the performance but the ratio of executive to outside directors did (Makokha, 2014). This study however focused on the insurance companies therefore the findings may not apply to the commercial banks.

Kallamu (2015) found out that the experience of the risk management committee in Malaysia increased both the accounting returns and the market valuation of the company. However, there is need to carry out a similar study using other risk committee attributes, especially now that risk mechanisms adopted by commercial banks in Kenya vary. A study by Kessey (2015), observed that the overall role of risk management lies with the senior management of the banks, hence a need for the credit risk department to be operated by proper trained staff. This therefore justified the need of a study on the impact of existence of risk committee on the financial performance of commercial banks.

Akong'a (2014) found out that there is a significant relationship between the financial risk management and the financial performance in Kenyan commercial banks. Commercial banks should therefore manage such risks in its operations to reduce the impact of losses. However, there is limited knowledge on the relationship between

various risk governance mechanisms and financial performance (Akong'a, 2014). According to Cheplel (2013), commercial banks in Kenya should establish proper communication to build proper confidence in the risk management and enhance risk appetite with the lower level staff.

In contrary Han (2015) found that banks in China had weak infrastructure and warning system, which increased the risk faced by the commercial banks. Such banks should therefore improve on credit organization structure and establish effective early warning system to minimize the risk exposure. However, in such a case, the risk management department should be independent for effective management of risk (Han, 2015). This responsibility lies with the board committee on risk. In summary, it is evident that studies on risk committee has not looked into all attributes of risk committee hence the proper standard proportion has not been established.

A study by Bhuiyan and Yimei (2013) found that presence of stand alone risk committee enhances the corporate governnace of a company and improves the financial performance. The data was collected from all the firms in securities industry research centre. The study generalised the findings to all companies of different sectors. Elamer and Benyazid (2018) on impact of risk commmittee on financial performance of UK financial institutions found that institutions with existence of risk committee performed poorly compared with institutions that did not have risk committees. This study concluded that risk committee existence is negatively related to financial performance. The variation in such studies may be attributed to a GDP of 2,828,640 million dollars

in UK and a GDP of 87,908 million dollars in Kenya (Countryeconomy.com, 2018). This therefore justified a need to carry out similar research here in Kenya.

2.2.2 Audit committee size and financial performance of commercial banks

Audit committee refers to a committee appointed by the board of governance to provide independent oversight to the bank operations and ensure effective financial reporting, effectiveness in the internal audit and integrity of the financial statements (Equity Bank, 2017). The members of the audit committee are selected from the board members. The structure of the audit committee, however, may vary from one bank to another.

Samoei and Rono (2016) observed that the size of audit committee has a significant effect on the financial performance of financial firms listed in Nairobi Securities Exchange in Kenya contrary to performance of public listed companies in Malaysia (Sean, Chyi, Choo, Yi and Hong, 2016). This suggests that there may be cross-border disparity in results or results may not be generalized across different sectors. Al-Matari, Al-Swidi, Bt Fadzil and Al-Matari (2012) studied the relationship between governance characteristics; board of directors, audit committee characteristics and performance of Saudi Arabia listed companies. The study found a significant relationship between the audit committee size and the firm financial performance. This mirrored findings of Samoei and Rono (2016) suggesting a need to carry out a similar study in Kenya.

Berkman and Zuta (2017) found that in Israel, the larger the audit committee sizes, the higher the likelihood of negative effect occurring, contradicting Samoei and Rono (2016) on Kenyan firms. These results suggest that variability on the impact of audit committee

size on financial performance of commercial banks may exist between developed and developing economies. Samoei and Rono (2016) further observed that the presence of audit committee with experience enhances monitoring and lead to good performance of the firms listed in Nairobi stock exchange, hence, a need to evaluate the financial performance of commercial banks in Kenya. Berkman and Zuta (2017) observed that the percentage of the audit committee with expertise in the financial concept is associated with the likelihood of negative events in the company.

According to Arfan and Nasir (2014), audit committee composed of non-executive directors has a statistical influence on performance of firms in Pakistan. This study by Arfan and Nasir (2014) was carried out in Pakistan based on panel data and longitudinal research design. Salehi (2017), observed a positive relationship between audit committee and financial performance and contradicts the findings of (Tarighi, 2018) which observed no significant association between audit committee size and financial performance. According Mohammad, Wasiuzzaman, Morsali and Zaini, (2018), audit committee size statistically explains the likelihood of financial performance, however, no relationship was found to exist between audit size and financial performance. Appiah (2016), revealed that corporate insolvency is related to audit committee presence and size in firms based in the United Kingdom but failed to show the relationship between audit committee size and financial performance.

A study done by Aldamen, Duncan, Kelly, Namara and Nagel (2012) on audit committee characteristics and firm performance during the global financial crisis found that smaller audit committee is associated with high performance of firms. The study was done in

Australia focussing on listed firms. It is not clear whether similar findings can be replicated for commercial banks in Kenya. There is need to conduct a study in Kenya with the focus being commercial banks regulated by Central Bank of Kenya. This study contradicts Omer and Zuta (2017), who did a study on impact of audit committee size and composition on the negative events in the life of a company. The study by Omer and Zuta (2017), found that large audit committee sizes is significantly positvely related to the occurrence of negative events in a company. The study was done in Israel a developed country while the study by Aldamen, Duncan, Kelly, Namara and Nagel (2012) was done in Australia. This may have contributed in the difference in the findings.

2.2.3 Credit committee size and financial performance of commercial banks

Credit committee draws its powers from the board of governance. The responsibility of the credit committee is to review and monitor credit portfolio quality, ensure implementation and adherence to credit policies, periodically monitor concentrations in credit portfolio and assess efficacy of thresholds and action plans in case of threshold breach in the bank (Equity Bank, 2017).

Muriithi (2016) revealed that, the component of financial risk that has an impact on the financial performance of commercial banks is the cost to income ratio. Credit risk arises from crediting activity of the clients hence affect financial performance of the banks (Alshatti, 2015). Credit risk leads to the change in the net asset value because of the changes in the perceived ability of the borrower to meet their contractual obligations (Pyle, 1997). It occurs when one party to a contract fails to honor a contract or

agreement to meet payments or failure to pay taxes, insurance and premium due as agreed with the lender. Tshorhe, Aboagye and Coleman (2011) views credit risk as the probability that some of the assets of the banks, especially its loans, will decline in value and possibly become worthless.

In the banking sector, the large portion of the assets comes from the loans. In most cases, the portfolio of the banks tends to exhibit the highest credit risk (Koch and MacDonald, 2000). The control of credit risk is important to banks since banks more often hold small amounts relative to their resource base and that a little percentage of net loans not performing can make a financial institution to collapse. In this way, management of credit risk is important to the sustainability of a bank and to the financial system (Tshorhe *et al.*, 2011).

According to Kinuthia (2007), finance institutions incur losses due to loan default hence affects the wealth of members. Institutions should therefore provide guidelines on loan policy and credit extension to members while highlighting the need for integration of the information system of institutions to employers and the management. Kinuthia (2007) underscored the need for Ministry of Co-operative Development and Marketing in Kenya to liaise with Ministry of Immigration and Registration of Persons to be able to instantly access information on departing employees.

According to Ghosh, Islam and Hasan (2014), to minimize the credit risk there should be proper framework of risk management. Muriithi (2016) on the other hand found that financial risk components had a negative impact on the financial performance hence there is a need to study how other risk governance mechanisms affect the financial performance

of commercial banks. Kithinji (2010) observed that the bulk of the profits of the commercial banks are not influenced by the credit risk. However, Muriithi (2016), observed that credit risk is the main determinant of financial performance. The two studies however, failed to look at the credit risk governance mechanisms justifying the need to establish how credit committee affect the financial performance of the commercial banks.

Magnifique (2013), observed that credit risk management in Rwanda predicts the financial performance of the commercial banks and that credit analysis has a significant impact on the financial performance on commercial banks. The study however failed to explain the extent to which the credit analysis and management affects the financial performance hence a need to carry out a similar study here in Kenya. Magnifique (2013), recommended that more studies should be carried out using other mechanisms of risk governance to establish the effect of the credit risk variables on the financial performance of the commercial banks. According to Ahmed and Qaisar (2015), credit risk management practices, had a positive influence on loan performance in Pakistan. This study adopted the measures of credit to be credit risk control, the credit policy of the bank, credit terms and policy and client appraisal. There is need therefore to carry out comparative study here in Kenya and other developing countries.

Alshatti (2015), recommended that the banks should establish adequate risk management policies and sound credit-granting process and controls. The study, however, failed to show the effect of risk governance mechanisms on financial performance, justifying a need to look into how size of credit committee will affect the financial performance of the commercial banks in Kenya. Mwangi (2012), observed

that there is a significant relationship between the credit risk management and financial performance of the commercial banks suggesting that the banks should adopt credit risk grading system. The study, however, failed to explain how risk governance mechanisms affect financial performance. Similarly, it failed to show the extent to which the risk committee size affects the financial performance. Gathaiya (2017), observed that collapsed commercial banks in Kenya (2015-2016) was occasioned by weak insider lending factors, weak corporate governance practices, weak regulatory and supervision systems and poor risk management.

Ghosh *et al.,* (2014), found that credit monitoring, reliability and assurance have an impact on the risk management. Whereas the study showed that credit monitoring, assurance and reliability had an impact on the risk management, there is need to carry out a similar research here in Kenya to establish how the various risk management strategies especially by use of credit risk committee affects the financial performance of commercial banks. Magnifique (2013) found that credit risk management predict the financial performance of the commercial banks in Rwanda. Similarly, credit risk scoring and assessment had a significant effect on financial performance in commercial banks in Rwanda (Magnifique, 2013). The commercial banks in Kenya have adopted risk governance mechanisms for example by using credit committee to manage risks. There is however limited knowledge on the effect of credit committee on financial performance of commercial banks.

Alshatti (2015), observed that credit risk management has a significant impact on the financial performance of the Jordan commercial banks and suggested that banks can

improve on the credit risk management by adopting credit risk mechanisms to achieve more profits. The study however failed to capture how credit committee can influence financial performance (Alshatti, 2015).

Kauna (2015), found that there is a significant positive relationship between credit risk identification, credit risk monitoring and financial performance of the commercial banks in Kenya. The study recommended that commercial banks should put emphasis on the credit risk identification (Kauna, 2015). Commercial banks should therefore emphasize on risk governance as a risk identification strategy by forming credit committee. The current study therefore adds new knowledge on relationship between the risk governance through credit committee and the financial performance of the commercial banks in Kenya.

2.2.4 Number of risk governance mechanisms and financial performance

It is in the board committee meetings where the actual activity of risk management take place and not the full board of the bank (Chen and Wu, 2016). According to Kamazima, Mathenge and Ngui (2017), the number of board committees have a positive influence on the financial performance of stock exchange listed commercial banks. A comparative study by Kimeu (2017) observed that the number of risk mechanisms has a statistical influence on performance of commercial banks.

Previous studies (Nibedita, 2018; Arfan and Nasir, 2014; Apollo, Mandalika and Said, 2018) observed that corporate governance, audit committee and board composition has a positive impact on performance of some commercial banks in Bangladesh and

Pakistan. This studies hwever failed to show how the number of risk governance mechanisms affects the firms performance. Apollo *et al.*, (2018) found that the variables of board composition had no significant influence on the financial performance of banking industry. This study was done in Indonesia and may not give a true representation of the banking industry in Kenya. Muturi (2013) observed a significant relationship between board committees and financial performance of some other large commercial firms in Kenya. These findings suggests that risk governance mechanisms adopted by banks vary from region to region and country.

Mohamed (2015) observed that there is a statistically significant relationship between board committees and market value. The study was carried out in Saudi Arabia and may not present the same results for commercial banks in Kenya. On contrary, Puni (2015) found no statistically significant impact of board committees on the financial performance of the listed firms in Ghana suggesting a need for a comparative study in other economies such as Kenya. Carter, D'Souza, Simkins and Simpson (2010) observed that there is no significant relationship between board committees and financial performance of United States corporations.

From the literature reviewed, there is limited information on the relationship between risk governnace mechanisms specifically the board committees and financial performance of firms. Few studies have been done on the Kenyan commercial banks justifying a need to establish the relationship between the number of risk mechanisms and financial performance of commercial banks in kenya.

2.2.5 Board oversight and financial performance

Different commercial banks have different committees formed by the board of governance as a mechanism of risk management. The board committee reports are presented to board of governance for discussion, approval and adoption. The number of board meetings has a statistically significant influence on the performance of commercial banks (Kimeu, 2017). However, there is need to look into the moderating effect of board oversight.

Ekadah and Mboya (2009) observed that board diversity does not affect the performance of commercial banks in Kenya suggesting a need to investigate how the frequency of board meetings, expertise and experience of the board members may affect the financial performance of commercial banks. Ruparelia and Njuguna (2016), board remuneration affects the financial performance of commercial banks, while Magembe, Ombuki and Kiweu (2017) found that corporate governance accounts for the performance of commercial banks. Such observations create a gap since other board governance factors for example the frequency of the board meetings needs to be studied. Indeed, according to (Kimeu, 2017) the number of board meetings has an influence on the performance of commercial banks in Kenya.

Nganga (2017), found that board independence, gender diversity, board size and board-director duality affect the financial performance of commercial banks in Kenya. The study, however, failed to show how the board meetings, expertise and experience of the board affected the financial performance of commercial banks. Muganda and Umulkher

(2015), found that board size negatively affects the financial performance of commercial banks in Kenya while Nganga (2017) found a significant positive relationship between board size and financial performance. The two studies, however, failed to explain the relationship between board meetings, experience and expertise and the financial performance of commercial banks.

According to Makokha (2014), financial performance of insurance companies is not significantly influenced by board size, however, the findings may be different for commercial banks. According to Mamatzakis, Zhang and Wang (2017), companies with higher board sizes are associated with a higher risk taking. This studies, however, failed to link the board size with the financial performance. Indeed, Shkendije (2014) found that companies with large board size are associated with dismal performance becauses of challenges in coordinating a large size. All these studies were done in outside Kenya and the findings may not be similar if a similar study was conducted in Kenya.

Ingari (2017) looked at how board membership qualifications, gender diversity and board independence affects the performace of commercial banks in Kenya. Board members with higher experience and diversity leads to better performance of the bank. This study, however, failed to discuss how the number of board meetings affects the performance of commercial banks. Lundqvist and Vilhelmsson (2018) found that corporate governance does not significantly affect the credit ratings. The study used panel data and was carried out in America hence creating the need to carry out simmilar

study in Kenya using other research designs. Bernaddette and Corina, (2015) found that governance mechanisms influences performance of commercial banks. This study was done in a developed country and the findings can not be generalised to a developing country.

Koriang (2014) found a positive relationship between number of meetings and the performance. Kiambati *et al.,* (2013), observed that board size has an effect on the profitability of commercial banks in Kenya. Ngwenze and Kariuki (2017) showed that corporate governance has no significant influence on the performance of listed agricultural firms in Kenya. Ojulari (2014) found a negative relationship between the number of board meetings and the financial performance in Nigerian firms.

Maniagi (2018) observed a negative relationship between credit risk and financial performance. The study recommended that bank managers should manage credit risk but it fails to link the various effect of risk management mechanisms to financial performance. Chou and Buchdadi (2017) found that meeting attendance increases the profitability of commercial banks in Indonnesia a country with a different GDP from Kenya, there is need therefore to carry out a similar study here in Kenya.

Olayinka, Osariemen, Olojede, Opeyemi and Usman (2018) found that risk governance negatively impacts on the financial performance of commercial banks. Muchemwa and Padia (2016), found that there is no relationship between board size and performance of the firm. The study used cross-sectional research design and multiple regression analysis to analyse data.

Muchemwa and Padia, (2016) contradicts a study by Topal and Dogan (2014) on the impact of board size on the performance of firms that found a positive relationship between board size and firm performance. Ogada, Achoki and Njuguna (2016) found a positive relationship between board size and financial performance. This study focussed on merged institutions and used mixed methodology research design and purposive sampling method. The results cannot be generalised to the banking sector since it was limited only to merged institutions.

Kiambati *et al* (2013) did a study on the role of board size on the financial performance of commercial banks and found a positive relationship between board size and financial performance. A similar study was done by Oludele, Oloko and Olweny (2016) on the impact of board size on the financial performance of the listed manufacturing companies in Nigeria and that found a positive linear relationship between the two variables. The study was done in Nigeria and focussed only on manufacturing listed firms in Nigeria. The findings may not be generalised to the banking sector because of differences in the operation structure and risk hence there was a need to carry out similar study here in Kenya.

Orozco and Vargas (2018) found a significant positive relationship between the board size and financial performance in top companies in Colombia using correlation and cluster analysis for the period 2008- 2012. Uwuigbe and Fakile (2012) found that banks with larger board sizes recorded lower profits compared with banks that had smaller board size. The study by Uwuigbe and Fakile (2012) contradicted the study done by

Orozco and Vargas (2018). The difference in the findings may be attributed to the difference in the sectors.

Shunu, Bii and Ombaba (2017) found a positive relationship between board size and performance of listed companies in the stock exchange and there is need to carry out a similar study for commercial banks. Similar findings were observed by Ogada, Achoki and Njuguna (2016) on the effect of board size on the financial performance of merged institutions. The study used mixed research design and purposive sampling to collect primary data. The study found that board size had significant effect on financial performance of merged institutions.

Hanh, Ting, Kweh, and Hoanh (2018) observed that higher frequency of board meetings leads to poor performance by firms while Eluyela, *et al*., (2018) found that a higher number of board meetings increases the performance of banks in Nigeria. The two studies used panel regression to analyse the data and recommended that banks should hold atleast four meetings in a year since this will improve its performance.

Qadorah and Fadzil (2018) using multiple regression method to analyse data found no relation between the frequency of board meetings with the financial performance in Jordan while Khaleel, Siti, Saidin, and Shamharir, (2016) using dyamic panel technique of generalised methods of moments found a significant positive association between board meetings and firm performance of firms in Amman stock exchange. This study contradicts the study done by Qadorah and Fadzil (2018) and the variation in the findings may be as a result of differences in the research design. Similar study done by (Haque, Islam and Azam (2013) found a significant positive relationship between

committee meetings and financial performance in Australia. Australia has a different GDP from Kenya (Countryeconomy.com, 2018). The findings therefore, cannot be generalised to the financial firms in Kenya. This therefore justified the need to carry out similar study Kenya.

In general, most studies have focused on board membership qualifications, gender diversity and board independence. It is evident that most studies have been done in developed countries. There is limited knowledge on the moderating effect of the board oversight on the relationship between risk governance mechanisms and financial performance of commercial banks. It is at the board level where actual decisions on governance are made concerning reports from the committees. There was a need therefore to establish the moderating effect of the board oversight on the relationship between risk governance mechanisms and the financial performance of commercial banks in Kenya.

2.3 Theoretical Literature

This section discusses the theories on which the research was based on. This research was guided by three theories namely bank Risk Management Theory, Adverse Selection Theory and Moral Hazard Theory.

2.3.1 Bank risk management theory

This study was guided by the Bank risk management theory developed by (Pyle, 1997). This theory focuses on the need for commercial banks to manage risks to ensure their

survival. Mwiya (2010), argued that without an efficient credit risk mangement the banks profitability, the liquidity and solvency are affected negatively.

In accordance with the banks risk management theory, commercial banks must reduce the credit hazard by utilizing all options available to it including risk governnace mechanisms and Credit Reference Bureau (CRB) reports. The major sources of credit hazard include; wrong credit approaches, poor management and poor credit assessment (Otwori, 2013). When a customer borrows a loan from any financial institution, they should always refund. In some instances, the borrowers in the commercial banks default especially if there is no or less income and this makes the commercial banks to face credit default risks.

Hazard management is the identification, appraisal and prioritization of the risks (ISO 31000). Risk management is the impact of uncertainty on goals followed by coordinated and economical use of assets to minimize, screen, and control the likelihood or potential effect of unfortunate events (Hubbard, 2009). It is important for banks to give much attention to the sources of credit risk since credit defaults is the most well-known reason for banks failure and therefore credit risk management is important for the survival of banks (Alshatti, 2015). It is the duty of lenders to screen out factors that can affect the repayment of loans and to develop ways of minimizing the occurrence of the credit risk. To eliminate risk, the banks could increase the required securities for giving loans to its borrowers, occasional reassessment and periodical examination of the capacity of clients to generate income to repay their outstanding loan balances to the lenders.

There are financial models that creditors can use to analyze default risk, these include Altman Z-score model (1968), the structural model of default by Robert C Merton (1976), Jarrow-Turnbull model (1995), the enterprise risk management and credit information sharing. However, the bank staff can manipulate these models to award loans to their friends and relatives. This then requires that a bank adopt a risk governance mechanism to oversee the performance and compliance to risk management policies. This theory is appropriate because risk governance mechanisms will help in risk management.

2.3.2 Adverse selection theory

This theory was developed by Arkelof (1970) and was later advanced by Stiglitz (1976). Arkelof argues that it is difficult to distinguish good borrowers from the bad borrowers and that lenders are exposed to the adverse selection problem in trying to control the credit risks associated with money lending. According to (Otwori, 2013), adverse selection occurs when lenders face challenges in obtaining information on the credit profile of borrowers. This disadvantages the good borrowers and increases the cost of credit facilities (Otwori, 2013). The lenders in the context of assymetrical information settings are forced to price their credit facilities in terms of the probability of the borrowers to repay (Mwigwi, 2013).

The main reason why some creditors with surplus funds lend funds through the financial intermediaries rather than lending directly is because of the hazards. Usually, a seller knows the item more than the purchaser does. Therefore, the purchaser might be creating or facing a hazard by making purchase. On the other hand, the borrower knows

his financial state and his financial projections more than the lender. This presents a risk since unknown to the lender, the borrower can disappear with the borrowed funds. A business enterprise selling stocks may face risks by not investing in viable investments and the funds used to make payment for reimbursement to top managers or used to pay big bonuses to managers (Spaulding, 2003). The specific forms of the risk that normally arise because of the information asymmetry is adverse selection and this normally occurs when the lender cannot differentiate a non-defaulter from a defaulter.

Risk may also arise because of moral hazard. It normally occurs after the customers have been awarded loans and they fail to repay. The criteria of choosing whom to lend your finance or your cash is a totally crucial part of controlling any form or risk and negative eventualities. If the lender chooses to lend it to a person who does not have management skills, there will be high chances for the lender to lose the cash. The theory holds that one should charge moderate price on the loan if there is little or no information about the borrower. The moderate fee would motivate individuals who are at higher risks or have higher tendencies of defaulting than those with good reputation and ability to repay. The good payers will move away and choose to borrow elsewhere because they believe that they should be rewarded for their ability to repay and this will result in negative selection.

Adverse selection may occur when borrowers with poor payment history are not able to repay funds are advanced loans easily compared to the borrowers with high ability

to repay. The commercial banks often face a challenge in screening to distinguish the good borrowers from bad borrowers and may end up giving loans to bad borrowers. This then presents the case of an adverse selection. In view of information asymmetry, banks experience considerable difficulties separating good borrowers from bad borrowers. They charge higher interest rate far beyond the current rates as compensation for the possible risks emerging out of the defaults. This makes the good firms disadvantaged and discouraged from obtaining loans from the lenders due to high interest rates. The bad firms turn out to be exceptionally quick to acquire from such a bank since they know that judging by the quality of their money streams, they ought to be charged a much higher financing cost.

A good example of this principle was presented by Akerlof (1978) in an article named "The Market for Lemons" that won the Nobel Prize in Economics in 2001. This principle is illustrated as follows; - Suppose there are two people with the same item to sell, the first person has used the item with good care but the second person has recklessly used the asset. When the two people approach an asset broker to sell their asset, and the broker or customers are not in a position to distinguish between the assets, the dealer would then give quotation price that represents the average price for both assets and because the customer will not pay a higher price than an average price with no guarantee that, a higher priced asset is much better as compared to the lower priced asset. The first owner will not accept any price that is less than what he/she believes that the asset is worth and on the other hand the second seller knowing a good price for his/her asset considering its history, happily takes it.

In the event that you offer a normal financing cost for your credits, the general customers who are low risk takers will go somewhere else for their cash, while the high-risk individuals will readily take your cash (Akerlof, 1978). The moral hazard and adverse selection result to the overall financing being costly, particularly for little firms, since lenders are not willing to give loans to borrowers who are not trusted. Such information asymmetry that has far-reaching effects on the banking sector can be reduced through risk governance mechanisms. and government participation.

In the advanced world, any firm, which wishes to seek external financing, must seek clearance by credit referencing firms. Such organizations are positioned by the quality of their reimbursement capacity. According to the credit referencing bureau rating, a lender can estimate the likelihood of default of any single borrower and charge a rate of interest, which is proportionate to the internal risk exposure seen in a business of the borrower. The need for establishment of CRB services in any financial system therefore arises because of information asymmetry between lenders and borrowers (Paydaycash, 2010). Banks are given warnings about defaulters yet they fail to use them since they believe that such warnings give irrelevant data about their clients. A debtor may therefore fail to repay the loan because of a non-viable investment that ends up in losses. The borrower moves over to the next bank and secure financing for a similar use and fails to repay the loan again because of losses in the investment.

Government participation can reduce the adverse selection. However, because of fraud and corruption in organization frameworks, there have been occurrences of non-

genuine guarantee reports, for example, land title deeds (Maina, 2013). Land records are manual and computerization of enrollment can help reduce frauds and elimination of risk. There have been cases in which some of the title deeds have been issued on non-existent land, and if the same fake title deeds are used to secure a loan from a bank, the bank makes a loss because of non-performing loans and failure to dispose the collateral to recover back the non-performing loans (Kiplagat, 2018).

Improved loan underwriting can reduce the adverse selection theory. In some commercial banks, the loan agents are the data entry clerks. They enter in data from an application form without considering details on the application form hence the passage of risk. Various risks can be eliminated if this underlying procedure could be done carefully. There is importance in assessing the income of the borrower, the revenue stream and the nature of the business and the general history (Belás Jaroslav, 2011).

To solve information asymmetry, commercial banks need to adopt risk governance mechanisms and have more data about borrowers. Checking the historical information of the borrower decreases both the moral hazard and adverse selection. There are numerous databases on people and organizations that can be requested to check their history. New sources have been approved by the CBK and can be a source of customer's credit history. The introduction of Huduma number in Kenya will capture more information of residents hence can be a source of credible information once it is operational (Ministry of Public Service, Youth and Gender Affairs, 2019).

Banks can check the credit records and financial assessments of borrowers, their work history, and with the consent of the borrowers, banks can even confirm their amount of income with the Kenya Revenue Authority before advancing loans (Abuya, 2018). Similarly, for loan advances to organizations, lenders can check the credit rating issued by the credit rating agencies or the credit score offices for organizations, for example, credit reference bureaus. Credit worthiness for companies issuing stocks and bonds can be easily determined, since they are required by law to report good financial information before they offer their securities for subscription. They are also required by law to publish yearly financial statements.

For individuals applying for insurance, insurance providers check the credit reports and databases, while medical records are checked for the life insurance cover and the health insurance applicants. Requiring security can likewise decrease data asymmetry dangers. Security reduces the adverse selection risk by requiring a particular estimate of guarantee, for example, 30% up front installment on a house. Requiring a certain minimum net worth, additionally decreases adverse selection since only those individuals and organizations with adequate assets over liabilities will be considered for a credit. Risks can reduce because the borrower can be sued if they fail to honor their part of the contract by making a timely payment on their loans. The Adverse Selection Theory is appropriate for the study because the risk governance mechanisms are seen as measures with potential of reducing the negative effects of adverse selection.

2.3.4 Moral hazard theory

This theory was developed by Krugman (2008) as an update of the work done in 1999. Krugman describes moral hazard as any state where an individual makes the decision about how much risk to take, while someone else bears the cost when there is a negative outcome.

This study was guided by the moral hazard theory, which argues that the borrower has an intention to default unless there are implication outcomes to his future credit applications (Alloyo, 2013). When cash is advanced to a borrower, there is a need to be certain that it will be repaid with premium. In any case, this is more improbable if the cash is used for a wrong purpose. It can also happen when there is too much risk taking. Moral Hazard Theory is based on the assumption that the borrowers of the loan will not utilize the cash as was proposed or they may decide to take risks or not to be cautious in reducing the potential dangers.

According to Belás Jaroslav (2011) loan repayment depends not only on capacity of the customer to repay, but also on their ability and the willingness to repay. This is normally determined and influenced by identity and character of the borrower. Moral hazard can happen after the cash has been disbursed to the borrower and in situations when the borrower may have intention to go against the credit agreements. Despite the high possibility of benefit to the borrower, they additionally have a high probability of risks and disappointment, which will have negative impact to the bank. The information asymmetry may cause moral hazard if there is lack of information by the lenders about the nature of the activities of borrowers. Moral hazard likewise happens due to the high

cost of enforcement of the obligation pledges. In this situation, lenders essentially choose that it is not worth the effort to continue pursuing borrowers and have them invest the cash in determined investments. This gives them a free way to put resources into investments faced by high risks (Lee, Jusup, Podobnik and Iwasa, 2015).

Each person, household and business facing a budget deficit can be financed by borrowing from the commercial banks. Peria (2014) characterized the three reasons for holding cash as: Firstly as transaction motive where a person or household borrows to meet payment such as daily purchases, to pay for wages and pay tax to the government, Secondly for speculative motive in situations where changes in the prices of commodities in the market arise from time to time. Example of such price changes is the sudden decrease in the price of products and decrease in the price of the raw materials. Thirdly, for precautionary reason whereby a person requires money for general precautions for example to keep a safety amount or meet sudden money needs (Peria, 2014). The more predictable the inflows and outflows of money for an individual, family, organization or a firm the less the amount that should be held for unforeseen necessities (Peria, 2014).

Individuals who placed resources by investing in American International Group (AIG) suspected that their cash was generally safe because they were putting resources into an insurance agency that had the most highly rated score by the credit rating bureaus. Notwithstanding, AIG was additionally offering credit default swaps (CDS) on contract sponsored securities that began to default in big numbers in 2008 expecting them to post more insurance than they had (Gethard, 2017).

AIG took risk because the brokers who sold the credit default swaps were getting immense rewards and AIG was not worried about falling, since it was offering a large portion of CDSs to banks and different financial specialists. Consequently, if AIG could not make the installments on the CDSs or post insurance as the CDS contracts required AIG's credit rating score dropped and at that point the government would need to bail them out otherwise numerous banks would collapse. At the end the US government bailed them out, wiping out the investors of the organization. Here, moral hazard arose because the dealers took the risk for big benefits and rewards (Gethard, 2017). Moral hazard, happens most often with the insurance, where insurance cover makes the insured party to be less watchful about controlling risks as they have believe that insurance cover will always protect them from losses (Alloyo, 2013). This theory is appropriate because the risk governance mechanisms will prevent the borrowers from defaulting hence reducing moral hazard.

2.3.5 Agency theory

This theory was developed by Jensen and Meckling (1976). This is majorly based on the governance of any given company and the nature of relationships that exists amongst various interested parties. The shareholders who are the owners of the company are interested in their property for returns. The managers and employees on the other hand are also interested in the company because of the employment that result in monthly remuneration. The creditors give loans to finance the company operations since they are interested in the existence of the company with the aim of recovering back their credit and interest which forms their profit. The government is also not left

out since the existence of the company is a source of revenue to them through taxes paid by the company.

Jensen and Meckling (1976), argues that there exists a relationship between various parties in the company. This relationship is called the Agency Theory. For this study, agency relationship will exist between the shareholders and the board of directors. The board of directors at all times are expected to represent the shareholders in the management of the company through effective and efficient governance. There exists an agency relationship between the managers, employees and the shareholders and the shareholders expects the managers and all employees to always manage and ensure good operations of the company. For this relationship, it results to a contract between all the parties involved. Jensen and Meckling argued that there is no perfect contract because as the directors and managers makes decisions, the same decisions also affects their welfare and this may be a challenge to them to priorities the shareholders at their own expense.

In the banking industry, commercial banks there exists agency relationship between the shareholders of commercial banks and the appointed board of directors, who will manage the company on their behalf. Accordingly, the board of directors are expected to provide oversight on the operation of the bank that will result in the maximization of value by the shareholders. The board of directors are expected to always prioritize the interest of their principal (shareholders). However, in most cases the directors end up prioritizing their own welfare. This then leads to agency conflict between the agent and principal. Furthermore, the shareholders appoint managers who will be in charge of the

daily operation of the banks. These managers are expected to assist the shareholders to generate maximum possible profit or a high return on the value of assets invested. In most cases the managers also end up prioritizing their welfare while leaving the shareholders profit maximization objective. In summary, there exists an agency relationship in commercial banks between the shareholders and the board of directors and also the managers. The board of directors are expected to do oversight in the operation of the bank and the managers are expected to manage the company well so as to achieve maximum profits. The current study was therefore guided by the agency theory developed by Jensen and Meckling (1976) that shows the agency relationships between the shareholders, management and stakeholders in commercial banks.

2.4 Conceptual Framework

In this study, the independent variables consisted of risk governance mechanisms of commercial banks that included; risk committee, audit, credit committee and number of risk governance mechanisms. Risk committee existence was measured using a scale of 1 to 2, where one (1) indicated the existence and two (2) the absence of a risk committee, audit committee size was measured by the number of audit committee members in a given commercial bank, credit committee size was measured by the number of credit committee members in a given commercial bank for the respective financial years under study, number of risk governance mechanisms was measured by the number of risk governance mechanisms that are used by a given bank to manage its risk exposure. All these variables were measured for the years under study. All these vary from one bank to another.

The moderating variable was the board oversight measured by the size of the board and the frequency of board meetings in a year for each commercial bank. From the literature reviewed, it indicated that board size and frequency of board meetings were moderators on the relationship between corporate governance and financial performance in other sectors. It is for this reason therefore that board size and frequency of board meetings were used as moderators of the relationship between selected risk governance mechanisms and financial performance of commercial banks in Kenya. The board size was measured by the number of members of the board of each commercial bank in each financial year while frequency of board meetings was measured using the number of meetings that were held in each commercial bank for the different financial years under

study. The dependent variable is financial performance indicated by return on assets (RoA). The RoA was determined by the net profit of a commercial bank divided by the value of the total assets of the bank used to generate the net profit. It is for this reason therefore that RoA was used as a measure of financial performance since it gives a more accurate and realistic measure of performance based on profit generated in comparison to the value of the assets that was used to generate the profit. This was measured for each of the bank and for the various year under study. Figure 2.1 presents the diagrammatic presentation of the conceptual framework.

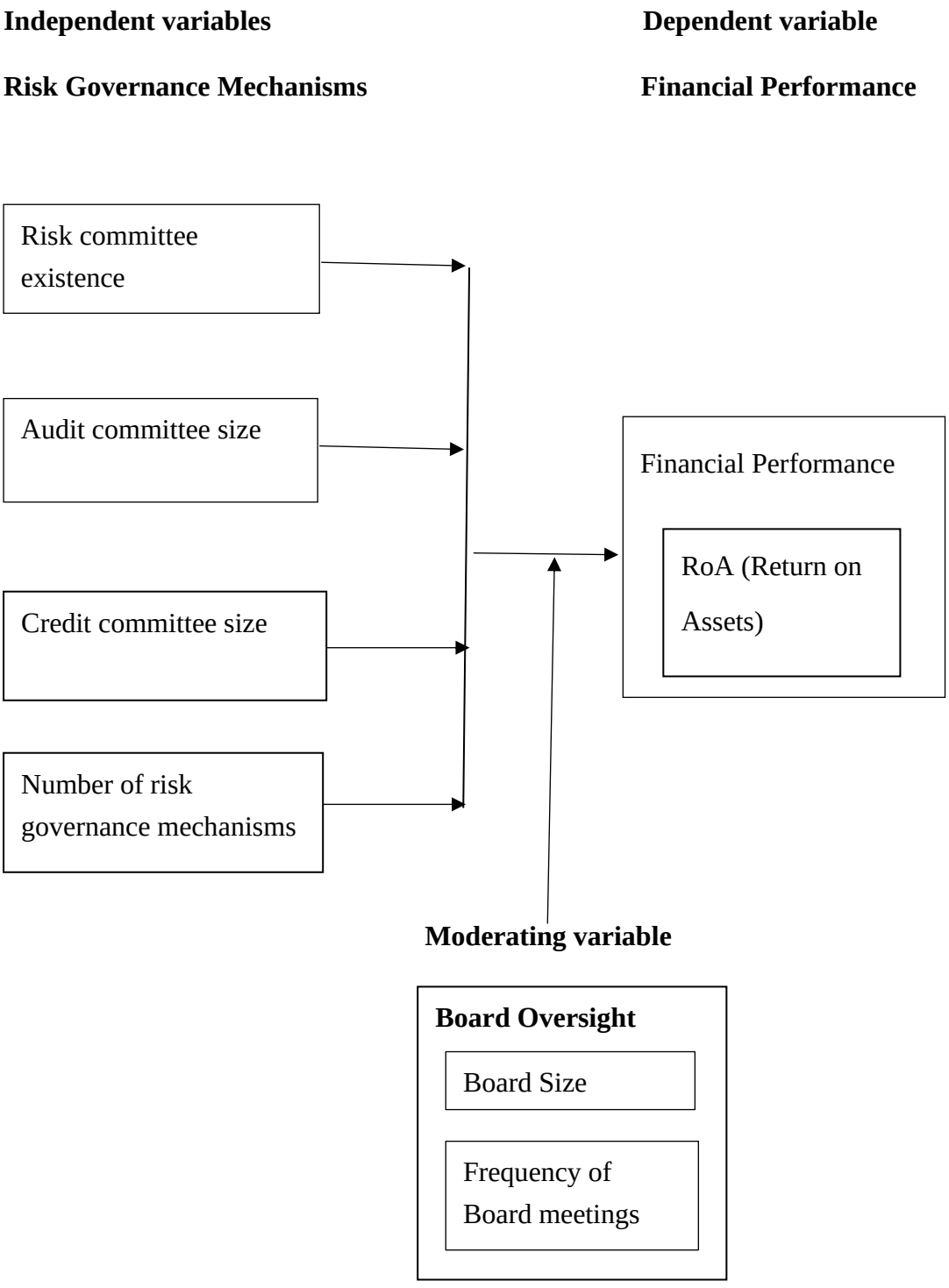


Figure 2.1: Conceptual framework of risk governance mechanisms and financial performance

Source: Author (2018)

2.5 Identification of Knowledge Gap

From the literature reviewed, it is evident that commercial banks in Kenya still face risks which have a huge impact on the overall financial performance and returns of the commercial banks. The Central Bank of Kenya (CBK) being the main financial regulator in the banking industry in Kenya requires all the commercial banks to put in place strategies to minimize and finally eliminate the risk in the commercial banks.

Further from the literature reviewed, most of the previous research work concentrated on the forms of risks and the impact of those risks on financial performance (Poudel, 2012 and Ojulari 2014). The board of governance of banks gets reports from the various committees of the board. Therefore, the board committees are in charge of preparing reports for discussion and approval by the board of governance. Since 2013 to date, commercial banks have put in place some risk governance mechanisms to minimize and eliminate risk. Such strategies include setting up the risk committee, audit committee, credit committee and other risk governance mechanisms. The overall boards also review, approve and implement reports from the committees. However, there is little research in the extant literature on the relationship between risk governance mechanisms and financial performance of the commercial banks in Kenya. The few studies done were in developed countries. This study chose 2013-2017 because from the year 2013 to date commercial banks have faced various risks leading to collapse or receivership and this has made the banks to put in place mechanisms to manage risk exposure. The latest financial report when the study was being conducted

was for the financial year 2017. Indeed, the literature reviewed indicates that there is limited knowledge on the selected risk governance mechanisms and the financial performance of commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was adopted for the study. Specifically, it presents the research design, location, target population sample and the sampling procedure that was used. It presents how validity and reliability was determined, analysis of the data and how ethical issues in research were addressed.

3.2 Research Design

The study employed longitudinal research design. This enabled the analysis and comparison of secondary data collected from the commercial banks for the study period (2013-2017). The secondary data was collected from the published audited financial statements and reports of the targeted commercial banks. Similar studies done previously by (Kamazima *et al,* 2017 and Kimeu, 2017) also used longitudinal research design. For this study, longitudinal research design was ideal since it helped to establish the relationship between risk governance mechanisms and financial performance of commercial banks in Kenya, over a 5-year period.

3.3 Location of Study

The research focused on all the commercial banks regulated by the Central Bank of Kenya (Appendix 1). Most commercial banks have branches all over the country but they have a centralized management unit located in Nairobi. Performance of each bank

is usually compiled and presented in the audited financial statements and reports published yearly. Such reports are posted on the website of the bank.

3.4 Target Population

The study targeted all the 42 active commercial banks regulated and licensed by the Central Bank of Kenya (CBK, Annual report and Financial Statements, 2017). Secondary data from published annual financial statements and consolidated reports published by the banks each financial year was extracted (Appendix 1).

3.5 Sample Size and Sampling Procedures

The research adopted a census sampling design in which all 42 commercial banks in Kenya participated in the study. This sampling design was considered appropriate since the population of the commercial banks in Kenya is not large and therefore it could be managed through census. Commercial banks in Kenya are categorized into three different Tiers as shown in Table 3.1.

Table 3.1

Category of bank tier

Category	Market share	Number	Sample size
Tier I	Over 5%	8	8
Tier II	1%-5%	11	11
Tier III	Below 1%	23	23
Total		**42**	**42**

Source: CBK annual report 2017

Bank Tier is a term used by the Central Bank of Kenya to categorize banks. Tier I represent banks with a market share of over 5%, Tier II represents banks with a market share of between (1-5) % and Tier III represent banks with market share of below 1%. Data was collected from all the three Tiers of commercial banks as shown in Table 3.1 above.

3.6 Data Collection Instruments

Data was extracted from the annual published audited financial statements and reports of the commercial banks for a period of five years (2013-2017) using a data extraction form (Appendix 2).

3.6.1 Validity

Financial risk experts from banks and financial institutions and academia validated the data extraction form. Pre-testing the data extraction assured its reliability. Before the data extraction, the data extraction form was sent to experts in the academic field and also experts in the banking sector. Inputs from all these experts were incorporated and it helped to improve the data extraction form from its initial form to the final form.

3.6.2 Reliability

Commercial banks are guided by ISA (International Standards of Accounting) and IFRS (International Financial Reporting Standards) and this ensured reliability of the data extracted from the annual consolidated financial statements and reports. Commercial banks normally publish audited financial statements and reports each financial year and post on their websites. The big four audit firms namely; Ernest and

Young, KPMG, Pricewaterhousecoopers (PwC) and Deloitte usually conducts the audits. The study utilized the audited financial reports and financial statements posted on the website.

3.6.3 Pre-test for general multicollinearity

In this study, multicollinearity was tested to establish the existence of auto correlations among the independent variables by means of tolerance and VIF (Variance Inflation Factor). VIF indicates the extent of the inflation of standard error could be caused by collinearity where VIF above 10 indicates a multicollinearity Field (2003). The tolerance is an indicator of how much collinearity a regression analysis can tolerate. The pre-test results for general multicollinearity are shown in Table 3.2.

Table 3.2

Pre-test results on multicollinearity

Independent variable	**Collinearity Statistics**	
	Tolerance	**VIF**
(Constant)		
Risk committee existence	0.885	1.129
Audit committee size	0.794	1.260
Credit committee size	0.801	1.248
Number of risk mechanisms	0.536	1.866
Frequency of board meetings	0.572	1.749
Board size	0.740	1.351
Dependent Variable: Return on Assets		

Source: Research data, 2019

The VIF values ranged from 1.866 to 1.129, hence the extent of the inflation of standard error caused by collinearity was within the acceptable margins. The tolerance values

ranged from 0.536 to 0.885 hence within the acceptable points above 0.1 (Field, 2013). It is concluded that there is no multicollinearity among the variables.

3.7 Data Collection Procedures

Approval was sought and received from University of Kabianga, Board of Graduate Studies and NACOSTI (National Council for Science, Technology and Innovation) prior to commencing data collection. Data on risk committee, audit committee, credit committee, number of risk governance mechanisms and financial performance was extracted from the audited financial statements and governance reports posted on the websites of each of the commercial banks.

3.7.1 Risk committee and financial performance

Websites of all the sampled commercial banks were accessed and their audited consolidated annual reports of the financial years 2013, 2014, 2015, 2016 and 2017 downloaded. From these audited consolidated annual reports, data on the various risk committees and return on asset was recorded on the extraction forms.

3.7.2 Audit committee size and financial performance

Websites of all commercial banks was used to access individual audited consolidated financial reports of the financial years 2013, 2014, 2015, 2016 and 2017. From these audited financial annual reports, data on the various audit committee sizes and financial performance was then recorded on the data extraction forms.

3.7.3 Credit committee size and financial performance

Websites of all the commercial banks were accessed and their individual audited consolidated annual reports for the financial years 2013, 2014, 2015, 2016 and 2017

downloaded. The data on the number of the credit committee size and the respective financial performance of each commercial bank were recorded with the specific measure of financial performance being return on assets.

3.7.4 Number of risk governance mechanisms and financial performance

To establish this, data on the number of risk governance mechanisms for 2013, 2014, 2015, 2016, and 2017 together with their respective financial performance of each commercial bank were recorded and analyzed. This information was extracted from the annual audited reports accessed from the websites of commercial banks.

3.7.5 Moderating effect of board oversight

Websites of all the commercial banks were accessed and data on board oversight extracted, specifically data on the board size and the number of board meetings were extracted. The relationship between risk governance mechanisms; risk committee existence, audit committee size, credit committee size, number of risk mechanisms and financial performance was established for the financial years 2013, 2014, 2015, 2016 and 2017. The relationship between the two variables was established again after the introduction of the moderator.

3.8 Data Analysis and Presentation

Once the data was extracted from the consolidated financial statements, it was scrutinized for completeness and consistency. Data was then analyzed by use of both descriptive and inferential statistics. The study used quantitative techniques to analyze numerical data (Kothari, 2004). Correlation and regression analysis were used to establish relationship between dependent and independent variable. Moderated

regression analysis was used to establish the existence of moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance. Data on risk committee existence, audit and credit committee size, number risk governance mechanisms and board oversight were analysed separately with the help of Statistical Package for Social Science (SPSS) and suitable regression model as follows:

The model for testing the main effects: -

$Y_1 = \beta_0 + \beta_1 X_1 + \varepsilon$……………………….…….………(i)

$Y_2 = \beta_0 + \beta_2 X_2 + \varepsilon$ ……………………………….……(ii)

$Y_3 = \beta_0 + \beta_3 X_3 + \varepsilon$……………………...…...……..……(iii)

$Y_4 = \beta_0 + \beta_4 X_4 + \varepsilon$……………………………………..(iv)

Overall risk governance mechanisms:

$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$………..…(v)

Model for testing the moderating effect of board oversight, frequencies of board size and board meetings: -

$Y_1 = \beta_0 + \beta_1 X_1 + \beta_2 X_1 * M_1 + \beta_3 M_1 + \varepsilon$…………..…(1)

$Y_1 = \beta_0 + \beta_1 X_2 + \beta_2 X_2 * M_1 + \beta_3 M_1 + \varepsilon$…………...…(2)

$Y_1 = \beta_0 + \beta_1 X_3 + \beta_2 X_3 * M_1 + \beta_3 M_1 + \varepsilon$………………(3)

$Y_1 = \beta_0 + \beta_1 X_4 + \beta_2 X_4 * M_1 + \beta_3 M_1 + \varepsilon$…………....…(4)

Similar model was applied for frequency of board meetings

Where the components and the respective measurements of the variables are: -

β_0 - Constant

β_1, β_2, β_3, β_4, β_5= Regression coefficients or change included in Y by each X value/ Coefficient of independent variables

X_1-Risk committee existence

X_2- Audit committee size

X_3- Credit committee size

X_4- Number of risk governance mechanisms

M- The moderator, Board oversight measure (M_1 is board size and M_2 is the frequency of board meetings)

ε - Error term

3.9 Ethical Considerations

The anticipated ethical problems in most studies include research process, conduct of individual researcher and the nature of research subjects (Nganga *et al.*, 2004). Throughout this study, confidentiality of the commercial bank information was maintained. The data collection instrument was coded to eliminate use of names of the commercial banks to maintain anonymity. The study however did not use human subjects, therefore the ethical issues relating to informed consent and voluntary participation were not applicable.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results and discussions of the findings. The results are presented in three approaches; first the results of the descriptive studies for the study variables are presented. This is then followed by results of the relationship between risk, credit, number of mechanisms and audit committees on the financial performance of commercial banks. Thirdly, moderating effect of board oversight is underpinned to the financial performance of the commercial banks.

4.2 Risk Governance Mechanisms and Financial Performance of Commercial Banks

Financial performance of commercial banks is indicated by Return on Assets (RoA) derived for each bank and banks Tiers over a specified period of time. Tier I represent banks with market share of over five percent, Tier II between one and five percent and Tier III below one percent. Risk governance mechanisms on the other hand was measured using the risk committee existence, audit committee size, credit committee size and the number of risk governance mechanisms adopted by the commercial banks in Kenya.

4.2.1 Return on assets for commercial banks in Kenya

The financial performance of commercial banks in Kenya was measured by return on assets (RoA). These values were derived from the published annual financial statements of financial performance for each commercial bank. RoA values were calculated separately for each bank tier by dividing its net profit by the value of the assets used to generate the profit. The findings on RoA for the commercial banks in Kenya for the period 2013 to 2017 are presented in Table 4.1

Table 4.1

Return on assets for commercial banks in Kenya (2013-2017)

Tier	2017	2016	2015	2014	2013	Mean
I	3.81	4.57	4.37	5.10	5.29	4.63
II	1.81	0.72	2.65	3.13	3.29	2.32
III	-2.20	1.05	1.75	1.90	2.01	0.90
Mean	**1.14**	**2.11**	**2.92**	**3.38**	**3.53**	

Source: Research data, 2019

Generally, Tier I banks gave the RoA values range from 5.29-3.81 spread over 2013 to 2017, Tier II banks showed RoA value range from 3.29-0.72 while Tier III banks RoA values range from 2.01 to -2.20. This indicates that Tier I banks performed better financially compared with Tier II and III banks between 2013-2017. Financial performance of the commercial banks declined between 2013-2017 as indicated by the decrease in the mean RoA from 3.53 to 1.14 respectively.

4.2.2 Risk governance mechanisms of commercial banks

The risk governance mechanisms were measured using the risk committee existence, audit committee size, credit committee size and number of risk governance mechanisms. Multicollinearity tests on these predictors were done and the results are presented in Table 4.2

Table 4.2

Multicollinearity test for commercial banks selected risk governance mechanisms

Coefficients[a]			
Model	Sig.	Collinearity Statistics	
		Tolerance	VIF
(Constant)	0.000025		
Risk committee	0.000025	0.899	1.112
Audit committee	0.000025	0.835	1.198
Credit committee	0.000025	0.812	1.231
Number of risk mechanisms	0.000025	0.860	1.162
Dependent Variable: Return on Assets			

Source: Research data, 2019

Multicollinearity test values among the predictors of risk governance mechanisms (Table 4.2) shows values within the acceptable range of below 10. The highest VIF was 1.749 while the lowest was 1.129. The highest tolerance was 0.899 and the lowest was 0.812 among the selected risk governance mechanisms. From the anova, it indicated that the findings were significant.

4.2.3 Risk committee existence in commercial banks in Kenya

Data on the existence of risk committee in any one bank was recorded on an arbitrary scale of 1 to 2, where one (1) indicated the existence and two (2) the absence of a risk committee. Table 4.3 presents the results of the risk committee existence on tier I to III commercial banks in Kenya for the period 2013-2017 financial years.

Table 4.3

Risk committee existence on commercial banks in Kenya

Tier	2017	2016	2015	2014	2013	Mean
I	1.00	1.00	1.11	1.00	1.00	1.02
II	1.00	1.00	1.11	1.00	1.00	1.02
III	1.05	1.06	1.08	1.31	1.18	1.14
Mean	**1.02**	**1.02**	**1.10**	**1.10**	**1.06**	

Source: Research data 2019

Generally, all the commercial banks had risk committees in place during the study period of 2013-2017. However, some commercial banks in tier III did not hence pushing the mean arbitrary values towards the 1.6 (Table 4.3) mark suggesting non-existence. Similar trend was observed in Tier I and II commercial banks in 2015. These results indicate that most of the commercial banks have adopted risk committees to minimize risk and improve their financial performance. Comparing the years under study, 2015 recorded the highest adoption of risk committees.

4.2.4 Relationship between risk committee existence and financial performance

To test the relationship between risk committee existence and RoA as per the Tier, a linear regression analysis was carried out between risk committee existence and RoA and the results presented in Table 4.4.

Table 4.4

Risk committee existence and RoA per tier

Tier	R	R^2	P value
I	0.143	0.02	0.379
II	0.022	0.001	0.877
III	0.392	0.154	0.000159

Source: Research data, 2019

From Table 4.4 the data reveals that Tier III had the highest relationship between risk committee existence and RoA with a p value of 0.000. For Tier I the R was 0.143 though it was not significant. For Tier II the R was 0.022, however the coefficient of correlation was not significant. In order to determine the relationship between risk governance existence and financial performance of commercial banks the hypothesis that stated that there is no significant relationship between risk committee existence and the financial performance of commercial banks in Kenya was tested. The results are shown in Table 4.5.

Table 4.5

Linear regression analysis between risk committee existence and ROAs for commercial banks

	β	SEb	β	T	Coefficients
Constant	-0.048	0.579	-	-0.82	
Main effects					
Risk committee	2.598**	0.625	0.299**	4159	
R					0.299**
R Square					0.09**
Adjusted R Square					0.084**
R Square Change					0.090**
Model F Change					17.301
Model Summary df					1
Sig. F Change					0.000050
Durbin Watson					0.848

Note: Dependent variable, Risk committee
*The significance levels *p<0.05; p**<0.01*

Source: Research data, 2019

From the results presented, it is evident that risk committee existence and RoA have a significant positive relationship (R=0.299). The results further showed that the model explained 9% in variations of RoA and risk committee existence (R^2 = 0.09, Adjusted R^2= 0.1084, F (1) = 17.301, p<0.05). This result suggests that there is significant relationship between risk committee existence and financial performance of commercial banks. From the findings also the β of risk committee existence is β = 2.598. From the findings, the null hypothesis is this rejected and therefore the alternate hypothesis that there is significant relationship between risk committee existence and financial performance is accepted.

The regression equation will therefore be represented by: -

$$Y = -0.048 + 2.598_{RC} + \varepsilon$$

Where;

Y - Financial performance indicated by RoA

RC – Risk committee existence

ε - Error term

This model shows that the Y-intercept b_o is -0.048 hence when there is no risk committee in a bank, the return on assets is -0.048 units and for every one-unit change in the risk committee existence, the value of RoA increases by 2.598 units. It can therefore be concluded that risk committee existence contributes to high ROA values and therefore higher financial performance of the commercial banks. In contrary, Kallamu (2015) observed a significant negative relationship between risk committee existence and RoA in Malaysia. Such observed variation may be due to differences in countries economic situation and GDPs. Indeed Kenya GDP in 2018 was 87,908 million dollars against UK GDP of 2,828,640 million dollars (Countryeconomy.com, 2018). The findings of this study also contradicts Chou and Buchdadi (2017) who found no relationship between risk committee existence and performance. The study by Chou and Buchdadi (2017) was done in Indonnesia and the data was analysed using two stage least square panel data. The difference in the economic conditions between the two countries and also the analysis may have contributed to the difference in the findings. In contrary, Bhuiyan and Yimei (2013) did a study on risk committee and firm value in

Australian firms and the study found that presence of a stand alone risk committee increases the value of the firm.

4.2.5 Audit committee size of commercial banks in Kenya

To establish the relationship between audit committee size and financial performance of commercial banks in Kenya, data on the number of audit committee members for the years 2013 to 2017 were extracted and a regression analysis done. First analysis was done on the audit committee sizes in various banks that existed for the years under study. The results are presented in Table 4.6.

Table 4.6

Audit committee sizes for commercial banks (2013- 2017)

Tier	2017	2016	2015	2014	2013	Mean
I	5.13	5.25	4.67	4.57	3.83	4.69
II	5.22	4.67	4.43	5.22	4.38	4.78
III	3.88	4.40	3.83	4.25	4.10	4.09
Mean	**4.74**	**4.77**	**4.31**	**4.68**	**4.10**	**4.52**

Source: Researcher, 2019

The results indicate that generally, there has been a continuous increase (4.52-4.74) in the size of audit committee from 2013 to 2017 respectively across all the bank tiers. This is a strategy adopted by commercial banks to reduce risks and improve their financial performance. Tier II commercial banks recorded a mean of 4.78 audit committee members and Tier III recorded a mean of 4.09. Regression analysis for audit

committee size and financial performance of the various tiers of commercial banks was carried out and results presented in Table 4.7.

Table 4.7

Audit committee size and RoA as per tier

Tier	R	R^2	Adjusted R^2	P value
I	0.29	0.084	0.06	0.069
II	0.081	0.006	-0.014	0.578
III	0.119	0.014	0.003	0.269

Source: Research data, 2019

From Table 4.7, there exist a relationship between audit committee size and RoA for Tier I with a coefficient of R=0.29 which is significant at p=0.069. For Tier II, there is a positive relationship with a coefficient of R=0.081, however this relationship is not significant given that the p value is 0.578 which is greater than 0.05. In Tier III banks, there is a positive relationship between audit committee size and RoA with a coefficient of R=0.119, p>0.05. This indicates that even though there exist a positive relationship, the relationship is not significant. To establish the relationship that existed between audit committee size and financial performance of commercial banks, the research hypothesis that stated that there is no significant relationship between audit committee size and financial performance of commercial banks in Kenya was tested. The results are presented in Table 4.8.

Table 4.8

Regression analysis between audit committee size and RoA

	β	SEb	β	T	Coefficients
Constant	2.220	0.718	-	3.093	
Main effects					
Audit committee size	-0.008	0.154	-0.004	-0.050	
R					0.004
R Square					0.000
Adjusted R Square					-0.006
R Square Change					0.000
Model F Change					0.002
Model Summary df					1
Sig. F Change					0.960
Durbin Watson					0.813

Note: Dependent variable, Risk committee
*The significance levels *p<0.05; p**<0.01*

Source: Research data, 2019

The results revealed a positive non-significant relationship between audit committee size and return on assets (R=0.004*;* p=0.960) as shown in table 4.8. Hence, the study fails to reject the null hypothesis. Further analysis as per the tiers in table 4.7. showed that the relationship was still not significant in any of the Tiers. The unstandardized coefficients which represents the slope of the regression, β = -0.008 means that a unit change in audit committee size will change the RoA by -0.008 units and the constant β = 2.220 indicating that when the audit committee size is zero, the RoA will be 2.220 units.

The regression equation will therefore be: -

$$Y = 2.220 + -0.008_{AC} + \varepsilon$$

Where;

Y - Financial performance indicated by RoA

AC – Audit committee size

ε - Error term

This study confirms a study that was done by Omer and Zuta (2017), who did a study on impact of audit committee size and composition on the negative events in the life of a company. The study by Omer and Zuta (2017), found that large audit committee sizes is significantly positively related to the occurrence of negative events in a company. Eventhough the study was done in Israel, a developed country, the findings were similar to the findings of this study that was done in Kenya a developing country. The findings of this study contradict those of Samoei and Rono (2016) which found that audit committee size to have significant effect on financial performance. The study by Samoei and Rono (2016) used explanatory research design with the study area being listed companies while this study used longitudinal reaserch design to collect data from secondary sources of commercial banks and this may have caused the difference in the findings.

4.2.6 Credit committee size of commercial banks in Kenya

Credit committee size was selected as one of the predictors of risk governance mechanisms in this study. Commercial banks adopt risk committees to help screen out risk exposures and improve their performance. There is no set standard number on the

size of credit committee and therefore commercial banks have different sizes. Data on credit committee sizes was therefore extracted from all the commercial banks for (2013-2017). The data was recorded in the extraction form, analyzed and categorized according to the tiers for the various years under study. The findings are presented in Table 4.9.

Table 4.9

Credit committee size of commercial banks 2013- 2017

Tier	2017	2016	2015	2014	2013	Mean
I	3.88	3.63	6.13	6.13	5.88	5.13
II	3.80	4.20	3.70	4.40	4.50	4.12
III	3.88	3.79	3.63	3.84	3.74	3.78
Mean	**3.85**	**3.87**	**4.49**	**4.79**	**4.70**	**4.34**

Source: Research data, 2019

From the analysis in Table 4.9, Tier I showed an average size (5.13) while Tier III commercial banks showed an average of (3.78) of credit committee members respectively. Even though there was an increase in the credit committee size from 4.9 in 2013 to 4.79 in 2014, this was followed by a decrease to a mean of 3.85 in the year 2017. A regression analysis was done to examine the relationship between credit committee size and RoA, and also to test whether there is no significant relationship between credit committee size and financial performance of commercial banks in Kenya. First, the analysis as per the tiers are presented followed by the general

regression analysis for the overall. The findings as per the Tier is presented in Table 4.10

Table 4.10

Regression analysis as per tier

Tier	R	R^2	Adjusted R^2	P value
I	0.08	0.006	-0.02	0.625
II	0.552	0.305	0.29	0.000032
III	0.014	0	-0.011	0.9

Source: Research data, 2019

From Table 4.10, the results indicate that there exists a relationship between credit committee size and RoA for Tier I, however, the relationship is not significant since the p value is 0.625. For Tier II, the relationship was significant with coefficient R=0.552 with a p value of p=0.000. For Tier III the results showed a positive relationship of R=0.014 but it was not significant because the p value was 0.9 which is greater than 0.5. A regression analysis was done for the overall and the findings are presented in Table 4.11.

Table 4.11

Regression analysis between credit committee size and return on assets (2013-2017)

	β	SEb	β	T	Coefficients
Constant	1.167	0.413	-	2.828	
Main effects					
Credit committee size	0.236**	0.081	0.215**	2.927	
R					0.215**
R Square					0.046**
Adjusted R Square					0.041**
R Square Change					0.046**
Model F Change					8.565
Model Summary df					1
Sig. F Change					0.004
Durbin Watson					0.873

Note: Dependent variable, Risk committee
*The significance levels *p<0.05; p**<0.01*

Source: Research data, 2019

The results indicated a significant positive relationship between credit committee size and financial performance measured by the return on assets with (coefficients of regression of R= 0.215, p<0.05, R^2 = 0.046, Adjusted R^2= 0.041, p<0.05). From this result, the null hypothesis is therefore rejected and the alternate hypothesis that states that there is a statistically significant relationship between credit committee size and financial performance is accepted. The results presented in Table 4.11 shows that R^2 = 0.046 meaning that 4 percent of the variations in RoA can be explained by the size of credit committee which is significant at p=0.004. The unstandardized coefficients which represents the slope of the regression β= 0.236**,** indicates that an increase by one

unit of credit committee size will increase the RoA by 0.236 units. The constant β= -1.167 indicates that when the credit committee size is zero, the RoA will be 1.167 units. From the regression analysis findings, the regression equation for this model will therefore be represented by: -

$$Y = 1.167 + 0.236_{CC} + \varepsilon$$

Where;

Y - Financial performance indicated by RoA

CC – Credit committee size

ε - Error term

From these findings, it can be concluded that as the size of the credit committee increases, the financial performance of the commercial bank also increases. Indeed, Magnifique (2013) observed that credit risk management significantly predict financial performance, while Alshatti (2015) observed that risk management significantly impact the financial performance of commercial banks in Jordan a country with different GDP as compared to Kenya. This study confirms the findings of a study by Kauna (2015), that found a significant positive relationship between credit risk identification, credit risk monitoring and financial performance of the commercial banks in Kenya. The study by Kauna (2015), recommended that commercial banks should put emphasis on the credit risk identification and this is a role of credit committee in commercial banks.

4.2.6 Number of risk governance mechanisms of commercial banks in Kenya

Commercial banks use different mechanisms to manage risks therefore it is important to establish whether there exists a relationship between number of risk governance

mechanisms and return on assets (RoA). Data on the number of risk governance mechanisms for different commercial banks in Kenya was therefore extracted. This data was analyzed for 2013-2017 financial years and presented according to different tiers of commercial banks. Table 4.11 shows the results on the number of risk governance mechanisms adopted by the various commercial banks in Kenya between 2013 and 2017.

Table 4.12

Number of risk governance mechanisms adopted by in commercial banks

Tier	2017	2016	2015	2014	2013	Mean
I	4.38	4.25	4.63	4.38	4.13	4.35
II	5.50	6.20	6.20	6.40	6.20	6.10
III	3.88	5.95	5.79	5.63	5.53	5.35
Mean	**4.58**	**5.47**	**5.54**	**5.47**	**5.28**	**5.27**

Source: Research data, 2019

Tier I indicated the lowest mean (4.35) while Tier II showed the highest mean (6.10) number of risk governance mechanisms. Generally, there has been a decrease in the mean number of risk mechanisms from 5.28 in the year 2013 to 4.58 in 2017. The study also hypothesized that there is no significant relationship between the number of risk governance mechanisms and financial performance of commercial banks in Kenya. To test this hypothesis a regression analysis was done. The findings are presented first as per the tiers and secondly the overall. Table 4.13 shows the regression results according to the tiers.

Table 4.13

Regression analysis as per tier

Tier	R	R^2	Adjusted R^2	P value
I	0.255	0.065	0.04	0.112
II	0.385	0.148	0.13	0.006
III	0.292	0.085	0.075	0.006

Source: Research data, 2019

The results showed a positive relationship for Tier I banks, however the relationship was not significant since the p value is 0.112 which is greater than 0.05 the acceptable margin. For Tier II banks, the relationship showed a significant positive relationship of coefficient of correlation $R=0.385$, $p<0.05$. In Tier III banks, the coefficient of correlation was $R=0.292$ with a p value of 0.006. This shows that there is a significant positive relationship between number of risk governance mechanisms and RoA for Tier II and III. An overall regression analysis was done and the findings presented in Table 4.14

Table 4.14

Regression analysis between number of risk governance mechanisms and return on assets

	β	SEb	β	T	Coefficients
Constant	1.244	0.428	-	2.909	
Main effects					
Number of risk mechanisms	0.166*	0.064	0.191*	2.581	
R					0.191*
R Square					0.036*
Adjusted R Square					0.031*
R Square Change					0.036*
Model F Change					6.660
Model Summary df					1
Sig. F Change					0.011
Durbin Watson					0.827

Note: Dependent variable, Risk committee
*The significance levels *p<0.05; p**<0.01*

Source: Research data, 2019

From the results, it is established that the number of risk mechanisms adopted by a bank has a positive relationship with the return on assets (a regression coefficient of R=0.191, p=0.011, R^2 = 0.036, Adjusted R^2= 0.031, p<0.05). The null hypothesis is therefore rejected and the alternate hypothesis that states that there is a statistically significant relationship between number of risk governance mechanisms and financial performance is accepted. From the findings, R^2 = 0.036 indicates that number of risk governance mechanisms can explain 3.6 percent of the variations in the RoA which is significant at p=0.011 and the unstandardized coefficients which represents the slope

of the regression β= 0.166 indicates that an increase by one unit of the number of risk governance mechanisms adopted by the commercial banks will increase the RoA by 0.166 units. The constant β= 1.244 indicates that when the commercial banks have zero risk governance mechanisms, the RoA will be 1.244 units.

The regression equation model will therefore be: -

$$Y = 1.244 + 0.166_{NM} + \varepsilon$$

Where;

Y - Financial performance indicated by RoA

NM – Number of risk governance mechanisms

ε - Error term

It is concluded that number of risk governance mechanisms is significantly related with financial performance since as the number of risk governance mechanisms increases, the return on asset also increases. Indeed (Kamazima, Mathenge and Ngui, 2017; Kimeu, 2017) found a statistical significant relationship between number of risk mechanisms and financial performance while Bernaddette and Conna (2015) found that corporate governance mechanisms influences the performance of commercial banks. However, Carter, D'Souza, Simkins and Simpson (2010) found a negative relationship between the number of risk governance mechanisms and financial performance. Such variations may be explained by differences in financial operation sectors and country GDP differences. Puni (2015) found that board committees had no significant statistical impact on financial performance on listed firms in Ghana and associated this to industry operation differences.

4.2.7 Relationship between risk governance mechanisms and financial performance

The predictors of risk governance mechanisms for commercial banks were categorized as; risk committee existence, audit committee size, credit committee size and number of risk governance mechanisms. The mean values of these risk predictors (2013-2017) according to the tiers are shown in Table 4.15.

Table 4.15

Data on risk governance mechanisms

Predictor	2017	2016	2015	2014	2013	Mean
Risk committee existence	1.02	1.02	1.10	1.10	1.06	1.06
Audit committee size	4.74	4.77	4.31	4.68	4.10	4.52
Credit committee size	3.85	3.87	4.49	4.79	4.70	4.34
Number of mechanisms	4.58	5.47	5.54	5.47	5.28	5.27

Source: Research data, 2019

In general, commercial banks have adopted risk and credit committees that has declined continuously from 2013-2017. In contrast audit committees and number of risk governance mechanisms increased over the same period. There has been an increase in the number of risk governance mechanisms over the years as a way of commercial banks reducing risks and improving financial performance. To establish the general

relationship between risk governance mechanisms and financial performance, a regression analysis was done and the findings is presented in Table 4.16.

Table 4.16

Regression between risk governance mechanisms and RoA

	Model 1				
	β	**SEb**	**β**	**T**	**Coefficients**
Constant	0.185	0.788	-	0.235	
Risk governance mechanisms					
Risk committee	2.358	0.645	0.271	3.655	
Audit committee	0.319	0.157	-0.156	-2.027	
Credit committee	0.206	0.086	0.188	2.401	
Number of mechanisms	0.088	0.066	0.101	1.328	
R					0.376
R Square					0.142
Adjusted R Square					0.122
R Square Change					2.83581
Model Summary df					4
F Change					7.129
F-Sig					0.000025
Durbin Watson					1.996
*Dependent Variable: Financial performance; Significance levels *p<0.05*					

Source: Research data, 2019

The results shown in Table 4.16 revealed a significant relationship between risk governance mechanisms and RoA indicates ($R = 0.376$, $R^2 = 0.142$, Adjusted $R^2 = 0.122$, $p<0.05$). It is therefore concluded that risk committee, credit committee and number of risk governance mechanisms have significant positive relationship with the

RoA. The results indicate that $R^2 = 0.142$ meaning that 14.2 percent of risk governance mechanisms explains the variations in RoA. The unstandardized coefficients which represents the slope of the regression β= 2.358 of risk committee existence means that a change by one unit of risk committee existence increases the RoA by 2.358 units, when β= -0.319 means an increase by one unit of audit committee size changes the RoA by -0.319 units, β= 0.206 means that a change by one unit of credit committee size increases the RoA by 0.206 units and β= 0.088 means a change by one unit on number of risk governance mechanisms changes the RoA by 0.088 units. The β= 0.185 means that when there are no risk governance mechanisms in a commercial bank, the RoA will be 0.185 units. Therefore, the findings presented in table 4.12 the regression equation of the optimal model for the financial performance will therefore be: -

$$Y = 0.185 + 2.358X_1 + 0.319X_2 + 0.206X_3 + 0.088 + \varepsilon$$

Where:

X_1 is coefficient of risk committee

X_2 is coefficient of audit committee size

X_3 is coefficient of credit committee size

X_4 is the coefficient of number of risk governance mechanisms

ε - Error term

In related previous studies by Nibedita (2018), a positive relationship between corporate governance mechanisms and financial performance was observed in Bangladesh. The present study provides a new insight in new knowledge on risk governance mechanisms in the Kenyan banking sector. Indeed, as the commercial

banks increases the use of risk governance mechanisms, the financial performance also increases. The findings of this study confirm a study by Chou and Buchdadi (2017) that found that risk governance mechanisms; independent board, audit committee, risk committee, meeting attendance level having a positive impact on performance. The findings of this study also confirms a study done by Olayinka *et al.,* (2018) and found that risk governance has a significant positive impact on the financial performance of commercial banks. On the otherhand, this study contradicts, Mollah, Farooque, Mobarek and Molyneux (2019) found that board structure influences the future cashflows while risk governance mechanisms had no statistical significance with performance. The findings however found that there were varied results from the developed and developing countries. The study was done in banks operating across 71 countries and the difference in the country policies may have contributed to the difference in the findings.

4.3 Board Size of Commercial Banks in Kenya

This study aimed at establishing the moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance of commercial banks in Kenya. First the relationship between the risk governance mechanisms and RoA was established using the board size as a predictor of the moderator and secondly using the frequency of board meetings.

4.3.1 Moderating effect of board size on risk committee existence and return on assets

To establish the moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance, board size was used as a predictor of board oversight. First, data on board size for each commercial bank was extracted, recorded and analyzed and the results categorized according to the different bank tiers (2013-2017). The results for the tiers analyzed are presented in Table 4.17.

Table 4.17

Board size of commercial banks in Kenya

Tier	2017	2016	2015	2014	2013	Mean
I	10.88	11.00	10.50	11.43	10.86	10.93
II	11.38	9.67	11.22	11.78	10.25	10.86
III	8.22	9.88	9.64	9.86	10.36	9.59
Mean	**10.16**	**10.18**	**10.46**	**11.02**	**10.49**	

Source: Research data, 2019

Tier I commercial banks had the highest number of board members (Mean of 10.93) followed by Tier II and the least is Tier III (with a mean of 9.59). There was a decrease in the mean size of the board from 10.49 in 2013 to 10.16 in 2017. The results indicate that Commercial banks in Kenya have adopted large board size as a way of enhancing the board oversight with the ultimate aim of reducing risk and increasing the financial performance. To establish the moderating effect of board size on the relationship between risk committee existence and financial performance, the hypothesis that there

is no significant moderating effect of board size on the relationship between risk committee existence and financial performance of commercial banks in Kenya was tested. To test this, a linear regression analysis was done between risk committee existence and financial performance with board size being the moderator (2013-2017). The regression results are presented in Table 4.18.

Table 4.18

Regression of moderating effect of board size on the relationship between risk committee existence and RoA for commercial banks

	Model 1			Model 2			Model 3		
	β	**SE_b**	**β**	**β**	**SE_b**	**β**	**β**	**SE_b**	**β**
Constant	-0.048	0.579		0.320	0.795		-7.832	2.649	
Step 1									
Risk committee	2.598 **	0.625**		2.701**	0.644**	0.311**	11.309**	2.748**	1.302**
Step 2									
Board size				-0.045	0.67	-0.050	0.954**	0.371**	1.062**
Step 3									
RC*BS							-1.043**	0.324**	-1.671**
R			0.299			0.303			0.378
R Square			0.090			0.092			0.143
Adjusted R Square			0.084			0.081			0.128
R Square Change			0.000			0.002			0.051
Model F Change			17.301			0.456			10.365
Model Summary df			1			1			1
Sig. F Change			0.000			0.500			0.002
Durbin Watson									0.895

Note: Dependent variable, Risk committee,
*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

From the regression analysis, the regression coefficient for the relationship between risk committee and return on assets was R=0.299 before and R=0.378, after the introduction of the moderator respectively. At the same time R^2 changed from 0.084 before to R^2= 0.128 after the moderator. The initial change in R^2 was 0.090 in model 1 and 0.002 in model 2 and 0.051 in model 3. This change was significant ($p<0.05$). It is therefore suggested that there is a significant moderating effect of board size on the relationship between risk committee and RoA. The findings presented in Table 4.18 the regression equation will therefore be:-

$Y = -0.048 + 2.598_{RC} + \varepsilon$……...….Model 1

$Y = 0.320 + 2.701_{RC} + \varepsilon$……..…….Model 2

$Y = -7.832 + -1.043_{RC} + \varepsilon$ ……..….Model 3

Where:

Y- Financial performance indicated by RoA

RC- Risk committee existence

ε - Error term

In contrast, Muchemwa and Padia (2016) found no relation between board size and financial performance. This variation may be due to difference in the research design where this study used longitudinal research design and cross sectional research design as used by Muchemwa and Padia (2016). Shunu *et al,* (2017) while working on the effect of board size on the firms performance of listed companies in Nairobi stock exchange using panel approach observed a significant positive relationship between board size and performance of firms.

4.3.2 Moderating effect of board size on audit committee size and the return on assets

The study aimed at establishing the moderating effect of board oversight between audit committee and financial performance. A regression analysis was therefore carried out between audit committee size of sampled commercial banks and their financial performances. The indicator of financial performance was RoA values and the moderating variable being board size. To test the moderating effect of board size on the relationship between audit committee size and financial performance, the research hypothesis that stated that there is no significant effect of board size on the relationship between audit committee size and financial performance of commercial banks in Kenya was tested. The regression analysis results as shown in Table 4.19.

Table 4.19

Regression of moderating effect of board size on the relationship between audit committee size and return on assets

	Model 1			Model 2			Model 3		
	β	**SE_b**	**β**	**β**	**SE_b**	**β**	**β**	**SE_b**	**β**
Constant	2.220**	0.718**		2.046*	0.883*		-2.747	2.093	
Step 1									
Audit committee	-0.008	0.154	-0.004	-0.023	0.161	-0.011	0.959*	0.421*	0.470*
Step 2									
Board size				0.024	0.71	0.027	0.494**	0.199**	0.550**
Step 3									
AC*BS							-0.093**	0.037**	-0.828**
R			-0.004			0.26			0.189
R Square			0.000			0.001			0.036
Adjusted R Square			-0.006			0.011			0.019
R Square Change			0.000			0.001			0.035
Model F Change			0.002			0.115			6.344
Model Summary df			1			1			1
Sig. F Change			0.960			0.735			0.013
Durbin Watson									0.868

Note: Dependent variable, Audit committee size
*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

The results in model 1 indicate a significant moderating effect of board size on the relationship between audit committee size and return on assets (R= 0.004, R^2= 0.000, Adjusted R^2 = -0.006, p>0.05). In comparison with model 2, (R= 0.26, R^2 = 0.001, p>0.05. The correlation coefficient between the variables was r=-0.004 before moderator but changed to R=0.189 after moderator. The model coefficients after the introduction of the moderator were (R=0.189, change in R^2= 0.035, p<0.05). This indicates that there is a significant moderating effect of board size on the relationship between audit committee size and financial performance. From the results in Table 4.19, the regression equation will therefore be: -

$Y = 2.220 + 0.718_{AC} + \varepsilon$…..…….Model 1

$Y = 2.046 + 0.024_{AC} + \varepsilon$……..….Model 2

$Y = -2.747 + -0.093_{AC} + \varepsilon$ **…**…….Model 3

Where:

Y- Financial performance indicated by RoA

AC- Audit committee size

ε - Error term

In previous studies Topal and Dogan, (2014) found a positive relationship between board size and the performance of firms. Muchemwa and Padia (2016) also found a positive relationship between board size and financial performance. The study was done in South Africa and the findings are similar to the findings of this study. Similar findings were obserevd by Ogada , Achoki and Njuguna (2016) who found that board

size had a significant effect on financial performance. Eventhogh the study was done in merged institutions using mixed research design, the findings were similar with the findings of this study.

4.3.3 Moderating effect of board size on credit committee size and the return on assets

In this study moderated credit committee size was also used as a predictor of risk governance mechanisms for commercial banks. Different commercial banks have different sizes and composition of credit committee that help in finding ways of minimizing risk exposure to the banks. In our previous unmoderated results, a significant positive relationship between credit committee size and financial performance was observed with a regression coefficient R=0.591 (Table 4.11). to test the hypothesis that stated that there is no significant moderating effect of board size on the relationship between credit committee size and financial performance of commercial banks in Kenya, a linear regression was done between moderated values of credit committee and RoA. The regression analysis of the moderating effect of board size on the relationship between credit committee size and return on assets is presented in Table 4.20.

Table 4.20

Moderating effect of board size on the relationship between credit committee size and return on assets

	Model 1			Model 2			Model 3		
	β	**SEb**	**β**	**β**	**SEb**	**β**	**β**	**SEb**	**β**
Constant	1.167**	0.413**		1.150	0.762		2.665*	1.245*	
Step 1									
Audit committee	0.236**	0.081**	0.215	0.236**	0.081**	0.215**	-0.159	0.270	-0.145
Step 2									
Board size				0.002	0.67	0.002	-0.146	0.117	-0.163
Step 3									
CC*BS							0.038	0.025	0.426
R			0.215**			0.215			0.243
R Square			0.046**			0.046			0.059
Adjusted R Square			0.041			0.036			0.043
R Square Change			0.000**			0.000			0.013
Model F Change			8.565**			0.001			2.358
Model Summary df			1			1			1
Sig. F Change			0.004			0.979			0.126
Durbin Watson									0.898

Note: Dependent variable, Credit committee size

*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

As shown in Table 4.20, model 3 presented interaction effects of (R= 0.243, R^2= 0.059, Adjusted R^2 = 0.043, F = 0.013, F- change =2.358, p=0.126, p>0.05). This an insignificant relationship of correlation coefficient of R=0.243, change in R^2 = 0.013). It is therefore concluded that there is no significant moderating effect of board size on the relationship between credit committee size and return on assets. From the results, the regression equation will therefore be: -

$Y = 1.167 + 0.236_{CC} + \varepsilon$…….Model 1

$Y = 1.150 + 0.002_{CC} + \varepsilon$……....Model 2

$Y = 2.665 + 0.038_{CC} + \varepsilon$…….Model 3

Where:

Y- Financial performance indicated by RoA

CC- Credit committee size

ε - Error term

The findings of this study contradict Ogada *et al*, (2016) did a similar study and found significant positive effect of board size on the financial performance of merged institutions. The difference maybe attributed to the difference in the sectors under study and also the research design since Ogada *et al*, (2016) used mixed reserch design and purposive sampling to collect primary data, this study used longitudinal research design. The study also contradicts the findings of Shunu, Bii and Ombaba (2017) who that found board size had a significant effect on financial performance of listed companies. The difference may be as a result of difference in the sectors and operating principles.

4.3.4 Moderating effect of board size on number of risk governance mechanisms and return on assets

This study aimed at establishing the moderating effect of board oversight on the relationship between number of risk governance mechanisms and return on assets in commercial banks. Board sizes of different commercial bank tiers were extracted and regressed against RoA. Previous unmoderated results indicated that the number of risk governance mechanisms and financial performance of commercial banks are positively related however the same relationship could be increased by a moderator. To understand this, board oversight was introduced as a moderator. The board size was used as predictor of the moderator while the number of risk governance mechanisms was used as a predictor of the risk governance mechanism. To establish the moderating effect of board size on the relationship between number of risk governance mechanisms and financial performance, the hypothesis that stated that there is no significant moderating effect of board size on the relationship between the number of risk governance mechanisms and financial performance of commercial banks in Kenya was tested. To test this, a regression analysis was done between moderated values of number of risk governance mechanisms and financial performance. The findings are presented in Table 4.21.

Table 4.21

Moderating effect of board size on the relationship between number of risk governance mechanisms and return on assets

	Model 1			Model 2			Model 3		
	β	**SE_b**	**β**	**β**	**SE_b**	**β**	**β**	**SE_b**	**β**
Constant	1.244**	0.428**		1.707**	0.717**		0.083	1.639	
Step 1									
Number of risk mechanisms	0.166**	0.064**	0.191**	0.189**	0.071**	0.218**	0.517	0.305	0.594
Step 2									
Board size				-0.059	0.073	-0.65	0.061	0.131	0.068
Step 3									
NM*BS							-0.023	0.021	-0.454
R			0.191			0.200			0.216
R Square			0.036			0.040			0.047
Adjusted R Square			0.031			0.029			0.030
R Square Change			0.000			0.004			0.007
Model F Change			6.660			0.649			1.215
Model Summary df			1			1			1
Sig. F Change			0.011			0.421			0.272
Durbin Watson									0.823

Note: Dependent variable, Number of risk mechanisms

*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

From the findings presented in table 4.21, indicated the coefficients of regression R=0.216, R^2= 0.047, adjusted R^2 = 0.030, p=0.272, p > 0.05. This shows an insignificant moderating effect of board size on the relationship between number of risk governance mechanisms and return on assets. This model only explains 4.7% of the return on assets with p > 0.05. It can therefore be concluded that there is no significant moderating effect of board size on the relationship between number of risk governance mechanisms and financial performance for commercial banks in Kenya. From the results, the regression equation will therefore be:-

$Y = 1.244 + 0.166_{NM} + \varepsilon$…….Model 1

$Y = 1.707 + -0.059_{NM} + \varepsilon$……...Model 2

$Y = 0.083 + -0.023_{NM} + \varepsilon$…….Model 3

Where:

Y- Financial performance indicated by RoA

NM- Number of risk governance mechanisms

ε - Error term

Oludele *et al*, (2016) found a positive relationship between board size and financial performance of listed manufacturing firms in Nigeria. This study was done in commercial banks and the study by Oludele *et al*, (2016) was limited to manufacturing firms in Nigeria and therefore, the difference may be atributed to the difference in the industry and also difference in the policies between the two countries. Orozco & Vargas (2018) also observed that board size had significant positive relationship with performance of companies in Colombia. The study by Orozco and Vargas (2018) used

correlation cluster analysis and the difference therefore may be attributed to the difference in research design.

4.3.5 Moderating effect of board size on risk governance mechanisms and financial performance

This study aimed at establishing the moderating effect of board oversight on the relationship between risk governance mechanisms and the financial performance of commercial banks in Kenya. The predictors for the risk governance mechanisms were risk committee existence, audit committee size, credit committee size and number of risk governance mechanisms adopted by the commercial banks to minimize its risk exposure. The unmoderated values of risk mechanisms showed a significant positive relationship with the coefficients being R= 0.769, R^2 = 0.591, adjusted R^2= 0.427, F (4) = 3.613, $p<0.05$ as shown in Table 4.16. To establish the moderating effect of board size, the study hypothesized that there is no significant moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance of commercial banks in Kenya. A regression analysis was done to test this hypothesis and the findings are presented in Table 4.22.

Table 4.22

Moderating effect of board size on the relationship between risk governance mechanisms and financial performance

	Model 1					Model 2					Model 3				
	β	**SEb**	**β**	**T**	**Sig.**	**β**	**SEb**	**β**	**T**	**Sig.**	**β**	**SEb**	**β**	**T**	**Sig**
Constant	0.185	0.788	-	0.235	0.814	0.545	0.884	-	0.616	0.539	-9.596	3.162	-	-3.035	0.003
Risk governance mechanisms															
Risk committee	2.358	0.645	0.271	3.655	0.000	2.431	0.650	0.280	3.737	0.000	-1.217	0.326	-1.950	-3.735	0.000
Audit committee	-0.319	0.157	-0.156	-2.027	0.044	-0.286	0.161	-0.140	-1.775	0.078	-0.025	0.037	-0.222	-0.671	0.503
Credit committee	0.206	0.086	0.188	2.401	0.017	0.197	0.086	0.180	2.281	0.024	0.021	0.027	0.234	0.779	0.437
Number of mechanisms	0.88	0.066	0.101	1.328	0.186	0.11	0.071	0.127	1.561	0.120	5.887	0.023	0.001	0.003	0.998
Step 2															
Board oversight															
Step 3															
Risk governance*Board Oversight															
R					0.376					0.381					0.471
R Square					0.142					0.146					0.222
Adjusted R Square					0.122					0.121					0.180
R Square Change					0.000					0.004					0.076
F Change					7.129					0.806					4.122
F-Sig					0.000					0.371					0.003
Durbin Watson															1.020

Dependent Variable: Financial performance

Source: Research data, 2019

The unmoderated results gave a significant coefficient of correlation of R=0.376 and R^2=0.142, p=0.003 between risk governance mechanisms and financial performance. Introducing the moderator, the coefficient values changed to R=0.471 and R^2=0.222 which is significant at p=0.003. The overall value of the coefficient of R^2 changed from 0.142 to 0.222 before and after the moderator respectively. The overall model for financial performance with the moderator of board oversight will therefore be: -

$Y = 0.185 + 2.358X_1 + -0.319X_2 + 0.206X_3 + 0.88X_4 + \varepsilon$……..Model 1

$Y = 0.545 + 2.431X_1 + -0.286X_2 + 0.197X_3 + 0.11X_4 + \varepsilon$…..…..Model 2

$Y = -9.596 + -1.217X_1 + -0.0025X_2 + 0.021X_3 + 5.887X_4 + \varepsilon$…..Model 3

Where:

Y – Financial performance indicated by RoA

X_1 – Risk committee existence

X_2 – Audit committee size

X_3 – Credit committee size

X_3 – Number of risk governance mechanisms

ε - Error term

The results indicate a significant moderating effect of board size on the relationship between risk governance mechanism and financial performance, and the null hypothesis was rejected. The alternate hypothesis that states that there is a statistically significant moderating effect of board size on the relationship between selected risk governance and financial performance is accepted. Using cross sectional reserch design, Uwuigbe and Fakile (2012) found a negative relationship between board size

and financial performance of commercial banks in Nigeria. The variation may be atrributed to the research design. Shkendije (2014) observed that companies with large board sizes have low performance and it is attributed to challenges in corrdination of large numbers. Muganda and Umulker (2015) similarly found that board size negatively affects financial performance of commercial banks in Kenya. Muchemwa and Padia, (2016) found that there is no relationship between board size and performance of the firm. The study used cross-sectional research design and multiple regression analysis to analyse data while this study used longitudinal research design. The difference in the findings of the study done by Muchemwa and Padia, (2016) and this study may be atributed to the difference in the research design. On the other hand, this study confirms a study done by Orozco and Vargas (2018) that found large board size to be associated with high financial performance of large companies. It also confirms a study done by Kiambati *et.al* (2013) who obsereved that board size has an effect on the profitability of commercial banks in Kenya. This study also confirms Topal and Dogan (2014) who carried out a study on the impact of board size on the performance of firms and found that there is a positive relationship between board size and firm performance. Another study Ogada *et al., (*2016) on the effecct of board size on the financial performance found a positive relationship between board size and finacial performance.

4.4 Board Meetings of Commercial Banks in Kenya

The second predictor for the effects of board oversight on financial performance commercial banks was frequency of board meetings. The boards of commercial banks hold several meetings in a year to provide oversight on financial performance. There is no standard number of meetings that the commercial banks should hold in a year and therefore, there was need to carry out a study to establish the moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and financial performance. First, data on the number of board meetings held by different commercial bank tiers are presented in Table 4.19.

Table 4.23

Data on the number of board meetings held by commercial banks in Kenya (2013-2017)

Tier	2017	2016	2015	2014	2013	Mean
I	6.25	6.13	6.33	6.57	6.50	6.36
II	8.25	7.22	7.78	8.00	7.00	7.65
III	7.06	7.76	7.21	6.33	6.58	6.99
Mean	**7.19**	**7.04**	**7.11**	**6.97**	**6.69**	

Source: Research data, 2019

It is observed that there has been an increase in the number of board meetings held over years (2013-2017) across all the commercial bank tiers. The average number of board meetings held ranged from 6.69 in 2013 to 7.19 in 2017. Tier II commercial banks held the highest mean of 7.65 board meetings between (2013-2017) in comparison with a mean of 6.36 for tier I and mean of 6.99 for Tier III.

4.4.1 Moderating effect of board meetings on risk committee and return on assets

To establish the moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance, data on the risk committee existence was extracted. This data was recorded using arbitrary values where mean of values 1-1.5 signified existence of risk committee and mean of values 1.6-2 signified the absence of risk committee. The analysis was done for the period 2013-2017 and regression analysis was carried out between the risk committee existence and return on assets. Previous unmoderated results indicated a significant positive relationship between risk committee and return on assets ($R=0.299$, $R^2= 0.1084$, $F(1) = 17.301$, $p<0.05$). To test the hypothesis that stated that there is no significant moderating effect of frequency of board meetings on the relationship between risk committee existence and financial performance of commercial banks in Kenya, a regression analysis was done. The results are presented in Table 4.24.

Table 4.24

Moderating effect of board meetings on the relationship between risk committee existence and return on assets

	Model 1			Model 2			Model 3		
	β	**SE_b**	**β**	**β**	**SE_b**	**β**	**β**	**SE_b**	**β**
Constant	-0.048	0.579		- 0.346	0.650		-1.190	2.224	
Step 1									
Risk committee	2.598**	0.625**		2.475**	0.636**	0.285**	3.342	2.276	0.385
Step 2									
Board meetings				0.060	0.60	0.074	0.230	0.433	0.283
Step 3									
RC*BM							-0.173	0.437	-0.250
R			0.299**			0.308			0.309
R Square			0.090**			0.095			0.096
Adjusted R Square			0.084**			0.084			0.080
R Square Change			0.090**			0.005			0.001
Model F Change			17.301**			1.016			0.158
Model Summary df			1			1			1
Sig. F Change			0.000			0.315			0.692
Durbin Watson									0.855

Note: Dependent variable, Risk committee

*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

Results in (Table 4.20) revealed that the regression coefficient between risk committee and return on assets was R=0.299 and R=0.309 before and after the introduction of the moderator. The R^2 changed from R^2 = 0.090 to R^2= 0.096 before and after the introduction of the moderator respectively. Regression coefficient for the moderated values was insignificant with p = 0.692 > 0.05. The study therefore concludes that there is no significant moderating effect of frequency of board meetings on the relationship between risk committee existence and financial performance. From the results, the regression equation will therefore be:-

$Y = -0.048 + 2.598_{RC} + \varepsilon$…….Model 1

$Y = -0.346 + -0.060_{RC} + \varepsilon$……...Model 2

$Y = -1.190 + -0.173_{RC} + \varepsilon$……...Model 3

Where:

Y- Financial performance indicated by RoA

RC- Risk committee existence

ε - Error term

The findings of this study are in agreement to those of Hanh *et al.*, (2018) that found a negative effect of high frequency on the financial performance of listed firms in Vietnam. The findings of this study however contradicts a study by Koriang (2014) who found negligable relationship between number of meetings and the performance. The study used panel data and this may have contributed to the difference in the findings.

4.4.2 Moderating effect of board meetings on audit committee size and financial performance

The study aimed at establishing the moderated effect of meetings on the relationship between audit committee size and return on assets (RoA). Previous analysis on the same before introduction of the moderator (frequency of board meetings) showed no significant relationship. To test this relationship, a hypothesis that stated that there is no significant moderating effect of frequency of board meetings on the relationship between audit committee size and financial performance of commercial banks in Kenya was tested through a moderated linear regression analysis. The results of the moderated regression analysis between audit committee size and return on assets after the introduction of moderator is presented in Table 4.25.

Table 4.25

Moderating effect of board meetings on the relationship between audit committee size and return on assets

	Model 1			Model 2			Model 3		
	β	**SE_b**	**β**	**β**	**SE_b**	**β**	**β**	**SE_b**	**β**
Constant	2.220	0.718		1.711	0.770		0.155	1.707	
Step 1									
Audit committee size	-0.008	0.154	-0.004	-0.058	0.156	-0.029	0.263	0.351	0.129
Step 2									
Board meetings				0.109	0.062	0.134	0.353	0.247	0.433
Step 3									
AC*BM							-0.049	0.048	-0.371
R			0.004			0.132			0.152
R Square			0.000			0.017			0.023
Adjusted R Square			-0.006			0.006			0.006
R Square Change			0.000			0.017			0.006
Model F Change			0.002			3.088			1.042
Model Summary df			1			1			1
Sig. F Change			0.960			0.081			0.309
Durbin Watson									0.855

Note: Dependent variable, Audit committee
*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

The coefficient of regression between audit committee size and return on assets was (R=0.004, adjusted R^2=-0.006, p>0.05) before the introduction of the moderator and changed to R=0.152 after the moderator was introduced. This shows an improvement in the coefficient, the significance value p=0.309 > 0.05. The change in R^2 before the moderator was 0.000 and when the moderator was introduced it changed to 0.006. however, the significance level of the effect of the moderator was greater than 0.05. This shows that the moderator does not significantly affect the relationship between audit committee size and RoA. The study therefore concludes that there is no significant moderating effect of board meetings on the relationship between audit committee size and financial performance. From the results, the regression equation will therefore be:-

$Y = 2.220 + -0.008_{AC} + \varepsilon$…….Model 1

$Y = 1.711 + 0.109_{AC} + \varepsilon$……..Model 2

$Y = 0.155 + -0.049_{AC} + \varepsilon$…….Model 3

Where:

Y- Financial performance indicated by RoA

AC- Audit committee size

ε - Error term

Eluyela *et al.,* (2018) found a significant effect of frequency of board meetings on the financial performance of deposit taking banks in Nigeria and recommended that banks should have atleast four board meetings in a year to improve its performance. The study by Eluyela *et al.,* (2018) used used panel regression to analysis and the differences in the findings may be as a result of differences in the research design. The findings of

this study also confirms a study done by Ojulari (2014) that found a negative relationship between the number of board meetings and the financial performance in Nigerian firms.

4.4.3 Moderating effect of board meetings on credit committee size and return on assets

This study aimed at establishing the moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance. Data on the credit committee size was extracted and regression analysis was carried out between credit committee size and return on assets. The unmoderated coefficients of correlation ($R= 0.591$, $p=0.020$, $R^2 = 0.350$, adjusted $R^2= 0.300$, $p<0.05$) showed that there is a significant relationship between credit committee size and return on assets. Further to this relationship, the relationship may be enhanced by the moderator frequency of board meetings. To this a hypothesis that stated that there is no significant moderating effect of frequency of board meetings on the relationship between credit committee size and financial performance of commercial banks was formulated and tested using a linear regression analysis. Table 4.26 shows the results of analysis between moderated credit committee and return on assets.

Table 4.26

Moderating effect of board meetings on the relationship between credit committee size and return on assets

	Model 1			Model 2			Model 3		
	β	**SE_b**	**β**	**β**	**SE_b**	**β**	**β**	**SE_b**	**β**
Constant	1.167**	0.413**		0.771	0.533		0.835	1.079	
Step 1									
Credit committee size	0.236**	0.081**	0.215**	0.216**	0.082**	0.197	0.204	0.203	0.186
Step 2									
Board meetings				0.072	0.061	0.088	0.061	0.167	0.075
Step 3									
CC*BM							0.002	0.029	0.020
R			0.215			0.232			0.232
R Square			0.046			0.054			0.054
Adjusted R Square			0.041			0.043			0.038
R Square Change			0.000			0.008			0.000
Model F Change			8.565			1.374			0.005
Model Summary df			1			1			1
Sig. F Change			0.004			0.243			0.946
Durbin Watson									0.880

Note: Dependent variable, Credit committee
*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

The regression coefficient between credit committee size and return on assets was not significant (R=0.215, R^2= 0.046, adjusted R^2= 0.041, p=0.004) before moderator and (R=0.23, R^2=0.054, adjusted R^2= 0.038, p>0.05) after the moderator. This showed an increase in the coefficient by 0.017. Even though the value of the coefficient of correlation increased, the significance level was p=0.946. This shows that it is not statistically significant because the results of the moderated values showed is greater than 0.05. From the data presented in Table 4.26, the change in R^2 moved from 0.000 for the board credit committee size to 0.008 for the board meetings and for the moderated values the change went to 0.000. This shows that there was no change in R^2. The study therefore concludes that there is no significant moderating effect of board meetings on the relationship between credit committee size and financial performance. The regression equation will therefore be: -

$Y = 1.167 + 0.236_{CC} + \varepsilon$……. Model 1

$Y = 0.711 + 0.072_{CC} + \varepsilon$……. Model 2

$Y = 0.835 + 0.002_{CC} + \varepsilon$…….. Model 3

Where:

Y- Financial performance indicated by RoA

CC- Credit committee size

ε - Error term

A similar study was conducted by Qadorah and Fadzil (2018) using multiple regression to analyse the data found a negative relationship between frequency of board meetings and financial performance. The findings of this study agrees with the findings of

Qadorah and Fadzil (2018). On the other hand, this study contradicts the findings of Chou and Buchdadi (2017) who did a study on independent board, audit committee, risk committee, the meetings aattendance level and its impact on the performance and found that meeting attendance increases the profitability of commercial banks. The study was done in Indonnesia and the difference may have resulted because of the difference in the GDP between the two countries and also the research design used.

4.4.4 Moderating effect of board meetings on number of risk governance mechanisms and return on assets

To establish the moderating effect of board meetings on the relationship between number of risk governance mechanisms and return on assets, a regression analysis was done on the moderated values. First, data on the number of risk governance mechanisms for all commercial banks, was extracted and recorded. The data was analyzed according to the various bank for (2013-2017). A regression analysis on unmoderated data showed ($R=0.191$, $p=0.011$, $R^2 = 0.036$, Adjusted $R^2= 0.031$, $p<0.05$). This showed a significant relationship between number of risk governance mechanisms and RoA. Even though the findings gave a positive coefficient of regression of $R= 0.191$, the $R^2= 0.036$ which indicates that the model only explains 3 percent of the RoA. This the indicates that 97 percent is explained by other factors that may include the moderators. For this reason, therefore, board meetings were used as a moderator of the relationship between number of risk governance mechanisms and RoA. The study hypothesized that there is no significant moderating effect of frequency of board meetings on the relationship between the number of risk governance mechanisms and financial performance. To test this hypothesis, a regression analysis was done and the findings are presented in Table 4.27.

Table 4.27

Moderating effect of board meetings on the relationship between number of risk governance mechanisms and return on assets

	Model 1			Model 2			Model 3		
	β	**SEb**	**β**	**β**	**SEb**	**β**	**β**	**SEb**	**β**
Constant	1.244**	0.428**		1.214**	0.484**		0.241	1.159	
Step 1									
Credit committee size	0.166**	0.064**	0.191**	0.159	0.083	0.183	0.330	0.203	0.380
Step 2									
Board meetings				0.011	0.078	0.013	0.100	0.125	0.123
Step 3									
CC*BM							-0.013	0.014	0.288
R			0.191			0.191			0.203
R Square			0.036			0.037			0.041
Adjusted R Square			0.031			0.026			0.025
R Square Change			0.036			0.000			0.005
Model F Change			6.660			0.018			0.853
Model Summary df			1			1			1
Sig. F Change			0.011			0.892			0.357
Durbin Watson									0.826

Note: Dependent variable, Number of risk governance mechanisms
*The significance levels *p<0.05; p**<0.02*

Source: Research data, 2019

Table 4.27 indicates that coefficient of regression changed from R=0.000 to R=0.005 without and with the moderator respectively. This shows that there is a positive effect by the moderator. However, the significance level showed p=0.357 and this indicates that the moderating effect is not significant. It is therefore concluded that there is no significant moderating effect of board meetings on the relationship between number of risk governance mechanisms and financial performance. From the results, the regression equations will therefore be: -

$Y = 1.244 + 0.166_{NM} + \varepsilon$……. Model 1

$Y = 1.214 + 0.011_{NM} + \varepsilon$……. Model 2

$Y = 0.241 + -0.013_{NM} + \varepsilon$……. Model 3

Where:

Y- Financial performance indicated by RoA

NM- Number of risk governance mechanisms

ε - Error term

Khaleel *et al,* (2016) found a positive relation between board meetings frequency and firm performance in a dynamic panel technique generalised methods of moments. The difference in the findings can be attributed to the difference in the research design. However, the findings of this study confirms a study that was done by Qadorah and Fadzil (2018) who did a study on the effect of board independence and board meeting on firm performance with evidence from Jordan banks using multiple regression method to analyse data and found no relation between the frequency of board meetings with the financial performance.

4.4.5 Moderating effect of board meetings on risk governance mechanisms and financial performance

Previous unmoderated studies the coefficient of correlation indicated the value (R= 0.376, R^2 = 0.142, Adjusted R^2= 0.122, p=0.045), hence a significant relationship between risk governance mechanisms and financial performance. This relationship could be enhanced further by a moderator. The R^2= 0.142 indicating that the model only explained 14.2 percent of the RoA and that the remaining 85.8 percent was explained by other factors which may include the moderators. For this, board oversight was used as a moderator and frequency of board meetings was used to measure the board oversight. To measure this, a regression analysis was done that tested the hypothesis that states that there is no significant moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and financial performance of commercial banks in Kenya. The results of the regression analysis are shown in Table 4.28.

Table 4.28

Moderating effect of board meetings on the relationship between risk governance mechanisms and financial performance

	Model 1					Model 2					Model 3				
	B	**SEb**	**B**	**T**	**Sig.**	**B**	**SEb**	**B**	**T**	**Sig.**	**B**	**SEb**	**B**	**T**	**Sig**
Constant	0.185	0.788	-	0.235	0.814	0.176	0.809		0.218	0.828	-0.706	2.584		-0.273	0.785
Risk governance mechanisms															
Risk committee	2.358	0.645	0.271	3.655	0.000	2.36	0.647	0.271	3.641	0.000	-0.311	-0.460	-0.449	-0.677	0.499
Audit committee	-0.319	0.157	-0.156	-2.027	0.044	-0.319	0.158	-0.156	-2.021	0.045	-0.013	0.051	-0.097	-0.252	0.802
Credit committee	0.206	0.086	0.188	2.401	0.017	0.206	0.086	0.188	2.394	0.018	0.002	0.034	0.019	0.055	0.956
Number of mechanisms	0.088	0.066	0.101	1.328	0.186	0.085	0.083	0.098	1.032	0.303	0.015	0.017	0.326	0.861	0.391
Step 2															
Board oversight															
Step 3															
Risk governance*Board Oversight															
R					0.376					0.376					0.384
R Square					0.142					0.142					0.147
Adjusted R Square					0.122					0.117					0.102
R Square Change					0.000					0.000					0.006
F Change					7.129					0.003					0.291
F-Sig					0.000					0.958					0.884
Durbin Watson															0.930

Dependent Variable: Financial performance

Source: Research data, 2019

From the findings presented in Table 4.28, it indicates the coefficients were (R=0.376, R^2= 0.142, p= 0.000) and (R=0.384, R^2= 0.147, change in R^2= 0.006, p=0.884) before and after the introduction of the moderator respectively. This showed an increase in the value of the coefficient but the significance level for the relationship between risk governance mechanisms and financial performance was p=0.884. The study therefore concludes that there was no significant moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and financial performance. For the moderating effect of board meetings on the relationship between risk governance mechanisms and financial performance, the study fails to reject the null hypothesis. From the results, the regression equations will therefore be: -

$Y = 0.185 + 2.358X_1 + -0.319X_2 + 0.206X_3 + 0.88X_4 + \varepsilon$…….. Model 1

$Y = 0.176 + 2.36X_1 + -0.319X_2 + 0.206X_3 + 0.085X_4 + \varepsilon$..…….. Model 2

$Y = -0.706 + -0.311X_1 + -0.013X_2 + 0.002X_3 + 0.015X_4 + \varepsilon$…… Model 3

Where:

Y – Financial performance indicated by RoA

X_1 – Risk committee existence

X_2 – Audit committee size

X_3 – Credit committee size

X_3 – Number of risk governance mechanisms

ε - Error term

The findings of this study confirm a similar study done by Lundqvist and Vilhelmsson (2018) even though the study was done in America using panel data. Similar study was

done by Haque *et al.,* (2013) on the relationship between committee meetings and financial performance and found that frequency of meetings is significantly positively associated with financial performance. The findings of this study contradicts the findings of the study done by Haque *et al.,* (2013). The differences may be as a result of the difference in the GDP between the two countries. This study also contradicts a study by Khaleel *et al.,* (2016) on the relationship between board meeting and performance of firms in Amman stock exchange using dyamic panel technique of generalised methods of moments that found a significance positive association between board meetings and firm performance. The difference in the results may be attributed to the difference in the research design.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary of the findings, conclusions drawn from the findings and recommendations based on the conclusions as per the study objectives. This chapter also gives suggestions for further studies and the applications of these research findings.

5.2 Summary

The financial performance of commercial banks in Kenya was measured by return on assets (RoA). Results showed that financial performance of the commercial banks declined between 2013- 2017 as indicated by the decrease in the mean RoA from 3.53 to 1.14 respectively. The risk governance mechanisms were measured using the risk committee existence, audit committee size, credit committee size and number of risk governance mechanisms based on the multicollinearity on these predictors.

Multicollinearity pre-test values among the predictors of risk governance mechanisms showed values within the acceptable range of below 10, implying that the study was free of multicollinearity.

Findings on the existence of risk committee revealed that majority of the commercial banks had risk committees in place during the study period of 2013-2017 except some commercial banks in Tier III which did not hence pushing the mean arbitrary values

towards the 1.6 (Table 4.3) mark suggesting nonexistence. Similar trend was observed in Tier I and II commercial banks in 2015. These results indicate that most of the commercial banks have adopted risk committees to minimize risk and improve their financial performance.

The study sought to establish the relationship between risk committee existence and financial performance of commercial banks. Results presented indicated that risk committee existence and financial performance have a significant positive relationship. Results indicated that 9 percent of variation in RoA can be explained by risk committee existence. On the relationship between audit committee size and financial performance, audit committee size was found to have no significant relationship with RoA. The results indicated regression coefficient ($R=0.004$, ($p>0.05$) meaning that the relationship was not statistically significant.

The study also sought to establish the relationship between credit committee size and financial performance of commercial banks in Kenya. A regression analysis was done between credit committee size and RoA. The results indicated a significant positive relationship between credit committee size and financial performance. To establish the relationship between number of risk governance mechanisms and financial performance of commercial banks, a regression analysis was done between number of risk governance mechanisms and the RoA. The findings indicated that there is a significant positive relationship between the number of risk governance mechanisms and financial performance.

To establish the moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance of commercial banks, a moderated regression analysis was used. The findings revealed a moderating effect of board size on the relationship between risk governance mechanisms and RoA and this is revealed by the change in the adjusted R^2 from 0.142 to 0.222. Frequency of board meetings was also used as a predictor of board oversight and regression analysis was done for moderated values of risk governance mechanisms and RoA. The results showed that there was no significant moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and RoA.

5.3 Conclusions

From the findings elicited on this study, several conclusions were drawn for each of the specific objective.

5.3.1 Risk committee existence and financial performance of commercial banks in Kenya

The study found a significant positive relationship between risk committee existence and financial performance. This study concludes that risk committee existence is positively related to financial performance of commercial banks in Kenya.

5.3.2 Audit committee size and financial performance of commercial banks in Kenya

The study found no statistical significance between audit committee size and financial performance with coefficients. The study therefore concludes that audit committee size is not related to financial performance of commercial banks in Kenya.

5.3.3 Credit committee size and financial performance of commercial banks in Kenya

The study found a significant positive relationship between credit committee size and financial performance. This study therefore concludes that credit committee size is positively related to financial performance of commercial banks in Kenya.

5.3.4 Number of risk governance mechanisms and financial performance of commercial banks in Kenya

The study found a significant positive relationship between the number of risk governance mechanisms adopted by commercial banks and their financial performance. This study therefore concludes that the number of risk governance mechanisms is positively related to the financial performance of commercial banks in Kenya.

5.3.5 Moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance

To establish the relationship between risk governance mechanisms and the financial performance of commercial banks in Kenya. The study used board size and board meetings as predictors to measure board oversight.

On the moderating effect of board size on the risk governance mechanisms and financial performance, the study concludes that:

The board sizes have decreased from a mean of 10.49 to 10.16 from 2013 to 2017 respectively. The study concludes that there is a significant moderating effect of board

size on the relationship between risk committee and financial performance of commercial banks in Kenya.

There is no significant moderating effect of board size on the relationship between credit committee size and financial performance of commercial banks in Kenya.

There is no significant moderating effect of board size on the relationship between number of risk governance mechanisms and financial performance for commercial banks in Kenya.

On overall moderating effect of board size on the relationship between risk governance mechanisms and financial performance the study concludes that there is a significant moderating effect of board size on the relationship between risk governance mechanism and financial performance of commercial banks in Kenya.

On the moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and financial performance, the study concludes that:

There is no significant moderating effect of frequency of board meetings on the relationship between risk committee existence and financial performance of commercial banks in Kenya.

There is no significant moderating effect of board meetings on the relationship between audit committee size and financial performance commercial banks in Kenya.

There is no significant moderating effect of board meetings on the relationship between credit committee size and financial performance commercial banks in Kenya.

There is no significant moderating effect of board meetings on the relationship between number of risk governance mechanisms and financial performance commercial banks in Kenya.

On overall moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and financial performance, the study concludes that there is no significant moderating effect of frequency of board meetings on the relationship between risk governance mechanisms and financial performance commercial banks in Kenya.

5.4 Recommendations

From the findings and conclusions, the study recommends that commercial banks should adopt risk committees. Central bank of Kenya should ensure that all commercial banks establish risk committees. The study also recommends that the commercial banks increases the board size. This will provide oversight to the operations and also enhance the performance of the risk committee members. This will enable commercial banks to manage the risk exposure and improve on financial performance.

The study recommends that commercial banks should have lean audit committees because it has an inverse relationship with financial performance. The study also recommends that other studies should be done on other attributes of audit committees for example training and expertise of audit committee members. This is to establish if other attributes of audit committees have a relationship with the performance of commercial banks other than size. This study recommends that commercial banks

should fully adopt use to credit committees and also increase the number of members to this committee. This will help commercial banks to eliminate risk exposure and improve performance. Central Bank of Kenya being the regulator should also pass a policy requiring all commercial banks to implement credit committee as a mechanism of managing risk exposure.

This study therefore recommends that commercial banks increase the number of mechanisms that they use to manage its risk exposure. Commercial banks should not rely on few mechanisms but they should come up with more mechanisms. This will help them screen out risks that may affect its operations negatively. By using higher number of risk mechanisms, commercial banks will improve its financial performance. The study recommends that commercial banks should adopt a large board size to provide oversight in its operations and also to enhance the functioning of risk governance mechanisms.

5.5 Suggestions for Further Research

This study was limited to a certain extend based on its methodology and findings. The study therefore makes suggestions for further research based on this limitation. First, the study focused only on commercial banks in Kenya and the findings cannot be generalized to the banking sector, and therefore the study recommends that similar study should be done on other banking sectors for example micro finance banks and SACCOs. The study also recommends that further research should be done on other risk governance mechanisms other than the mechanisms studied like training, skills and

expertise of staff and the board members. This will enable findings to be made on the relationship between other risk governance mechanisms and financial performance of commercial banks. This study focused on two predictors of board oversight, board size and frequency of board meetings. There is need for future researchers to incorporate other predictors of board oversight. With the efforts of governments establishing regional integration, further studies can also focus on cross-border research. This will enable regional generalization. This study also recommends further studies to be done using other methodologies like descriptive surveys, cross-sectional research design, comparative research and also panel data methodology to compare data for different years. The study also recommends that further study should use other analysis techniques like multivariate analysis .

REFERENCES

Abuya, K. (2018, October Wednesday). KRA Starts mobile money andbank data corroboration to nab tax cheats. *Techweez*.

Addae-Korankye, A. (2014, December). Causes and Control of Loan Default/Delinquency in Microfinance Institutions in. *American International Journal of Contemporary Research, 4*(12), 36-45.

Ahmed, M. M., & Onyiego, G. (2018). Effect of risk management on Financial performance of commercial banks in Kenya: A case of commercial Banks in Mombasa county. *Strategic Journal of Business & Change Management, 5*(4), 1605-1630.

Ahmed, S. F., & Qaisar, M. A. (2015). Credit Risk Management and Loan Performance: Empirical Investigation of Micro Finance Banks of Pakistan. *International Journal of Economics and Financial Issues, 5*(2), 574-579.

Akerlof, G. A. (1978). *The Market for "Lemons": Quality Uncertainity and the Market Mechanism.* Elsevier.

Akong'a, C. J. (2014). *The Effect of Financial Risk Management on the Financial Performance of Commercial Banks in Kenya.* Nairobi, Kenya: University of Nairobi.

Aldamen, H., Duncan, K., Kelly, S., Namara, R., & Nagel, S. (2012). *Audit committee characteristics and firm performance during the global financial crisis.* Bond University. Queensland, Australia: Bond University.

Ali, K., Muhammad, A. F., & Hafiz, Z. A. (2011). Bank-Specific and Macroeconomic Indicators of Profitability - Empirical Evidence from the Commercial Banks of Pakistan. *International Journal of Business and Social Science, 2*(6), 235-242.

Alloyo, P. (2013). *The effect of credit referencing bureaus on the financial performance of commercial banks in Kenya.* Nairobi, Kenya: University of Nairobi.

Al-Matari, Y. A., Al-Swidi, A. K., Bt Fadzil, F. H., & Al-Matari, E. M. (2012). Board of Directors, Audit Committee Characteristics and Performance of Saudi Arabia Listed Companies. *International Review of Management and Marketing, 2*(4), 241-251.

Alshatti, A. S. (2015). The effect of credit risk management on financial performance of the Jordanian commercial banks. *Investment Management and Financial Innovations, 12*(1), 338-345.

Apollo, Mandalika, & Said, D. (2018). Influence of Composition Board of Directors, Board of Commissioners, and Audit Committees to Banking Financial Performance (Empirical Study on Banking Industry Listed in BEI 2011-2016). *INternational Journal of Innovative Research & Development, 7*(4), 171-176.

Appiah, K. O. (2016). Board audit committee and corporate insolvency. *Journal of Apllied Accounting and Research, 18*(3), 298-316.

Arfan, A., & Nasir, S. B. (2014). Impact of Board Characteristics and Audit Committee on Financial Performance: A Study of Manufacturing Sector of Pakistan. *5*(7), 139-143.

Arkelof, G. (1970). The market for "lemons": Quality uncertainity and the market mechanism. *Quarterly Journal of Economics, 84*(3), 488-500.

Belás Jaroslav, C. E. (2011). Internal Model of Commercial Bank as an Instrument for Measuring Credit Risk of the Borrower in Relation to Financial Performance (Credit Scoring and Bankruptcy Models). *Journal of Competitiveness, 3*(4), 104-120.

Berkman, O., & Zuta, S. D. (2017). *The Impact of Audit Committee Size and Compositionon Negative Events in the Life of a Company: The Case of Israel.* The Academic College of Tel-Aviv Yaffo, Jerusalem.

Bernaddette, J. J., & Corina, J. (2015). Corporate Governance Mechanisms and Financial Performance. *Procedia Economics and Finance, 3*(1), 117-123.

Bhuiyan, U. B., & Yimei, M. A. (2013). Risk Committee, Corporate Risk-Taking and Firm Value. *Stand-alone risk committee; corporate risk-taking; firm value; Australia.* Canberra, Australia.

Boyd, S., Moolman, J., & Nwosu, N. (2016). *Risk Reporting & Key Risk Indicators A case study analysis.* NC STATE: Poole College of Management.

BusinessTech. (2018, March 12). *All the South African banks that have failed in the last 30 years.* Retrieved 2018, from https://businesstech.co.za/news/banking/231009/all-the-south-african-banks-that-have-failed-in-the-past-30-years/.

Carter, D., D'Souza, F., Simkins, B., & Simpson, G. (2010). The Gender and Ethnic Diversity of US Boards and Board Committees and Firm Financial Performance. In *Corporate Governance: An International Review* (Vol. 18, pp. 396–414).

CBK. (2015). *Annual Report.* Nairobi: CBK.

CBK. (2015). *Kenya Multi Sector GIS mapping Project Final Report.* Nairobi: Limited, Brand Fusion Marketing.

CBK. (2016). *2016 Annual report and Financial Statements.* Nairobi: Central Bank of Kenya.

Cetina, K. K., & Preda, A. (2005). *The Sociology of Financial Markets.* New York: Oxford University Press.

Chen, K., & Wu, A. (2016). *The Structure of Board Committees.* Harvard Business School.

Cheplel, S. M. (2013). *The Impact of ERM Practices on the Financial.* Nairobi, Kenya: University of Nairobi.

Chetty, P. (2012, February 26). *A brief history of microfinance.* Retrieved June Monday, 5, 2017, from https://www.projectguru.in/publications/a-brief-history-of-microfinance/.

Chou, T.-K., & Buchdadi, A. D. (2017). Independent Board, Audit Committee, Risk Committee, the Meeting Attendance level and Its Impact on the Performance: A Study of Listed Banks in Indonesia. *International Journal of Business Administration, 8*(3), 24-36.

Cooperman, E., Mills, D., & Gardner, J. (2000). *Managing Financial Institutions: An Asset/Liability Approach.* Orlando: The Dryden Press, Harcout College Publishers.

Countryeconomy.com. (2018, July 27). *Country comparison Kenya vs United Kingdom*. Retrieved July 2019, from https://countryeconomy.com/countries/compare/kenya/uk.

Ekadah, J. W., & Mboya, J. (2009, April). Effect of Board Gender Diversity on the Financial performance of Commercial Banks in Kenya. *European Scientific Journal, 8*(7), 128-148.

Elamer, A., & Benyazid , I. (2018). The impact of risk committee on financial performance of UK financial institutions. *International Journal of Accounting and Finance, 8*(1), 1-30.

Eluyela, F. D., Akintimehin, O. O., Okere, W., Ozordi, E., Osuma, G. O., Ilogho, S. O., & Oladipo, O. A. (2018). Board meeting frequency and firm performance: examining the nexus in Nigerian deposit money banks. *Heliyon, 4*(10), 1-14.

Equity Bank. (2017). *Integrated report and financial statements 2017.* Nairobi: Equity Bank.

Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics.* (4th, Ed.) Los Angeles: Sage publications limited.

fsdafrica. (2016, November). *Bank failures in Africa – how to interpret these.* Retrieved from https://www.fsdafrica.org/knowledge-hub/blog/harbingers-of-doom-bank-failures-in-africa-how-to-interpret-these/.

Gaitho, N. W. (2013). Role of Credit Reference Bureaus on Credit Access in Kenya: A Survey of Commercial Banks in Kenya. *European Scientific Journal, 9*(13), 301-314.

Gathaiya, R. (2017, July). Analysis of Issues Affecting Collapsed Banks in Kenya From Year 2015 to 2016. *International Journal of Management & Business Studies, 7*(3), 9-15.

Gethard, G. (2017, October Monday). Falling Giant: a case study of AIG. *Company insights*. Retrieved March 7, 2018, from https://www.investopedia.com/articles/economics/09/american-investment-group-aig-bailout.asp

Ghosh, P., Islam, M., & Hasan, M. (2014). Credit Risk Management: An Empirical Study on BRAC Bank Ltd. *Business Management and Strategy, 5*(1), 145-163.

Gitahi, W. R. (2013). *The effect of credit reference bureaus on the level of non-performing loans in commercial banks in Kenya.* Nairobi: University of Nairobi.

Githaiga, H. (2018, January 4). Tanzania cancels licences for 5 banks. *The East African*.

Han, P. (2015). Credit Risk Management of Commercial Banks. *Journal of Business Administration Research, 4*(1), 8-11.

Hanh, L., Ting, I. W., Kweh, Q. L., & Hoanh, L. H. (2018). Board meeting frequency and financial performance: A case of listed firms in Vietnam. *19*(2), 464-472.

Haque, M. Z., Islam, R., & Azam, M. N. (2013). Board Committee Meetings and Firm Financial Performance: An Investigation of Australian Companies. *International Review of Finnace, 13*(4), 503-528.

Hubbard, D. (2009). *The Failure of Risk Management.* New Jersey: John Wiley and Sons, Inc.

InfoHub Kenya. (2016). *A list of Kenyan Banks that have collapsed*. Retrieved May 2018, from A list of Kenyan Banks that have collapsed: http://www.infohub.co.ke/2016/04/a-list-of-collapsed-kenyan-banks.html

Ingari, S. A. (2017). *Influence of board composition on performance in the banking industry in Kenya.* United States International University Africa.

International Standard Organization (ISO). (2018). *ISO 31000, Risk Management.* Switzerland: International Standard Organization.

Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305-360.

Kairu, S. G., & Amadi, A. (2014). *Kenya Credit Informatyion Sharing Initiative, A proosed Mechanism for Alternative Dispute Resolution.* Nairobi: Association of Kenya Credit Providers.

Kallamu, B. S. (2015). Risk Management Committee Attributes and Firm Performance. *International Finance and Banking, 2*(2), 1-24.

Kamazima, B., Mathenge, P., & Ngui, T. (2017). Influence of Corporate Governance Structure on Financial Performance: A Case of Listed Commercial Banks in Kenya. *Journal of Educational and Entrepreneurship, 4*(10), 60-82.

Kangali, C. (2016, August 26). The Times of Zambia. Lusaka, Zambia. Retrieved July Tuesday, 2018, from https://allafrica.com

Kauna, E. K. (2015). *Effect of credit risk management practices on the Financial Performance of commercial banks in Kenya.* University of Nairobi. Nairobi, Kenya: University of Nairobi.

Keeffe, G., Valdez, M., & Nyaggah, K. (2012). *Credit Information Sharing in Kenya: A guidefor credit providers.* Nairobi, Kenya: Software Group in partnership with FinancialSector Deepening.

Kepha , M., Nyolei, J., Rotich, I., & Odhiambo, L. (2015). Credit Reference Bureau (CRB) As a Strategic Control Measure and Its Influence on the Financial Performance of Commercial Banks in Eldoret, Kenya. *IOSR Journal of Humanities And Social Science (IOSR-JHSS), 20*(5), 44-64.

Kessey, K. D. (2015). Assessing Credit Risk Management Practices in the Banking Industry of Ghana: Processes and Challenges. *Global Journal of Management and Business Research: C Finance, 15*(6), 1-10.

Khaleel, I. A.-D., Siti, S., Saidin , S., & Shamharir, A. (2016). Board meeting and firm performance: Evidence from the Amman stock exchange. *Board meeting and firm performance: Evidence from the Amman stock exchange, 12*(2), 6-11.

Khomotso, N. T. (2015). *Curatorship as a measure to rescue failing Banks.* Pretoria, South Africa: University of Pretoria.

Kiambati, K., Ngugi, P., Katuse, P., & Waititu, A. (2013). Role of board size on financial performance of commercial banks. *Prime Journal of Social Science, 2*(3), 259-262.

Kimando, L. .., Kihoro, J. M., & Njogu, M. G. (2012, June). Factors Influencing the Sustainability of Micro-Finance Institutions in Murang'a Municipality. *International Journal of Business and Commerce*, 2261-2269.

Kimasar, F., & Kwasira, J. (2012, October). Use of Credit Reference Bureaus on Loan Recovery among selected Commercial Banks in Kenya: A Survey of Nakuru Sub-County. *International Journal of Science and Research, 3*(10), 2196-2201.

Kimathi, K. R. (2014). *Effect of Credit Refence Bureaus on the Profitability of Commercial Banks in Kenya.* Nairobi, Kenya: University of Nairobi.

Kimeu, W. (2017). *Effect of corporate governance on financialperformance of commercial banks in Kenya.* University of Nairobi, Nairobi, Kenya.

Kinuthia, P. (2007). *Management of loan default problems in SACCOs in Nairobi province.* Nairobi, Kenya: Jomo Kenyatta University of Agriculture and Technology.

Kiplagat, S. (2018, July Sunday). Equity, Co-op, and CBA caught up in title deed theft racket. *Business Daily*. Retrieved December 2018, from www.businessdailyafrica.com

Kithinji, A. M. (2010). *Credit Risk Management and Profitability of Commercial Banks in Kenya.* Nairobi, Kenya: University of Nairobi.

Koch, T., & MacDonald,, S. S. (2000). *Bank Management.* Hinsdale, IL/Orlando, FL.: The Dryden Press/Harcourt Colege Publishers.

Konovalova, Kristovska, I., & Kudinska, M. (2016). Credit risk management in Commercial Banks. *Polish Journal of Management Studies, 13*(2), 90-100.

Koriang, P. E. (2014). *The relationship between board structure and financial performance of commercial banks in Kenya.* University of Nairobi.

Krugman, P. R. (2008). *The Return of Depression Economics and the Crisis of 2008.* United States: W.W. Norton & Company.

Labie, M. (2011). *The handbook of microfinance.* USA: World Scientific Publishing Co. Pte. Ltd.

Larcker, P. (2005). *Proceedings of the 22nd Information Systems.* Scandinavia.

Lee, J. H., Jusup, M., Podobnik, B., & Iwasa, Y. (2015). Agent-Based Mapping of Credit Risk for Sustainable Microfinance. *PLoS ONE 10(5):e0126447. doi:10.1371/journal.pone.0126447.*

Lexicon. (2017). *Financial Times.* (C. r. correspondent, Ed.) Retrieved from http://lexicon.ft.com/Term?term=Basel-Accord.

Lundqvist, S., & Vilhelmsson, A. (2018). Enterprise risk management and default risk: Evidence from Bnaking Industry. *85*(1), 127-157.

Magembe, J. M., Ombuki, C., & Kiweu, M. (2017). An Empirical Study of Corporate Governance and Loan Performance of Comercial Banks in kenya. *International Journal of Economics, Commerce and Management, 5*(11), 580-604.

Magnifique, U. J. (2013). *The effect of credit risk management on the financial performace of commercial banks in Rwanda.* Nairobi, Kenya: University of Nairobi.

Maina, J. N. (2013). *Impact of corruption on service delivery in the ministry of lands 2005-2012.* University of Nairobi. Nairobi, Kenya: University of Nairobi.

Makokha, A. W. (2014). *The effect of corporate governance on financial performance of insurance companies in Kenya.* Nairobi, Kenya: University of Nairobi.

Mamatzakis, E., Zhang, X., & Wang, C. (2017). *How the corporate governance mechanisms affect bank risk taking.* University of Sussex, Department of Business and Management, School of Business, Management and Economics. United Kingdom: Munich Personal RePEc Archive.

Maniagi, G. M. (2018). *Influence of financial risk on Financial performance of commercial banks in Kenya.* Nairobi, kenya: Jomo Kenyatta University of Agriculture and Technology.

Miencha, I. O., & Selvam, M. (2013). Financial Performance in the Banking Sector: A Study with special reference to Kenyan Commercial Banks using Data Envelopment Analysis (DEA). *Resaerch Journal of Social Science and Management, 2*(9), 48-53.

Ministry of Public Service, Youth and Gender Affairs. (2019, April Monday). *Huduma Smart Service and Payment Card Information Pack.* Retrieved April Thursday 18 April, 2019, from www.hudumakenya.go.ke/card.

Mohamed, S. D. (2015). *Correlations Between Corporate Governance Financial Performance, and Market Value.* Walden University.

Mohammad, M. W., Wasiuzzaman, S., Morsali, S. S., & Zaini, R. M. (2018). The effect of audit committee characteristics on financial restatements in Malaysia. *Financial Restatements in Malaysia, 19*(1), 4-22.

Mollah, S., Farooque, O., Mobarek, A., & Molyneux, P. (2019). Bank corporate governance and future earnings predictability. *Journal of Financial Services Research, 2*(1), 1-26.

Muchemwa, R. M., & Padia, N. (2016). Board composition, board size and financial performance of Lohannesburg stock exchange companies. *South African Journal of Economic and Management Science, 19*(4), 497-513.

Muganda, M. M., & Umulkher, A. A. (2015). Corporate Governance Mechanisms and Financial Performance of Commercial Banks in Kenya. *Journal of Business and Management, 17*(3), 25-40.

Mugenda, O., & Mugenda, M. (2003). *Research methods: Quantitative and qualitative Approaches. Nairobi: African Centre for Technology Studies, ACTS.* Nairobi.

Muhammed , H., Ketley, R., Nyawira, M., & Tom, N. (2016). *Towards positive selection in the Kenyan credit market: An assessment of the current and*

prospective future effectiveness of credit information sharing in the Kenyan market. Nairobi: Financial Sector Deepening.

Mumbi, M. W., & Omagwa, J. (2017, November). Credit risk management and financial performance of selected commercial banks In Kenya. *Journal of Business and Management, 19*(11), 92-98.

Mumbi, M. W., & Omagwa, J. (2017). Credit risk management and financial Performance of selected commercial banks in Kenya. *Journal of Business and Management, 19*(11), 92-98.

Muriithi, J. G. (2016). *Effect of financial risk on finnacial performance of commercial banks in Kenya.* Nairobi, Kenya: Jomo Kenyatta University of A griculture and Technology.

Muriithi, R. G., Dr. Musienga, D., Dr. Shem, J., & Dr. Ondieki, B. A. (2013). Challenges facing implementation of CRB Regulations in Kakamega Township. *European Journal of Business Mnangement, 5*(12), 21-30.

Muturi, A. (2013). *The effect of corporate gorvernance structures on the performance of large manaufacturing firms in Kenya.* KCA University, Nairobi, Kenya.

Mwangi, G. (2012). *The Effect of Credit Risk Mnagement on Financial Performance of Commercial Banks in Kenya.* Nairobi, Kenya: University of Nairobi.

Mwigwi, T. W. (2013). Credit Monitoring and Recovery Strategies Adopted by commercial Banks in K. *Journal of Modern Accounting, 2*(2), 27-30.

Mwiya, B. (2010). Credit Default in the Financial Sector: Need for Credit Reference and Rating Agencies. *Journal of Economics and International Business Research*, 41-43.

Napier, Mark. (2016, November 30). *Harbingers of doom? Bank failures in Africa – how to interpret these.* (fsdafrica, Ed.) Retrieved from https://www.fsdafrica.org/knowledge-hub/blog/harbingers-of-doom-bank-failures-in-africa-how-to-interpret-these/.

Ndegwa, S. M. (2017). *The effect of credit risk on financial performance of commercialbanks listed at the Nairobi Securities Exchange.* Nairobi: University of Nairobi.

Nganga, B. (2017). *Influence of Corporate Governance on the financial Performance of Commercial Banks in Kenya.* Nairobi, kenya: United States International University Africa.

Ngwenze, M., & Kariuki, M. I. (2017). Effect of Corporate Governance Practices on Financial Performance of Listed Agricultural Firms in The Nairobi Securities Exchange, Kenya. *Journal of Economics and Finance, 8*(3), 106-115.

Nibedita, D. (2018). Impact of Corporate Governance on Financial Performance: A Study on DSE listed Insurance Companies in Bangladesh. *Global Journal of Management and Business Research, 18*(2), 33-39.

Njungiri, J. (2012). The Standard Credit Referencing Bureau and Performance of Multinational Bnaks Operating in the East African Community. *Journal of Emmerging Issues in Economics, Finance and Banking (JEIEFB), 3*(3), 27-30.

Ntow, G. M., & Laryea, A. E. (2012). A Financial Performance Comparison of Foreign VS Local Banks in Ghana. *International Jounal of Business and Social Science*(3), 21.

Ntow-Gyamfi, M., & Boateng, S. S. (2013, January 15). Credit risk and loan default among Ghanian banks: An exploratory study. (3, Ed.) pp. 753–762.

Ntuite, S. (2015, July 14). *Analysis of Financial Performance of Commercial Banks in Rwanda.* Retrieved November Tuesday, 2017, from https://www.grin.com/document/428620: https://www.grin.com/document/428620

Nyangweso, J. N. (2013). *The relationship between credit information sharing and loan performance- case of commercial banks in Kenya.* Kenya: University of Nairobi.

Odipo, M. (2007). *The determinants of Bank failures: A survey of commercial banks in Kenya.* University of Nairobi.

Ogada , A., Achoki , G., & Njuguna, A. (2016). Effect of board size on the financial performance of merged institutions. *American Journal of Finance, 1*(2), 107-125.

Ogilo Fredrick. (2012). The Impact of Credit Risk Management on Financial Performance of Commercial Banks in Kenya. *DBA Africa Management Review, 3*, 22-37.

Ojulari, O. M. (2014). The Impact of Corporate Governance on Performance of Quoted companies in Nigeria. *Proceedings of the First Middle East Conference on Global Business, Economics, Finance and Banking,* (pp. 10-12). Dubai.

Olayinka, E., Osariemen, A., Olojede, P., Opeyemi, A., & Usman, T. (2018). Risk governance on the performance of money deposit banks in Nigeria. *Academy of Accounting and Financial Studies Journal, 22*(4), 1-14.

Oludele, I. O., Oloko , M., & Olweny , T. (2016). Impact of Board size on the Financial Performance of the Listed Manufacturing Companies in Nigeria. *Journal of Business and Management, 18*(11).

Omari, M. (2012). Credit Reputation as Collateral: A case for Improvement of the Legal Regme on Credit Referencing in Kenya. *Journal of Modern A frican Studies, 2*(1), 45-49.

Omer, B., & Zuta, S. (2017). *The Impact of Audit Committee Size and Composition on Negative Events in the Life of a Company in Israel.* Jerusalem: The Academic College of Tel-Aviv Yaffo.

Orozco, L. A., & Vargas, J. (2018). Trends on the relationship betweenboard size and financial andreputational corporate performance: The Colombian case. *European Journal of Management and Business Economics, 27*(2), 183-197.

Otete, E. O., Muturi, W., & Mogwambo, A. V. (2016). Influence of credit information sharing on the performance of commercial banks operating in kisii county, Kenya. *International Journal of Social Science and Information Technology, 2*(10), 1216-1235.

Otwori, C. (2013). The Relationship Between Banks in Kenya. *Inernational Journal of Business, Humanities and Technology, 2*(4), 39-43.

Paydaycash. (2010). *Will wrong personal information on credit report affect score?* Retrieved November 12, 2016, from http://www.paydaycash.org/blog/2010/03/will-wrong-personal-information-on-credit-report-affect-score/.

Peria, M. S. (August 2014). *The Impact of Credit Information Sharing Reforms on Firm Financing.* World Bank Group.

Poudel, R. S. (2012). The impact of credit risk management on financial performance of commercial banks in Nepal. *International Journal of Arts and Commerce, 1*(5), 9-15.

Puni, A. (2015, June). Effect of board committees on corporate financial performance among companies listed on the Ghana Stock Exchange (GSE). *European Centre for Research Training and Development UK, 3*(5), 14-25.

Pyle, D. H. (1997). Bank Risk Management. *Journal of Finance and Banking, 22*(11), 1461-1485.

Qadorah, A. M., & Fadzil, F. H. (2018). The effect of board independence and board meeting on firm performance: Evidence from Jordan. *Journal of Finance and Accounting, 6*(5), 105-109.

Roselyne, J. (2007). *Loan defaulting among members in SACCOs.A case study of kevom co-operative society.* Nairobi, Kenya: Jomo Kenyatta University of Agriculture and Technology.

Ruparelia, R., & Njuguna, A. (2016). Relationship between Board Remuneration and Financial Performance in the Kenyan Financial Services Industry. *International Journal of Financial Research, 7*(2), 247-255.

Salehi, M. (2017). The effect of characteristics of audit committee and board on corporate profitability in Iran. *Journal of Economic and Administrative Sciences, 34*(1), 71-88.

Samoei, R. K., & Rono, L. (2016). Audit Committee Size, Experience and Firm Financial Performance. Evidence Nairobi Securities Exchange, Kenya. *Research Journal of Finance and Accounting, 7*(15), 87-95.

Sean, C. S., Chyi, C. S., Choo, K. T., Yi, L. X., & Hong, P. Z. (2016). *Audit Committee Characteristics and Firm Performance of Public Listed Companies in Malaysia.* Kuala Lumpur, Malaysia: Universiti Tunku Abdul Rahman.

Shkendije, H. (2014, August). Corporate governance in banks and its impact on risk and performance: Review of literature on the selected governance mechanisms. *Journal of Central Banking Theory and Practice, 3*(3), 53-85.

Shunu, A. H., Bii, P., & Ombaba, K. (2017). Effect of board size on the performance of listed firms in Nairobi security exchange. *European Journal of Business, Economics and Accountancy, 5*(6), 48-51.

Spaulding, D. (2003). *Investment Performance Attribution.* Washington, D.C.: McGraw-Hill.

Stiglitz, J. (1976). Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information. *The Quarterly Journal of Economics, 90*(4), 629–649.

Sufi, F. A., & Qaisar, A. M. (2015). Credit Risk Management and Loan Performance: Empirical Investigation of Micro Finance Banks of Pakistan. *International Journal of Economics and Financial Issues*, 574-579.

Sullivan, A., & Sheffrin, S. M. (2003). *Economics: Principles in action.* New Jersey 07458: Pearson Prentice Hall.

Tarighi, H., & Salehi, M. (2018, February). *The effect of characteristics of audit committee and board on corporate profitability in Iran.* Retrieved March 2019, from https://www.researchgate.net/publication/323128626_The_effect_of_characteristics_of_audit_committee_and_board_on_corporate_profitability_in_Iran: 10.1108/JEAS-04-2017-0017

Topal, Y., & Dogan, M. (2014). Impact of board size on financial performance: The case of BIST manufacturing industry. *International Journal of Business Management and Economic Research, 5*(4), 74-79.

Tshorhe, J. S., Aboagye, A. Q., & Coleman, A. K. (2011). *Corporate governance and bank risk managemnet in Ghana.* Legon, Ghana: University of Ghana Business School.

Tulli , J., & Marco, P. (2005). *Role and Effects of Credit Information Sharing.* Retrieved January Friday, 2018, from https://core.ac.uk/download/pdf/6925878.pdf

Tuwei, L., Dr. Sakataka, W., & Oteki, E. B. (2015). Credit Reference Bureaus as the Factor Influencing the Profitability of Commercial Banks in Kenya: A case of Standard Chartered Bank, Kenya. *International Journal of Novel research in Marketing Management and Economics, 2*(3), 122-129.

Uwuigbe, R. O., & Fakile, S. A. (2012). The Effects of Board Size on Financial Performance of Banks: A Study of Listed Banks in Nigeria. *International Journal of Economics and Finance, 4*(2), 260-267.

Wanjohi, S. M., Wanjohi, J. G., & Ndambiri, J. M. (2017). The Effect of Financial Risk Management on the Financial Performance of Commercial Banks in Kenya. *International Journal of Finance and Banking Research, 3*(5), 70-81.

Waweru, N., & Kalani, V. (2009). Commercial banking crisis in Kenya causes and remedies. *Global Journal of Finance and Banking, 3*(3), 23-27.

Županović, I. (2014). Sustainable Risk Management in the Banking Sector. *Journal of Central Banking Theory and Practice, 3*(1), 81-100.

APPENDICES

Appendix 1: List of Commercial Banks in Kenya

1	Africa Banking Corporation Limited
2	Bank Of Africa Kenya Limited
3	Bank of Baroda (K) Limited
4	Bank Of India
5	Barclays Bank of Kenya Limited
6	Charterhouse Bank Limited
7	Chase Bank (K) Limited
8	Citibank N.A Kenya
9	Commercial Bank of Africa Limited
10	Consolidated Bank Of Kenya Limited
11	Co-operative Bank of Kenya Limited
12	Credit Bank Limited
13	Development Bank Of Kenya Limited
14	Diamond Trust Bank Kenya Limited
15	DIB Bank (Kenya) Limited
16	Spire Bank Limited
17	Equity Bank Kenya Limited
18	Family Bank Kenya Limited
19	Fidelity Commercial Bank Limited
20	First Community Bank Limited
21	Giro Commercial Bank Limited
22	Guaranty Bank Limited
23	Guardian Bank Limited
24	Gulf Africa Bank Limited
25	Habib Bank A.G Zurich
26	Habib Bank Limited
27	Imperial Bank Limited
28	I&M Bank Limited
29	Jamii Bora Bank Limited

30	KCB Bank Kenya Limited
31	Middle East Bank (K) Limited
32	National Bank Of Kenya Limited
33	NIC Bank Limited
34	M-Oriental Bank Limited
35	Paramount Bank Limited
36	Prime Bank Limited
37	Sidian Bank Limited
38	Stanbic Bank Kenya Limited
39	Standard Chartered Bank Kenya Limited
40	Trans-National Bank Limited
41	UBA Kenya Bank Limited
42	Victoria Commercial Bank Limited

Source: (CBK, Annual report and Financial Statements, 2017)

Tier I banks

1	Stanbic Bank Kenya Limited
2	Standard Chartered Bank Kenya Limited
3	Barclays Bank of Kenya Limited
4	Commercial Bank of Africa Limited
5	Co-operative Bank of Kenya Limited
6	Diamond Trust Bank Kenya Limited
7	Equity Bank Kenya Limited
8	KCB Bank Kenya Limited

Source: (CBK, Annual report and Financial Statements, 2017)

Tier II banks

1	Bank of Africa Kenya Limited
2	Bank of Baroda (K) Limited
3	Bank of India
4	Citibank N.A Kenya
5	Family Bank Kenya Limited

6	I&M Bank Limited
7	National Bank of Kenya Limited
8	NIC Bank Limited
9	Prime Bank Limited
10	HFC Limited
11	Eco Bank Kenya Limited

Source: (CBK, Annual report and Financial Statements, 2017)

Tier III banks

1	Africa Banking Corporation Limited
2	Charterhouse Bank Limited
3	Consolidated Bank Of Kenya Limited
4	Credit Bank Limited
5	DIB Bank (Kenya) Limited
6	Spire Bank Limited
7	Fidelity Commercial Bank Limited
8	First Community Bank Limited
9	Giro Commercial Bank Limited
10	Guaranty Bank Limited
11	Guardian Bank Limited
12	Gulf Africa Bank Limited
13	Habib Bank A.G Zurich
14	Habib Bank Limited
15	I&M Bank Limited
16	Jamii Bora Bank Limited
17	Middle East Bank (K) Limited
18	M-Oriental Bank Limited
19	Paramount Bank Limited
20	Sidian Bank Limited
21	Trans-National Bank Limited
22	UBA Kenya Bank Limited
23	Victoria Commercial Bank Limited

Source: (CBK, Annual report and Financial Statements, 2017)

Appendix 2: Data extraction form

Code of the financial institution

Bank Tier Category

DATA ON RISK COMMITTEE

Does the bank have risk committee?

YES		NO	

Data on existence of board risk committee

YEAR	Risk Committee existence		FINANCIAL PERFORMANCE
	YES	NO	ROA (Return on Assets)
2017			
2016			
2015			
2014			
2013			

DATA ON AUDIT COMMITTEE

Data on audit committee size

YEAR	Size of the board audit committee	FINANCIAL PERFORMANCE
		ROA (Return on Assets)
2017		
2016		
2015		
2014		
2013		

DATA ON CREDIT COMMITTEE

Data on board credit committee size

YEAR	Size of the board audit committee	FINANCIAL PERFORMANCE
		ROA (Return on Assets)
2017		
2016		
2015		
2014		
2013		

NUMBER ON RISK GOVERNANCE MECHANISMS

YEAR	Number of risk mechanisms	FINANCIAL PERFORMANCE
		ROA (Return on Assets)
2017		
2016		
2015		
2014		
2013		

Type of risk governance mechanisms

	Type	2017	2016	2015	2014	2013
1	Risk committee					
2	Audit committee					
3	Credit committee					
4	Finance and strategy					
5	Human resource and nominations					
6	Information Technology and Innovation					
7	Supply chain/ Procurement					
8	Other					

BOARD OVERSIGHT

Data on Frequency of board of governance meetings held by the bank

YEAR	Number of board meetings	FINANCIAL PERFORMANCE
		ROA (Return on Assets)
2017		
2016		
2015		
2014		
2013		

Data on the size of the board

YEAR	Size	FINANCIAL PERFORMANCE
		ROA (Return on Assets)
2017		
2016		
2015		
2014		
2013		

Appendix 3: SPSS output

Objective 1: Risk committee and financial performance

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.299[a]	.090	.084	2.89544	.090	17.301	1	176	.000	.848

a. Predictors: (Constant), Risk committee

b. Dependent Variable: Return on Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-.048	.579		-.082	.935	-1.190	1.095					
	Risk committee	2.598	.625	.299	4.159	.000	1.365	3.831	.299	.299	.299	1.000	1.000

a. Dependent Variable: Return on Assets

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.047	1	145.047	17.301	.000[b]
	Residual	1475.505	176	8.384		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Risk committee

Objective 2: Audit committee

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	-.004[a]	.000	-.006	3.03439	.000	.002	1	176	.960	.813

a. Predictors: (Constant), Audit committee

b. Dependent Variable: Return on Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-2.220	.718		3.093	.002	.803	3.636					
	Audit committee	-.008	.154	-.004	-.050	.960	-.311	.296	-.004	-.004	-.004	1.000	1.000

a. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.023	1	.023	.002	.960[b]
	Residual	1620.529	176	9.208		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Audit committee

Objective 3: Credit committee size and financial performance

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.215[a]	.046	.041	2.96317	.046	8.565	1	176	.004	.873

a. Predictors: (Constant), Credit committee

b. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.205	1	75.205	8.565	.004[b]
	Residual	1545.347	176	8.780		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Credit committee

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.167	.413		2.828	.005	.353	1.982					
	Credit committee	.236	.081	.215	2.927	.004	.077	.395	.215	.215	.215	1.000	1.000

a. Dependent Variable: Return on Assets

OBJECTIVE FOUR

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.191[a]	.036	.031	2.97858	.036	6.660	1	176	.011	.827

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.244	.428		2.909	.004	.400	2.088					
	Number of risk mechanisms	.166	.064	.191	2.581	.011	.039	.293	.191	.191	.191	1.000	1.000

a. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.089	1	59.089	6.660	.011[b]
	Residual	1561.463	176	8.872		
	Total	1620.552	177			

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.376[a]	.142	.122	2.83581	.142	7.129	4	173	.000	.920

a. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee

b. Dependent Variable: Return on Assets

Overall risk governance mechanisms and financial performance

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.769[a]	.591	.427	1.48306	.591	3.613	4	10	.045	1.996

a. Predictors: (Constant), NUMBER OF MECHANISMS, AUDIT COMMITTEE, RISK COMMITTEE, CREDIT COMMITTEE

b. Dependent Variable: RETURN ON ASSETS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-18.074	9.550		-1.893	.088	-39.352	3.205					
	RISK COMMITTEE	3.419	5.126	.155	.667	.520	-8.002	14.841	-.216	.206	.135	.753	1.329
	AUDIT COMMITTEE	2.231	.935	.555	2.387	.038	.148	4.313	.320	.602	.483	.756	1.323
	CREDIT COMMITTEE	1.603	.498	.753	3.222	.009	.494	2.712	.591	.714	.652	.748	1.337
	NUMBER OF MECHANISMS	-.014	.486	-.006	-.028	.978	-1.096	1.068	-.219	-.009	-.006	.839	1.192

a. Dependent Variable: RETURN ON ASSETS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31.785	4	7.946	3.613	.045[b]
	Residual	21.995	10	2.199		
	Total	53.779	14			

a. Dependent Variable: RETURN ON ASSETS

b. Predictors: (Constant), NUMBER OF MECHANISMS, AUDIT COMMITTEE, RISK COMMITTEE, CREDIT COMMITTEE

Objective 5: Moderating effect of board oversight on the relationship between risk governance mechanisms and financial performance of commercial banks

1. **Moderating effect of board size on relationship between Risk committee on Financial performance**

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.299[a]	.090	.084	2.89544	.090	17.301	1	176	.000	
2	.303[b]	.092	.081	2.89992	.002	.456	1	175	.500	
3	.378[c]	.143	.128	2.82538	.051	10.355	1	174	.002	.895

a. Predictors: (Constant), Risk committee

b. Predictors: (Constant), Risk committee, Board size

c. Predictors: (Constant), Risk committee, Board size, RC_BS

d. Dependent Variable: Return on Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	-.048	.579		-.082	.935	-1.190	1.095			
	Risk committee	2.598	.625	.299	4.159	.000	1.365	3.831	.299	.299	.299
2	(Constant)	.320	.795		.402	.688	-1.249	1.888			
	Risk committee	2.701	.644	.311	4.195	.000	1.430	3.971	.299	.302	.302
	Board size	-.045	.067	-.050	-.675	.500	-.176	.086	.023	-.051	-.049
3	(Constant)	-7.832	2.649		-2.957	.004	-13.061	-2.604			
	Risk committee	11.309	2.748	1.302	4.116	.000	5.886	16.731	.299	.298	.289
	Board size	.954	.317	1.062	3.008	.003	.328	1.580	.023	.222	.211
	RC_BS	-1.043	.324	-1.671	-3.218	.002	-1.682	-.403	.163	-.237	-.226

a. Dependent Variable: Return on Assets

2. Moderating effect of board size on relationship between audit committee size on Financial performance

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.004[a]	.000	-.006	3.03439	.000	.002	1	176	.960
2	.026[b]	.001	-.011	3.04205	.001	.115	1	175	.735
3	.189[c]	.036	.019	2.99664	.035	6.344	1	174	.013

a. Predictors: (Constant), Audit committee

b. Predictors: (Constant), Audit committee, Board size

c. Predictors: (Constant), Audit committee, Board size, AC_BS

d. Dependent Variable: Return on Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	2.220	.718		3.093	.002	.803	3.636			
	Audit committee	-.008	.154	-.004	-.050	.960	-.311	.296	-.004	-.004	-.004
2	(Constant)	2.046	.883		2.316	.022	.302	3.789			
	Audit committee	-.023	.161	-.011	-.145	.885	-.341	.294	-.004	-.011	-.011
	Board size	.024	.071	.027	.339	.735	-.116	.164	.023	.026	.026
3	(Constant)	-2.747	2.093		-1.313	.191	-6.877	1.383			
	Audit committee	.959	.421	.470	2.278	.024	.128	1.791	-.004	.170	.170
	Board size	.494	.199	.550	2.480	.014	.101	.887	.023	.185	.185
	AC_BS	-.093	.037	-.828	-2.519	.013	-.166	-.020	-.030	-.188	-.187

a. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.023	1	.023	.002	.960[b]
	Residual	1620.529	176	9.208		
	Total	1620.552	177			
2	Regression	1.086	2	.543	.059	.943[c]
	Residual	1619.466	175	9.254		
	Total	1620.552	177			
3	Regression	58.055	3	19.352	2.155	.095[d]
	Residual	1562.497	174	8.980		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Audit committee

c. Predictors: (Constant), Audit committee, Board size

d. Predictors: (Constant), Audit committee, Board size, AC_BS

3. Moderating effect of board size on relationship between credit committee size on Financial performance

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.215[a]	.046	.041	2.96317	.046	8.565	1	176	.004	
2	.215[b]	.046	.036	2.97162	.000	.001	1	175	.979	
3	.243[c]	.059	.043	2.96016	.013	2.358	1	174	.126	.898

a. Predictors: (Constant), Credit committee

b. Predictors: (Constant), Credit committee, Board size

c. Predictors: (Constant), Credit committee, Board size, CC_BS

d. Dependent Variable: Return on Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	1.167	.413		2.828	.005	.353	1.982			
	Credit committee	.236	.081	.215	2.927	.004	.077	.395	.215	.215	.215
2	(Constant)	1.150	.762		1.509	.133	-.354	2.654			
	Credit committee	.236	.081	.215	2.901	.004	.075	.396	.215	.214	.214
	Board size	.002	.067	.002	.027	.979	-.130	.133	.023	.002	.002
3	(Constant)	2.665	1.245		2.141	.034	.208	5.122			
	Credit committee	-.159	.270	-.145	-.590	.556	-.691	.373	.215	-.045	-.043
	Board size	-.146	.117	-.163	-1.249	.213	-.377	.085	.023	-.094	-.092
	CC_BS	.038	.025	.426	1.536	.126	-.011	.086	.221	.116	.113

a. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.205	1	75.205	8.565	.004[b]
	Residual	1545.347	176	8.780		
	Total	1620.552	177			
2	Regression	75.212	2	37.606	4.259	.016[c]
	Residual	1545.340	175	8.831		
	Total	1620.552	177			
3	Regression	95.872	3	31.957	3.647	.014[d]
	Residual	1524.680	174	8.763		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Credit committee

c. Predictors: (Constant), Credit committee, Board size

d. Predictors: (Constant), Credit committee, Board size, CC_BS

4. Moderating effect of board size on relationship between number of risk governance mechanisms and Financial performance

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.191[a]	.036	.031	2.97858	.036	6.660	1	176	.011	
2	.200[b]	.040	.029	2.98155	.004	.649	1	175	.421	
3	.216[c]	.047	.030	2.97973	.007	1.215	1	174	.272	.823

a. Predictors: (Constant), Number of risk mechanisms

b. Predictors: (Constant), Number of risk mechanisms, Board size

c. Predictors: (Constant), Number of risk mechanisms, Board size, NM_BS

d. Dependent Variable: Return on Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	1.244	.428		2.909	.004	.400	2.088			
	Number of risk mechanisms	.166	.064	.191	2.581	.011	.039	.293	.191	.191	.191
2	(Constant)	1.707	.717		2.382	.018	.293	3.122			
	Number of risk mechanisms	.189	.071	.218	2.683	.008	.050	.329	.191	.199	.199
	Board size	-.059	.073	-.065	-.806	.421	-.203	.085	.023	-.061	-.060
3	(Constant)	.083	1.639		.050	.960	-3.152	3.317			
	Number of risk mechanisms	.517	.305	.594	1.693	.092	-.086	1.120	.191	.127	.125
	Board size	.061	.131	.068	.465	.643	-.197	.318	.023	.035	.034
	NM_BS	-.023	.021	-.454	-1.102	.272	-.065	.018	.150	-.083	-.082

a. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.089	1	59.089	6.660	.011[b]
	Residual	1561.463	176	8.872		
	Total	1620.552	177			
2	Regression	64.862	2	32.431	3.648	.028[c]
	Residual	1555.690	175	8.890		
	Total	1620.552	177			
3	Regression	75.646	3	25.215	2.840	.039[d]
	Residual	1544.906	174	8.879		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Number of risk mechanisms

c. Predictors: (Constant), Number of risk mechanisms, Board size

d. Predictors: (Constant), Number of risk mechanisms, Board size, NM_BS

1. Moderating effect of board oversight on relationship between risk governance mechanisms and financial performance

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.376[a]	.142	.122	2.83581	.142	7.129	4	173	.000
2	.381[b]	.146	.121	2.83740	.004	.806	1	172	.371
3	.471[c]	.222	.180	2.73969	.076	4.122	4	168	.003

a. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee

b. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size

c. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size, CC_BS, AC_BS, NM_BS, RC_BS

d. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	229.315	4	57.329	7.129	.000[b]
	Residual	1391.237	173	8.042		
	Total	1620.552	177			
2	Regression	235.804	5	47.161	5.858	.000[c]
	Residual	1384.748	172	8.051		
	Total	1620.552	177			
3	Regression	359.560	9	39.951	5.323	.000[d]
	Residual	1260.992	168	7.506		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee

c. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size

c. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size, CC_BS, AC_BS, NM_BS, RC_BS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	.185	.788		.235	.814	-1.370	1.740			
	Risk committee	2.358	.645	.271	3.655	.000	1.084	3.631	.299	.268	.257
	Audit committee	-.319	.157	-.156	-2.027	.044	-.629	-.008	-.004	-.152	-.143
	Credit committee	.206	.086	.188	2.401	.017	.037	.375	.215	.180	.169
	Number of risk mechanisms	.088	.066	.101	1.328	.186	-.043	.218	.191	.100	.094
2	(Constant)	.545	.884		.616	.539	-1.200	2.289			
	Risk committee	2.431	.650	.280	3.737	.000	1.147	3.715	.299	.274	.263
	Audit committee	-.286	.161	-.140	-1.775	.078	-.605	.032	-.004	-.134	-.125
	Credit committee	.197	.086	.180	2.281	.024	.027	.367	.215	.171	.161
	Number of risk mechanisms	.111	.071	.127	1.561	.120	-.029	.250	.191	.118	.110
	Board size	-.065	.072	-.072	-.898	.371	-.207	.078	.023	-.068	-.063
3	(Constant)	-9.596	3.162		-3.035	.003	-15.837	-3.354			
	Risk committee	12.331	2.752	1.420	4.481	.000	6.898	17.764	.299	.327	.305
	Audit committee	.035	.439	.017	.080	.937	-.833	.902	-.004	.006	.005
	Credit committee	.001	.292	.001	.004	.997	-.576	.578	.215	.000	.000
	Number of risk mechanisms	.117	.330	.134	.354	.724	-.534	.768	.191	.027	.024
	Board size	1.137	.350	1.266	3.246	.001	.446	1.829	.023	.243	.221
	RC_BS	-1.217	.326	-1.950	-3.735	.000	-1.860	-.574	.163	-.277	-.254
	AC_BS	-.025	.037	-.222	-.671	.503	-.099	.049	-.030	-.052	-.046
	CC_BS	.021	.027	.234	.779	.437	-.032	.073	.221	.060	.053
	NM_BS	5.820E-005	.023	.001	.003	.998	-.045	.045	.150	.000	.000

Risk governance mechanisms moderated by frequency of board meetings

RISK COMMITTEE

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.299[a]	.090	.084	2.89544	.090	17.301	1	176	.000
2	.308[b]	.095	.084	2.89530	.005	1.016	1	175	.315
3	.309[c]	.096	.080	2.90230	.001	.158	1	174	.692

a. Predictors: (Constant), Risk committee

b. Predictors: (Constant), Risk committee, Frequency of board meetings

c. Predictors: (Constant), Risk committee, Frequency of board meetings, RC_BM

b. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	145.047	1	145.047	17.301	.000[b]
	Residual	1475.505	176	8.384		
	Total	1620.552	177			
2	Regression	153.565	2	76.783	9.160	.000[c]
	Residual	1466.987	175	8.383		
	Total	1620.552	177			
3	Regression	154.892	3	51.631	6.129	.001[d]
	Residual	1465.660	174	8.423		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Risk committee

c. Predictors: (Constant), Risk committee, Frequency of board meetings

d. Predictors: (Constant), Risk committee, Frequency of board meetings, RC_BM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	-.048	.579		-.082	.935	-1.190	1.095			
	Risk committee	2.598	.625	.299	4.159	.000	1.365	3.831	.299	.299	.299
2	(Constant)	-.346	.650		-.532	.596	-1.629	.938			
	Risk committee	2.475	.636	.285	3.888	.000	1.218	3.731	.299	.282	.280
	Frequency of board meetings	.060	.060	.074	1.008	.315	-.058	.178	.129	.076	.073
3	(Constant)	-1.190	2.224		-.535	.593	-5.579	3.200			
	Risk committee	3.342	2.276	.385	1.468	.144	-1.150	7.834	.299	.111	.106
	Frequency of board meetings	.230	.433	.283	.532	.595	-.624	1.085	.129	.040	.038
	RC_BM	-.173	.437	-.250	-.397	.692	-1.036	.689	.224	-.030	-.029

a. Dependent Variable: Return on Assets

AUDIT COMMITTEE

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.004[a]	.000	-.006	3.03439	.000	.002	1	176	.960
2	.132[b]	.017	.006	3.01655	.017	3.088	1	175	.081
3	.152[c]	.023	.006	3.01620	.006	1.042	1	174	.309

a. Predictors: (Constant), Audit committee

b. Predictors: (Constant), Audit committee, Frequency of board meetings

c. Predictors: (Constant), Audit committee, Frequency of board meetings, AC_BM

d. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.023	1	.023	.002	.960[b]
	Residual	1620.529	176	9.208		
	Total	1620.552	177			
2	Regression	28.122	2	14.061	1.545	.216[c]
	Residual	1592.430	175	9.100		
	Total	1620.552	177			
3	Regression	37.598	3	12.533	1.378	.251[d]
	Residual	1582.954	174	9.097		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Audit committee

c. Predictors: (Constant), Audit committee, Frequency of board meetings

d. Predictors: (Constant), Audit committee, Frequency of board meetings, AC_BM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	2.220	.718		3.093	.002	.803	3.636			
	Audit committee	-.008	.154	-.004	-.050	.960	-.311	.296	-.004	-.004	-.004
2	(Constant)	1.711	.770		2.222	.028	.191	3.230			
	Audit committee	-.058	.156	-.029	-.375	.708	-.365	.249	-.004	-.028	-.028
	Frequency of board meetings	.109	.062	.134	1.757	.081	-.013	.231	.129	.132	.132
3	(Constant)	.155	1.707		.091	.928	-3.214	3.525			
	Audit committee	.263	.351	.129	.749	.455	-.430	.955	-.004	.057	.056
	Frequency of board meetings	.353	.247	.433	1.430	.155	-.134	.839	.129	.108	.107
	AC_BM	-.049	.048	-.371	-1.021	.309	-.143	.046	.086	-.077	-.076

a. Dependent Variable: Return on Assets

CREDIT COMMITTEE

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.215[a]	.046	.041	2.96317	.046	8.565	1	176	.004
2	.232[b]	.054	.043	2.96003	.007	1.374	1	175	.243
3	.232[c]	.054	.038	2.96848	.000	.005	1	174	.946

a. Predictors: (Constant), Credit committee

b. Predictors: (Constant), Credit committee, Frequency of board meetings

c. Predictors: (Constant), Credit committee, Frequency of board meetings, CC_BM

d. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	75.205	1	75.205	8.565	.004[b]
	Residual	1545.347	176	8.780		
	Total	1620.552	177			
2	Regression	87.241	2	43.621	4.979	.008[c]
	Residual	1533.311	175	8.762		
	Total	1620.552	177			
3	Regression	87.282	3	29.094	3.302	.022[d]
	Residual	1533.270	174	8.812		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Credit committee

c. Predictors: (Constant), Credit committee, Frequency of board meetings

d. Predictors: (Constant), Credit committee, Frequency of board meetings, CC_BM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	1.167	.413		2.828	.005	.353	1.982			
	Credit committee	.236	.081	.215	2.927	.004	.077	.395	.215	.215	.215
2	(Constant)	.771	.533		1.446	.150	-.281	1.823			
	Credit committee	.216	.082	.197	2.626	.009	.054	.379	.215	.195	.193
	Frequency of board meetings	.072	.061	.088	1.172	.243	-.049	.192	.129	.088	.086
3	(Constant)	.835	1.079		.773	.440	-1.295	2.965			
	Credit committee	.204	.203	.186	1.004	.317	-.196	.604	.215	.076	.074
	Frequency of board meetings	.061	.167	.075	.366	.715	-.268	.390	.129	.028	.027
	CC_BM	.002	.029	.020	.068	.946	-.055	.059	.212	.005	.005

a. Dependent Variable: Return on Assets

NUMBER OF MECHANISMS

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.191[a]	.036	.031	2.97858	.036	6.660	1	176	.011
2	.191[b]	.037	.026	2.98692	.000	.018	1	175	.892
3	.203[c]	.041	.025	2.98818	.005	.853	1	174	.357

a. Predictors: (Constant), Number of risk mechanisms

b. Predictors: (Constant), Number of risk mechanisms, Frequency of board meetings

c. Predictors: (Constant), Number of risk mechanisms, Frequency of board meetings, NM_BM

d. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.089	1	59.089	6.660	.011[b]
	Residual	1561.463	176	8.872		
	Total	1620.552	177			
2	Regression	59.253	2	29.626	3.321	.038[c]
	Residual	1561.299	175	8.922		
	Total	1620.552	177			
3	Regression	66.867	3	22.289	2.496	.061[d]
	Residual	1553.685	174	8.929		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Number of risk mechanisms

c. Predictors: (Constant), Number of risk mechanisms, Frequency of board meetings

d. Predictors: (Constant), Number of risk mechanisms, Frequency of board meetings, NM_BM

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	1.244	.428		2.909	.004	.400	2.088			
	Number of risk mechanisms	.166	.064	.191	2.581	.011	.039	.293	.191	.191	.191
2	(Constant)	1.214	.484		2.505	.013	.257	2.170			
	Number of risk mechanisms	.159	.083	.183	1.906	.058	-.006	.324	.191	.143	.141
	Frequency of board meetings	.011	.078	.013	.135	.892	-.143	.165	.129	.010	.010
3	(Constant)	.241	1.159		.208	.835	-2.046	2.529			
	Number of risk mechanisms	.330	.203	.380	1.624	.106	-.071	.732	.191	.122	.121
	Frequency of board meetings	.100	.125	.123	.805	.422	-.146	.347	.129	.061	.060
	NM_BM	-.013	.014	-.288	-.923	.357	-.041	.015	.163	-.070	-.069

a. Dependent Variable: Return on Assets

OVERAL RISK GOVERNANCE MODERATED BY BOARD MEETINGS

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.376[a]	.142	.122	2.83581	.142	7.129	4	173	.000
2	.376[b]	.142	.117	2.84402	.000	.003	1	172	.958
3	.384[c]	.147	.102	2.86777	.006	.291	4	168	.884

a. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee

b. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Frequency of board meetings

c. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Frequency of board meetings, CC_BM, NM_BM, AC_BM, RC_BM

d. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	229.315	4	57.329	7.129	.000[b]
	Residual	1391.237	173	8.042		
	Total	1620.552	177			
2	Regression	229.338	5	45.868	5.671	.000[c]
	Residual	1391.214	172	8.088		
	Total	1620.552	177			
3	Regression	238.904	9	26.545	3.228	.001[d]
	Residual	1381.648	168	8.224		
	Total	1620.552	177			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	.185	.788		.235	.814	-1.370	1.740			
	Risk committee	2.358	.645	.271	3.655	.000	1.084	3.631	.299	.268	.257
	Audit committee	-.319	.157	-.156	-2.027	.044	-.629	-.008	-.004	-.152	-.143
	Credit committee	.206	.086	.188	2.401	.017	.037	.375	.215	.180	.169
	Number of risk mechanisms	.088	.066	.101	1.328	.186	-.043	.218	.191	.100	.094
2	(Constant)	.176	.809		.218	.828	-1.420	1.773			
	Risk committee	2.356	.647	.271	3.641	.000	1.079	3.634	.299	.267	.257
	Audit committee	-.319	.158	-.156	-2.021	.045	-.631	-.007	-.004	-.152	-.143
	Credit committee	.206	.086	.188	2.394	.018	.036	.375	.215	.180	.169
	Number of risk mechanisms	.085	.083	.098	1.032	.303	-.078	.248	.191	.078	.073
	Frequency of board meetings	.004	.074	.005	.053	.958	-.143	.151	.129	.004	.004
3	(Constant)	-.706	2.584		-.273	.785	-5.808	4.396			
	Risk committee	4.131	2.501	.476	1.652	.100	-.806	9.067	.299	.126	.118

Audit committee	-.252	.386	-.124	-.653	.515	-1.014	.510	-.004	-.050	-.047
Credit committee	.205	.248	.187	.827	.409	-.285	.695	.215	.064	.059
Number of risk mechanisms	-.116	.244	-.133	-.474	.636	-.597	.365	.191	-.037	-.034
Frequency of board meetings	.261	.497	.321	.526	.600	-.720	1.243	.129	.041	.037
RC_BM	-.311	.460	-.449	-.677	.499	-1.219	.596	.224	-.052	-.048
AC_BM	-.013	.051	-.097	-.252	.802	-.113	.088	.086	-.019	-.018
CC_BM	.002	.034	.019	.055	.956	-.066	.069	.212	.004	.004
NM_BM	.015	.017	.326	.861	.391	-.019	.048	.163	.066	.061

a. Dependent Variable: Return on Assets

OVERAL RISK GOVERNANCE MECHANISMS MODERATED BY BOARD SIZE

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.376[a]	.142	.122	2.83581	.142	7.129	4	173	.000
2	.381[b]	.146	.121	2.83740	.004	.806	1	172	.371
3	.471[c]	.222	.180	2.73969	.076	4.122	4	168	.003

a. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee

b. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size

c. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size, CC_BS, AC_BS, NM_BS, RC_BS

d. Dependent Variable: Return on Assets

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	229.315	4	57.329	7.129	.000[b]
	Residual	1391.237	173	8.042		
	Total	1620.552	177			
2	Regression	235.804	5	47.161	5.858	.000[c]
	Residual	1384.748	172	8.051		
	Total	1620.552	177			
3	Regression	359.560	9	39.951	5.323	.000[d]
	Residual	1260.992	168	7.506		
	Total	1620.552	177			

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee

c. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size

d. Predictors: (Constant), Number of risk mechanisms, Audit committee, Risk committee, Credit committee, Board size, CC_BS, AC_BS, NM_BS, RC_BS

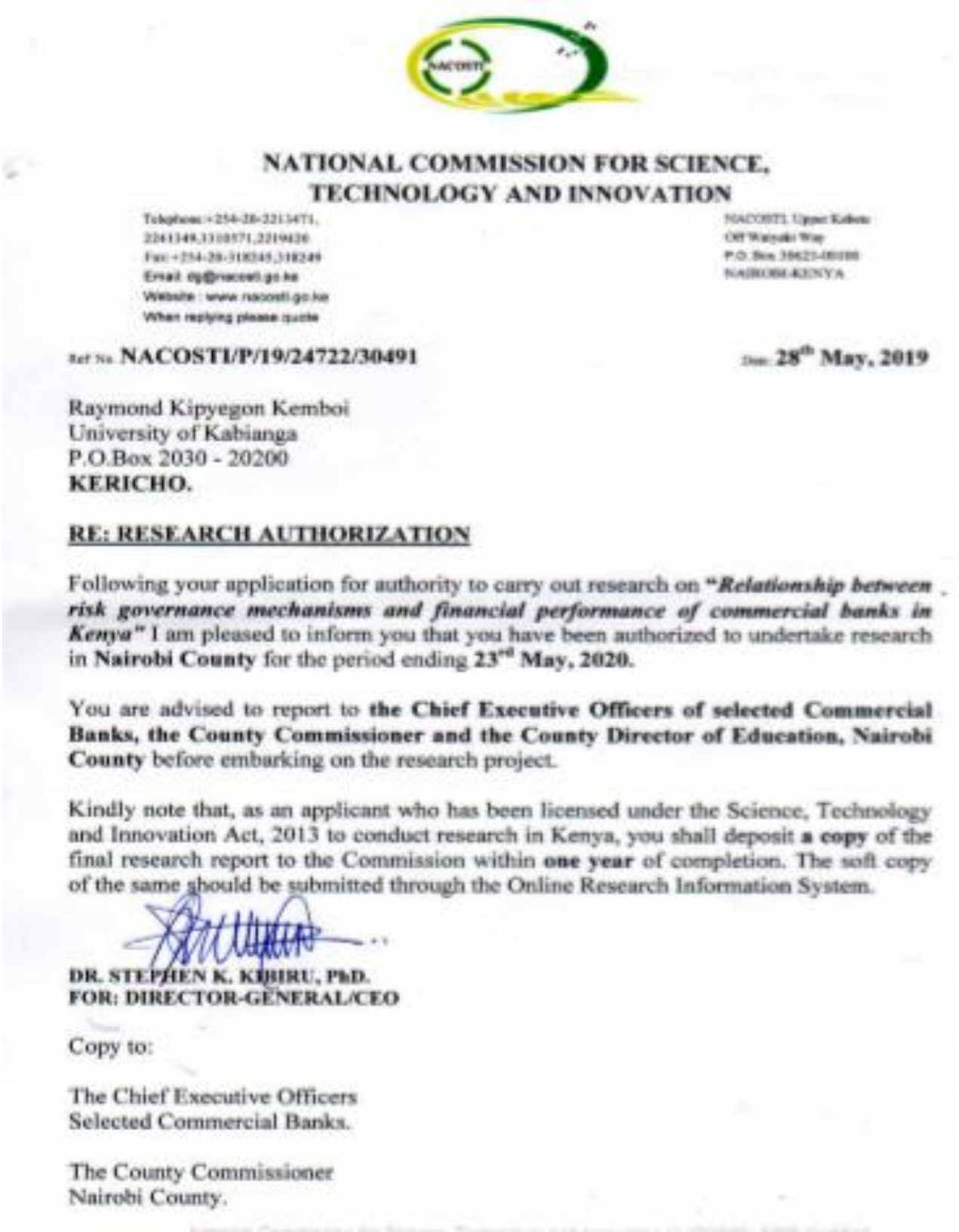
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations		
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
1	(Constant)	.185	.788		.235	.814	-1.370	1.740			
	Risk committee	2.358	.645	.271	3.655	.000	1.084	3.631	.299	.268	.257
	Audit committee	-.319	.157	-.156	-2.027	.044	-.629	-.008	-.004	-.152	-.143
	Credit committee	.206	.086	.188	2.401	.017	.037	.375	.215	.180	.169
	Number of risk mechanisms	.088	.066	.101	1.328	.186	-.043	.218	.191	.100	.094
2	(Constant)	.545	.884		.616	.539	-1.200	2.289			
	Risk committee	2.431	.650	.280	3.737	.000	1.147	3.715	.299	.274	.263
	Audit committee	-.286	.161	-.140	-1.775	.078	-.605	.032	-.004	-.134	-.125
	Credit committee	.197	.086	.180	2.281	.024	.027	.367	.215	.171	.161
	Number of risk mechanisms	.111	.071	.127	1.561	.120	-.029	.250	.191	.118	.110
	Board size	-.065	.072	-.072	-.898	.371	-.207	.078	.023	-.068	-.063
3	(Constant)	-9.596	3.162		-3.035	.003	-15.837	-3.354			
	Risk committee	12.331	2.752	1.420	4.481	.000	6.898	17.764	.299	.327	.305
	Audit committee	.035	.439	.017	.080	.937	-.833	.902	-.004	.006	.005
	Credit committee	.001	.292	.001	.004	.997	-.576	.578	.215	.000	.000
	Number of risk mechanisms	.117	.330	.134	.354	.724	-.534	.768	.191	.027	.024
	Board size	1.137	.350	1.266	3.246	.001	.446	1.829	.023	.243	.221
	RC_BS	-1.217	.326	-1.950	-3.735	.000	-1.860	-.574	.163	-.277	-.254
	AC_BS	-.025	.037	-.222	-.671	.503	-.099	.049	-.030	-.052	-.046
	CC_BS	.021	.027	.234	.779	.437	-.032	.073	.221	.060	.053
	NM_BS	5.820E-005	.023	.001	.003	.998	-.045	.045	.150	.000	.000

a. Dependent Variable: Return on Assets

Appendix 4: NACOSTI Approvals

Letter of Introduction



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349,3310571,2219420
Fax: +254-20-318245,318249
Email: dg@nacosti.go.ke
Website : www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref No. **NACOSTI/P/19/24722/30491**

Date: **28th May, 2019**

Raymond Kipyegon Kemboi
University of Kabianga
P.O.Box 2030 - 20200
KERICHO.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Relationship between risk governance mechanisms and financial performance of commercial banks in Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **23rd May, 2020.**

You are advised to report to **the Chief Executive Officers of selected Commercial Banks, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

DR. STEPHEN K. KIBIRU, PhD.
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Chief Executive Officers
Selected Commercial Banks.

The County Commissioner
Nairobi County.

Permit

THIS IS TO CERTIFY THAT:
MR. RAYMOND KIPYEGON KEMBOI
of UNIVERSITY OF KABIANGA,
175-20210 LITEIN,has been permitted to
conduct research in *Nairobi County*

on the topic: *RELATIONSHIP BETWEEN RISK GOVERNANCE MECHANISMS AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA*

for the period ending:
23rd May,2020

Permit No : NACOSTI/P/19/24722/30491
Date Of Issue : 28th May,2019
Fee Recieved :Ksh 2000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013

The Grant of Research Licenses is guided by the Science, Technology and Innovation (Research Licensing) Regulations, 2014.

CONDITIONS

1. The License is valid for the proposed research, location and specified period.
2. The License and any rights thereunder are non-transferable.
3. The Licensee shall inform the County Governor before commencement of the research.
4. Excavation, filming and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
5. The License does not give authority to transfer research materials.
6. NACOSTI may monitor and evaluate the licensed research project.
7. The Licensee shall submit one hard copy and upload a soft copy of their final report within one year of completion of the research.
8. NACOSTI reserves the right to modify the conditions of the License including cancellation without prior notice.

National Commission for Science, Technology and innovation
P.O. Box 30623 - 00100, Nairobi, Kenya
TEL: 020 400 7000, 0713 788787, 0735 404245
Email: dg@nacosti.go.ke, registry@nacosti.go.ke
Website: www.nacosti.go.ke

REPUBLIC OF KENYA

National Commission for Science, Technology and Innovation

RESEARCH LICENSE

Serial No.A 24933

CONDITIONS: see back page