CREDIT RISK AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS
IN KENYA

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FEBRUARY 2019
DECLARATION

The research project below is my original work and has not been presented for any award of degree in any other University.

Signature ................................... Date..............................................

Cecilia Mueni Mbaluto
D53/OL/CTY/24729/2014

I confirm that the work in this project was done by the candidate under my supervision.

Signature ............................... Date .................................

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Kenyatta University.
DEDICATION

To my son Michael and daughter Benita for their patience during the entire period of my course. To my parents Mr. and Mrs. Mbaluto for their parental love, guidance and humble upbringing. To my brother’s; Martin, Leonard, Gabriel, Simon, Gilbert and sister Catherine for their undying love.
ACKNOWLEDGEMENT

I sincerely appreciate Dr. Lucy Wamugo my supervisor in this research for relentlessly guiding me and never failing to be available when I needed her assistance. May the almighty God bless her abundantly. To the University of Kenyatta, I feel proud to be part of the institution and to my fellow classmates I thank them all for their invaluable support, not forgetting my family, parents, brothers, sister, and true friends who through their goodwill played a vital role in supporting me throughout the entire period of my study. Not forgetting Dr. Paul Matiku for guidance and support. May God bless this academic work and all its users to put it into its intended good use.
# TABLE OF CONTENTS

Declaration .......................................................................................................................... ii  
Decication ........................................................................................................................ ii  
List of Figures .................................................................................................................... ix  
List Of Abbreviations And Acronyms ............................................................................... x  
Operations Definition Of Terms Used ........................................................................... xi  

## CHAPTER ONE: INTRODUCTION OF THE STUDY ......................................................... 1

1.1 Background of the Study ............................................................................................. 1  
   1.1.1 Credit Risk ........................................................................................................... 2  
   1.1.2 Credit risk and financial performance ................................................................. 7  
   1.1.3 Commercial bank’s in Kenya ............................................................................... 8  
1.2 Research Problem ...................................................................................................... 9  
1.3 Objectives Of the Study ............................................................................................. 10  
   1.3.1 Specific objective’s ............................................................................................ 11  
   1.3.2 Research Hypothesis ....................................................................................... 11  
1.4 Significance of the study ............................................................................................ 11  
1.5 Scope of the Study ..................................................................................................... 12  
1.5 Limitations of the Study ............................................................................................ 12  
1.7 Organization of the study .......................................................................................... 13  

## CHAPTER TWO: LITERATURE REVIEW ..................................................................... 14

2.1 Introduction .................................................................................................................. 14  
2.2 Theoretical Framework ............................................................................................... 14  
2.3 Empirical Literature .................................................................................................. 16  
2.4 Summary of Literature and Research Gap’s ................................................................ 22  
2.5 Conceptual Framework .............................................................................................. 24  

## CHAPTER THREE: RESEARCH METHODOLOGY ......................................................... 26

3.1 Introduction .................................................................................................................. 26  
3.2 Research Design .......................................................................................................... 26  
3.3 Empirical Model ......................................................................................................... 26  
3.4 Operationalisation and Measurement of Variable’s .................................................... 27  
3.5 Target Population ....................................................................................................... 28
3.6 Sample and Sampling Techniques ................................................................. 28
3.7 Data Collection Procedure ........................................................................ 28
3.8 Data Analysis ................................................................................................. 29
3.9 Diagnostic test’s........................................................................................... 30
   1.3.1 Normality test ....................................................................................... 30
   1.3.2 Multi-collinearity test ......................................................................... 30
   1.3.1 Auto-correlation test ......................................................................... 31
   1.3.2 Heteroscedasticity test ...................................................................... 31

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION .................. 32
4.1. Introduction ................................................................................................. 32
4.2. Descriptive Statistics .............................................................................. 32
4.3 Diagnostic test’s ......................................................................................... 34
   4.3.1 Multi Collinearity Tests ..................................................................... 34
   4.3.2 Auto correlation tests ....................................................................... 35
   4.3.3 Normality tests .................................................................................. 35
   4.3.5 Hetoscedasticity tests ....................................................................... 36
4.4 Regression Analysis .................................................................................... 36

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND
RECOMMENDATION’S .................................................................................... 44
5.1 Introduction ................................................................................................. 44
5.2 Summary of Findings ................................................................................ 44
5.1 Conclusions .................................................................................................. 45
5.2 Recommendations ....................................................................................... 45
5.2 Suggestions for Further studies .................................................................. 46

APPENDICES ..................................................................................................... 50
APPENDIX.A:Letter Of Introduction ................................................................ 50
APPENDIX.B: Secondary Data Collection Form .............................................. 51
APPENDIX C: Input Data Return on Equity ..................................................... 53
APPENDIX. D: Input Data Return on Assets ................................................... 54
APPENDIX. E. Research Budget ........................................................................ 55
APPENDIX F. A List of Commercial Banks Operating in Kenya (2017) .......... 56
LIST OF TABLES

Table 2.1 Summary of research gaps ................................................................. 23
Table 3.1 Operationalisation and Measurements of Variable’s .................................. 27
Table 3.2 Target Populations .................................................................................. 28
Table 4.1 Descriptive Statistic’s ............................................................................. 32
Table 4.2 Multi Collinearity Tests .......................................................................... 34
Table 4.3 Normality test results ............................................................................. 35
Table 4.4 Model Summary with ROE .................................................................... 36
Table 4.5 Model Summary with ROA ................................................................... 37
Table 4.6 ANOVA with ROE ................................................................................. 37
Table 4.7 ANOVA with ROA ................................................................................ 38
Table 4.8 Regression coefficient ROE .................................................................... 39
Table 4.9 Regression coefficient ROA .................................................................... 41
LIST OF FIGURES

Figure 2: 1 Conceptual Framework ........................................................................................................ 25
# LIST OF ABBREVIATIONS AND ACRONYMS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<tr>
<td>CAMEL</td>
<td>Capital Adequacy, Asset quality, Management, Earning and Liquidity</td>
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<td>CBK</td>
<td>Central Bank of Kenya</td>
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<td>CMA</td>
<td>Capital Markets Authority</td>
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<tr>
<td>CTL</td>
<td>Current Total Loans</td>
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<tr>
<td>EBIT</td>
<td>Earnings before interest and tax</td>
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<td>GDP-</td>
<td>Gross Domestic Product</td>
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<tr>
<td>ILR</td>
<td>Insider Loan Ratio</td>
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<td>LLP</td>
<td>Loan loss provisions</td>
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<td>NPL</td>
<td>Non-Performing Loans</td>
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<td>NSE</td>
<td>Nairobi Securities Exchange</td>
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<td>PTL</td>
<td>Previous Total Loans</td>
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<td>RE</td>
<td>Retained Earnings</td>
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<td>ROA</td>
<td>Return on Assets</td>
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<td>ROE</td>
<td>Return On Equity</td>
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<td>SPSS</td>
<td>Statistical Package for the Social Sciences</td>
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<tr>
<td>TA</td>
<td>Total Assets</td>
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<td>TL</td>
<td>Total Liabilities</td>
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OPERATIONAL DEFINITION OF TERMS USED

**Asset Quality**
This is a measure of the possibility of default on loan repayment together with the evaluation of the credit risk associated with it.

**Commercial bank**
This is an institution that carries out business of providing services of safekeeping of customer deposits and lending of money to its customers at an interest.

**Credit risk**
This is the likelihood of a business to suffer losses arising from a default by a client to meet their contractual obligations of repaying a debt in according to their agreement as measured by asset quality, Insider lending, loan growth rate and loan loss provisions.

**Financial Performance**
This is measurement of bank financial outcome for a specific financial duration through evaluation of its operations as determine by ROA and ROE.

**Insider Lending**
This is lending to an executive officer, director, shareholder, and any interested related party of such a person.

**Loan growth rate**
This is the annualized change of the amount of loan issued to the customers compared with the previous year’s performance.

**Loan loss Provisions**
Refers to money set aside to caution the organization in the occasion of loan default by a customer not to report large profits yet some loans may not be collectable.

**Non-performing loan**
It is a loan which is no longer contributing income to the lender and it applies when it comes to the knowledge of the institution that the loan will no longer generate the expected income.
ABSTRACT

Some commercial banks in Kenya have been performing poorly in the last decade to the extent that several banks have collapsed and others placed under receivership. Commercial banks in Kenya are considered as economic backbone and therefore any slight change in their performance may bring far-reaching implications to the economy. The recent failures in the banking and financial services industry has raised several questions with respect to the growing awareness and need for appropriate credit risk evaluation in financial institutions. Credit loans form the largest source of income to the Kenya commercial banks and it is for this reason that this study intends to establish the effect of credit risk on the performance of Kenyan commercial banks. The study focused on the following specific objectives: to determine the effect of asset quality on performance of commercial bank’s in Kenya, to establish the effects of insider lending on performance of commercial bank’s in Kenya, to ascertain the effects loan growth rate on performance of commercial bank’s in Kenya and to establish the effects of provision for loan losses on performance of commercial bank’s in Kenya. The study adopted descriptive research design utilizing panel data covering the period from 2009-2017. The population comprised of all the 41 commercial banks operating in Kenya. This study used secondary data, which was collected from published annual financial statements of the commercial banks. Data analysis was done using SPSS version 23.0 software. Data was analyzed using descriptive and inferential statistics obtained from panel linear regression analysis. The study findings showed that asset quality had a negative significant effect on performance of banks in Kenya. Insider lending, loan growth rate and provision for loan loss did not have significant effect on financial performance of commercial bank’s in Kenya. The study recommended that credit risk managers for banks should continually review policies on asset quality management especially monitoring and control as it has negative significant effect on financial performance of commercial banks. They should be less concerned with the other variables since they do not significantly affect their performances. The study recommends another research to be done using primary data.
CHAPTER ONE: INTRODUCTION OF THE STUDY

1.1 Background of the Study

Commercial banks are important player’s in economic development of a country. Banks provide financial services, which are crucial for economic growth (Alshatti, 2015). The banking sector is very prominent in the Kenya economic environment and its contribution’s plays a predominant role of granting loans. The amount of loans given to the public by a bank in order to carry out industrious activities increases the speed at which the development of nation economy occurs and this includes its future stability in reference to (Kolapo et al., 2012). The stability of a country’s financial sector is dependent on efficient banking system. failure in the economic operations of a country will disrupt the process of development (Saibal, 2007).

Basel Accord which is a global regulation framework for financial institutions describes credit risk as one among the three fundamental risks that are faced by banks or any other regulated financial institutions while carrying out there daily business activities the other risks being operation risk and market risk. The commercial bank wellbeing usually depends on good management of credit risk (Bhattarai, 2015). Banks that are efficient in management of credit risk are the only ones that survives in the market in the end (Bessis, 2012). Therefore, sound management of this credit risk is necessary to avoid occurrence of non-performing loans or bad assets and to maintain a bank’s profit margins. Failure to do so could erode a bank resources and in extreme cases, lead to the collapse of a bank (Kodithuwakku, 2015).
Kenya banking sector is currently experiencing financial turmoil after many years of financial stability. Kenya has seen the collapse of three commercial banks namely; Dubai Bank Kenya Ltd (August 2015) valued at Ksh2.92 billion ($34 million), Imperial Bank Ltd (October 2015) which collapsed with Ksh.58 billion of depositors’ funds and recently a bank among the largest banks in Kenya valued at Kshs.93 billion Chase bank. The continued collapse and scandals and scandals failures banking industry has brought about anxiety about credit risk (Kimotho & Gekara, 2016).

1.1.1 Credit Risk

According to the Basel accord (2001) credit risk is the probability of not recovering the amount of loan either totally or partially because of default risk. This occurs when an individual is unable to repay a loan given to him at some point that is more than 90 days, after which the loan is usually written off. According to (Coyle, 2000), Credit risk is the possibility of a business to suffer losses arising from a default by a client to meet his/her contractual obligations of repaying a debt in according to their agreement on time. The failure of a borrower to honor his obligations brings about financial loss to the bank and these types of failures affects the performance of a bank.

Credit risk is used as an internal measure of the bank’s performance. Banks that have a hily exposed to credit risk generally have a higher chance of experiencing financial difficulties and this usually affect its profits. The credit creation of banks enhances investors’ ability to take advantage of preferred gainful ventures. According to (Kithuri ,2010), credit risk is brought about by inadequate government supervision and interferences by the central bank and direct lending. Abhimal and Saibal (2007), opinions that when credit risk persists, it
affects cash liquidity, survival of banks and may eventually lead them to a total collapse (Samad, 2012) and (Ahmad & Ariff, 2007) come to the same conclusions. They outlined some factors which determine bank credit risk namely; poor assessment of borrowers by banks leading to inferior assortment; bank tends to trust borrowers with secured loans who give collateral but this have a high possibility default.

Bank Loans are the greatest income generating resources which posses the largest risk (Abata & Adeolu, 2014) suggested that the ideal measure of asset quality is determination of the elements of NPL as a ratio of TA. A non-performing loan is a loan, which has not paid for three months and above (Ariff, 2007). According to (Kauko, 2012) loans are said to be non performing when borrowers payments are owing and it is measured using NPLR ratio. To be precise this ratio shows how the bank manages their credit risk (Hosna et al., 2009). After a period regardless of position of the borrower, the nonperforming loan will be written off (Choudhry, 2011). Commercial banks with high levels of nonperforming loans put themselves into the risk of default from loan borrowers and therefore, loans provisions should be made adequate to protect the bank against default risk (Wandera, 2013).

Selvaraj et al., (2015) indicates that ratio for non-performing loan is a key pointer of credit risk in financial institutions. They established that NPLR when used to measure the degree of credit default risk experienced by banks indicated a unfavorable impact on profitability when calculated by ROA. Other studies carried out showed mixed results according to (LZou, 2014) and (Alshatti, 2015) there exists a correlations between nonperforming loans and banks financial performance (Claudine, 2008), (Kargi, 2011) and (Kodithuwakku, 2015) from their findings have established an unfavorable threat of nonperforming loan on profitability of a bank. Commercial banks gross Non performing loans increased by 47.5%
from 117.2 Billion in March 2015 to 172.9 Billion in March 2016. During the period under review, all the economic sectors registered increased NPLs. There has been an increasing trend of nonperforming loans over the years indicating that the level of asset quality has been reducing.

Insider Lending according to the CBK prudential Guidelines refers to the entire loans and advances given to the executive chief’s and directors of the bank (CBK, 2016). According to FDCI, they describe an insider as a director, an executive officer, or principal investor, and this included related interest of such a being. Laeven (2001) defines insider lending as the credit and proceeds given to internal personnel in a business these individuals are usually connected to the commercial bank either through shareholding or through the control capacity on more friendly conditions and terms that are more beneficial than would be normally logical economically.

A manageable level of insider lending is advisable; excessive levels might lead to losses that often might threaten continued existence of a bank. Statistics collected from failed banks depicted clearly that lack of ability to collect loans given to borrowers or institutions that have a relationship with managers and directors (Owojori et al., 2011). Insider loans were a major contributor to banks failures of the Nigerian banks, distressed banks caused the cancelation of banking licenses by the Nigeria Central Bank (CBN).

Insider loans are often the major reason for large nonperforming loan portfolio by commercial bank’s. Extension of loan’s outside arm’s length basis involves loans to company promoters, directors and other key stakeholders that become bad and doubtful, and
irrecoverable leading to increase in nonperforming loans thereby exposing banks to financial risk (Ugoani, 2016).

CBK ordered the audit of all banks insider loans as part of a tightening of supervision in the wake of a series of bank failures. The bank failures have caused a panic among institutions. Chase Bank collapsed after depositors withdrew their money after CBK restatement accounts showed loans to directors and employees accounted to more than quadruple of Sh13.6 billion in the year 2015, CBK report (2015).

Loan growth is very important for many banks because it determines their development. If loan growth is more than an average it may indicate that the bank has targeted new attractive markets, either its capital base is low thus allowing banks to charge less interest for its loans this is according to Foos et al., (2010). In addition loan growth that is above average may indicate that a bank cash is valued more cheaply may be due to relaxed credit standards or Debtors are being encouraged by the banks to move over their business.

During the financial crisis, the bank that reported high loan growth rate had a significant drop in their bank performance. According to Saurina, (2007) loan growth that are extreme exposes the bank to greater credit risks. Foos et al., (2010) found out that high non-interest income indicates the banks are more dangerous. The banks that employ more aggressive methods to grow their loans are less stable as compared to those banks that have strong depositors, which are causious when taking risk. Foos et al., (2010) indicated that if new loans were given to borrowers at too low interest rates or using a low collateral as compared to the credit quality this will then as a result the loan growth may have unfavorable outcomes growth on the banks risk.
The gross loans and advanced in the sector increased from 2.0 trillion Kshs. In 2015 to 2.2 trillion in March 2016, translating to an increase of 20%. The increase in the loan book was contributed by larger demand for loans from all the sector of economy CBK(2016). Trade, Real Estate and Personal/Household sectors having the highest growth in credit of Ksh. 81.14 billion, Ksh. 61.62 billion and Ksh. 55.84 billion respectively. Net assets increased by 5.9% from Ksh. 3.4 trillion in March 2015 to Ksh. 3.6 trillion in March 2016. This was mainly attributed to increased loans and advances of Ksh. 170.6 billion and investment in government of Kenya securities of Ksh. 48.2 billion. The increased loans and advances was as a result of increase in appetite for credit across most of the sector’s of the economy. The improved investment in government securities was as a result of large banks investing surplus liquidity in risk free instruments.

Investopedia explains Provision for loan loss as an expenditure that is set aside for credits or loans that are not paid. Loan loss reserves are used by banks in order to cover the anticipated losses entrenched in their loan portfolios. Loan loss provisioning policies are critical in assessing the health of any financial systems this policies are very important in influencing the performance of bank’s they caution the capital strength (Beaty & Liao, 2009). The provisions for loans set aside by bank managers should show their confidence on the quality of loans they have granted since the level of provision will indicate the amount of loan expected high provisioning will indicate that they quality of loans are wanting, very low provision might lead to loss in en the invent large defaults this will lead to poor performance (Dugan, 2009).

Ogboi & Unuafe (2013) did an examination of the effects of credit risk management and capital adequacy on profitability of Nigerian banks using loan loss provisions (LLP) as one
of measures of credit risk determined that, effective credit risk management positively affected the bank’s fiscal performance while lack of loans and proceeds monitoring impacted the bank’s profitability negatively.

Kenyan banking sector has recorded an increase ii the level of provisioning for loan, ata an average increase of 122.4 % in the year Central Bank Of Kenya (2016) . This Continued increase in Loan Loss Provisions, with increased supervision of banks after the closure of Imperial bank, Dubai Bank and Chase Bank has led to a jump in loss provisions signaling the increment in the level of credit risk across the whole sector.

1.1.2 Credit Risk and Financial Performance

Credit risk is the single largest factor affecting the soundness of financial institutions and the financial system as a whole this is because lending is the principal business for banks(CBK 2018) .Financial performance is done to establish the ability of bank management usage of its resources to produce the income. It also indicates effectiveness of a corporation’s management to generate net income from existing assets of the institution (Khrawish , 2011). Financial performance evaluation aims at improving the net income of should improve the the institution to the benefit of its stakeholders. Measurement of financial performance helps an institution to enhane its performance ( Okwo & Marire , 2012). Various ways are employed to measure bank performance this includes; ROE indicates capability of a bank to generate returns using shareholders funds. The second ratio that measures bank performance is Return on Asset (ROA) this is a measure of total income compared its total assets among others.
The banking sector registered a decline in profitability for the year ending 2017; CBK (2018) as evidenced by reduction of profits of 9.6% during the year. The period, 2011-2017 Return on equity has been declining over the years. In the year 2011 ROE of the Kenyan commercial banks was 30.9%, in the year 2013, ROE was 29.2%, in the year 2015 ROE was 23.9%, in the year 2017 ROE was 20.8%. Additionally, ROA has also been on the declining trend from a high of 4.4% in 2011 to the a low of 2.7% in 2017. This trend is not impressive given that many reforms have been done to enhance the banking performance. Because of declining performance, there is for improved credit risk policies.

1.1.3 Commercial banks in Kenya

Commercials banks are institutions that carries out business of providing services of safekeeping of customers deposits and lending of money to its customers at interest. Banks are very vital to a country’s economic development since they assist in channeling of financial resources to various projects which benefits the country and improves their economic status (Vianney, 2013). Kenya commercial banks are categorized into three groups (large, medium and small) using a composite index which consists of deposit from customers, capital, reserves, net assets, and number of loans and deposit accounts’. A bank is considered large if its index is 5%, while the the index of a medium bank lies between 1% to 5%. Finally, a small bank index is less than 1%. At the end of year, 2017 in Kenya there existed 8 large banks which accounted for 66% market share, eleven medium banks with a market share of 26% and finally there were 21 small banks that represented a 8% market share. (CBK 2017).
In 2015, the CBK had put two banks under receivership; Chase and Dubai banks and in 2016 Imperial bank was added in the list (Cytonn, 2016). There has been waves of difficulties experienced by the banks in the past years which was attributed to inefficiency, liberalized of banking industry with weak regulations or no regulations and existence of political banks which eventually collapsed. There has been improved review of the banking act and regulations over time to try strengthen them (Ronald, 2016).

1.2 Statement of the Problem.
Some commercial banks in Kenya have been performing poorly in last decade to the extent that several banks have collapsed and others placed under receivership (Oira & Wamugo, (2018). In spite of the banking sector firmness and resilience in 2015, Chase bank and Imperial Bank Ltd were placed under receivership due to weak corporate governance mechanisms as well as insider lending and related party lending (CBK 2016). Dubai Bank Ltd went into liquidation, which was attributed to liquidity risk, failure to pay debt for bank of Africa and lack of adequate provision for non-performing loans. Charter house bank was also placed under statutory management this was due to financial risk (CBK 2015).

This stream of failures in the banking and financial services industry has served as a catalyst for concern about risk (Kimotho & Gekara, 2016). The largest factor which has an impact on the soundness of financial institutions is credit risk, this is one of the expensive risks for financial organizations since it has a potential of a direct solvency threat to any financial institution (Warsame, 2016). Credit risk is a major challenge to the Kenya banking sector owing to the fact that banks derive their resources mainly on loans (CBK 2016).
A Review in literature shows that various studies have been done on the effect of credit risk and financial performance. This includes (Kithinji, 2010) and (Waweru, 2007) who did a research to establish how management of credit risk affected banks performance in Kenya. However they did not consider variables like effects of asset quality and insider lending on financial performance (Musyoki, 2011) and (Ogilo, 2012) although considered variable like asset quality and provisions for loan losses, they did not consider variables like insider lending and loan growth rate (Githaiga, 2015) and (Mutua, 2014) considered one variable that is effect of credit risk management on bank performance. Studies done in other countries on credit risk and commercial financial performance like (Engdawork, 2014) measured variables like loan to total assets, impact of credit administration and impact of bank size they did not mention loan loss provision, loan growth rate and insider lending.

Moreover, there is conflicting conclusion between the study findings of Hosna et al., (2009) from which established a positive relationship between Bank performance and credit risk of banks in Sweden, (Kithinji, 2010) found credit risk does not affect bank performance. Additionally (Kolapo et al., 2012) found a negative connection between credit risk and bank performance. From this it’s evident that, there is a gap in literature that not all factors of credit risk have been studied and, in cases where research has been done, the results are conflicting and not conclusive, which this study seeks to fill. The study therefore, aims to establish the effect of credit risk on financial performance of commercial bank’s in Kenya.

1.3 Objectives of the study

The main objective was to establish the effects of credit risk on the financial performance of commercial bank’s in Kenya.
1.3.1 Specific objective’s
i. To assess the effect of asset quality on commercial bank’s performance in Kenya.

ii. To examine the effect of insider lending on commercial bank’s performance in Kenya.

iii. To determine the effect of Loan Growth Rate on commercial bank’s performance in Kenya.

iv. To establish effect of provisions for loan losses on commercial bank’s performance in Kenya.

v.

1.3.2 Research Hypothesis

The study hypotheses are formulated as follows;

$H_01$: Asset quality has no significant effect on performance of commercial bank’s in Kenya.

$H_02$: Insider lending has no significant effect on performance of commercial bank’s in Kenya

$H_03$: Loan Growth rate has no significant effect on commercial bank’s performance in Kenya.

$H_04$: Provision for loan losses have no significant effect on commercial bank’s performance in Kenya.

Significance Of the Study.

The research is important to various stakeholders; firstly to commercial banks, the research assist bank managers to appropriately carry out credit risk assessment and put in place policies that will help minimize credit risk since they will recognize its effects on the
performance of a bank, this will help decrease losses along with increase their performance. The information will help the management to make decisions on the best lending practices and the importance of screening potential borrowers before granting credit to minimise defaults.

To regulators and policy makers, it is essential to ensure that credit risk is controlled so as to promote financial stability. Therefore, study will provide empirical data for formulating appropriate policies and possible solutions of risk management in commercial banks which affects their outcomes. This study will provide Students and researchers with reference information and reference material for future research. It adds to the body knowledge of credit risk and financial performance. This will assist the academicians and research to expand on their research of credit risk and financial performance.

1.4 Scope of the study

This study covered all commercial bank’s presently operating in Kenya either listed or not listed on NSE. The study period was 2009 to 2017. The period was chosen because it within this period were three prominent banks collapsed within a span of one year sending jitters and causing a banking crisis. The study was on effect of credit risk on financial performance of commercial bank’s in Kenya. The Credit risk factors was restricted to asset quality, insider lending, loan growth rate and loan loss provisions.

1.5 Limitations of the study

The researcher encountered inconsistent data and in some cases, lack of the data this was due
to mergers, acquisition and receivership of some banks the researcher used all the available data on commercial banks therefore there were no sampling. The source of secondary data is the most common challenges faced by researchers because the sources have to be trusted and free from manipulations. To mitigate this the data for this study was gotten from Centrakl Bank of Kenya website.

1.7 Organisation of the Study.

The study comprises five chapters: Chapter one explains background of the study, problem statement, research objective’s both general and specific together with their hypothesis and finally importance and research limitations. Literature review and study of relevant theoretical models together with the compilation of present literature gaps with a focus on the conceptual framework are done in chapter two. Chapter three explains the method used including the design of the research, population targeted, sampling techniques and method used to collect finally operation of the variables. Chapter 4 shows data presentation and results of data analysis. Lastly, the final chapter gives conclusions that includes the summary and discussion of findings and recommendations.
CHAPTER TWO: LITERATURE REVIEW

Chapter two looked at earlier research done in regards the questions brought up in order to present in detail a review of literature about the subject. The study starts by focusing on relevant theories of the study after an evaluation of literature that was obtained based on the study variables.

Theoretical Framework

2.2.1 Agency Theory

Jensen and Meckling (1976) developed the agency theory which stipulates the problems that arise in relationship among principal and their agents. Agency relationships arise were by the principals (owners of the firms) engage agents (managers) to operate their firms on their behalf and to the benefits of the owners. Agent’s acts to protect and progress the interests of their principals, while carrying out business of their masters they might be tempted to look into their own welfare and which bring about conflicts. Insider loans and advances made to internal persons in an organization when given without considerations might bring about present such conflicts (Laeven, 2001).

Insider loans are those made to senior executives in a bank, board members, or even to shareholders; the agents are thus essential extending credit to themselves or related parties, they might do these lending on fairly relaxed terms and conditions. This adversely affects financial risk when defaults are registered. This theory is consistent with the independent variable of insider lending were by the bank managers and directors are agents of shareholders therefore, they should act to their interests.
2.2.2 Financial intermediation Theory

Financial Intermediary is an entity that exists to reduce transaction and information costs between borrowers and lenders that arise from information asymmetry who form part of financial transaction. Intermediaries assist the flow of information between the parties, which contributes to efficient functioning of financial markets (saeed, 2005). Savers are real averse on average than real investors therefore financial intermediaries bridges the mismatch between demand for investments and savings (Scholtens & Wensveen, 2003). This institutions are important players in the economy by improving the status economy development in countries.

Demirguc-Kunt & Levine (1999), found out financial intermediaries led to increase in the percentage of growth domestic product in number of countries. Advancement in information technology has led to the reduction of information asymmetries and transaction costs; there financial intermediary’s theory might be rendered useless. Commercial banks are financial intermediaries, which create assets for resources for their creditors. Financial intermediaries entice investors in buying their products whose risk they cannot evaluate precisely. These intermediaries such as commercial banks and insurance companies by nature of their operations deal in evaluating risks. By bridging the gap between savers and investors, they absorb a lot of risks. This theory’s discoveries instigated the need this study.

2.2.3 Moral Hazard

Moral hazard problem means that unless there are consequences of default on future credit applications, borrowers may default paying their obligations. Difficult by lenders to access the historical credit profiles of borrowers encourages moral hazard and this may lead to
lenders charging punitive interest rates eventually leading to breakdown of credit market (Alary & Goller, 2001). Sharing of credit information according to Klein (1992) motivates borrowers to pay their dues because in the event they default they will be blacklisted therefore they will be not be able to access credit in the formal sector. The theory is appropriate because it advocates that lenders should gather all the relevant details concerning the borrower before granting credit to avert defaults, which will therefore improve performance.

2.2 Empirical Literature Review

Serwadda (2018) did a study on impact of credit risk management systems and financial performance on commercial banks in Uganda. The research used descriptive statistics regression and correlation analysis. it was found that credit risk significantly affected the performance of Ugandan commercials banks it was recommended that commercial banks should put in place techniques to improve credit risk management so as to earn profit and maintain quality asset portfolio, the embassies should be centered around nonperforming loans and loan loan loss provisions and growth in interest earning. This research was in Uganda and thus may not be apply to Kenyan commercial banks.

Oira & Wamugo, (2018) carried out a study on credit risk information sharing and performance of selected commercial bank’s in Kenya. The data was analysed using descriptive statistics and multiple regression analysis from the research finding the research found, information sharing explained for a large extend the results of kenya commercial
bank’s. This research was on credit information sharing therefore does not consider other variable studied on the current study.

Bhattarai (2016) carried out a research to examine impact of credit risk on the performance of Nepalese commercial banks. The study used causal-comparative and descriptive research designs. Regression model was used to analyze the study. The researcher found out that nonperforming loan ratio adversely affected performance of banks while cost of a loan asset and bank size had favorable impact on bank’s overall performance. In addition, cash reserve and capital adequacy ratios did not affect bank performance hence a conclusion of a credit risk indicators affected bank performance. However, the study did not consider other variables like insider lending and it was done in Nepal thus its findings and recommendations may not be applicable in Kenya.

Mbucho & Senaji (2015) did a study to find out how management of credit risk affects loan performance of MFIs in Kenya. The study used descriptive survey research design and stratified random sampling technique to sample number credit officers of these institutions. Descriptive and regression analysis was employed to analyze data. From the research interest rates and risk management affected loan performance of the microfinance institutions studied. The study made a recommendation to MFIs to be reviewing their operational costs in view to minimizing costs, which form the biggest component of operating expense. They suggested development of credit terms that were favorable to customers The current research focus on commercial banks and not MFIs.
Another research was done by Muriithi, Waweru & Muturi (2014) on credit risk and financial performance, Kenya. Credit risk was measured using asset quality, loan loss provision, capital to risk weighted assets, loan and advance ratios and ROE measured financial performance. Panel data techniques of fixed effects estimation and Generalized method of moments were used for estimation and to purge time invariant for unobserved firm specific effects. The study used Coefficient of determination to establish the variations within the independent and dependent variables. The finding showed that credit risk had an unfavorable relationship with performance of banks. The made recommendation that commercial banks managers should enhance their capability on loan administration and credit analysis and establishment of clear lending guidelines and credit policies. However, this study did not consider other variable studied on the current study.

Oluwafemi, Kolapo and Aluko (2014) did determine the factors that affect the profitability of banks using panel data gathered from sampled Nigerian banks. The study used both fixed and random effects to analyze data. Capital adequacy ratio, management efficiency, loan growth, asset quality, economic growth and liquidity ratio were used as to measure profitability. The study found growth, management efficiency and asset and nonperforming had an impact on Nigerian banks profits. NPLs was extremely significant from the results of the two models, therefore they concluded it effected banks profitability of banks. This study was done in Nigeria and therefore its recommendation may not apply to Kenya commercial banks. They also did not consider other variables being carried out in this study.
Marshal & Onyekachi (2014) carried a research on credit risk and bank performance in Nigeria. Data was gathered from the accounts statements and annual reports of the banks the data was analyzed using panel data regression techniques. In their findings, there was a positive connection between bank performance and non-performing loans. Their study showed that banks carried minimum level of nonperforming loans, which did not conform to a prior expectation. In addition, they established a positive connection between bank performance and loan and advances to total deposit. This research was carried out in Nigeria therefore its recommendations its may not apply to Kenya commercial banks.

Ogboi & Unuafe (2013) did a study in Nigeria to establish the impact of capital adequacy and credit risk on banks financial performance in. The study used cross sectional and time series data for a period of 10 years, which was sourced from a sample of chosen banks. The research used secondary data incorporating panel data model. The findings showed that an upward relationship between effective credit risk management and capital adequacy exists while poorly managed loans and advances had a negative correlation on banks’ performance. The current study measures bank performance using both ROE and ROA.

Similarly, Berrios ,(2013) did a research to examine how bank performance was affected by credit risk using descriptive research design and a population of 793 public companies in the United States. Data analysis was done via ordinary least squares regression analysis, descriptive statistics and analysis of covariance. The research found a negative correlation between less prudent lending, net interest margin, insider holdings and longer chief executive
officer tenure affected bank performance negatively. This study is relevant from the perspective of the insider lending variable.

Kolapo et al., (2012) using panel data regression model did a research to examine the quantitative effect of credit risk on the performance of Nigeria commercial banks. Guided by traditional profit theory the study used Return on Asset (ROA) to measure bank performance and Non-performing ratio; loan to loan and advances ratio; Loan loss provision ratio and Total loan and Advances to Total deposit ratio and to measure credit risk. Data was analyzed by use of a Panel model analysis. The research found bank performance is affected by NPL and LLP. The results showed that amount of credit and nonperforming do not influence bank performance, indicating that other variables affect profits. The current study will examine the how credit risk affects financial performance of Kenyan banks.

Musyoki & Kadubo (2012) assessed how management of credit risk impacted the pecuniary performance of Kenyan commercial bank’s. default rate, Cost per loan assets and bad debts measured credit risk. They employed Descriptive research design an multiple least squares regression analysis. From the findings credit, risk variables had an unfavourable effect on bank performance. Default rate was found to be the major indicator of bank financial performance. The study used multiple least squares regression which does not sufficiently address the cross sectional part of panel data of the ten banks used.

Ogilo, (2012) did a study using CAMEL indicators to analyze how credit risk management effected bank performance. The researcher employed causal research design in analysing data. The results found out that there exist a strong connection among the CAMEL variables
and dependent variable. It was recommended that other study variable to be used. This research will add to the research by examining other variables.

Afriyie & Akotey (2011) did an examination in Ghana on impacts of credit risk on the profitability of rural community banks. The research used panel regression model for estimation. Secondary data was sourced from ten rural banks. The study used ROE as an indicator of profitability and non-performing loans and capital adequacy and as indicators of credit management. The results showed a positive connection among the non-performing loans and bank performance. This findings show a connection between credit risk management affects bank profitability.

Kargi, (2011) determined the effect of credit risk on performance of Nigerian banks. The researched employed financial ratios to measure credit risk and bank performance. The study used descriptive statistics. To analyze data regression and correlation techniques was utilized. A connection was established between credit risk management and profits made by Nigerian banks. In conclusion, the study found out profitability of Nigerian banks were directly affected by non-performing loans and loans and advances which expose the banks to great danger of illiquidity and bankruptcy. This study was done in Nigeria therefore its recommendation may not apply to Kenyan banks.

Aduda & Gitonga (2011) carried out a study to assess the effect of credit risk management on profitability of commercial banks in Kenya. The study used random sampling method to select to get a sample from the total populations of the banks. The study used regression analysis to analyze data and the results indicated that credit risk management had an effect on
the profitability of commercial banks. The study did not use variables like insider lending and loan growth being used in the current study.

Another study to analyze the impact of credit risk management has on profitability of Kenya commercial banks was done by Kithinji, (2010). The study used a regression model to analyse data. There was no relationship established between the variables under study and thus recommended other variables affect performance other than credit. This study does not consider other variables being studied under the current study.

A study was done by Foos, Weder and Norden (2010) to examine bank riskness and loan growth rate. The study purpose was to establish whether loan growth rate affected the riskiness of individual banks among 16 major countries. The study used bank scope data of 16,000 individual banks. They found out the independent variable led to increased loan loss provisions thus affecting the banks negatively. The Research was not done in Kenya therefore its findings and recommendation may not be application to Kenyan Commercial banks.

**2.4 Summary of Literature and Research Gap’s.**

Results and evidences gathered from the empirical literature above show conflicting results on the effect of credit risk on financial performance. A number of studies find a positive connection others find no correlation and in an extreme case, a research found no connection between bank performance and credit risk. Additionally several studies considered the overall credit risk as the most important risk affecting bank performance. Having looked at the various theories that examine the discuss it risk and finrecedit risk the following are the research gaps we come across;
Table 2.1 Summary of research gap’s

<table>
<thead>
<tr>
<th>Variable’s</th>
<th>Indicator’s</th>
<th>Researcher</th>
<th>Findings</th>
<th>Knowledge gap’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset Quality</td>
<td>Non-performing loans ratio</td>
<td>Kinthinji (2010)</td>
<td>The study found no correlation between non performing loans and banks performance</td>
<td>Other related studies show positive relationship therefore there’s need for further study</td>
</tr>
<tr>
<td>Insider Lending</td>
<td>Insider loans and advances ratio</td>
<td>Berrios (2013)</td>
<td>The findings show that insider lending contributed to bank failures</td>
<td>There are limited studies in Kenya about insider lending therefore this study purposes to bridge this gap.</td>
</tr>
<tr>
<td>Loan Growth rate</td>
<td>Loan growth rate ratio</td>
<td>Foos et al., (2010)</td>
<td>The study found that loan growth had a negative effect on bank performance</td>
<td>The study was carried on banks and financial institutions in Asia thus may not be applicable to Kenya commercial banks</td>
</tr>
<tr>
<td>Provisions for loan losses</td>
<td>Loan loss provision ratio</td>
<td>Kolapo et al.,(2012))</td>
<td>The study found Loan loss provisions has an impact on banks performance</td>
<td>This study was done in Nigeria thus, its applicability to Kenya banking sector should be tested.</td>
</tr>
</tbody>
</table>
2.5 Conceptual Framework
Conceptual framework presents the graphical representation of the various variables (Cooper and Schindler (2003). The independent variables of this study are; asset quality, Insider lending, loan growth and loan loss provision and the dependent variable is financial performance proxied by the return on assets and return on equity. From Figure 2.1 below conceptual framework proposes a relationship between study variables (asset quality, Insider lending, loan growth and loan loss provision) with financial performance of commercial banks.
Independent Variables

Asset Quality
Non-performing loan ratio

Insider Lending
Insider loans and advances ratio

Loan Growth Rate
Annualized change in total loans and advances ratio

Provision for Loan Losses
Provision for loan losses ratio

Dependent Variables

Financial Performance
- Return On Equity
- Return On Assets

Source: Researcher (2019)
CHAPTER THREE; RESEARCH METHODOLOGY

3.1 Introduction
This chapter presents the design and methodology employed in the research. It also discusses the population, sample size and modes of collecting data employed including the procedure used to collect data, analysis and presentation.

3.2 Research Design
This research used descriptive research design. The researcher collected data on the variables that were studied in order to describe the observable fact about them. Mugenda and Mugenda (2003) stipulates the aim of descriptive research design is to describe whether there exists a relationship among the research variables being investigated. This is made possible because data is available in many forms that will enhance the description scenario that exists. The research tested the hypothesis thus the researcher had this in mind while collecting the data. Therefore, the study found out the extent of effect of the variables studied. Importantly the aim of descriptive research is to gather data whose research context cannot be manipulated.

3.3 Empirical Model.
A panel regression model was used to establish the relationship between credit risk and financial performance outlined below.

\[ \text{ROE}_it = \beta_0 + \beta_1 NPL_{it} + \beta_2 ILR_{it} + \beta_3 LGR_{it} + \beta_4 LLR_{it} + \varepsilon_t \] \hspace{1cm} \text{Equation (3.1)}

\[ \text{ROA}_it = \beta_0 + \beta_1 NPL_{it} + \beta_2 ILR_{it} + \beta_3 LGR_{it} + \beta_4 LLR_{it} + \varepsilon_t \] \hspace{1cm} \text{Equation (3.2)}

Where;

\( \text{ROE}_it = \) Return on Equity of commercial banks i at time t
\( \text{ROA}_it = \) Return on Asset of commercial banks i at time t
\( \beta_0 = \) Constant
\( \beta_1, \beta_2, \beta_3 \text{ and } \beta_4 = \) Explanatory variable’s coefficient’s
\[ \text{NPL}_{it} = \text{Non performing loans of commercial bank } i \text{ at time } t \]

\[ \text{IRL}_{it} = \text{Insider Lending of commercial bank } i \text{ at time } t \]

\[ \text{LGR}_{it} = \text{Loan Growth rate of commercial bank } i \text{ at time } t \]

\[ \text{LLP}_{it} = \text{Loan loss Provisions ratio of commercial bank } i \text{ at time } t \]

\[ t = 2009 \ldots \ldots \ldots 2017 \]

\[ i = \text{Individual commercial bank} \]

\[ \varepsilon = \text{Error term} \]

### 3.4 Operationalisation and Measurement of variable’s

**Table 3.1 Operationalisation and measurement of variable’s**

<table>
<thead>
<tr>
<th>Type</th>
<th>Variable</th>
<th>Operationalisation</th>
<th>Measurement</th>
<th>Hypothesised direction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent variable</strong></td>
<td>Asset Quality</td>
<td>The amount of nonperforming loan(bad loans) to total loans</td>
<td>Non-performing Loans / Total Loans</td>
<td>Negative/Positive</td>
</tr>
<tr>
<td><strong>Independent variable</strong></td>
<td>Insider lending</td>
<td>The total amount of loans given to insiders</td>
<td>Insider loans and advances/Total Loans</td>
<td>Negative/Positive</td>
</tr>
<tr>
<td><strong>Independent variable</strong></td>
<td>Loan growth rate</td>
<td>The annualised change in Loans from previous years</td>
<td>(current Total Loans –Previous Total Loans)/Previous total loans</td>
<td>Negative/Positive</td>
</tr>
<tr>
<td><strong>Independent variable</strong></td>
<td>Provisions for loan losses</td>
<td>Amount of funds set aside to cover for Non performing loans</td>
<td>Loan loss provisions /nonperforming loans</td>
<td>Negative/Positive</td>
</tr>
<tr>
<td><strong>Dependent variable</strong></td>
<td>Performance</td>
<td>Return On Equity (ROE) measures from owners funds Return on Asset (ROA) measures returns from assets invested</td>
<td>EBIT/ Equity EBIT/ Total Assets</td>
<td>Negative/Positive</td>
</tr>
</tbody>
</table>

*Source: Researcher (2019)*
3.4 Target population

Mugenda and Mugenda (2003) describe population as a total a group of individuals that have similar characteristics which can be observed. Therefore, a target population refers to a fraction of the entire population which the research gathers its respondent information. This study targeted all the Kenya commercial bank whether trading at the NSE or not.

Table 3.2 Target population

<table>
<thead>
<tr>
<th>Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listed bank’s on NSE</td>
<td>11</td>
</tr>
<tr>
<td>Unlisted Banks on NSE</td>
<td>31</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
</tr>
</tbody>
</table>

Source: (CBK, 2018)

3.6 Sample and Sampling Techniques

Census study was employed in this study since the target population is very small comprising only 42 banks. Mugenda and Mugenda, (2003) describes census as the best method for collecting data when the population of study is not big. Notably the banks were categorized in a layer-like manner by looking at whether they are listed or not. Therefore, there is no prejudice towards the listed of banks, they usually have difficult financial reporting structure because of their trade in the public.

3.7 Data Collection Procedure

This study used secondary data which was extracted from banks annual reports available at CBK website after getting a permit to carry out research from National Commission For science and Technology and Innovation. Secondary data is useful in
qualitatively analyzing historical or public records, reports and government documents (Schindler 2016). This helped in generalization of the findings. The researcher integrated 42 banks for the period 2009 to 2017 and focused on the period between 2009 and 2017. This is a period were 3 well established banks collapsed within a span of 3 years and many commercial banks faced financial difficulties. Both listed and unlisted commercial banks were analyzed before dividing them into two to eliminate the effect of mock variables. The researcher used a secondary data collection form appendix B.

3.8 Data analysis

The researcher used descriptive and inferential statistics to analyse data. The study used panel regression analysis to ascertain the connection among the study variables the panel methodology was done using SPSS version 23.0 IBM software. An excel program was helped to to calculate the ratios. Descriptive statistics; mean and standard deviation summarized the status for asset quality, insider lending, loan loss provisions and Loan growth rate and financial performance. Panel data analysis helps the researcher to control unobservable heterogeneity and provides enough data points that helps reduces the possibility of biasness in estimation because of its ability to have both cross-sectional and time series dimension (Gujarati & porter, 2009). The model is suitable for this study since it indicate to extent how a variable influence the other variables being investigated. Before carrying out the regression analysis several diagnostic tests were carried out which include normality tests, Multicolinearity and Heteroscedasticity. Each independent variable was examined in determining its importance in affecting the dependent variable. Thus, the study determined if asset quality, insider lending and loan loss provisions and Loan growth rate had effect in commercial banks performance.
3.9 Diagnostic test

In econometrics diagnostic tests plays a very fundamental part in model specification. Diagnostic testing ensures that the coefficients used in the estimation are consistent and are reliable when making economic inferences.

3.9.1 Normality test

Normality test was done to find out whether data had a normal distribution without which the study cannot draw reliable and accurate results. Jarque-Berra’s (JB) statistic was used in this study to determine if the data was normally distributed. The study data checked to see if the statistics match that of a normally distributed data, which should not to be skewed. The results of JB statistics expects a zero value for a normal distribution (Guajarati, 2007).

3.9.2 Multi-collinearity test

Multi-co-linearity is a necessary when carrying out multiple regressions since independent variables may be highly correlated with one. A perfect co-linearity shows an exact linear combination among the independent and thus cannot be estimated (Brooks, 2008). The statistical method used to test for multi-co-linearity is by studying the correlation coefficients of the explanatory variables to determine the variance inflation factor and condition index (Gujarati, 2004). In this research to test for multi-co-linearity variance inflation factors and tolerance was considered. Inflation factors that exceed 10 indicates the presence of multi-co-linearity. To investigate this data from 41 commercial banks were used the data covered the 2009 to 2015. Infinite standard errors exists when perfect multi-co-linearity is not considered when determining regression coefficients, while large errors exists with imperfect multi-co-
linearity this had an effect on the correctness and accurateness of either accepting or rejecting the null hypothesis.

**3.9.3 Auto-correlation test**

Wooldridge test was used to test for autocorrelation in the data. To achieve the accurate specification there is need to consider serial correlations. In a panel Regression Model a failure to account serial for correlation in the individual error term the results are usually biased and not accurate (Wooldridge, 2002). In this study the Durbin Watson (1951) statistic was used to test for autocorrelation. The statistic should between 0 and 4. It is should be noted that as a rule, a descriptive study expects to establish auto correlated findings. This is because autocorrelation is a measure of dependence among the independent variables that influence the values of the dependent variables.

**3.9.4 Heteroscedasticity test**

Heteroscedasticity refers to assumption of a linear regression model that needs frequent tests in the data and proper accounting if present. There is an assumption in linear regression that errors have a constant variation called homoscedastic. Heteroscedasticity occurs if the error terms are not constant in the data. Failure to account for heteroscedacity in the regression model the results will contain unbiased parameters estimates with Standard errors.
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter presents data analysis and findings with respect to the study’s specific objectives the findings are represented in form of tables and narrations.

4.2 Descriptive statistics

The results of the descriptive statistics are represented in table 4.1 below.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset_Quality</td>
<td>9</td>
<td>.04</td>
<td>.09</td>
<td>.0650</td>
<td>.01790</td>
</tr>
<tr>
<td>Insider_Lending</td>
<td>9</td>
<td>.04</td>
<td>.06</td>
<td>.0527</td>
<td>.00583</td>
</tr>
<tr>
<td>Loan_Growth Rate</td>
<td>9</td>
<td>-.08</td>
<td>.32</td>
<td>.1430</td>
<td>.11669</td>
</tr>
<tr>
<td>Loan_Loss_Provision</td>
<td>9</td>
<td>.17</td>
<td>.29</td>
<td>.2144</td>
<td>.03844</td>
</tr>
<tr>
<td>ROA</td>
<td>9</td>
<td>.03</td>
<td>.05</td>
<td>.0366</td>
<td>.00758</td>
</tr>
<tr>
<td>ROE</td>
<td>9</td>
<td>.21</td>
<td>.31</td>
<td>.2666</td>
<td>.03223</td>
</tr>
</tbody>
</table>

Source: Researcher (2019)

As indicated in table 4.1 the ROA had a mean value of 0.037 with a standard deviation of 0.008 and a maximum of 0.05 and a minimum of 0.03. This positive return indicates that commercial banks were profitable. Flamini et al., (2009) found the average ROA for Sub Saharan Africa is 2 %. These findings show that the mean ROA for Kenyan commercial banks more than of the Sub-Saharan countries. ROE mean was 0.267 and standard deviation of 0.322 with a maximum of 0.31 and a minimum of 0.21. The study result was more than that of Anguka (2012) study that found 0.148 for the period under studied.
The study further found that mean value of Asset Quality (AQ) was 0.065 with a minimum of 0.0400 and maximum of 0.09. Asset Quality had standard deviations of 0.0179, which indicates a high dispersion of Asset quality ratio from its mean. The average Asset quality of commercial banks in Kenya was 0.057. This average is slightly above the statutory minimum of 0.012 percent set by CBK (Muturi et al., 2013). This shows that Kenyan commercial banks non-performing loans over the period continued to increase. This could imply that banks could have issued more loans, which were not contributing to the overall profitability of their operations. This in essence means that banks embarked on aggressive issue of loans with the anticipation that they will in return contribute to their performance.

The mean value of Insider Lending (IL) was 0.053 with minimum and maximum values of 0.040 and 0.060 respectively. The standard deviation of Insider Lending is 0.006, which show little dispersion of insider loans ratio to total loan ratio from the mean. The mean average of insider lending was 0.053. This shows that commercial banks in Kenya use 5.30% of customer’s deposit to give loans to its insiders. This is slightly higher than Onaolapo (2012) whose average was 4.9%. the finding shows that loans given to insiders is low compared to loans issued to other customers who are not insiders. This can be attributed to the fact that the profit margin from insider loans is low compared to profit from loans given to outside borrowers.

The mean value of Loan Growth Rate (LGR) was 0.143 with minimum and maximum values of 0.32 and -0.08 respectively. The Loan Growth Rate (LGR) standard deviation was 0.117, indicating little dispersion of Loan Growth Rate ratio from its mean. The Loan Growth Rate (LGR) which is expressed by average current loans to previous loans for the study period was as high as 0.190, although low compared with Musyoki and Kadubo, (2012) average
loan growth rate ratio (LGR) of 0.210. This shows that rate at which the loans grew from one period to another was high but at a slightly lower rate.

Loan Loss Provision had a mean value of 0.214 with minimum and maximum values of 0.17 and 0.29 respectively. The Loan Loss Provision (LLP) standard deviation of 0.000 indicates no dispersions of loan loss provision from its mean for the commercial banks in Kenya. The Loan Loss Provision (LLP), which is expressed by amount of loan provision to total loans ratio, was 0.010 which was lower than of Wanjohi (2013) average of 0.020. The results show that 1% loan loss provision is used to cover the losses, which arise out of the unrecoverable borrowings.

4.3 Diagnostic Tests
This segment presents test results for the following diagnostic tests; Multicollineality test, auto correlation tests and normality tests.

4.3.1 Multi Collinearity Tests
In order to ensure that the data does not suffer from multicollinearity, the study used the Variance Inflation Factor (VIF) and the Tolerance test.

<table>
<thead>
<tr>
<th>Model</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>1 Asset_Quality</td>
<td>.337</td>
</tr>
<tr>
<td>Insider_Lending</td>
<td>.744</td>
</tr>
<tr>
<td>Loan_Growth</td>
<td>.280</td>
</tr>
<tr>
<td>Loan_Loss_Provision</td>
<td>.965</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA

*Source: Researcher (2019)*
Table 4.2 indicates that VIF for Asset Quality 2.971 and tolerance of 0.337 Insider Lending had VIF of 1.344 and tolerance of 0.744; Loan Growth Rate had VIF of 3.573 and tolerance of 0.28, while Loan Loss Provision had VIF of 1.036 and tolerance of 0.965. The VIF is less than 10 a tolerance of more than 0.1 therefore no multi-collinearity (Field, 2009).

### 4.3.2 Autocorrelation tests

The study used Durbin-Watson test to test for autocorrelation in the data and the results are presented in table 4.5 and table 4.6, the results of the model summary show that, the DW test value for ROA and ROE 2.205 and 2.504 respectively which was between the two critical values 1.5 and 2.5 These findings implied that there was no first order autocorrelation. It is should be noted that as a rule, a descriptive study expects to establish auto correlated findings. This is because autocorrelation is a measure of dependence among the independent variables that influence the values of the dependent variables.

### 4.3.3 Normality Tests

The research used Jarque-Berra’s statistics to test for normlity. The results of JB statistics expects a zero value for a normal distribution. (Guajarati, 2007).

#### Table 4.3 Normality tests

<table>
<thead>
<tr>
<th>Statistic</th>
<th>N</th>
<th>Skewness Statistic</th>
<th>Std. Error</th>
<th>Kurtosis Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset_Quality</td>
<td>9</td>
<td>.405</td>
<td>.717</td>
<td>-1.499</td>
<td>1.400</td>
</tr>
<tr>
<td>Insider_Lending</td>
<td>9</td>
<td>.087</td>
<td>.717</td>
<td>-1.306</td>
<td>1.400</td>
</tr>
<tr>
<td>Loan_Growth</td>
<td>9</td>
<td>-.571</td>
<td>.717</td>
<td>.620</td>
<td>1.400</td>
</tr>
<tr>
<td>Loan_Loss_Provision</td>
<td>9</td>
<td>.955</td>
<td>.717</td>
<td>.290</td>
<td>1.400</td>
</tr>
<tr>
<td>ROA</td>
<td>9</td>
<td>.167</td>
<td>.717</td>
<td>-1.201</td>
<td>1.400</td>
</tr>
<tr>
<td>ROE</td>
<td>9</td>
<td>-.369</td>
<td>.717</td>
<td>-.619</td>
<td>1.400</td>
</tr>
</tbody>
</table>

*Source: Researcher (2019)*
As indicated in Table 4.4, JB statistics values were: Return on assets (skewedness 0.167, kurtosis –1.201), Return on Equity (skewedness -0.369, kurtosis –0.619,) Asset Quality (skewedness 0.405, kurtosis -0.499), Insider Lending (skewedness 0.087, kurtosis –1.306), Loan Growth Rate (skewedness -0.571, kurtosis 0.620) and Loan Loss Provision (skewedness 0.955, kurtosis 0.290). for a normal distribution Kurtosis and skewness is between +2 and -2 according to (Kothari, 2004) from the results JB is between the acceptable range and therefore data is normally distributed.

4.3.4 Heteroscedasticity Tests

The study tested for Panel level heteroskedasticity as showed in table 4.8 regression coefficients the obtained sig for asset quality variable of 0.064, insider lending variable of 0.216, loan growth rate variable of 0.122 and loan loss provision variable of 0.204 meaning that the values were greater than 0.05 therefore it was concluded that there was no problem of heteroskedasticity.

4.4 Regression Analysis

Results of Model summary, Analysis of Variance and regression coefficients results are shown below,

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.965a</td>
<td>.932</td>
<td>.864</td>
<td>.01190</td>
<td>2.493</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Loan_Loss_Provision, Asset_Quality, Insider_Lending, Loan_Growth
b. Dependent Variable: ROE

Source: Researcher (2019)
From results of Table 4.4, the adjusted $R^2$ is 0.864 with the coefficient of determinant $R$ square of 0.932 this shows that independent variables that were studied explain 93.2% of the of the dependent variable, return of equity. Thus, other factors other than asset quality, insider lending, loan growth rate and loan loss provision influence performance of commercial banks by 6.8%.

**Table 4.5 Model summary with ROA**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.802$^a$</td>
<td>.643</td>
<td>.286</td>
<td>.00641</td>
<td>2.524</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Loan_Loss_Provision, Asset_Quality, Insider_Lending, Loan_Growth
b. Dependent Variable: ROA

*Source: Researcher (2019)*

From the table 4.5, the findings shows that the adjusted $R$ square of our model is 0.286 with the $R$ square of .0643 this means that the linear regression independent variables that were studied explains 64.3 % of the variation of the dependent variable, return on asset. Thus, other factors other than asset quality, insider lending, loan growth rate and loan loss provision influence performance of commercial banks by 35.7%.

**Table 4.6 ANOVA with ROE**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.008</td>
<td>4</td>
<td>.002</td>
<td>13.668</td>
<td>.013$^b$</td>
</tr>
<tr>
<td>Residual</td>
<td>.001</td>
<td>4</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.008</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROE
b. Predictors: (Constant), Loan_Loss_Provision, Asset_Quality, Insider_Lending, Loan_Growth

*Source: Researcher (2019)*

37
The results ANOVA Table 4.6 above, indicate that the model overall was a good fit. This is an indication that asset quality, Insider lending, loan growth rate and loan loss provision, are suitable predictors of performance. This was reinforced by a reported p value of (0.013) which was less than 0.05. The F-test from the above table (F=13.668) is significant this shows that the model predicts the dependent variable of return to equity very well.

Table 4.7 ANOVA with ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.000</td>
<td>4</td>
<td>.000</td>
<td>1.801</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.000</td>
<td>4</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.000</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA
b. Predictors: (Constant), Loan_Loss_Provision, Asset_Quality, Insider_Lending, Loan_Growth

Source: Researcher (2019)

The F-test from the above table 4.7 of 1.801 is too low and thus does not significantly explain a significant amount of variation in the dependent variable. The p-value (sig) of 0.291 is far greater than 0.05, which shows the model does not predict the dependent variable return on asset very well. This is an indication that asset quality, Insider lending, loan growth rate and loan loss provision, as independent variables are not suitable predictors of dependent variable return on assets.
Table 4.8 Regression Coefficients with ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.200</td>
<td>.056</td>
<td>3.602</td>
</tr>
<tr>
<td>Asset_Quality</td>
<td>-1.233</td>
<td>.405</td>
<td>-.685</td>
<td>-3.042</td>
</tr>
<tr>
<td>Insider_Lending</td>
<td>1.803</td>
<td>.837</td>
<td>.326</td>
<td>2.154</td>
</tr>
<tr>
<td>Loan_Growth</td>
<td>.043</td>
<td>.068</td>
<td>.156</td>
<td>.634</td>
</tr>
<tr>
<td>Loan_Loss_Provision</td>
<td>.210</td>
<td>.111</td>
<td>.251</td>
<td>1.886</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROE

Source: Researcher (2019)

The results are,

\[ Y = 0.2 - 1.233 + 1.803X2 + 0.043X3 +0.210 X4 \]

Where \( Y \) = financial performance, \( X1 = \)asset Quality, \( X2 = \)Insider Lending, \( X3 = \) Loan growth, \( X4 = \) Loan Loss Provision.

From the above regression equation, holding Asset Quality, Insider Lending, Loan Growth Rate and Loan Loss provision to a constant zero, banking performance would be 0.2. A unit increase in asset quality would be -1.233, insider lending would result to 1.803, loan growth rate would result to 0.043 and increase on loan loss provision would result to 0.210.

4.4.1 Asset quality and return on equity of commercial bank’s in Kenya

With regards with hypothesis \( H_0 \), the regression results presented in table 4.8 show that at 5 percent level of significance the beta coefficient for asset quality was (-1.233 ) with a p-value (0.03 ) which was less than 0.05 .Therefore, the finding show that Asset Quality had a negative significant effect on performance of commercial banks. Thus, we reject the hypothesis that asset quality has no significant effect on performance of commercial banks.
This is consistent with the study done by Macharia (2012) who found a significant negative relationship between the asset quality (non-performing loans) and bank performance. By rejecting the null hypothesis, the study establishes that the credit risk, asset quality has significant effect on performance of commercial banks in Kenya.

4.4.2 Insider lending and return on equity of commercial bank’s in Kenya

With regards with hypothesis H02 Insider Lending had a positive beta (1.803) and P value (p=0.097) which more than 0.05 level of significance as shown in table 4.8. Therefore, Insider Lending does not affect performance of commercial banks. Thus, the hypothesis H02 was accepted. This is contraly to Anjili (2014) who in his study effect of credit risk management who found out that insider lending an effect on bank performance.

4.4.3 Loan Growth Rate and return on equity of commercial bank’s in Kenya

With regards with hypothesis H03, at 5 percent level of significance, loan growth rate had a positive beta (0.043) and a p value of (0.561) this shows that there was no significant effect of loan growth rate on performance of commercial banks. Therefore, Hypothesis that loan growth rate does not affect bank performance was accepted. The results are consistent to that of Ogilo, (2012) who found out that loan growth rate had no statistical significance on performance of commercial banks in Kenya.

4.4.4 Provision for Loan losses and return on equity of commercial bank’s in Kenya

With regards with hypothesis H04, The regression results from Table 4.8 indicates that loan loss provision had a positive beta (0.210) and a value (p=0.132) which was more than 0.05. Thus, the hypothesis that loan loss provision does not have an significant effect on the
performance of commercial banks in Kenya was accepted since it falls within the acceptance level. Ugoani (2016) carried a research on loan loss provision and money banks profitability nexus in Nigeria. However, the implications of the findings of this study suggested that loan loss provision has a significant effect on performance of commercial banks in Nigeria.

**Table 4.9 Regression Coefficients with ROA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.034</td>
<td>.030</td>
<td>1.149</td>
</tr>
<tr>
<td>Asset_Quality</td>
<td>-.414</td>
<td>.218</td>
<td>-.977</td>
<td>-1.898</td>
</tr>
<tr>
<td>Insider_Lending</td>
<td>.277</td>
<td>.451</td>
<td>.213</td>
<td>.615</td>
</tr>
<tr>
<td>Loan_Growth</td>
<td>-.034</td>
<td>.037</td>
<td>-.526</td>
<td>-.932</td>
</tr>
<tr>
<td>Loan_Loss_Provision</td>
<td>.090</td>
<td>.060</td>
<td>.457</td>
<td>1.503</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ROA

*Source: Researcher (2019)*

From table 4.9 the results are,

**Y = 0.34 - 0.414X1 + 0.277X2 - 0.034X3 + 0.09X4**

From the above regression equation, holding Asset Quality, Insider Lending, Loan Growth Rate and Loan Loss provision to a constant zero, banking performance would be 0.34. A unit increase in asset quality would be -0.414, insider lending would result to 0.277, loan growth rate would result to 0.034 and increase on loan loss provision would result to 0.09 increase in credit risk and financial performance of commercial banks in Kenya.

**4.4.5 Asset quality and Return on Assets of commercial banks in Kenya**

With regards with hypothesis H01 The results from table 4.9 indicate that at 5 percent level of significance, asset quality had a p value of (0.0.131) This is more than the set value of 0.05
and a negative beta (-0.0977). Based on this result, therefore, hypothesis was accepted since it is within the acceptance region. This findings were consistent with that of Mbucho and Senaji (2015) found out that Asset Quality had no statistical significance on performance of commercial banks in Kenya.

4.4.6 Insider lending and Return on Assets of commercial banks in Kenya

With regards with hypothesis H02. From the results of table 4.9 the beta for insider lending was (0.277) and a p value of 0.572 and which was more than 0.05 significance and therefore it had no significant relationship with the performances of commercial banks with ROA. Therefore, Hypothesis the was accepted. This was contrary to Anjili (2014) in his study on the effect of credit risk management who found out that insider lending a relationship with bank performance.

4.4.7 Loan Growth Rate and return on assets of commercial bank’s, Kenya

With regards with hypothesis H03. The regression results from table 4.9 the beta for loan growth rate was (0.034) with a p value (0.404). These results indicate that at 5 percent level of significance, there was no significant effect of loan growth rate on performance of commercial banks. Based on this result, the Hypothesis was accepted since it is within the acceptance region. This result are consistent with that of Ogilo, (2012) who did a study on the impact of credit risk management on performance of commercial banks and found out that loan growth rate had no statistical significance on profitability of Kenya, commercial banks.
4.4.8 Provision for Loan losses and Return on Assets of commercial banks in Kenya

Lastly with regards with hypothesis $H_04$. From the results in Table 4.9, the beta for loan loss provision was (0.90) and a $p$ value of 0.207 which was greater than 0.05 therefore not significant. Thus, the study found a positive and insignificant relationship between Loan Loss Provision and financial performance in Kenya. Thus, the hypothesis was accepted since it falls within the acceptance level. This was consistent to study by Maigua and Gekara (2016) impact of Loan Loss Provision on the which found loan loss provisioning affected banks positively.
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter has a summary of findings as per the objectives of the research. Conclusions and recommendations are also discussed in this chapter. At the end, the suggestions for further studies are also made.

5.2 Summary of Findings

The main aim of this study was to establish the effect of credit risk on financial performance of commercial banks in Kenya. Although there are varied results from earlier studies carried out by different researchers in this area, this research found out that asset quality (nonperforming loans) had a negative relationship on performance of commercial bank’s in Kenya as measured with ROE but an insignificant effect relationship with ROA. Insider lending, loan growth rate and loan loss provisions did not have statistical significant effect on financial performance when measured with both ROE and ROA.

These results indicate that asset quality (nonperforming loans to total loans ratio) do explain the performance of commercial banks whereas, insider lending, loan growth rate and loan loss provision do not affect bank performance. Hence any policy put in place relating to asset quality (nonperforming loans) must have in mind the effect on bank performance unlike insider lending, loan growth rate and loan loss provision whose policy changes do not statistically affect bank performance
5.3 Conclusion

The study concludes that except for asset quality variable, which has a statistical significance on performance of Kenya commercial bank’s, the other variables have no impact on financial performance of banks. Although insider lending had a positive effect on financial performance of commercial bank’s, the level was statistically insignificant. Loan growth Rate affected the performance of commercial bank’s negatively, though the level of effect was statistically insignificant. On the other hand, loan loss provision had a positive effect on bank’s performance though the level of effect was statistically insignificant. Insider lending had a positive affect the performance of commercial banks nevertheless to a level, which is statistically insignificant. Hence, the study concludes that insider lending, loan growth rate and Loan loss provisions do not statistically affect performance (ROA and ROE) of commercial banks in Kenya. Therefore, from the study, there is no proposition that all the variables except asset quality will enhance the performance of commercial banks and that any adherence can guarantee performance improvement. The study concludes that poor asset quality will to lead to poor financial performance of commercial banks.

5.4 Recommendations

The results of this research have a suggestion that, policy makers in the financial sector need to analyze from the results of hypothesis i testing on determining the effect of asset quality on financial performance of commercial banks in Kenya, the study found that asset quality had significant effect on performance of commercial banks. The study recommends that management should check the level of nonperforming loans, especially on the control and monitoring of nonperforming loans since any change does affect the performance of the
bank. Hypothesis ii testing on establishing effects of insider lending on financial performance of commercial bank’s, Kenya this study found a statistically insignificant positive effect on bank financial performance and it recommends that management should be less concerned with loans issued to insiders since they do not affect their performance. Hypothesis iii testing on establishing the effect of loan growth rate on bank’s performance of in Kenya, although not statistically significant, recommends that management should keep a constant check on the level of loans advanced to borrowers. Lastly, hypothesis iv testing, loan loss provision does not have an effect on performance of commercial bank’s, Kenya this variable had no effect with bank performance calling for management and the regulator to rethink about its effect.

5.5 Suggestions for further studies

This research majored on assessing the effect of credit risk (asset quality, insider lending, loan growth rate and loan loss provision) on performance of commercial banks in Kenya. Thus, this study suggests another study be carried out with predictor variables being different from the ones considered in this study. In addition, this study used secondary data and to this end, the study recommends a different study be carried out to agree or disagree the results of this study using primary data collection from the commercial banks.
REFERENCES


Bessis, J. (2002); Risk Management in Banking, 2nd Ed John Wiley & Sons, Chichester, United Kingdom


Kargi, H. S. (2011). *Credit Risk and the Performance of Nigerian Banks*. Ahmadu Bello University, Zaria


APPENDICES

APPENDIX A: LETTER OF INTRODUCTION

TO WHOM IT MAY CONCERN,

Am a Student at Kenyatta University undertaking a Master degree in Business Administration carrying out research titled “Credit Risk and Financial Performance of commercial banks in Kenya” am seeking your authority to gather information about the topic from your organization. I assure you that the information gathered will not be misused and will be kept concealed. This information will be used for academic purposes only. Thank you for your consideration and time.

Yours sincerely,

Signature

Cecilia Mueni Mbaluto
Kenyatta University.
APPENDIX. B: Secondary data collection form

Part 1: Performance Measurement

a) Return On Asset (ROA)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Net Income;</td>
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<tr>
<td>Total Assets;</td>
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<tr>
<td>ROA = Net income/Total assets</td>
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</tbody>
</table>

b) Return On Equity (ROE)

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</thead>
<tbody>
<tr>
<td>Net Income;</td>
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<td></td>
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<tr>
<td>Total Equity;</td>
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</tr>
<tr>
<td>(ROE) = Net income /Total equity</td>
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</tbody>
</table>

Part 2: Credit Risk

a) Asset Quality

<table>
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</thead>
<tbody>
<tr>
<td>Gross NPL’s</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>Total Loans</td>
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<td></td>
</tr>
<tr>
<td>Asset quality = Gross NPL’s /Total Loans</td>
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<td></td>
</tr>
</tbody>
</table>

b) Insider Lending
<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Insider loans and advances</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insider Lending = Insider Loans and advances / Total Loans</td>
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</tbody>
</table>

c) Loan Growth Rate

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Previous year Loans (PTL)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current year loans (CTL)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan growth rate (LGR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>= (Previous year Loans - Total Customer Deposits) / Previous year Loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

d) Provision for Loan Losses

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan loss provisions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Performing Loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provision For Loan Loss = Provision for Loan losses Loans / Total Non-Performing Loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## APPENDIX C: Input Data Return on Equity

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ROE</th>
<th>Asset quality</th>
<th>Insider Lending</th>
<th>Loan Growth Rate</th>
<th>Provision for Loan Losses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>0.27</td>
<td>0.09</td>
<td>0.05</td>
<td>0.00</td>
<td>0.22</td>
</tr>
<tr>
<td>2009</td>
<td>0.25</td>
<td>0.08</td>
<td>0.06</td>
<td>0.13</td>
<td>0.17</td>
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<tr>
<td>2010</td>
<td>0.28</td>
<td>0.06</td>
<td>0.06</td>
<td>0.24</td>
<td>0.19</td>
</tr>
<tr>
<td>2011</td>
<td>0.31</td>
<td>0.04</td>
<td>0.06</td>
<td>0.32</td>
<td>0.23</td>
</tr>
<tr>
<td>2012</td>
<td>0.30</td>
<td>0.05</td>
<td>0.05</td>
<td>0.12</td>
<td>0.25</td>
</tr>
<tr>
<td>2013</td>
<td>0.29</td>
<td>0.05</td>
<td>0.05</td>
<td>0.18</td>
<td>0.19</td>
</tr>
<tr>
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<td>0.27</td>
<td>0.05</td>
<td>0.05</td>
<td>0.23</td>
<td>0.19</td>
</tr>
<tr>
<td>2015</td>
<td>0.24</td>
<td>0.07</td>
<td>0.04</td>
<td>0.11</td>
<td>0.23</td>
</tr>
<tr>
<td>2016</td>
<td>0.25</td>
<td>0.09</td>
<td>0.05</td>
<td>0.04</td>
<td>0.29</td>
</tr>
<tr>
<td>2017</td>
<td>0.21</td>
<td>0.09</td>
<td>0.05</td>
<td>-0.08</td>
<td>0.19</td>
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APPENDIX. D: Input Data Return on Asset

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ROA</th>
<th>Asset quality</th>
<th>Insider Lending</th>
<th>Loan Growth Rate</th>
<th>Provision for Loan Losses</th>
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</thead>
<tbody>
<tr>
<td>2008</td>
<td>0.03</td>
<td>0.09</td>
<td>0.05</td>
<td>0.00</td>
<td>0.22</td>
</tr>
<tr>
<td>2009</td>
<td>0.03</td>
<td>0.08</td>
<td>0.06</td>
<td>0.13</td>
<td>0.17</td>
</tr>
<tr>
<td>2010</td>
<td>0.04</td>
<td>0.06</td>
<td>0.06</td>
<td>0.24</td>
<td>0.19</td>
</tr>
<tr>
<td>2011</td>
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<td>0.04</td>
<td>0.06</td>
<td>0.32</td>
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<td>2012</td>
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<td>0.05</td>
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<td>2013</td>
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<td>0.05</td>
<td>0.05</td>
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<tr>
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<td>0.05</td>
<td>0.23</td>
<td>0.19</td>
</tr>
<tr>
<td>2015</td>
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<td>0.07</td>
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<td>0.23</td>
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<tr>
<td>2016</td>
<td>0.04</td>
<td>0.09</td>
<td>0.05</td>
<td>0.04</td>
<td>0.29</td>
</tr>
<tr>
<td>2017</td>
<td>0.03</td>
<td>0.09</td>
<td>0.05</td>
<td>-0.08</td>
<td>0.19</td>
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## APPENDIX E. Research Budget

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount (Kshs)</th>
</tr>
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<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Proposal writing costs</td>
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</tr>
<tr>
<td>Transport and communication costs</td>
<td>20,000</td>
</tr>
<tr>
<td>Typing &amp; Printing 60 pages @ 15/=</td>
<td>900</td>
</tr>
<tr>
<td>Photocopying 6 copies @ 5/=</td>
<td>1,800</td>
</tr>
<tr>
<td>Binding 2 copies @ 100/=</td>
<td>200</td>
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<tr>
<td>Others</td>
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<tr>
<td><strong>Sub Total</strong></td>
<td><strong>28,900</strong></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Estimated project costs</td>
<td></td>
</tr>
<tr>
<td>(a) Data collection and analysis costs</td>
<td></td>
</tr>
<tr>
<td>i. Travel costs</td>
<td>55,000</td>
</tr>
<tr>
<td>ii. Entry of data and analysis</td>
<td>22,000</td>
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<tr>
<td><strong>Sub Total</strong></td>
<td><strong>77,000</strong></td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>(b) Production and Documentation</td>
<td></td>
</tr>
<tr>
<td>i. Typing costs of 85 Pages @ 30/=</td>
<td>2,550</td>
</tr>
<tr>
<td>ii. Photocopying expenses5 Copies @ 5/=</td>
<td>2,125</td>
</tr>
<tr>
<td>iii. Binding costs 2 Copies @ 400</td>
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</tr>
<tr>
<td>iv. Others</td>
<td>5,000</td>
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<tr>
<td><strong>Sub Total</strong></td>
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<tr>
<td><strong>Grand Total</strong></td>
<td><strong>116,375</strong></td>
</tr>
</tbody>
</table>
APPENDIX. F: List of commercial bank’s Operating in Kenya (2017)

1. Bank Cooperative Bank Of Kenya
2. Bank: Equity Bank
3. Bank: Bank of India
4. Bank: BC Bank (Kenya)
5. Bank: Chase Bank
6. Bank: City Bank
7. Bank: Stanbic Bank
8. Bank: Commercial Bank of Africa(CBA)
9. Bank: Credit Bank
10. Bank: Development Bank Of Kenya
11. Bank: First Community Bank
12. Bank: Fidelity Commercial Bank ltd
13. Bank: Guardian Bank
15. Bank: Habib Bank AG Zurich
17. Bank: I & M bank
18. Bank: Jamii Bora Bank
20. Bank: Middle East Bank Kenya
22. Bank: Prime Bank
23. Bank: NIC Bank
24. Bank: Oriental Commercial Bank
25. Bank: Spire Bank
26. Bank: Paramount Universal Bank
27. Bank: Giro Commercial Bank
28. Bank: Sidian Bank
29. Bank: Standard Chartered Kenya
30. Bank: United Bank of Africa
31. Bank: Trans National Bank Kenya
32. Bank: Victoria Commercial Bank
33. Bank: Bank Of Africa
34. Bank: Bank Of Baroda
35. Bank: Barclays Bank Of Kenya
36. Bank: Consolidated Bank
37. Bank: Diamond Trust Bank
38. Bank: Ecobank Kenya
39. Bank: Family Bank
40. Bank: Habib Bank
41. Bank: Imperial Bank (in Receivership)
42. Bank: Dubai Bank