EFFECT OF CREDIT RISK MANAGEMENT ON THE PROFITABILITY OF COMMERCIAL BANKS IN KENYA

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DECLARATION

Declaration by Candidate

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

Signed…….

Date……

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Declaration by the supervisor

This project has been submitted for examination with the approval of the University.

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DEDICATION

I dedicate this project to my family who encouraged and supported me in finishing this work. To my parents special thanks for their continued prayers towards the successful completion of the course.

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LIST OF ABBREVIATION

ALCO	Asset Liability Committee
CA	Capital Adequacy
CAMEL	Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity
CAR	Capital Adequacy Ratio
CBK	Central Bank of Kenya
ES	Efficiency Structure theories
EU	European Union
GDP	Gross Domestic Product
ROA	Return on Asset
ROE	Return on Equity
SAP	Structural Adjustment Programs
SCP	Structure Conduct Performance
SR	Spread Ration

ABSTRACT

Banking is the key activity to economic development and this is due to the financial services that banks provide. Banks provide credit to the public who are therefore able to invest into productive activities to enhance economic growth and sustainability of the economy. Lending is the key activity in banking and therefore loans form the largest source of credit risk in banking. There is need to conduct a study to evaluate how the internal factors affect firm profitability. The purpose of this study was to examine the effect of credit risk management on the profitability of commercial banks in Kenya. The study adopted descriptive research design. The target population was 43 commercial banks. Secondary data was collected for 2012-2016. The collected data was analyzed using descriptive, correlation and regression analysis. The analyzed findings indicated an inverse significant relationship was established between asset quality and financial performance of commercial banks in Kenya ($r=-0.163$, $p=0.029<0.05$). The study established significant inverse relationship between liquidity and financial performance ($r=-0.288$, $p=0.000$). Size had a direct and significant relationship with financial performance of commercial banks ($r=0.280$, $p=0.000<0.05$). From regression analysis, the study revealed that capital adequacy had significant effect on financial performance of commercial banks $p=0.011<0.05$. There was a significant effect of liquidity on financial performance of commercial banks $p=0.000<0.05$. Bank size had significant influence on performance of commercial banks in Kenya $p=0.001<0.05$. From correlation analysis, liquidity ($r=-0.288$) was the most significant factor affecting financial performance followed by size ($r=0.280$). On the other hand, regression analysis indicated that capital adequacy (2%) had greatest significance on financial performance of commercial banks followed by liquidity (1.6%) and lastly bank size (1.1%). The study concluded thatthere was an inverse significant relationship between asset quality and financial performance of commercial banks in Kenya. There was a significant inverse relationship between liquidity and financial performance. Size had a direct and significant relationship with financial performance of commercial banks. The study recommends that top management of commercial banks in Kenya embrace the use of systems and automation in the credit decisioning process as opposed to just relying on the manual assessment process which mostly is subjective.They should increase liquidity of their banks through sound working capital management practices. The Central Bank of Kenya should formulate progressive policies and guidelines that regulate activities in the banking industry. Commercial banks in Kenya should invest in promotional activities that grow their revenue and income.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Banking is the key activity to economic development and this is due to the financial services that banks provide. They play an intermediary role and act as a catalyst for economic growth (Bocan,2011). Banks provide credit to the public who are therefore able to invest into productive activities to enhance economic growth and sustainability of the economy. Therefore performance of the banking industry determines the financial stability of a nation. These banks encounter various risks which affect their performance and stability. The main key goal of the bank managers is to maximize the wealth of the shareholders and this can only be achieved through assessing the risks affecting performance and providing the means on how to counter these risks.

Lending is the key activity in banking and therefore loans form the largest source of credit risk in banking. Most firms apply operating and financial ratios in determining the performance of their firms. Modern models have gained popularity this is noted when Sinkey (1975) came up with the Multiple Discriminant Analysis (MDA) model to test the mean differences between the problem banks and the non-problem banks. According to his study, asset composition, loan characteristics, capital adequacy, revenue sources and uses, efficiency and profitability formed the key discriminators between the two groups. Altman (1977) came up with the ZETA model, he applied discriminant analysis by utilizing a sample of bankrupt firms. This model utilized the financial statements and market related measures to compare the various companies.The result indicated a need to assess credit worthiness,portfolio

management and external and internal performance analysis.Different countries apply different models in assessing the financial soundness of financial institutions.In Kenya, the Central Bank(CBK) applies the CAMEL model in assessing the soundness of financial institutions (CBK 2010).Various studies have been done to assess the effectiveness of the Camel model and they generally conclude that available market information combined with the Camel ratings can be used to predict soundness of financial institutions.

One of the CBK's leading roles is to give licensesto financial institutions to give advance credit andtake deposits.A recent CBK report reveals that by 2015, the Kenyan banking sector comprised numerous key players. The CBK is the regulatory authority, which manages or oversees 43 banking institutions. Statistics reveal that 42 of these banking institutions were commercial banks while one was a mortgage finance corporation. The CBK (2014) report reveals that the majority of the banking institutions, approximately 40, belong to the private players. The Kenyan government has a majority ownership or financial shares in only three financial institutions. However, the CBK regulates and supervises all the financial institutions. Various Acts of parliament govern the Kenyan banking sector. For example, the Banking Act provides some rules that the CBK uses to oversee the banking sector in Kenya (Murerwa, 2015). Despite the existing challenges in the Kenya banking sector, the Kenyan commercial bank instutitions have formed a body referred to as the Kenya Bankers Association (CBK, 2013). Murerwa (2015) clarifies that this body or the Kenya Bankers Association lobbies for the interests of the commercial banks and solves the issues that affect the registered members in the country. The banking industry has undergone various changes in the recent past that poses serious risks for the banking sector. However, these changes have also presented productive opportunities (Saunders

& Marcia, 2007). The Kenyan banks are of no exception to these deregulations. With the current interest rate capping on loans, it is expected that banks will have to come up with ways of cutting down their costs. With proper credit risk practices, they should be able to cut down the cost on provisions due to non-performing loans. Handley-Schachler, Juleff and Paton (2007) notes, "These commercial banks offer the all-important services of providing deposit and credit facilities for corporate and personal customers, thus availing an easier access to credit and liquidity under extreme market conditions, and further enabling an easier access to the nation's payments systems." It is also noted that commercial banks are also the channels used to transmit "effective monetary policy of the central bank of the economy" (Siddiqui & Shoaib, 2011). Thus, it is considered that they also share the responsibility of stabilizing the economy of their country.

1.1.1 Credit Risk Management

Credit risk refers to the likelihood of a loss making to capital or earnings that come from a customer's failure to respect a contract. In other words, credit risk is the failure by an obligor to meet the requirements as agreed. In the banking context, credit risk is the likelihood or probability of a customer not repaying the borrowed money. However, the inability of a customer to meet the requirements may compel a bank to repossess personal assets and this will be a loss to the customer. According to the 1982 report by the Basel Committee on Banking Supervision, "Lending involves a number of risks such as funding, foreign exchange risk, interest rate risk and clearing risk." In 2006, the Basel Committee on Banking Supervision clarified that "historical experiences show that the credit risk concentration in assets portfolios" is the leading causes of banking problems.

Credit risk management involves the assessment of the probability of default through quality portfolio management. This involves assessing various risks, including country risk, political uncertainties, and market vulnerabilities before developing clear and effective credit policy guidelines that will be a bank's constant tool in portfolio management. The personnel responsible in managing the credit risk will adopt various risk response strategies to maintain the credit risk within a financial institution's level. The risk response strategies include the following:Accept the risk, Diversify, Mitigate and Transfer or avoid the risk.

A common approach to customer credit analysis and selection is bythe use of six C's of good credit analysis in screening the risk level. These Cs include Capacity, Capital, Character, Collateral, Conditions, and Control. Therefore, financial institutions should manage their credit risk to avoid losses due to high provisions. Banks have further embraced the use of the five C's of bad credit in their credit analysis and assessment. These "five C's of bad credit" include: Complacency, Communication, Carelessness, Contingencies and Competition.

The banks should not blindly rely on the risk modules since they only provide guidance but cannot substitute for sound judgement. It is, therefore, prudent to apply common sense always.Lymon and Carles(1978) define credit control as, "A decision making process which entails reduction losses both from costs of debt operation and bad debts and maximizing the credit sales' value at the same time."

1.1.2 Financial Performance

The Kenyan Commercial banks operate under risky and dynamic business environments. This banks are faced by many financial risks while delivering different financial service (Alloyo, 2010). There has been a substancial improvement in the

financial performance over thelast decade for the commercial banks. The ability of these banks to provide transaction efficiency, funding capability and market knowledge has greatly enhanced the growth and these banks' service delivery and growth (Mbole, (2004). They basically act as a principal in these transactions through undertaking the roles stated above .

The commercial banks therefore utilize their self-generated balance sheet in the facilitation of transactions and to curb the risks attributed to the transactions.Risk management is the systematic process where the firm explores and analyses the practices that might expose the firm to risks and thus put in place procedures that will mitigate the risks (Redja, 2008). Harvett (2013)further defines risk management as harmonious activities which practised to prevent risk from occuring. It can therefore be said from the above explanations that the risk management process includes identifying,measuring and administering the selected techniques and control. (Ayanda, 2013) defines profitabilityas the consistence with which the business organization is able to attain reasonable profits anually".

Further, according to Podder (2012) defined bank profitability as the efficiency of a bank at generating earnings". Apart from ensuring that the commercial banks operations are sustainable, profitability also has a wider impact on the country's economy.The financial performance of commercial banks can be measured by analysing the income statements by ratio analysis with the aim of looking at present performance, past and future expected performance. Profitability ratios are commonly applied where the use of Retun on Equity (ROE) which is an indicator of a bank's profitability and growth and ROA (Return on Asset) are measured to establish the variances. However, the two ratios do not include any risk adjustment making it

difficult in conducting comparison among the borrowers (Bessis, 2005).The approach assumes the CAMEL model measures profitability by analysing availability of capital, quality of assets, quality of management, and liquidity. Research shows that the Central Bank uses a similar approach to assess the soundness of financial institution (CBK, 2010).

Various researchers such as Ngare, (2008); Waweru and Kalani, (2009); and Buchan (2011) further clarify on the need for customers to handle risk management as a delicate matter. The objectives of an organisation can only be met through laying of appropriate risk strategies which enables the organisation to gain effectiveness which undertaking activities such as protection of earnings against fluctuations, reduction in the volatilities of cash flow and reduction of foreign exchange losses (Chapman and Ward(2010) and to promote the survival of the firm through growth and profitability. According to Saunders (2005), the bankingbusiness is so sensitive in nature since more than 85% of their liability are accrued from the depositors' deposits.These depositsare utilized by banks to generate credit for their borrowers, which is essentially utilized by most banks to generate revenue. This process of credit creation exposes the banks to high default risk which could result in financialdistress including bankruptcy.

1.1.3 Credit Risk Managementand Commercial Bank's Performance

The level of the banks' profitability is a measureof financial performance of the bank since profitability increases the level of the bank's net assets. Warren & Buffett, (2005) describes profitability as the ability of the company to attain the highest returns from the owner's investment. Majorityof the organisations are basically established with the intention to earn profits.The company's overall performance and efficiency is indicated

by profitability ratios.Returns ratios indicate the ability of the firm to measure the overallfirm efficiencyin the generation of returns for the shareholders (Bessis, 2005).

Inadequate credit risk management is likely to lead a bank into bankruptcy. The credit risk management begins from the point of bringing the client on board through lending. At this point the lender should ensure the laid down acts and restrictions in regards to lending are followed. Proper KYC (know your customer) should be done to avoid financial losses due to fraudulent lending. The lender should factor in various factors as highlighted in the CAMPARI model: character of the borrower, ability to repay, margin of finance, purpose, amount being borrowed and nature of the business should support the same, repayment plan and the insurance or security for the borrowed amount. According to Hubbard (1997), "The profitability of the lending institutions is heavily dependent on its lending programs''.

Lending is the primary activity in all the financial institutions. The CBK 2010 report confirms, "Lending accounts for the highest revenue generation scheme for most of the funds that are commited to a financial institution by its depositors." Therefore, proper credit management policies and guidelines must be put in place to enhance the bank's profitability and prevent huge losses due to bad loan provisions.Extensive approaches have been put in place in managing the credit risk. The Basel committee on Banking Supervision adopted the Basel 1 Accord in 1988, followed by Basel 11 Accord in 2004 and recently the Basel 111 accord was put in place to counter the loopholes experienced in the previous Accords in dealing with credit risk during financial crisis (Jayadev, 2013: Ouamar, 2013).

1.1.4 Commercial Banks in Kenya

By the end of 2016, Kenya had more than40 financial institutions. The Imperial and Chase Banks were in bankruptcy or receivership. Other financial institutions in Kenya by the start of the 2017 include: 12 microfinance banks, 1 mortgage finance company, 86 foreign exchange bureaus, 8 representative offices of foreign banks, 14 money remittance providers, 3 public local banks with public shareholding and 3 credit reference bureaus.

All the financial institutions listed above are under the control of the CBK.There has been high volatility in the banking sector in the recent past seeing Giro bank and the Equatorial Commercial Bank being acquired. Furthermore, Fidelity Bank buyout by a Mauritian firm SBM Holdings also demonstrates the unpredictability in the banking sector. With the new Banking (Amendment) Act 2016 in Kenya, banks will not enjoy the huge spread between the interest charged on loans and the interest paid on a deposit held in an interest earning account. Banks have therefore embraced strict credit risk tools through diversifying their lending portfolios to low risk arears like lending to the government as opposed to small and medium-based entities.

The study will aim at finding the impact of credit risk management on the finanancial performance of commercial banks in Kenya. It will also seek to link theexisting relationship between credit risk management determinants and the CAMEL indicators, which also uses financial performance of commercial banks in Kenya. The research will mainly use secondary data which was gotten from the CBK publications. A descriptive research design will be applied and the data analysis will be done through the multiple regression analysis model.

1.2 Research Problem

The understanding of the main determinants of financial performance of the commercial banks is vital in two ways. Firstly, it helps in the management of the banking sector. Secondly, the determinants of financial performance are also important to other stakeholder, including the government, the Central Bank, the banker's association, and financial authorities in Kenya (Ayele, 2012:Murerwa, 2015). Numerous researchers have undertaken studies to establish the influence or effect of the performance of commercial banks and credit risk management. For example, a 2009study by Muasyaexamined "the effect of non-performing loans on the performance of the banking sector in Kenya."Muasya (2009) ascertained that "non-performing loans" have no influence on the commercial banks, particularly in Kenya. Another recent study conducted by Oretha (2012) tried to establish the relationship between the "financial performance of commercial banks in Liberia and credit risk management." The study confirmed that "practices in credit management and the financial health of commercial banks in Liberia" correlate positively (Oretha, 2012). It is important to clarify that Oretha (2012) study applied the "Return on Asset" to evaluate the "financial performance" of the Liberia banks.

A 2013 study by Ogboi and Unuafeassessed the impact of capital adequacy and "credit risk on the financial performance of the Nigerian banks." The study established "that there is a positive correlation between capital adequacy and credit risk and financial performance" (Ogboi&Unuafe, 2013).Muthee (2010) undertook a study to ascertain the "relationship between commercial bank profitability and credit risk management in Kenya." The study or results confirmed that the "credit risk management and commercial bank profits have a positive relationship" (Muthee, 2010). Therefore, there

is need to conduct a study to evaluate how the internal factors affect firm profitability. The study utilized the CAMEL approach to check the extent to which Asset Quality affects the financial health of commercial banks in Kenya.Therefore the study sought to answer the questin: What is the effect of credit risk management on commercial banks' profitability.

1.3 Research Objective

To examine the effect of credit risk management on the profitability of commercial banks in Kenya.

1.4 Value of the Research or Study

This researcher study sought to provide critical insights to the bank officers or bank management on the crucial areas of credit risk management and preventive measures to be put in place to ensure quality asset portfolio and profitability in banks. It would be of help to the regulators and policy makers like the Central Bank of Kenya in coming up with favourable policies that would enhance growth and profitability in the banking sector. It would also be of help to the academicians, as it will act as a guide for further studies.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This part presents the background on theories and reviews the literatures that is related to commercial banks profitd and its key determinants. The chapter also reviews and appreciate work done by other researchers through the review of the empirical studies.

2.2Theoretical Review

Researchers use theories to understand, predict, and explain a phenomenon. In numerous instances, scholars use theories to challenge or extent the available knowledge. A theory comprises of concepts and their explanations or definitions (Torraco, 2011). According to Martens (1998), “The theoretic of a study relates to thephilosophical basis on which the research takes place.”He explains, “A theory forms the link between the philosophical aspect and the practical component of the investigation undertaken” (Martens, 1998). Therefore, the hypotheticalstructure influences all the decisions or actions a researcher makes.

2.2.1 Camels Rating Assessment Theory

A bank’s performance is affected by external factors like inflation, interest rates, political instability, and other macroeconomic factors. The Camel Model which was originally developed in the U.S. is critical in assessing or measuring particular variables or internal elements which have an effect on banks profits. Moreover, it is important to take note that internal factors differ from bank to bank. Moreover, banks can easily manipulate these factors. The Camel Model represents different factors that comprise:

The quality of assets, Liquidity, The available capital, Earning ability and The quality of management. In 1995 the ratio-based model was adjusted to CAMELS to include Sensitivity to the market risks by the U.S. Federal Reserve. This model evaluates:Performance of a bank, Financial safety of a bank and Soundness of a bank

The ratio-based assesses banks on the scale of one (strongest) to five (weakest). Banks that score the rating of four and below score the below average mark, therefore, require constant monitoring. The internal factors to assess include: The size of the bank, Capital size, The effectiveness of management, Labour productivity, Risk level, The composition of credit portfolio and State of information technology

$$ROA = \beta 0 + \beta 1\ CAR + \beta 2\ ASQ + \beta 3\ EFT + \beta 4\ LQR + \beta 5 INF + \beta 6\ GDP + \mu$$ (Lim et al 2015).

2.2.2 Agency Theory

This theory scrutinizes the relationship that exists between the managers and owners of the firm or company. The theory was developed in 1970s by Stephen A. and Barry Mitnizk. According to this theory, managers are hired and given agency position with powers to make decisions for the best interest all the stakeholders and shareholders. However, conflicts arise when the agency managers use their positions to advance their interests. The other problem that normally arise is the principals and the agents develop different attitudes towards risk and hence the risk has to be shared between the principal and the agent. There is, therefore, need to ensure that they are harmony between the actions of the principal and those of the agent (Eisenhardt, 1989). Without proper credit risk management policies within the banks, senior bank officials and directors may use their positions to enrich themselves at the expense of the shareholders. It is usually

achieved through the insider lending and fraudulent lending which can lead to massive losses.

2.2.3 The Efficiency Structure Theory

X-efficiency theory postulates that companies that are more profitable have lower operational costsLeibenstein, (1966). Therefore, for a given firm to be more profitable, its operating expenses have to be low. This approach emphasizes the economy of scales and not production technology or management of companies. Large Corporations that have lower production cost per unit reap higher profits and are able to acquire a significant market share that manifests itself through market penetration and concentration. According to this theory, banks earn higher profits when their operational methods are efficiently improved and updated to counter any emerging operational challenges. Banks that have acquired superior technologies and are staffed with superb managers can lower their operational costs, hence, their profitability is enhanced (Otieno, 2015).

2.2.4 The Signalling Theory

This theory is used to describe the behaviour of two entities or parties (organizations or individuals) that have access different information or data. The sender of the information chooses on how and when to communicate (or signal) the information to the receiver. The receiver is also at liberty to choose on how the received signal should be interpreted. According to AremuEkpo and Mustapha (2013), the signal theory explains why the correlation between the banks profitability and capital adequacy is positive. It is also evidenced under liquidity management. Banks which portray liquidity challenges face high risk of closure to the panic signal which they portray to the market.

2.2.5 Economies of Scale Theory (1974)

The theory explains the cost advantage that emanates from the increased production output. In the economies of scale, the cost of producing one unit of the product is reduced because of improved operational efficiency and management. The theory explains why the correlation between the proditability and bank size is positive. Banks that are large and benefits from economies of scale and this can increase the profit margins through reduction of cost gathering and information processing (Bashir, 1999).

2.3 Empirical Studies

Numerous researches have explored on the impact of credit risk managementon the improvement financial performance and the contribution of efficient and effective credit risk management practicesin the reduction of chances of failure and the attainment of justifiable level of financial performance. Nearly all these studies concur that a significant positive association exists between appropriate credit riskmanagement practices and the profitability of the bank while some hold the notion that a negative association exist between them as discussed below.

A study by Hakim and Neaime (2001) explored on the impact ofcredit, liquidity and capital on the financial bankperformance in Lebanon and Egypt; noted that these banks had put in place sound risk management strategies as an intergral part of their rules and laws.HosnaJuanjuan and Manzura (2009) noted that the influence of Non Performing Loans (NPLs)on the profitability which is measured in terms of Return on Equity (ROE) above a set standard of capital adequacy ratio, and that different banks experienced affected by profitability to different extents.

Anothe study by Njanike (2009) noted; financial crisis, banking cisis and inadequate measures to curb risks to commonly occur due to lack of effective credit risk management strategies.According to Kithinji (2010), a larger sum of the profits of the bank was affected by other variablesother than nonperforming loans and credit.Gitonga and Aduda (2011) noted credit risk has a significant effect on profitability of a firm

Ogboi and Unuafe (2013) did an investigation to establish on "the effect of Credit Management on Financial Performance of Banks in Nigeria." The researchers established the relationship between ROA and credit risk indicators such as nonperforming loans, advances and loans, and provisions for a loan loss was negative. The findings of the study pointed towards a higher economic performance for the Nigerian Commercial Banks in Nigeria due to strict polices for credit risk management.

Muasya (2009), investigated on "the effect of non-performing loans on the performance of Kenya's Banking system" amid global economic crunches. The findings affirmed that Commercial Banks in Kenya were affected by non-performing loans. Additionally, Wanjira (2010) examined "the relationship between management practices for non-performing loans and fiscal performance for Kenyan Commercial Banks." Conclusions from the research indicated that there was need for Commercial Banks in Kenya need adopt management practices for non-performing loans. Furthermore, the research found a positive relationship in terms of management practices for the NPLs and the financial performance of the commercial banks in Kenya. Therefore, the implication of the study is that there is an improvement on the financial performance of the commercial banks in Kenya due to the implementation of the management practices for non-performing loans.

The findings and analysis from Muthee (2010) study indicated that profitability was highly affected with Credit Risk Management in regard to all the Commercial Banks that the research analyzed. The purpose of the study was to establish, "the relationship between Credit Risk Management and profitability in Commercial Banks in Kenya". The regression analysis was used for the study to establish the relationship between NPLR and ROE. The research by Mutua (2014) explored "the impact of Credit Risk Management on the Financial Performance of Commercial Banks in Kenya." According to the study, majority of the respondents (64%) were of the opinion that the financial performance practices in commercial banks was highly influenced by non-performing loans.

Opondo (2014) researched on "the effects of Credit Risk Management on the Financial Performance of Commercial Banks in Kenya." The research employed the regression analysis, it established a positive of 0.00982604 for the coefficient of credit risk. Credit Risk had a positive impact on the financial performance of commercial banks.

Zewude (2011) investigated "Credit Risk Management and the Profitability of Commercial Banks in Ethiopia." The research concentrated on theseven main commercial banks in Ethipia and it made use of multiple regression model with two independent and one dependent variable. The CAR and NPL ratio were used as the independent variables whereas the dependent variable used the ROE. The study indicated that both capital adequacy ratio and nonperforming loan ratio have a negative effect on the Profitability of Commercial Banks in Ethiopia. The non-performing loan ratio had a negative impact level which essentially means an increase for a single unit in non-performing loan ratio resulted to (0.594077) profitability decrease for

commercial banks in Ethiopia. The profitability of Commercial Banks in Ethiopia also decreased by 0.831816 with a single unit increase in capital adequacy ratio.

Oretha (2012) carried out a study on "the relationship between Credit Risk Management practices and Financial Performance of Commercial Banks in Liberia." The main objective of the research was to understand the relations that credit risk management practices has on financial performance. In this study ROA was used to measure the level of financial performance for the firm. The findings show that the credit risk management practices had a positive relationship with the financial performance of Liberia's commercial banks.

2.4 Determinants of Bank Performance

Bank performance is determined by both external factors and internal factors. The external factors are commonly knwon as the macroeconomic factors and includes inflation, change in interest rates and political influences are usually beyond the management control. We will discuss the internal factors as highlighted under the CAMEL model.

2.4.1 Capital Adequacy

One of the prudential guidelines stipulated by the banking act is that any licensed financial institution has to have adequate capital. This guideline was created for the sole purpose of ensuring that financial institutions maintain a capital sufficient to protect both the creditors and depositors. The guideline not only promotes public confidence but also counter risks that are associated with the profile and activities of the institution. According to prudential guideline of CBK 2013:The minimum required capital (MRC) of an institution is calculated by the division of the core and the total capital sum value

fo its risk-weighted assets for the risks, included the credit, market and operational risks. It generates the minimum Tier One and Regulatory capital adequacy ratios in that order. Unless the CBK has set a higher minimum ratio for an individual financial institution, all financial institutions are required at all times to maintain a core capital that is 8% and no less of its (total risk-weighted + risk weighted off-balance sheet items). Also, the institutions are required to maintain a core capital that that is 8% and no less of its (total deposited liabilities and total capital that is 12% and nothing less of its total weighted assets + risks weighted off-balance sheet items). Apart from these capital adequacy ratios of 8% and 12%, the banking act also requires that institutions have to hold a 2.5 % capital conservation buffer that is over and above the minimum ratios. This enables institutions to withstand distress periods.

Mortgage finance and banks require a minimum core capital of one billion Kenyan shillings. Other financial institutions require a minimum core capital of two hundred million Kenyan shillings. The aim of this is that any bank or other financial institutions that fail to comply with requirements of capital adequacy may eventually suffer significant financial losses as a result of public panic that leads to both financial and reputational losses.

2.4.2 Asset Quality Maintenance

According to the CBK Prudential Guideline (2013); Prudential guideline number four that deals with classification of Asset and provisioning risks, all financial institutions have to regularly evaluate their asset book to ensure adequate provisions and write off to provide an actual reflection of the correct financial position of an organization. According to the CBK Prudential Guideline loans should be classified into five categories: Normal, Watch, Sub-standard, Doubtful and Loss. Loans in the Loss, Sub-

standard and Doubtful categories are considered to be Non-Performing. According to CBK guidelines, banks and other financial institutions are required to stop accruing interest on all loans classified as nonperforming. According to CBK Prudential Guidelines, there is a minimum percentage amount of provisioning to be maintained according to the assigned classification: Normal 1%, Watch 3%, Substandard 20%, Doubtful 100% and Loss 100%. These provisions are enormous costs to the banks, and proper credit management tools should be put in place to prevent the provisions which impact negatively to the bank's profitability. Financial institutions suffer significant losses when their loan portfolio become impaired this is due to the massive loan provisions done to cater for the credit risk involved.

2.4.3 Cost Efficiency

The banking sector in Kenya has experienced various challenges: With the interest rate capping in September 2016, collapse of banks, high provisions due to bad loans and scandalous transactions which have dented the public confidence in the banking industry. These actions led to the restructuring of the banking sector which has made many employees to be declared redundant due to the adoption of technology to cut down on costs. High operational costs affect the bank's profitability since cost efficiency is measured as a ratio: operating expenses to assets. This is because bank management can directly influence the operating expenses. Improved cost management will result in increased profitability. According to Otieno, (2013) coefficient of income-cost ratio or cost efficiency is negative -0.145 and is very significant and therefore expense management is a key determinant of bank profitability in Kenya.

2.4.4 Liquidity Management

An institution is liquid if it is able to fund, buy and increase its assets and meet its obligation without incurring unnecessary losses. To prudently manage its business operation, institutions are required to have sufficient assets that can fund claims. Prudential Guidelines of CBK 2013 set the minimum liquidity ratio. However, it is essential to note that this liquidity ratio my change from time as may be determined by the CBK. Institutions are required by the current guidelines to maintain a 20% statutory minimum of their short-term, matured, and deposit liabilities in their liquid assets. Management of Liquidity should address a number of factors: strategy of liquidity management has to address long term approach of an institution to management of mismatched positions and liquidity, management structure and information system should be quantifiable, allow monitoring and reporting of liquidity requirements. The second factor is measurement and monitoring of net funding requirements: Institutions are required to have capabilities, mechanisms or processes that can be used to assess the inflow and outflow of cash and potential pitfalls if any. Institutions can effectively manage their liquidity by establishing Asset Liability Committee (ALCO). Liquidity will adversely affect the profitability of a bank since lack of solvency may shut down a company overtime, but lack of liquidity may shut down a company overnight. This is due to loss of confidence and panic by the public which eventually causes reputational loss and with the current advanced technology on use of social media bad information cannot be controlled. With the panic, clients will transfer their deposits to other banks affecting liquidity further, and this will eventually cause an institution to shut down since cash is king and you cannot operate without it.

2.4.5 Bank Size

The size of the commercial bank or any other business entity in terms of the assets is a very significant determinant of profitability due to various issues. Commercial banks that have a large asset size are able to expand their operations geographically to regions where competition is not very high or to regions where the market is largely untapped. Such a move would increase the customer base of the bank in a significant manner and this would also lead to increased customer deposits (Goddard, et al., 2004) (Murerwa, 2015). Studies carried out in Europe by Staikouras& Wood (n.d) and in Saudi Arabia by Almazari (2013), found out that there is a likelihood of the growing bank size experiencing Diminishing Marginal Returns that later lead to average profits decreasing with size. Additionally, they indicated that there is no much importance on the information gained and power enforcement acquired from sizes in the case of large banks.

2.5 Summary of Literature Review

Many of these commercial banks have faced alot of challenges in the recent years for a variety of reasons including financial problems that are directly linked to the credit risk standards set for the borrowers who have low loan portfolio in terms fo risk management, or their lack of attention to monitor the economic changes and the high competitive market and climate. Generally, from almost all surveys reviewed in the literature, it is evident that for any institution to optimize its financial performance they must have in place a sound credit risk management practice. In addition, any organization that seeks to have an effective credit risk management would normally establish an appropriate credit risk environment under which they will be able to operate in a sound credit granting and management processes. The ideal credit administration involves the identification, analysis and monitoring process and also having control

systems over the risks that may arise from credit. The study aims at bridging the gap left by most of these studies whose conclusion was that banks profitability is mainly affected by internal factors; nevertheless, the performance is also affected by external factors. However, there is no consistency between profits margins and bank characteristics for various periods within the same country or across different countries. Therefore, the study aims to focus on investigating the determinant of profitability in Kenya's banking industry since research is needed in this area.

2.6Conceptual Framework

This is a diagram that draws the relationship between the dependent (profitability) and explanatory (internal factors) variables.

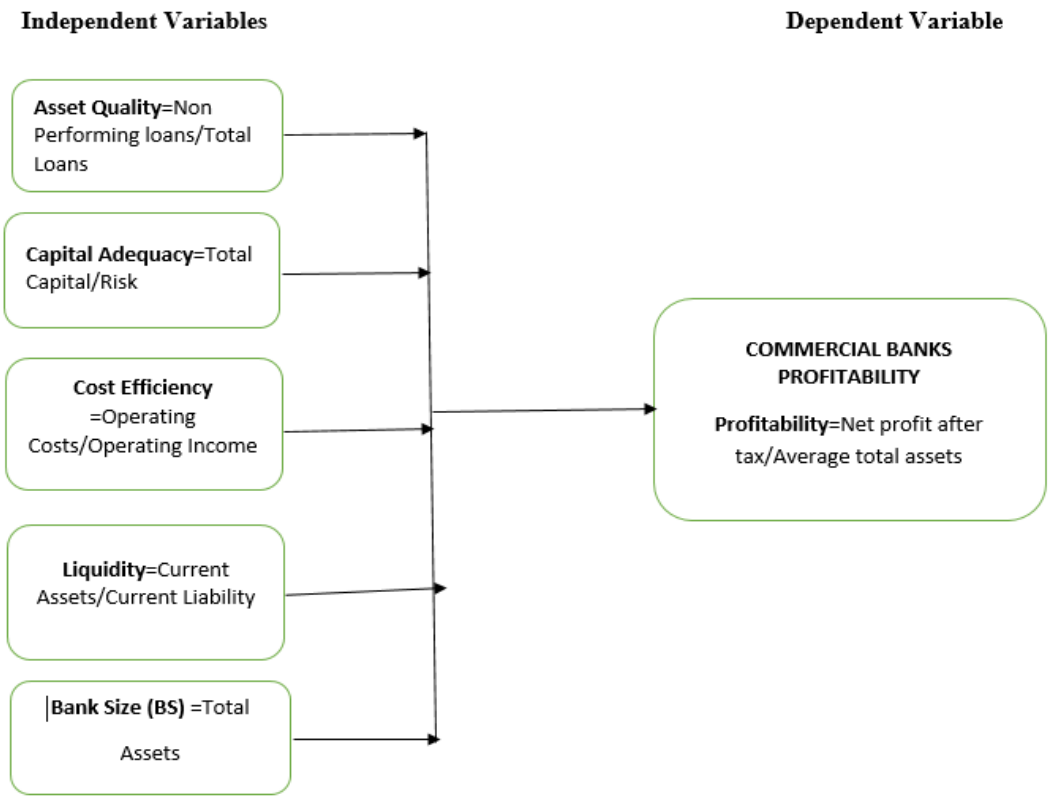

Figure 2. 1: Conceptual Framework

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter aims at presenting both the fundamental principles of research methodology and the suitable research for the project. This chapter discussed various topics including the research design, study's target population, the sampling design that was adopted and the data collection and analysis method. This methodology section concerns itself with giving the framework and working guidelines for conducting a research. Data collection was done using quantitative methods.

3.2 Research Design

Kothari (2006), describes a research design as being the deliberate move to ensure that the necessary measures are put in place to facilitate the collection and analysis of data in a manner that is capable of providing relevance to the purpose of the research.

Descriptive research design was used by the researcher in carrying out this study. Greener (2008) describes descriptive research design as being the method used by a researcher in describing a particular behavior just the way it happens in the environment. Researchers posit that the main purpose of using a descriptive study design is in order to help the researcher to establish how things are currently in the field of study and to report them as they are without any attempt to manipulate them or change their status. As Mugenda and Mugenda (2003) observe, it is clear that the study design helps the researcher to report situations correctly.In contrast, Saunders, Lewis and Thornhill (2009) suggest that descriptive research design aims at producing

statistical information concerning aspects of a study that interest policy makers in order to help them make more informed decisions.

3.3 Target population

The population refers to a cumulative number of individuals that meet a particular specification from which the researcher can make some conclusions, according to Mugenda and Mugenda (2003). A sample refers to a number of entities picked from the population that help in assessing the characteristics of the population. Sample size is the group of people that the researcher is able to test, therefore in reference to Kenyan commercial banks; the accessible population was43 commercial banks registered in Kenya for the period of 2012 and 2016.

The population of interest for the study was all licensedcommercial banks in Kenya. As at December 2016, there were 43 licensed commercial banks. This study thus constituted a census of the 42 licensed commercial banks.

3.4 Data Collection

Secondary data was used for purposes of this study and hence play a key role in addressing the research problem. Secondary data is described as the information obtained from journal, books and articles by the researcher (Mugenda and Mugenda, 2003). Audited financial statements for commercial banks were used as secondary data for purposes of this study. ROA was the main dependent indicator for performance that was used. ROA helped in explaining the efficiency of the management in the generation of earnings by use of its assets. The use of ROA as a comparative measure works well in comparing it with the ROA numbers for previous years or to ROA numbers for financial institutions in the same category. The collection of the data was from the

financial position statement and the comprehensive income statement for the commercial banks. The data was obtained from the Annual supervision reports of the Central Bank of Kenya for the period between 2012 and 2016, and from its website.

3.5 Data Analysis

The information to be collected was summarized coded and then analyzed. The data analysis dealtwith study results that came from computed descriptive statistics and multiple regression model; there were tests for correlation which were relevant to the current study.The data analysis included the mean, median, mode and standard deviation in relation to the return on equity. The Statistical Package for Social Sciences (SPSS) shall be used for data analysis. The significance of the regression was determined by use of the F-Test. The coefficient of determination (R2) is described as the sum of squares due to the regression divided by the sum of total squares. Ordinarily, "R^2 represents the variation percentage in the dependent variable that is explained by the deviation in the independent variables." This is defined in terms of "variation about the mean of Y (Profitability) so that if a model is rearranged and the dependent variable changes, R2 changes." The relationship between independent variables and ROA shall be found out through correlation analysis. The test of significance was 5%.

3.5.1 Model Specification

$$Y=\beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \varepsilon$$

Y= Profitabilityto be measured through the ratio of the return on average assets (ROA), calculated as net profit after tax divided by the average of total assets.

X_1=Asset Quality (AQ) to be measured as the Total Non-performing loans to Total loans.

X_2 =Capital adequacy to be measured as the total capital to total risk weighted assets ratio for bank j in year t.

X_3= Cost Efficiency measured as a ratio of operating costs to net operating income.

X_4= Liquidity to measured as the ratio of current assets divided by current liabilities.

X_5= Bank Size, to be measured by the natural log of Book Value of Total Assets at year End of bank j in year t.

$\beta_{0,}$ = Constant

β_1, β_2, β_3, β_4, β_5 =regression coefficients

ε=error term/disturbance

3.5.2 Diagnostic Test

Linearity show that two variables X and Y are related by a mathematical equation Y=bX where c is a constant number. The linearity test was obtained through the F-statistic in ANOVA. Normality is a test for the assumption that the residual of the response variable are normally distributed around the mean. This was determined by Skewness and Kurtosis. Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic (Khan, 2008).

Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more of the independent variables. This was tested by the determinant of the correlation matrices, which varies from zero to one. Orthogonal independent variable is an indication that the determinant is one while it is zero if there is a complete linear dependence between them and as it approaches to zero then the multicollinearity

becomes more intense. Variance Inflation Factors (VIF) and tolerance levels were also carried out to show the degree of multicollinearity (Burns & Burns, 2008).

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1Introduction

This chapter contains the analysis, interpretation and discussions of the research findings. The main purpose of the study was to investigate effect of credit risk management on the profitability of commercial banks in Kenya. The study specifically examined how asset quality, capital adequacy, cots efficiency, liquidity and size affected profitability of performance ofcommercial banks. The study's secondary data was collected from CBK's Annual reports and the financial reports and statements of the involved banks. The collected data was coded into SPSS software and the analysis was done using descriptive statsistics and inferential statistics. These findings are shown in Pie Charts, Tables and Graphs as where applicable.

4.2 Response Rate

The 43 comercial banks was the targeted population (CBK, 2016). However, out of the 43 targeted commercial banks operating in Kenya, complete and reliable data was readily available from 36 comercial banks for a period of 5 years (2012-2016). This gave a response rate of 84%.

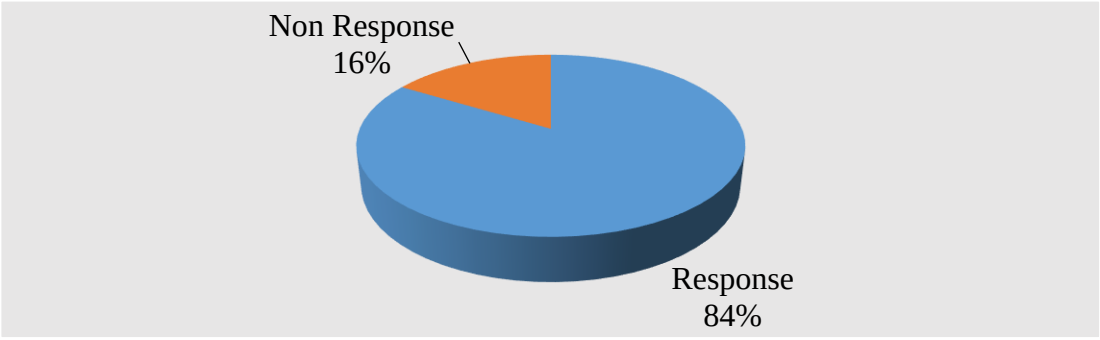

Figure 4.1: Response Rate

Babbie (2004) mentions that response rates of 50% and above are adequate and acceptable for analysis and for publication. While 60% of the response rate is raed as good; 70% is very good and a rating of 80% is excellent. For this study, the response rate is 84% is deemed excellent according to the standard and for Mugenda and Mugenda (2003) any response rate of 70% and above is adequate for analysis, and interpretation of findings.

4.3 Diagnostic Test

Diagnostic tests were done to test the assumptions of regression and correlation analysis before data analysis began. These included Normality Test, Autocorrelation Test and Multicollinearity Test.

4.3.1 Normality Test

This was used to test for the assumption that the residual of the response variable are normally distributed around the mean. It was done by Skewness and Kurtosis.

Table 4. 1: Normality Test

	N	Skewness		Kurtosis	
	Statistic	**Statistic**	**Std. Error**	**Statistic**	**Std. Error**
Return on Assets	180	-1.205	.181	1.929	.360
Asset Quality	180	.458	.181	.093	.360
Capital Adequacy	180	.747	.181	.995	.360
Cost Efficiency	180	.792	.181	.217	.360
Liquidity	180	1.082	.181	.409	.360
Bank Size	180	.512	.181	.289	.360

From the study findings, ROA had Skewness of -1.205 and Kurtosis of 1.929, Asset had 0.458 and 0.093, capital adequacy had 0.747 and 0.995, cost efficiency had 0.792 and 0.217, liquidity had 1.082 and 0.409 while bank size had 0.512 and 0.289 as Skewness and Kurtosis respectively. According to Kothari (2004) data analysis proceeds if values of Kurtosis and Skewne lie between + or -2.

4.3.2 Autocorrelation Test

Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic (Khan, 2008).

Table 4. 2: Autocorrelation Test

Model	Durbin-Watson
1	2.119

The Table indicates a Durbin-Watson value of 2.119. Usually when testing for Autocorrelation using Durbin Watson Test, the value of d is approximately equal to 2(1-r) where the r is the sample of the residuals of autocorrelation, d = 2 indicates no autocorrelation. The value of d always lies between 0 and 4. If the Durbin–Watson statistic is substantially less than 2, there is evidence of positive serial correlation. In the case of this study, there is no autoccorelation.

4.3.3 Multicollinearity

Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more of the independent variables. Variance Inflation Factors (VIF) and tolerance levels were used to test the degree of multicollinearity (Burns & Burns, 2008).

Table 4. 3: Multicollinearity

	Collinearity Statistics	
	Tolerance	**VIF**
(Constant)		
Asset Quality	.817	1.223
Capital Adequacy	.629	1.589
Cost Efficiency	.964	1.037
Liquidity	.628	1.593
Size	.801	1.248

Asset quality had VIF of 1.223, capital adequacy had 1.589, cot efficiency had 1.037 liquidity had 1.593 and Bank size had 1.248. Usually, a VIF value between 1-10 indicates no multicollinearity. The dataset therefore had no multicollinearity symptoms.

4.4 Descriptive Statistics

The researcher sought to describe the effect of credit risk management on the profitability of commercial banks in Kenya. Means and standard deviation were used.

Table 4. 4: Descriptive Statistics

	N	Mean	Std. Deviation
Return on Assets	180	.0184	.02689
Asset Quality	180	.1434	.24386
Capital Adequacy	180	.3174	.30808
Cost Efficiency	180	3.0199	10.53622
Liquidity	180	1.2804	.59098
Bank Size	180	7.1484	.62650

Return on assets had a mean of 0.0184 and standard deviation of 0.02689. Asset quality had a mean 0.1434 and 0.24386, capital adequacy had 3.0199 and 10.53622, and liquidity had 1.2804 and 0.59098 while bank size had 7.1484 and 0.62650 in means and standard deviations respectively. These findings indicate that cost efficiency had widely spread across the entire banking industry but at the same time most banks have concentrated on it to enhance their financial performance.

4.5 Correlation Analysis

The correlation analysis was conducted so as to establish the relationship between the study's independence and dependence variables. These findings are as reported on Table 4.5.

Table 4. 5: Correlation Analysis

		ROA	Asset Quality	Capital Adequacy	Cost Efficiency	Liquidity	Size
Return on Assets	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	180					
Asset Quality	Pearson Correlation	-.163*	1				
	Sig. (2-tailed)	.029					
	N	180	180				
Capital Adequacy	Pearson Correlation	-.061	.226**	1			
	Sig. (2-tailed)	.415	.002				
	N	180	180	180			
Cost Efficiency	Pearson Correlation	-.017	.099	-.086	1		
	Sig. (2-tailed)	.822	.188	.250			
	N	180	180	180	180		
Liquidity	Pearson Correlation	-.288**	.307**	.579**	-.076	1	
	Sig. (2-tailed)	.000	.000	.000	.308		
	N	180	180	180	180	180	
Size	Pearson Correlation	.280**	-.355**	-.325**	-.094	-.270**	1
	Sig. (2-tailed)	.000	.000	.000	.212	.000	
	N	180	180	180	180	180	180

From the findings, there was an inverse but significant relationship of the asset quality and commercial bank's financial perforamcne (r=-0.163, p=0.029<0.05). This relation is significant at 5% level of significance.

Capital adequacy was inversely correlated with financial performance of commercial banks in Kenya (r=-0.016, p=0.415). There was an inverse relationship between cost efficiency and financial performance (r=-0.017, p=0.822>0.05). The study established significant inverse relationship between liquidity and financial performance (r=-0.288, p=0.000). Size had a direct and significant relationship with financial performance of commercial banks (r=0.280, p=0.000<0.05).

4.6 Regression Analysis Results

Multiple regression analysis was conducted to determine the effect that credit risk had on profitability of thecommerical banks in Kenya. These findings are as indicated on Table 4.6.

Table 4. 6: Regression Analysis Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	**Std. Error**	**Beta**		
(Constant)	.046	.025		1.795	.074
Asset Quality	-.002	.008	-.018	-.232	.817
Capital Adequacy	.020	.008	.225	2.574	.011
Cost Efficiency	4.568E-006	.000	.002	.025	.980
Liquidity	-.016	.004	-.345	-3.928	.000
Bank Size	.011	.003	.255	3.278	.001
	R=.400	R^2=.160	Adjusted R^2=.136	F=6.613	Sig=0.000

The findings in Table 4.6 indicates a coefficient of determination R square of 0.160 showing that 16% change in profitability of commercial banks in Kenya is explained by credit risk management. This opens a debate on the other factors that explain 84% change in profitability in commercial banks. At 5%, the ANOVA findings indicated an F calculated value of 6.613 while F critical is 2.266. Since F calculated is greater than F critical, it indicates that an overall regressiom model was significant in explaining the effect of credit risk management on profitability of commercial banks in Kenya.The established equation therefore becomes:

$$\mathbf{Y=0.046 +0.02X_2 -0.016X_4+ 0.011X_5}$$

This indicates that when all the study variables were held constant, financial performance of commercial banks would be at 0.046. A unit increase in capital adequacy would result into 2% increase in financial performance of commercial banks. A unit decrease in liquidity would result into 1.6% increase in financial performance. A unit increase in bank size would lead to 1.1 % increase in financial performance of commercial banks in Kenya. In view of significance level at 5%, the study revealed that capital adequacy had significant effect on financial performance of commercial banks p=0.011<0.05. There was a significant effect of liquidity p=0.000<0.05. Bank size had significant influence on performance of commercial banks in Kenya p=0.001<0.05.

4.7 Discussion

The findings of correlation analysis indicated that the asset quality had an inverse significant relationship to financial performance of commercial banks in ($r=-0.163$, $p=0.029<0.05$). This means increase in credit risk or non perfoming loans by a unit will lead to a 0.163 times decrease in financial performance of the commercial banks. According to CBK Prudential Guideline (2013), financial institutions suffer significant losses when their loan portfolio become impaired this is due to the massive loan provisions done to cater for the credit risk involved.

From regression analysis, the study revealed that capital adequacy had significant effect on financial performance of commercial banks $p=0.011<0.05$. This finding concurs with Zewude (2011) who established that both capital adequacy ratio and nonperforming loan ratio have a negative effect on the Profitability of Commercial Banks in Ethiopia. There was a significant effect of liquidity on financial performance of commercial banks $p=0.000<0.05$. Bank size had significant influence on performance of commercial banks in Kenya $p=0.001<0.05$.

Both regression and correlation analysis however established that capital adequacy had insignificant effect on financial performance of commercial banks. This finding contradicts Zewude (2011) who established that both capital adequacy ratio and nonperforming loan ratio have a negative effect on the Profitability of Commercial Banks in Ethiopia. However, as regression established significance between bank size, liquidity and capital adequacy with financial performance of commercial, correlation analysis only established asset quality and size as being significant.

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

A presentation of the summarized findings of the study is clearly illustrated in this chapter. The key findings sought by the researcher are used to generate conclusions and recommendations of the study. Recommendations have implications to policy makers who are charged with formulation of policies. The chapter also presents limitations encountered by the researcher while conducting the study and suggestions for further research to future scholars and academicians.

5.2 Summary of the Findings

The purpose of the study was examining the effect of credit risk management on the profitability of commercial banks in Kenya. The study looked at how asset quality, capital adequacy, costs efficiency, liquidity and size affected profitability of performance of commercial banks. The researcher used Secondary data collected from Central Bank Annual Reports and financial statements of the studied banks. The collected data was analyzed with the help of SPSS soft ware. A summary of the analyzed findings is presented in this subsection.

From correlation analysis, an inverse significant relationship was established between asset quality and financial performance of commercial banks in Kenya ($r=-0.163$, $p=0.029<0.05$). The study established significant inverse relationship between liquidity and financial performance ($r=-0.288$, $p=0.000$). Size had a direct and significant relationship with financial performance of commercial banks ($r=0.280$, $p=0.000<0.05$).

From regression analysis, the study revealed that capital adequacy had significant effect on financial performance of commercial banks $p=0.011<0.05$. There was a significant

effect of liquidity on financial performance of commercial banks p=0.000<0.05. Bank size had significant influence on performance of commercial banks in Kenya p=0.001<0.05.

Both regression and correlation analysis however established that capital adequacy had insignificant effect on financial performance of commercial banks. However, as regression established significance between bank size, liquidity and capital adequacy with financial performance of commercial, correlation analysis only established asset quality and bank size as being significant.

From correlation analysis, liquidity (r=-0.288) was the most significant factor affecting financial performance followed by size (r=0.280). On the other hand, regression analysis indicated that capital adequacy (2%) had greatest significance on financial performance of commercial banks followed by liquidity (1.6%) and lastly bank size (1.1%).

5.3 Conclusion

There was an inverse significant relationship between asset quality and financial performance of commercial banks in Kenya. There was a significant inverse relationship between liquidity and financial performance. Size had a direct and significant relationship with financial performance of commercial banks.

Capital adequacy had significant effect on financial performance of commercial banks. Liquidity had a significant influence on financial performance of commercial banks. Bank size had significant influence on performance of commercial banks in Kenya.

Cost efficiency was completely insignificant in affecting financial performance of commercial banks in Kenya. Liquidity was the most correlated term with performance

followed by size while capital adequacy had great and far reaching effect on financial performance of commercial banks followed by liquidity and lastly size of the bank.

5.4 Recommendations of the Study

The study recommends that the top management in the commercial banks in Kenya to embrace the use of systems and automation in the credit decisioning process as opposed to just relying on the manual assessment process which mostly is subjective.They shouldincrease liquidity of their banks through sound working capital management practices. Effective working capital management practice entail management of cash, inventories, trade payables and trade receivables for optimal performance of the bank.

The Central Bank of Kenya should formulate progressive policies and guidelines that regulate activities in the banking industry. Such policies should be geared towards increasing customer deposits,reducing bad loan provisions and encouraging financial performance of the banks. All stakeholders in the banking industry should be involved in the formulation of policies and regulations.

Commercial banks in Kenya should invest in promotional activities that grow their revenue and income. Technology should be the greatest factor which these institutions should leverage on so as to carry out proper screening of customers before issuing loans to them. Bank should not only rely on the manual loan assessment process of the 5cs of Credit.This will reduce Non Performing Loans and improving the quality of asset hence financial performance.

5.5 Limitations of the Study

This study was conducted among 43 commercial banks and the collected data was only limited on these banks. Therefore, the findings sought may not directly be applicable to

other financial firms like insurance companies and real estate firms. The researcher wished to collect at least monthly or quarterly data from the studied bank but unfortunately this was not possible in some banks. To overcome this, annual data was used instead. The researcher further wished to obtain data for a longer period of from 2000 to date, but this was not possible as some banks like Jamii Bora Bank had only started operations recently which limited data to be collected.

5.6 Suggestions for Further Research

The current study looked at the entire banking sector which was too broad, future scholars should narrow the scope to cover only listed commercial banks. The independent variables of the study only explained about 16% of financial performance of commercial banks showing there are other factors affecting financial performance which future scholars should investigate.

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APPENDICES

APPENDIX I: LIST OF COMMERCIAL BANKS IN KENYA AS AT 31ST DECEMBER 2016

1. African Banking Corporation Ltd.

2. Bank of Africa Kenya Ltd.

3. Bank of Baroda (K) Ltd.

4. Bank of India

5. Barclays Bank of Kenya Ltd.

6. CFC Stanbic Bank Ltd.

7. Chase Bank (K) Ltd.

8. Citibank N.A Kenya

9. Commercial Bank of Africa Ltd.

10. Consolidated Bank of Kenya Ltd.

11. Co-operative Bank of Kenya Ltd.

12. Credit Bank Ltd.

13. Development Bank of Kenya Ltd.

14. Diamond Trust Bank (K) Ltd.

15. Dubai Bank Kenya Ltd.

16. Ecobank Kenya Ltd

17. Equatorial Commercial Bank Ltd.

18. Equity Bank Ltd.

29. Family Bank Ltd

20. Fidelity Commercial Bank Ltd

21. GTB Ltd

22. First community Bank Limited

23. Giro Commercial Bank Ltd.

24. Guardian Bank Ltd

25. Gulf African Bank Limited

26. Habib Bank A.G Zurich

27. Habib Bank Ltd.

28. Housing Finance

29. Imperial Bank Ltd

30. Investment & Mortgages Bank Ltd

31. Jamii Bora Bank.

32. Kenya Commercial Bank Ltd

33. Sidian Bank Ltd

34. Middle East Bank (K) Ltd

35. National Bank of Kenya Ltd

36. NIC BANK

37. Oriental Commercial Bank Ltd

38. Paramount Universal Bank Ltd

39. Prime Bank Ltd

40. Standard Chartered Bank (K) Ltd

41. Trans-National Bank Ltd

42. UBA Kenya Bank.

Source: Central Bank of Kenya, (2016).

APPENDIX II: RAW DATA

Bank	Year	ROA	ASSET QUALITY	CAPITAL ADEQUACY	COST EFFECIENCY	LIQUIDITY	SIZE
Kenya Commercial (KCB)	2016	0.06	0.08	0.29	1.42	1.22	8.24
Equity Bank Limited	2016	0.04	0.08	0.27	1.46	1.22	8.35
Co-op Bank	2016	0.04	0.01	0.25	0.84	1.16	8.15
Barclays Bank	2016	0.06	0.04	0.31	1.17	1.27	8.13
Standard Chartered Bank Ltd	2016	0.03	0.04	0.18	1.77	1.15	8.19
CFC Stanbic Bank	2016	0.03	0.01	0.36	0.64	1.26	7.79
Commercial Bank of Africa	2016	0.03	0.06	0.18	1.23	1.13	7.8
Diamond Trust Bank Kenya	2016	0.04	0.02	0.19	0.94	1.16	7.77
I & M Bank	2016	0.03	0.06	0.39	1.63	1.2	7.78
Citibank, N.A.	2016	0.03	0.04	0.17	0.93	1.17	7.74
NIC Bank Ltd	2016	0.03	0.02	0.29	0.65	1.26	7.8
National Bank(NBK)	2016	0.01	0.03	0.13	3.09	1.1	8.03
Bank of Africa	2016	0.01	0.06	0.33	1.95	1.17	7.47
Bank of Baroda (K) Ltd	2016	0.03	0.12	0.24	0.68	1.22	6.79
Prime Bank Limited	2016	0.02	0.04	0.24	1.35	1.14	7.51
Housing finance	2016	0.01	0.19	0.39	13.09	1.26	6.66
Ecobank Kenya Ltd	2016	0.02	0.12	0.18	3.85	1.16	7.02
Family Bank	2016	0.05	0.06	0.28	1.18	1.19	7.29
Bank of India	2016	0.01	0.11	0.19	3.36	1.13	6.9
Consolidated Bank of Kenya	2016	0.04	0.24	0.71	3.05	1.48	6.68
Fina Bank Limited	2016	0.04	0.03	0.32	0.33	1.17	7.51
Equitorial Commercial Bank	2016	0.01	0.14	0.17	7.19	1.1	7.15
Gulf African Bank	2016	0.03	0.09	0.17	0.86	1.11	6.91

African Banking Corporation	2016	-0.05	0.36	1.58	-3.19	2.45	6.24
Development Bank of Kenya	2016	0.05	0.04	0.25	0.65	1.15	7.01
Fidelity Commercial Bank	2016	0.01	0.02	0.17	2.09	1.12	7.43
K-Rep Bank Ltd	2016	0.03	0.09	0.25	5.23	1.18	7.31
Guardian Bank	2016	0.02	0.13	0.28	1.23	1.16	7.03
First community Bank	2016	0.02	0.02	0.15	2.25	1.09	7.34
Victoria Comm. Bank Ltd	2016	0.06	0.21	0.47	0.73	1.22	6.65
Transnational Bank Limited	2016	0.04	0.02	0.43	0.18	1.16	7.29
Oriental Comm. Bank	2016	0	0.22	0.15	-19.87	1.1	7.02
Paramount-Universal Bank	2016	0.03	0.05	0.25	1.36	1.2	7.01
Middle East Bank of Kenya	2016	0.03	0.13	0.41	1.29	1.33	6.66
UBA BANK	2016	0	0.22	0.35	8.96	1.23	7.43
Jamii Bora Bank	2016	0.02	0.03	0.44	1.05	1.16	6.91
Kenya Commercial (KCB)	2015	0.04	0.01	0.54	1.1	1.34	6.6
Equity Bank Limited	2015	0.01	0.2	0.22	10.33	1.18	6.88
Co-op Bank	2015	0.03	0.02	0.42	0.67	1.2	6.73
Barclays Bank	2015	0	0.33	0.36	7.33	1.47	6.27
Standard Chartered Bank Ltd	2015	0.01	0.02	0.16	17.22	1.15	6.98
CFC Stanbic Bank	2015	-0.02	0.07	0.14	-4.04	1.1	6.8
Commercial Bank of Africa	2015	0.04	0.08	0.21	1.6	1.17	8.22
Diamond Trust Bank Kenya	2015	0.03	0.11	0.19	2.22	1.15	8.23
I & M Bank	2015	0.04	0.02	0.18	0.85	1.13	8.09

Citibank, N.A.	2015	0.04	0.08	0.32	2	1.29	8
NIC Bank Ltd	2015	0.03	0.09	0.22	2.1	1.17	8.04
National Bank(NBK)	2015	0.02	0.02	0.18	1.11	1.15	7.67
Bank of Africa	2015	0.04	0.1	0.46	1.66	1.18	7.71
Bank of Baroda (K) Ltd	2015	0.02	0.05	0.17	1.39	1.17	7.65
Prime Bank Limited	2015	0.01	0.09	0.44	2.83	1.29	7.26
Housing finance	2015	0.03	2.57	0.23	0.79	1.22	6.71
Ecobank Kenya Ltd	2015	0.01	0.04	0.12	3.79	1.09	7.99
Family Bank	2015	0.02	0.05	0.26	1.35	1.15	7.37
Bank of India	2015	0.02	0.04	0.17	1.43	1.12	7.76
Consolidated Bank of Kenya	2015	0.02	0.09	0.34	3.15	1.25	6.56
Fina Bank Limited	2015	0.01	0.15	0.18	6.8	1.16	6.84
Equitorial Commercial Bank	2015	0.04	0.05	0.22	1.35	1.17	7.19
Gulf African Bank	2015	0.01	0.22	0.19	6.36	1.15	6.83
African Banking Corporation	2015	0.03	0.25	0.72	4.53	1.65	6.53
Development Bank of Kenya	2015	-0.13	0.44	0	-1.49	1	6.65
Fidelity Commercial Bank	2015	0.03	0.03	0.21	0.84	1.2	7.64
K-Rep Bank Ltd	2015	0.02	0.1	0.24	0.77	1.13	7.34
Guardian Bank	2015	0.01	0.08	0.2	7.45	1.11	7.26
First community Bank	2015	0.01	0.04	0.15	5.03	1.1	6.74
Victoria Comm. Bank Ltd	2015	-0.02	0.25	0.76	-11.44	2.79	5.69
Transnational Bank Limited	2015	0.02	0.04	0.23	1.82	1.14	6.84
Oriental Comm. Bank	2015	0.01	0.01	0.22	2.92	1.17	7.23

Paramount-Universal Bank	2015	0.02	0.06	0.19	5.39	1.16	7.12
Middle East Bank of Kenya	2015	0.02	0.12	0.26	1.09	1.2	6.91
UBA BANK	2015	0.02	0.04	0.13	2.32	1.1	7.11
Jamii Bora Bank	2015	0.01	0.22	0.34	3.92	1.2	6.49
Kenya Commercial (KCB)	2014	0.03	0.04	0.35	0.58	1.16	7.19
Equity Bank Limited	2014	0.04	0.01	0.3	0.47	1.27	7.71
Co-op Bank	2014	0.01	0.13	0.21	3.73	1.19	6.65
Barclays Bank	2014	0.02	0.06	0.23	2.4	1.17	6.95
Standard Chartered Bank Ltd	2014	0.01	0.24	0.47	4.81	1.47	6.48
CFC Stanbic Bank	2014	-0.06	0.3	0.22	-1.82	1.18	7.14
Commercial Bank of Africa	2014	0.03	0.06	0.36	0.87	1.15	6.87
Diamond Trust Bank Kenya	2014	0.01	0.02	0.52	4.24	1.4	6.5
I & M Bank	2014	-0.03	0.24	0.22	-5.63	1.18	6.85
Citibank, N.A.	2014	0.03	0.03	0.65	0.83	1.19	6.67
NIC Bank Ltd	2014	0	0.41	0.28	7.73	1.41	6.2
National Bank(NBK)	2014	-0.02	0	0.17	-4.53	1.17	6.89
Bank of Africa	2014	-0.03	0.01	0.19	-2.92	1.17	6.65
Bank of Baroda (K) Ltd	2014	0.03	0.07	0.22	1.88	1.17	9.13
Prime Bank Limited	2014	0.03	0.07	0.22	1.88	1.17	7.49
Housing finance	2014	0.03	0.06	0.15	1.95	1.14	8.23
Ecobank Kenya Ltd	2014	0.05	0.06	0.4	1.53	1.33	7.9
Family Bank	2014	0.03	0.02	0.19	1.16	1.13	8
Bank of India	2014	0.02	0.09	0.2	2.65	1.12	8.28
Consolidated Bank of Kenya	2014	0.02	0.03	0.15	1.15	1.15	7.63
Fina Bank Limited	2014	0.02	0.01	0.21	1.26	1.14	7.75

Equitorial Commercial Bank	2014	0.03	0.05	0.15	1.07	1.09	7.06
Gulf African Bank	2014	0.01	0.12	0.52	4.15	1.34	7.16
African Banking Corporation	2014	0.03	0	0.23	0.84	1.21	6.65
Development Bank of Kenya	2014	0.02	0.07	0.14	2.52	1.09	7.92
Fidelity Commercial Bank	2014	0.02	0.07	0.31	1.59	1.18	7.3
K-Rep Bank Ltd	2014	0.03	0.12	0.24	1.87	1.2	7.92
Guardian Bank	2014	0.02	0.04	0.15	1.38	1.1	7.74
First community Bank	2014	0.01	0.12	0.29	2.75	1.22	6.56
Victoria Comm. Bank Ltd	2014	0.02	0.25	0.22	7.25	1.22	6.67
Transnational Bank Limited	2014	0.03	0.05	0.21	1.42	1.17	7.13
Oriental Comm. Bank	2014	0.03	0.22	0.42	1.82	1.17	7.63
Paramount-Universal Bank	2014	0.01	0.28	0.23	9.48	1.18	6.74
Middle East Bank of Kenya	2014	0.04	0.28	0.65	2.87	1.57	6.53
UBA BANK	2014	0	0.27	0.16	4.17	1.1	6.71
Jamii Bora Bank	2014	0.03	0.06	0.14	0.91	1.14	7.63
Kenya Commercial (KCB)	2013	0.05	0.05	0.21	1.15	1.12	7.26
Equity Bank Limited	2013	0.01	0.05	0.18	6.86	1.14	7.16
Co-op Bank	2013	0.01	0.04	0.14	3.34	1.11	6.64
Barclays Bank	2013	-0.01	0.28	0.78	2.67	2.5	5.73
Standard Chartered Bank Ltd	2013	0.01	0.09	0.19	2.55	1.11	6.77
CFC Stanbic Bank	2013	0.01	0.02	0.22	4.03	1.13	7.27
Commercial Bank of Africa	2013	0.04	0.07	0.21	2.68	1.18	7.02

Diamond Trust Bank Kenya	2013	0.02	0.11	0.32	1.16	1.23	6.81
I & M Bank	2013	0.02	0.06	0.13	2.09	1.09	7.01
Citibank, N.A.	2013	0.01	0.18	0.42	2.71	1.23	6.42
NIC Bank Ltd	2013	0.03	0.06	0.32	0.51	1.16	7.08
National Bank(NBK)	2013	0.04	0.01	0.26	0.39	1.24	7.68
Bank of Africa	2013	0	0.08	0.21	4.5	1.18	6.64
Bank of Baroda (K) Ltd	2013	0.02	0.05	0.25	2.25	1.2	6.83
Prime Bank Limited	2013	0.02	0.47	0.63	1.84	1.7	6.36
Housing finance	2013	0.01	0.56	0.24	9.03	1.2	7.02
Ecobank Kenya Ltd	2013	0.02	0.05	3.1	1.05	1.13	6.82
Family Bank	2013	0.01	0.15	0.44	7.35	1.36	6.52
Bank of India	2013	-0.04	0.18	0.18	-3.5	1.16	6.91
Consolidated Bank of Kenya	2013	0.02	0.04	0.48	1.01	1.16	6.65
Fina Bank Limited	2013	0	0.47	0.26	3.76	1.33	6.21
Equitorial Commercial Bank	2013	-0.06	0.17	0.36	-1.65	1.34	6.7
Gulf African Bank	2013	-0.07	0.25	0.4	-1.06	1.32	6.5
African Banking Corporation	2013	0.03	0.07	0.22	1.85	1.16	9.09
Development Bank of Kenya	2013	0.03	0.07	0.22	1.84	1.16	7.46
Fidelity Commercial Bank	2013	0.03	0.05	0.13	1.66	1.13	8.2
K-Rep Bank Ltd	2013	0.04	0.05	0.5	1.46	1.39	7.73
Guardian Bank	2013	0.04	0.03	0.2	0.95	1.14	7.96
First community Bank	2013	0.02	0.13	0.18	2.51	1.12	8.08
Victoria Comm. Bank Ltd	2013	0.02	0.04	0.18	1.28	1.18	7.5

Transnational Bank Limited	2013	0.02	0.01	0.21	1.21	1.18	7.48
Oriental Comm. Bank	2013	0.05	0.06	0.2	1.22	1.13	6.89
Paramount-Universal Bank	2013	0.01	0.19	0.26	5.68	1.16	7.02
Middle East Bank of Kenya	2013	0.03	0	0.25	0.77	1.19	6.62
UBA BANK	2013	0.02	0.01	0.14	1.21	1.11	7.54
Jamii Bora Bank	2013	0.02	0.09	0.26	1.59	1.16	7.14
Kenya Commercial (KCB)	2012	0.02	0.15	0.17	2.57	1.12	7.82
Equity Bank Limited	2012	0.02	0.05	0.18	1.2	1.13	7.62
Co-op Bank	2012	0.03	0.14	0.31	1.28	1.2	6.53
Barclays Bank	2012	0.01	0.28	0.23	3.12	1.22	6.61
Standard Chartered Bank Ltd	2012	0.03	0.07	0.19	1.56	1.16	7.07
CFC Stanbic Bank	2012	0.03	0.47	0.42	1.91	1.14	7.62
Commercial Bank of Africa	2012	0	0.36	0.24	1.88	1.17	6.74
Diamond Trust Bank Kenya	2012	0.04	0.29	0.62	4.12	1.52	6.51
I & M Bank	2012	0.01	0.23	0.17	10	1.12	6.72
Citibank, N.A.	2012	0.03	0.02	0.15	0.82	1.15	7.47
NIC Bank Ltd	2012	0.05	0.03	0.2	0.81	1.12	7.17
National Bank(NBK)	2012	0.01	0.1	0.17	4.53	1.15	6.91
Bank of Africa	2012	0.01	0.1	0.15	3.65	1.11	6.5
Bank of Baroda (K) Ltd	2012	-0.04	1.25	0.78	-2.43	1.78	5.87
Prime Bank Limited	2012	0.01	0.13	0.17	9.19	1.1	6.75
Housing finance	2012	0.02	0.02	0.21	2.72	1.2	6.88
Ecobank Kenya Ltd	2012	0.02	0.12	0.25	3.13	1.18	6.93
Family Bank	2012	0.02	0.07	0.41	1.12	1.32	6.67
Bank of India	2012	0.02	0.06	0.16	1.74	1.14	6.76

Consolidated Bank of Kenya	2012	0.01	0.3	0.41	3.03	1.24	6.37
Fina Bank Limited	2012	0.03	0.05	0.32	0.53	1.15	7.01
Equitorial Commercial Bank	2012	0.02	0.02	0.27	0.69	1.18	7.67
Gulf African Bank	2012	0.01	0.07	0.2	3.03	1.16	6.69
African Banking Corporation	2012	0.02	0.06	0.17	2.49	1.15	6.79
Development Bank of Kenya	2012	0.08	0.75	0.66	0.83	2.02	6.25
Fidelity Commercial Bank	2012	0.01	0.48	0.24	4.85	1.22	6.98
K-Rep Bank Ltd	2012	0.02	0.04	0.36	1.1	1.14	6.79
Guardian Bank	2012	0.02	0.03	0.4	1.8	1.4	6.49
First community Bank	2012	0.02	0.08	0.18	4.81	1.17	6.85
Victoria Comm. Bank Ltd	2012	0.02	0.05	0.46	1.57	1.16	6.58
Transnational Bank Limited	2012	0	0.57	0.3	6.38	1.35	6.19
Oriental Comm. Bank	2012	-0.11	0.77	2.01	-1	8.37	6.25
Paramount-Universal Bank	2012	0.16	0.67	1.32	0.42	2.89	5.79
Middle East Bank of Kenya	2012	0.03	0.08	0.21	1.69	1.16	8.97
UBA BANK	2012	0.03	0.08	0.21	1.7	1.16	7.34
Jamii Bora Bank	2012	0	0.08	0.38	3.2	2.12	8.35