

**THE INFLUENCES OF CREDIT RISK MANAGEMENT ON FINANCIAL  
PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

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**DECLARATION**

This research project is my original work and has not been presented to any other University for any academic award.

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D61/77131/2015

This research project has been submitted for examination with my approval as the University supervisor:

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## **DEDICATION**

To my dear mum Njeri, my loving husband Mr. Gikenye, my adorable sons:- Chege, Wanjey and Kamathi, with all my love.

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## **ACRONYMS**

**ATMs** : Automated Teller Machines

**BIS**: Bank of International Settlement

**CBK**: Central Bank of Kenya

**ERM**: Enterprise Risk Management

**ICT**: Information and Communications Technology

**NIM**: Net interest margin

**ROA**: Return on assets

**ROCE**: Return on capital employed

**ROE**: Return on equity

**SACCOs**: Savings and Credit Cooperatives

**SASRA**: Saccos Society Regulatory Authority

**USD**: United States Dollar

## **ABSTRACT**

Credit management stands out as a crucial exercise in businesses and cannot be ignored by any monetary venture occupied with credit regardless of its inclination of business. Sound credit management is an essential part of a budgetary foundation's soundness and continuing profitability. Commercial Banks are in the business of lending money. This is their main source of income. Credit management is therefore critical to them without which they would lose their principal too in addition to the lost income. In the recent past, we have seen banks collapse due to poor and weak credit management policies. For instance we have seen Chase Bank come into the lime light because of its inability to honour its obligations-this is all about liquidity emanating from poor management and weak credit management policies. Imperial bank was also in the headlines for such like reasons. Institutions therefore need to have proper credit risk management policies that are working. But does this always translate into good performance in terms of increased profitability? This study sought to discover the influences of credit risk management on money related execution of recorded business banks in Kenya. It utilized a descriptive research design. The population of study consisted of 43 commercial banks in Kenya. A census study was used to carry out the research. Secondary data from financial statements of commercial banks in Kenya was collected. The study collected secondary data for the last five years starting year 2011 to 2015 from financial statements of the commercial banks. Descriptive statistics were used to analyze data.

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of the Study**

Credit risk is a challenge that banks have to tackle, considering that advancing credit is one of their fundamental sources of income. Therefore, administration of dangers identified with credit influences the benefit of the banks (Ogboi & Unuafe, 2013). Through compelling management of credit risk exposure, banks not just reinforce the reasonability and productivity of their own business but also add to systemic stability and to an efficient allotment of capital in the economy (Poudel, 2012). The default of a little number of clients may bring about a big loss to the bank (Geste & Baesems, 2013). It has been discovered by Basel Committee as a principle source of risk in the early phase of Basel Accord. A vigorous risk management system can help banks to lessen their introduction to dangers, and upgrade their capacity to contend in the market (Iqbal & Mirakhor, 2011). A reduction in every foundation's presentation to risk will decrease the systemic risk as well. Consequently, it is vital that banks set up a far reaching risk management and reporting procedure to distinguish, measure, screen, oversee, report and control distinctive classifications of risks.

This study was guided by risk management theory and enterprise risk management theory. Risk management theory and enterprise risk management (ERM) theory is a structure that spotlights on embracing a methodical and reliable way to deal with the greater part of the risks facing an organization. Risk Management model comprises of risk identification, chance appraisal, and prioritization of dangers followed by facilitated

and practical use of assets to minimize, screen, and control the likelihood and/or effect of lamentable occasions or to boost the acknowledgment of opportunities. Enterprise Risk Management (ERM) is a structure that emphasizes on embracing an orderly and steady way to deal with majority of the risks that face an organization.

Commercial banks are in the risk business. During the time spent giving money related services, they are in different sorts of risks. In the course of the most recent decade, the comprehension of the place of commercial banks inside the monetary division has been enhanced significantly. Over this time, much has been composed on the part of commercial banks in the monetary segment, both in research and in the budgetary market front. Suffice to say that market members look for the administrations of these financial firms as a result of their capacity to give showcase learning, transaction effectiveness and financing ability. In playing out these parts, they, by and large, go about as a central in the exchange. In that capacity, they utilize their own asset reports to encourage the exchange and to ingest the dangers connected with it (Santomero, 1997).

### **1.1.1 Credit Risk Management**

Credit risk is the likelihood that the genuine profit for a bank or loan expanded will deviate from that, which was prospected (Conford, 2000). Coyle (2000) describes credit risk as misfortunes from the refusal or powerlessness of borrowers to pay up all required funds and on time. Credit risk management practice is characterized as the mix of composed tasks and exercises for controlling and coordinating credit risks faced by an association through the joining of key risk administration strategies and procedures in

connection to the organization's goals (Nikolaidou&Vogiazas, 2014). Notably, risk management practices are not created and planned to kill risks in and out but rather they go for controlling opportunities and risks that may bring about risk (Frank, Simon and Josephine, 2014). Credit risk management is fundamental in advancing the optimized running of money related institutions (Basel, 2010). A key necessity for viable credit management is the capacity to astutely and proficiently oversee client credit lines. Keeping in mind the end goal to minimize exposure to bad debts, and insolvencies, banks must have understanding in terms of the client's financial stability, FICO rating history and changing installment patterns(Caoutte, Altman and Narayanan, 1998). Gathering of solid data from imminent borrowers is fundamental in achieving successful screening as shown by symmetric informatin theory. Subjective and quantitative procedures can be utilized as a part of evaluating the borrowers to minimize default rates.

### **1.1.2 Financial Performance**

Financial performance is a measure of how well a firm uses its benefits from its essential method of business to create incomes. This term is additionally utilized as a general measure of an association's general budgetary wellbeing over a given timeframe, and can be utilized to analyze comparative firms over the same business or to think about ventures or divisions in aggregation (Amidu and Abor, 2006). Measures of after-expense rates of return, for example, the Return on Assets (ROA) and the Return on Equity (ROE) are broadly used to survey the execution of firms, including commercial banks (Allen, 1988). In financial organizations, experts have utilized ROA and ROE to survey industry execution and gauge slants in market structure as contributions to factual models to

foresee failures and mergers and for range of different purposes where a measure of gainfulness is sought. Case in point, in banks, productivity is resolved from the interest rate spreads amongst credits and deposits, as dominant part of its wage is from interests. Since productivity is resolved from income and costs, banks need to closely screen the variables that influence these two determinants (Bennaceur and Goaid, 2008).

Empirically, many studies recommend that the determinants of financial performance for the monetary foundations can be isolated into two separate groups; inward and outer elements. These studies indicate ROA, ROE, ROCE, and NIM as the dependent variables and considering the inner and outer elements as independent variables (Ramlall, 2012).

### **1.1.3 Credit Risk Management and Financial Performance of Commercial Banks**

Better credit risk management results in improved bank performance. Thus bank managers need to practice prudent credit risk management, safeguard the assets of the bank and protect the shareholders' interests. Loan portfolio diversification and modern portfolio theory (MTP) emphasizes on the need to have a loan portfolio for the bank assets to diversify risks, as a portfolio of loans may have less risks than an individual loan.

Pandley (1995) pointed out that credit defines a firm's performance, meaning that, once a firm adopts an optimal credit policy, it will be able to maximize its management revenue in debtors and this improves and promotes its financial standing and performance. Thus a good credit policy decision is positively related to high financial performance. Financial



institution performance is determined by so many factors with the main one being; risks. These risks include: credit risk, interest rate risk, political risk, operational risks, liquidity risks and market risk. These risks are either internal or external. Commercial banks have gone under and closed business due to the poor performance of loans. This calls for effective management of its asset (Naceur, 2013). In the recent years, banks have developed sophisticated systems of risk management. Many banks have been exposed to more risk of loan defaulting due to the increase of the amount of loans advanced. In addition to the system, management have had to up their game in securing their assets (Morsman, 2013).

Commercial banks have policies which guide on the process of advancing credit. These policies define on who should access credit and the collaterals involved. In addition it guards its back through insurance. Once this is achieved, the banks' financial performance is expected to go up. For the past years, banks have reported increase in profits. The asset base of most banks has been increasing and the proportion of loans also has been on a growing trend (IFSB, 2005).

As per the Central Bank Supervision Report (2011) on the Kenyan banking framework, most banks that crumpled in the late 1990s were an after-effect of poor administration of credit risks which was depicted in the abnormal amounts of non-performing loans. The progression of the Kenya banking industry in 1992 denoted the start of exceptional rivalry among commercial banks in Kenya, which saw banks amplify enormous measures of credit with the fundamental goal of expanding benefits .The low-quality loans

prompted abnormal state of non-performing loans and in this manner disintegrated benefits of banks.

#### **1.1.4 Commercial Banks in Kenya**

Commercial banks are banks that accept deposits and make consumer, commercial and real estate loans (Saunders, 1949). The banking sector in Kenya is regulated by the Central Bank of Kenya (CBK). Commercial banks are licensed and regulated under the Banking Act cap 488, the Companies Act, Central Bank of Kenya (CBK) Act as well as the Banking Act. In total, the industry has 43 commercial banks that are licensed by the Central Bank of Kenya.

Commercial Banks are further classified into three different classes depending on the market share by net assets, advances, customer deposits and pre-tax profits by Central Bank of Kenya. Large banks have asset size of over 15 billion Kenya shillings, medium more than 5 billion shillings and small with asset size of less than 5 billion shillings. Six banks are classified as large, fifteen as medium and twenty three as small (CBK, 2011). According to CBK Annual Report (2009) Kenyan banks have exclusively become acquainted with the idea of using both information technologies and transmission technologies to provide service. Banks have devoted a large amount of finance to improve customer service by introducing improved self banking services. Some of these services include ATMs, quick messaging services, introduction of programs that support banking softwares as well as online banking services. In a few times, commercial banks and different financial establishments have authorised choices that are not vetted; there

are instances of mortgage failures, extension of directed lending and credit and poorly performing loans. Regulations that aim to reduce the poor implications have targeted on better banking practices as well as mergers in banks. However, reviews of laws that are consistent with worldwide requirements on efficient cash levels for lending are unavailable. (Uyemura et al, 2012).

## **1.2 Research Problem**

Weaknesses in internal credit management practices can lead to the failure of financial organizations. Good credit management practices of an organization can enhance its liquidity, performance and improve profitability. The management must maintain a balance between the amount of the various financial resources in order to achieve stability, performance and profitability. The idea of credit risk management is pivotal to any money-lending organization. The management of credit risk involves setting up legal measures for the bank to have a proper administration and performing advance portfolio. Commercial banks receive distinctive credit risk management arrangements significantly controlled by elements, for example, proprietorship structure of the banks that is exclusive, outside claimed, government influenced and private ownership, credit approaches of banks, credit scoring frameworks, banks regulatory environment and the caliber of administration of the banks. Banks may, however, have the best credit policy strategies yet may not record high benefits (Saunders's and Cornett, 2012).

The Kenya banking system began to have apparent weaknesses in the late 1980s which were felt in the then relatively controlled and fragmented financial system. During this time there were contrasts in controls administering banking and non-bank budgetary mediators, there was the absence of self-sufficiency and frail supervisory abilities to do the Central Bank's surveillance role and authorize managing account directions. There were unseemly government arrangements which added to a collection of nonperforming credits and resistance by commercial organizations to jurisdictional prerequisites of the 1989 Banking Act among others. Every one of these issues represented a test to the Kenya saving money framework. Numerous banks that caved in the late 1990's were as a consequence of the poor administration of credit risks which was shown by the elevated amounts of nonperforming advances (Central Bank Supervision Report, 2005). The implementation of stringent credit rationing measures by the CBK has led to improved financial performance for commercial banks due to stability and adoption of better lending practices by commercial banks in Kenya (Central Bank Annual Report, 2008).

Many studies were undertaken in the field of profitability and credit risk in commercial banks. Some studies have indicated that banks may have the best credit management policies but might not necessarily record high profits. Oretha (2012) did a study on the relationship between credit risk management practices and financial performance of commercial banks in Liberia. Quantitative research design was employed under the quantitative research design survey method that was used. The data was collected by cross sectional survey method. The conclusion of the study showed a positive relationship between the credit risk management practices and financial performance.

Muasya (2013) did a study investigating the relationship between credit risk management practices and loans losses-a study on commercial banks in Kenya. A descriptive research design was adopted. The study utilized a standard questionnaire to collect primary data from the credit officers and managers. The data was then analyzed and the findings presented using tables giving descriptive statistics including frequencies, mean and percentages. The study concluded that there was a significant negative relationship between credit risk management practices and loan losses and that the Bankers Association should consider putting in place specific credit risk management practices to be adopted and implemented uniformly by commercial banks in Kenya.

Essendi (2013) examined the effects of credit risk management on the loans portfolio among SACCOs licensed by SASRA in Nairobi County. Results indicated that the existing credit policy of the Sacco is the primary document upon which formulation of new credit policy is based, trends of creditors and overhead costs are also taken into account in the process of formulation. Wanja (2013) investigated the effects of credit policy used by commercial banks on their performance. The study found that the nature of loan terms and conditions have a large effect on the bank's competitiveness. Despite the significant role played by credit risk management practices on financial performance in commercial banks, most local studies done have focused on Microfinance institutions. This study therefore was aimed at filling the already existing knowledge gap through giving answers to the question, what is the influence of credit risk management practices on the financial performance of Kenyan commercial banks?

### **1.3 Objectives of the Study**

#### **1.3.1 General Objective**

To determine the influences of credit risk management practices on the financial performance of Kenyan commercial banks.

#### **1.3.2 Specific Objectives**

1. To examine the impact of credit risk on the financial performance of Kenyan commercial banks
2. To investigate the impact of insolvency risk on the financial performance of Kenyan commercial banks
3. To examine the impact of operating efficiency on the financial performance of Kenyan commercial banks.

### **1.4 Value of the Study**

The study is significant to the management of financial institutions in Kenya as they gain insight on the relationship between credit risk management practices on the financial performance and adopt appropriate credit risk management practices. The study provided an insight on the best credit risk management approaches financial institutions that should adopt in order to effectively manage and enhance profitability as well as reduce occurrence of non-performing loans and improvement of loan portfolio performance.

The study will be useful to the government in policy making regarding the financial performance and also for the supervision of commercial banks. The policy makers will obtain knowledge on the best mechanisms that should be adopted to curb the poor loan performance and the responses that are appropriate, should they occur. This study will therefore act as a guide in adopting effective credit risk management practices by commercial banks.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter presents the theoretical and empirical review on studies related to the purpose of the study. It also presents determinants of the financial performance.

### **2.2 Theoretical Review**

Several theories have been developed to explain the credit risk management puzzle. These include risk management theory and enterprise risk management theory. These theories are discussed below.

#### **2.2.1 Risk Management Theory**

Risk management theory was to a great extent characterized by the work of Markowitz (conceived in 1927) in a progression of articles distributed in the late 1950s. The theory was broadened and refined by Sharpe (1934), Litner (1916 and 1983), Tobin (1918), and others in the resulting decades. Risk administration is composed of processes dealing with the identification, appraisal, and prioritization of risks followed by composed and economic utilization of assets to minimize, screen, and control the likelihood and effect of terrible occasions or to amplify opportunity realization(Wenk, 2005).

Powerful risk management can convey broad advantages to all associations, whether vast or little, public or private (Ranong and Phuenggam, 2009). These advantages incorporate; predominant fiscal performance, better premise for technique setting, enhanced



administration conveyance, a more noteworthy upper hand, less time spent firefighting and less unwelcome surprises, improved probability of progressing the initiative being accomplished, more concentration on doing the right things appropriately, more efficient utilization of assets, lessened waste and misrepresentation, and better esteem for cash, enhanced development and better administration of unexpected and upkeep activities (Wenk,2005).

As per Dorfman (2007), guaranteeing that an association makes financially savvy utilization of risk administration first includes making an approach developed of very much characterized risk management practices and afterward implanting them. These risk management practices include governance risk management practices, operational risk management practices, financial risks management practices, and strategic risk management practices.

Viable risk management can convey extensive advantages to all associations, whether vast or little, open or private (Ranong and Phuenngam, 2009). These advantages incorporate, unrivaled monetary execution, better premise for technique setting, enhanced administration conveyance, more noteworthy upper hand, less time spent firefighting and less unwelcome amazements, improved probability of progress activity being accomplished, nearer inward concentrate on doing the right things legitimately, more productive utilization of assets, decreased waste and extortion, and better esteem for cash, enhanced advancement and better administration of unforeseen and upkeep exercises (Wenk, 2005).

Another critical choice that the supervisors of business banks take, alludes to the liquidity administration. Liquidity is essentially the simplicity with which resources of banks can be uncashed in times of need or its reasonable esteem. It is that nature of an advantage that empowers a bank to react to any budgetary circumstance requiring pressing imbue ment of cash. Liquidity is required to meet standard monetary commitments of the bank particularly without dunking into its stores. At the point when banks hold high liquidity, they do as such at the open door cost of some speculation which could produce exceptional yields. The exchange offs that for the most part exist amongst return and liquidity risk are shown by watching that a move from fleeting securities to long haul securities or advances raises a bank's arrival additionally builds its liquidity dangers and the opposite in is valid. In this manner, a high liquidity proportion demonstrates a less riskous and less beneficial bank (Ongore and Kusa, 2013).

This theory issignificant to the present study for it highlights the methodologies to oversee credit risk regularly to stay away from the danger of risk, decreasing the negative impact or likelihood of the risk, exchanging all or part of the risk to another group, notwithstanding holding a few or the greater part of the potential or genuine results of a specific risk, and the alternate extremes for circumstances (uncertain future states with advantages).

### **2.2.2 Enterprise Risk Management Theory**

The principles of holistic risk management that underpin ERM were first developed in the mid-1990s by the people behind the Australian risk management standard (RM 4360), with later additions by their Canadian counterparts. In the late 1990s and early 2000s pioneers in the field were already implementing ERM in organizations. Against the backdrop of corporate scandals involving unethical conduct the Committee of Sponsoring Organizations of the Treadway Commission (COSO) decided to extend its internal audit-framework to cover ERM. The COSO ERM framework was published in 2004. This created a legacy: the COSO ERM framework incorporates the internal audit aspect in its entirety, though it is not limited to it. Since its publication, the COSO-framework has been hugely influential and has featured prominently in the professional discourse on ERM.

As indicated by Tseng (2007), Enterprise Risk Management (ERM) is a structure that spotlights on embracing a precise and reliable way to deal with the greater part of the dangers standing up to an association. Gordon et al. (2009) then again characterize ERM as the general procedure for dealing with an organization's introduction to vulnerability with particular accentuation on distinguishing and dealing with the occasions that could keep the association from accomplishing its target. ERM is an authoritative idea that applies to all levels of the organization". In leading ERM, the following is recorded as a portion of the ranges or parts of the association that a risk administrator need to investigate: the general population, scholarly resources, market values, business ability and aptitudes, the standard wellspring of benefit stream and the administrative environment

(Searle, 2008). This will help the association to adjust the two most noteworthy business weights; the obligation to convey success to partners and the dangers connected with and produced by the company itself in a financially feasible manner. This way, the risk chief is continually mindful of the dangers it faces and in this manner always screens its presentation and be situated to alter system or course to guarantee the level of dangers it takes is worthy.

This theory is imperative to the present study for it helps the business to adjust the two most noteworthy business weights; the duty to convey accomplishment to partners and the dangers connected with and produced by the company itself in a monetarily possible manner. This way, the risk manager is continually mindful of the risks it faces and, thus, always screens its presentation and be situated to alter methodology or course to guarantee the level of threats it takes is adequate.

## **2.3 Determinants of Financial Performance**

There are several factors that affect firm's financial performance which include credit risk, operational risk, liquidity and firm size as explained below:

### **2.3.1 Credit Risk**

Credit risk is one of the critical dangers of banks by way of their exercises. Through the compelling administration of credit risks exposure, banks not just bolster the feasibility and productivity of their own business but also add to the systemic strength and an adequate allotment of capital in the economy (Psillaki et al., 2010). The default of a little

number of clients may bring about an expansive misfortune for the bank.(Gestel & Baeseems, 2008, p. 24).

The essence of a bank is to receive deposits as well as to give credit services; hence it is directly exposed to credit risk. Credit risk is by, a wide margin, the huge risk faced by banks and the accomplishment of their business relies upon precise estimation and proficient administration of this risk to a more remarkable degree than other dangers (Gieseche, 2004). As per Chen and Pan (2012), credit risk is the level of significant worth vacillations in debt instruments and derivatives because of changes in the fundamental credit nature of borrowers and counterparties. Coyle (2000) characterizes risk as misfortunes from the refusal or powerlessness of credit clients to fork over the required funds and on time. Credit risk is the presentation confronted by banks when a borrower (client) defaults in respecting obligation commitments on the due date. This risk also called 'counterparty risk' is sufficient to putting the bank in trouble if not well managed. Credit risk management amplifies bank's risk balanced rate of return by keeping up credit risk exposure inside worthy levels with a specific end goal to provide a framework for understanding the impact of credit risk management on banks' profitability (Kargi, 2011).

### **2.3.2 Operational Risk**

The Bank of International Settlement (BIS), the principal organization of Central Banks (based in Basel Switzerland), in the major economies of the world has defined operational risk as the risk of losses resulting from inadequate or failed internal processes, people and system or from external events. Operational risk can be isolated

into those misfortunes that are normal and those that are startling. It's a type of diversifiable risk and can be controlled if management does its job well. An example of the dire consequences that operational risk poses; a bond merchant of Daiwa Bank in New York had brought on and shrouded misfortunes of USD 1.1 billion through rebellious exchanges and trick bargains. Daiwa did not have any calculable administration controls or even the most straightforward inside control that could have promptly uncover the deceitful exchanges. The bank got to be bankrupt, eleven senior administrators were requested to pay harms as they neglected to regulate staff. (Jorion, 2001).

Globalization and new innovation have given keeping money industry benefit making openings however have additionally made it more defenseless against operational risk, (Bloom and Galloway, 1999). It appears that the business' risk control ability has not kept pace with these improvements as demonstrated by, illustration the Barings Bank adventure in 1995. The event together with numerous others persuaded banks to take a more proactive way to deal with operational risk administration.

Rasid et al (2011), on his study bolsters the hypothetical contention conveyed to light by Soin (2005), Williamson (2004) and Collier et al., (2004) that risk management in an association impact the organization's profitability, through upgraded chance administration rehearses. Rasid et al., (2011) promote uncovered that risk examination of money related proclamation was professedly the biggest patron towards chance administration while planning and key arranging are imperative players in overseeing risk

which influence the bank's productivity. Williamson (2004), uncovered that a year-to-year cost pay proportion, value to aggregate resources proportion, add up to resource development proportion and proportion of advance misfortune save to gross advances decidedly impacts the probability of budgetary trouble in the coming year in any case, macroeconomic data indicates little effect on the likelihood of money related misery on monetary organization (Zaki et al., 2011) and a comparative study led on German banks by Nuxoll (2003) underpins this conclusion.

### **2.3.3 Liquidity**

Another critical choice that the directors of business banks take alludes to the liquidity administration. Liquidity is essentially the straightforwardness with which resources can be converted into cash in times of need. It is that nature of a benefit that empowers an association to react to any budgetary circumstance requiring pressing implantation of cash.

Liquidity is required to meet consistent money related commitments of the bank particularly without dunking into its stores. At the point when banks hold high liquidity, they do as such at the open door cost of some speculation which could create higher returns. The exchange offs that for the most part exist amongst return and liquidity risk are shown by watching that a move from fleeting securities to long haul securities or credits raises a bank's arrival additionally expands its liquidity dangers and the converse is valid. In this manner a high liquidity proportion shows a less unsafe however a less productive bank.

Liquidity is the available cash for the near future, or any asset that can be easily and cheaply converted to cash. A firm can use its readily available cash to finance its operations when the long-term financing is not available. Readily available cash also helps to deal with its obligations when the earnings are low, and can also help in meeting unexpected emergencies. Almajali et al. (2012) found that firm liquidity had significant effect on Financial Performance of firms. It is therefore important that companies increase their current assets and decrease current liabilities to improve on liquidity.

#### **2.3.4 Firm Size**

Different specialists have contended that the span of the organization is one of the components that have the biggest impact on the stock costs of firms (Allen and Rachim, 1996). In any case, despite the fact that most of the past studies have presumed that size is a vital component, the estimations of size have shifted between studies. Holder, Langrehr & Hexter (1998) utilized the normal logarithm of offers as an estimation of the size while Daunfeldt, Selander & Wikström, 2009, utilized the logarithm of the quantity of workers so as to quantify the size. In this study, net resources per share will be utilized as an intermediary for firm size.

Hvide and These (2007) in their study inferred that bigger firms have better execution. Flamini et.al (2009) recommended that greater firms are more focused than littler firms in bridling economies of scale in exchanges and appreciate a more elevated amount of benefits. Athanasoglou et al., (2005) attests that expansion in organization measure expands the execution of the bank. Almajali et al (2012) contended that the span of the



firm can influence its money related execution. In any case, for firms that turn out to be outstandingly vast, the impact of size could be negative because of organization and different reasons (Yuqi, 2007).

## **2.4 Empirical Review**

Soke Fun Ho and Yusoff (2009), in their study using a loan risk/chance administration procedures of selected monetary organizations in Malaysia found that larger part of business establishments and banks' losses come from default because of inability of clients to meet commitments in connection to loaning, exchanging, settlement and other money related exchanges. Credit risk exudes from a bank's managing people, corporate, money related establishments or sovereign substances. An awful portfolio may pull in liquidity and credit risk. The point of credit risk administration is to amplify a bank's risk balanced rate of return by keeping up credit risk introduction inside satisfactory limit. The productive administration of credit risk is an indispensable part of the general risk administration framework and is significant to every bank's base and in the long run the survival of all keeping money foundations. It is consequently essential that credit choices are made by sound investigations of dangers required to stay away from damage to bank's productivity. They held powerful administration of credit risk is a fundamental segment of an extensive method to risk administration and basic to the long haul achievement of all managing an account establishment. Gizaw et al., (2015) focused on the impact of credit risks on advantage execution of business banks in Ethiopia. For their study, data was accumulated from eight banks over a twelve month time period (2013-2014). Their study showed recognize chance measures, for instance, non-performing progresses,

credits incident game plans and capital adequacy fundamentally influence the advantage of business banks in Ethiopia. They recommended that there is a necessity for enhancing credit risk organization to keep up the general advantage of business banks in Ethiopia.

Poudel, (2012) considered the effect of credit risk administration on budgetary execution of business banks in Nepal. His study attempted to investigate different parameters related to acknowledge chance administration as it influence banks' money related execution. Budgetary report of 31 banks were utilized to break down for a long time (2001-2011) contrasting the benefit proportion with default rate, cost of per advance resources and capital sufficiency proportion. The study uncovered that every one of these parameters inversely affect banks' budgetary execution.

Kithinji (2010) surveyed the impact of credit risk administration on the gainfulness of business banks in Kenya. Information on the measure of credit, level of non-performing loans and benefits were gathered for the period 2004 to 2008. The discoveries uncovered that the greater part of the benefits of business banks are not affected by the measure of credit and non-performing advances, in this way proposing different factors other than credit and non-performing advances effect on benefits.

Muasya (2013) did a study on the relationship between credit risk management practices and loan risks. Enlightening examination plan was used in this study as it intended to build up if there is a relationship between credit risk administration practices and advance portfolio misfortunes in business banks in Kenya. The study used a standard survey to gather essential information from the credit chiefs/officers through the drop and pick

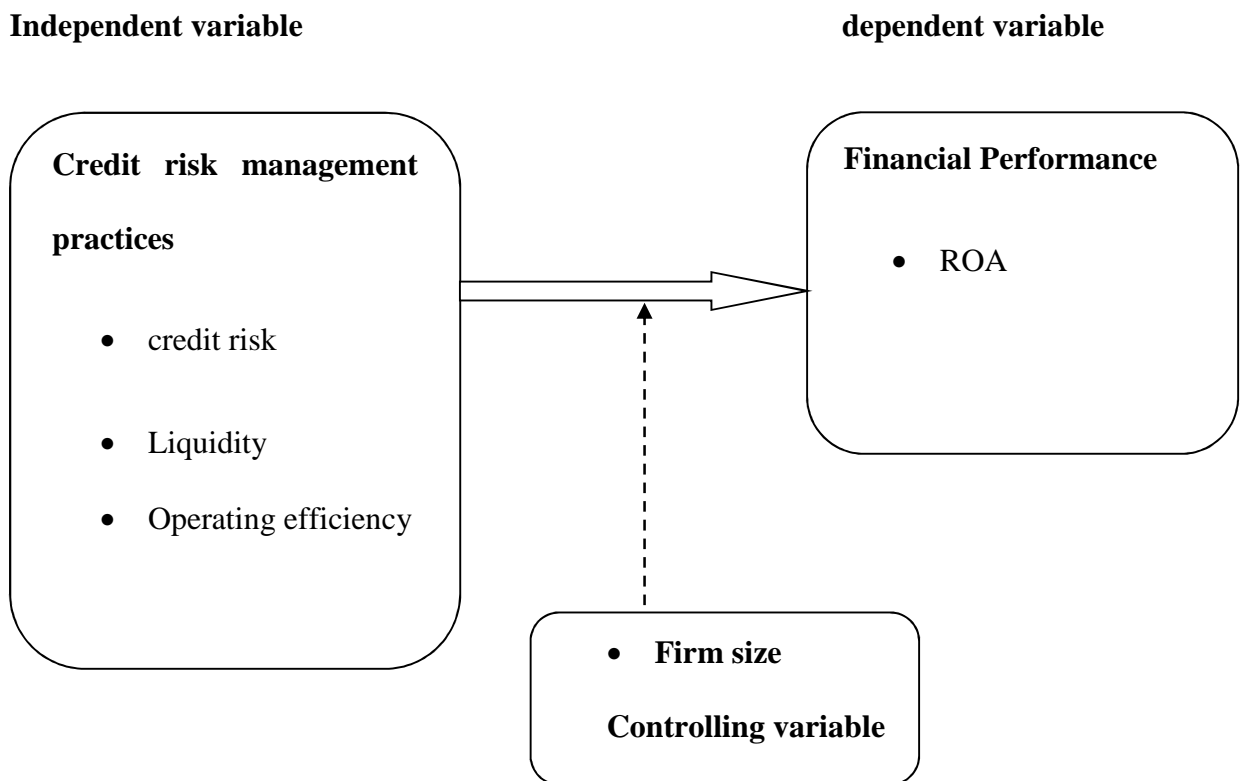
technique shape forty two (42) business banks in Kenya. Be that as it may, just thirty six (36) of the respondent business banks finished the survey. The information was then investigated and the discoveries exhibited utilizing tables giving distinct insights including frequencies, mean and rates. Inquire about discoveries demonstrated that a critical number of business banks in Kenya had not set up credit risk administration data frameworks to viably gauge, screen, and control and distinguish chance, and that lion's share of administration of business banks in Kenya perceived the requirement for data sharing among players inside the business keeping in mind the end goal to alleviate the risk. It was presumed that credit risk administration practices are normal among a large portion of the business banks in Kenya and that administration of these business banks acknowledged government enactment identifying with credit risk management through the presentation of the credit sharing data Act, and that there is a noteworthy negative relationship between credit risk management practices and advances misfortunes in business banks in Kenya.

## **2.5 Conceptual Framework**

The Conceptual Framework below gives a depiction on how the variables are related to one another. The variables defined here are the independent (explanatory) and the dependent (response) variable. An independent variable influences and determines the effect of another variable. The independent variable in this study is credit risk management practices. Dependent variable is that factor which is observed and measured to determine the effect of the independent variable. The dependent variable is financial performance. Controlling variables are extraneous factors, possibly affecting the

experiment, that are kept constant so as to minimize their effects on the outcome. In this study the controlling variable is firm size.

**Figure 2.1: Conceptual Framework**



## 2.6 Summary of the literature Review

This chapter focused on the concepts of credit risk management in commercial banks. From this literature review, it is evident that credit risk management is current and an important topic in the banking industry compared to the increasingly complex technological environment. It seems the main credit exposures to a bank fall within the broad categories of people, processes, systems and those factors outside the direct control of the bank.

It is also evident that a bank risk manager should consider the outcomes of more than one results methodology before making crucial risk management decisions in order to ensure sound decision making. Also the role of the board of directors, line managers and internal audit are emphasized in this discussion to ensure a sound credit risk management. Also it is evident that the efficient management of credit risk is a vital part of the overall risk management system and is crucial to each bank's financial success and eventually the survival of all banking establishments.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter focuses on the research design, population of interest, data collection method, sources of data and data analysis.

### **3.2 Research Design**

A research design is the design of the study. It is a systematic arrangement of the measures, factors and the tools to be applied in the collection and analysis of the data obtained in order to achieve the objectives of the study in the most efficient and effective way. Kothari (2004) concluded that a research design directs the researcher by offering him with guidelines on how to collect, analyze and interpret the data in a coherent manner.

The study employed descriptive research design. Cooper and Schindler (2011) defines descriptive research design as a design used to describe behavior or characteristic of a population being studied. The design fits the proposed study which aimed to determine the relationships between variables that is credit risk management practices and financial performance. Further, the design was dependable, valid and generalizable in this kind of a research in that it was good for the purpose of data collection and analysis.

### **3.3 Target Population**

The target population of the study consisted of all 43 operating commercial banks in Kenya, registered with the CBK. They comprised of 6 big banks, 15 medium banks and 22 small banks (CBK, 2015). Because of the small number of banks and easy accessibility from their Nairobi offices, all of the banks were included in the study hence a census. A census study includes every unit in a population that is included in a study (Field, 2010).

### **3.4 Data Collection**

Secondary data from financial statements of commercial banks in Kenya were collected. The study collected secondary data for the last five years starting year 2011 to 2015 from financial statements of the commercial banks during the same period disclosed as per the BOT prudential guidelines, on the effect of credit risk management practices and financial performance of commercial banks in Kenya. The data collected was from the financial statements and included capital, total assets, current assets, current liabilities, operating expenses, and net operating income.

### **3.5 Data Analysis**

The data gathered was analyzed and presented using descriptive statistics. Schacher (2002), has suggested that descriptive studies be analyzed using descriptive statistics. Descriptive statistics include tabulation and organization of data in order to demonstrate their main characteristics and involves use of techniques such as measures of central tendency, measures of dispersion, correlation and graphical presentations.

### 3.5.1 Analytical Model

The data collected was analyzed in order to determine the influence of credit risk management practices on financial performance in commercial banks in Kenya.

The results were tested to see the extent of relationship using the following linear regression equation model:

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

Where; Y= Financial performance of commercial banks in Kenya was measured by Return on Assets (ROA)

X<sub>1</sub> the credit risk which is a measure of banks' exposure to counterparty risk; it was measured by the ratio of capital and reserve to total assets

X<sub>2</sub> the liquidity; it was measured using the liquidity ratio: Current Assets divided by Current Liabilities

X<sub>3</sub> is the operating efficiency as a measure of management quality; it was measured by the ratio of Operating expenses to Net Operating Income

X<sub>4</sub> is the size of the bank which represents the total assets of the bank; it was measured using the Natural Logarithm of Total Assets

$\epsilon$  = Error term Regression analysis was used.

The B coefficient from the equation represented the strength and direction of the relationship between the variables.



### **3.5.2 Test of Significance**

F-test was used to test the joint significance of all coefficients and t-test for the test significance of individual coefficients. The significance of the regression model was determined at 95% confidence interval and 5% level of significance.

## **CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION**

### **4.1 Introduction**

This chapter presents data analysis and interpretation. To determine the influences of credit risk management practices on the financial performance of commercial banks in Kenya. More specifically, the study sought to establish the effect of credit risk on the financial performance, to investigate the effect of insolvency risk on the financial performance and to examine the effect of operating efficiency on the financial performance of commercial banks in Kenya. Data was collected from all the banks. The data sources included financial statements, annual statements for a period of 5 years (2011-2015) as well as other publications. Data was collected based on the variables of the study, that is, financial performance depicted by Return on Assets; credit risk, liquidity, operating efficiency and size of the bank .

### **4.2 Descriptive Statistics**

Descriptive statistics are the measures that define the general nature of the data under study. They define the nature of response from primary data and/or secondary data. Descriptive statistics for this study were: mean, standard deviation, minimum and maximum. Descriptive data analysis was performed on the return on assets, credit risk, liquidity, operating efficiency as well as the size of the bank. The descriptive statistics results are tabulated below:

### 4.2.1 Return on Assets

The study sought to establish the financial performance of commercial banks in Kenya from 2011 to 2015. Financial performance of commercial banks in Kenya was measured using Return on Assets using the formula: ROA (Return on Assets) = [net income / total assets]. The findings are as indicated in Table 4.1 below.

**Table 4.1: Return on Assets**

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
2011	-.06	.07	.0287	.02324
2012	-.14	.10	.0240	.03770
2013	-.12	.14	.0347	.04453
2014	-.10	.19	.0490	.05606
2015	-.12	.26	.0681	.07322

The figures in Table 4.1 demonstrate the pattern of profit for resource values over the 5 year time frame somewhere around 2011 and 2015. The smallest value for ROA was a mean of 2.4% in year 2012 while the highest was a mean of 6.81% in year 2015. This spoke to a positive change in the ROA mean estimations of 4.41% over the 5 year time span. The rise in ROA values over the 5 year time frame shows that the money fiscal performance of the business banks has been on the expansion in the course of the most recent 5 years. Then again the standard deviation demonstrates little variance in the money fiscal performance between different business banks in Kenya.

#### 4.2.2 Credit Risk

The study sought to establish the credit risk of commercial banks in Kenya from 2011 to 2015. Credit risk of commercial banks in Kenya was measured by the ratio of capital and reserve to total assets. The findings are as indicated in Table 4.2 below.

**Table 4.2: Credit Risk**

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
2011	.04	.58	.1837	.12385
2012	.04	.55	.1727	.11640
2013	.03	.51	.1622	.10947
2014	.03	.48	.1525	.10289
2015	.03	.45	.1433	.09674

According to the findings in Table 4.2 above, the credit-risk of commercial banks was at a mean value of 0.1837 in 2011. In a period of 5 years, however, the credit-risk of commercial banks was at a mean value of 0.1433. This was 22% drop in the credit-risk of commercial banks. This implies that the credit-risk of commercial banks had declined significantly over the 5 year period between 2011 and 2015. The increased financial performance of commercial banks in Kenya could therefore be linked to the decline in credit-risk of the same banks hence a negative effect of credit risk on performance of commercial banks in Kenya. The variation in standard deviation indicates slight variation of credit-risk across all the commercial banks in Kenya.

### 4.2.3 Liquidity

The study sought to establish the liquidity risk of commercial banks in Kenya from 2011 to 2015. Liquidity risk of commercial banks was measured using the formula: [liquidity ratio= [Current Assets / Current Liabilities]. The findings are as indicated in Table 4.3.

**Table 4.3: Liquidity**

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
2011	1.55	3.86	2.5316	.62600
2012	1.64	4.09	2.6836	.66355
2013	1.74	4.34	2.8445	.70341
2014	1.85	4.60	3.0152	.74555
2015	1.96	4.87	3.1962	.79027

Table 4.3 presents the findings on the descriptive statistics for liquidity level for the years 2011-2015. Liquidity can mean the measure of profoundly fluid resources. In the event that a business has direct liquidity, it has a direct measure of extremely fluid resources. In the event that a business has adequate liquidity, it has an adequate measure of exceptionally fluid resources and the capacity to meet its installment commitments. Liquidity level is measured by current proportion. The means portray a steady increase in the liquidity level for all the 43 commercial banks in Kenya with the lowest being 2.5316 in the year 2011 and the highest being 3.1962 in 2015. Additionally the scores of standard deviation indicate variation in Liquidity level for the various commercial banks in Kenya statistically.

#### 4.2.4 Operating Efficiency

The study sought to establish the operating efficiency of commercial banks in Kenya from 2011 to 2015. Operating efficiency of commercial banks was measured using the formula: [operating expenses/ net operating income]. The findings are as indicated in Table 4.4 below.

**Table 4.4: Operating Efficiency**

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
2011	1.06	4.93	1.9463	.80196
2012	1.07	4.11	2.3601	.81700
2013	1.17	4.50	2.5820	.89380
2014	1.28	4.92	2.8247	.97783
2015	1.40	5.38	3.0902	1.06974

According to the findings in Table 4.4 above, the operating efficiency of commercial banks was at a mean value of 1.946 in 2011. In a period of 5 years, however, the operating efficiency of commercial banks was at a mean value of 3.09. This was 58.78% increase in the operating efficiency of commercial banks. This implies that the operating efficiency of commercial banks had improved significantly over the 5 year period between 2011 and 2015. The increased financial performance of commercial banks in Kenya could therefore be linked to the improvement in operating efficiency of the same banks hence a positive effect of operating efficiency on performance of commercial

banks in Kenya. The small variation in standard deviation indicates small variation of operating efficiency across all the commercial banks in Kenya.

#### 4.2.4 Size of the Bank

The study sought to establish the size of the commercial banks in Kenya from 2011 to 2015. Size of the commercial banks was measured using the natural log. The findings are as indicated in Table 4.5 below.

**Table 4.5: Size of the Bank**

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
2011	2.21	11.70	5.2748	2.99193
2012	2.38	12.59	5.6758	3.21933
2013	2.56	13.54	6.1071	3.46403
2014	2.76	14.57	6.5713	3.72715
2015	2.97	15.68	7.0706	4.01051

Table 4.5 presents the findings on the descriptive statistics for the size of banks (measured by the natural log of total assets) for the years 2011-2015. The means portray a steady increase in the size of banks for all the commercial banks in Kenya with the lowest being 5.2748 in the year 2011 and the highest being 7.0706 in 2015. Additionally the standard deviation figures are high for size, indicating that the data points are spread out over a large range of values, meaning that there is high level of variability in the data.

There is a wide gap between the maximum and minimum size means that there is high variability of size change in commercial banks.

### 4.3 Regression Analysis

In addition, the researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on the effects of credit policy on the liquidity. The researcher applied the statistical package for social sciences (SPSS V 21.0) to code, enter and compute the measurements of the multiple regressions for the study.

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (financial performance) that is explained by the credit risk, liquidity and operating efficiency as the independent variable and size of the firm as the control variable.

#### 4.3.1 Model Summary

**Table 4.6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.979 <sup>a</sup>	.959	.919	.04131

a. Predictors: (Constant), credit risk, liquidity, operating efficiency, and size of the bank

**Source: Author (2016)**



Adjusted R squared is a coefficient of assurance which lets us know the variety in the dependent variable because of changes in the independent variables. From the discoveries in the above table the estimation of balanced R squared was 0.959 a sign that there was a change of 95.9 percent on financial performance of commercial banks in Kenya due to changes in credit risk, liquidity, operating efficiency and bank size at 95 percent confidence interval. This shows that 95.9 percent changes in financial performance of commercial banks in Kenya could be accounted to changes in credit risk, liquidity, operating efficiency and bank size. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above, there was a strong positive relationship between the study variables as shown by 0.979.

#### 4.3.2 ANOVA Results

**Table 4.7: ANOVA of the Regression**

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>	
1	Regression	10.286	4	2.571	7.123	.001 <sup>b</sup>
	Residual	13.718	38	.361		
	Total	24.004	42			

a. Dependent Variable: ROA

b. Predictors: (Constant), credit risk, liquidity, operating efficiency, and size of the bank

**Source: Author (2016)**

From the ANOVA statistics shown in table the processed data, which is the population parameters, had a significance level of 0.1% which shows that the data is ideal for making a conclusion on the population's parameter as the value of significance (p-value) is less than 5%. The F critical at 5% level of significance was 7.123 since F calculated is greater than the F critical (value = 2.021), this shows that the overall model was significant and that credit risk, liquidity, operating efficiency, and size of the bank were significantly influencing financial performance of commercial banks in Kenya.

#### 4.3.3 Coefficient of Correlation

**Table 4.8: Coefficient of Correlation**

<b>Coefficients<sup>a</sup></b>						
<b>Model</b>	<b>Unstandardized</b>		<b>Standardized</b>	<b>t</b>	<b>Sig.</b>	
	<b>Coefficients</b>					<b>Coefficients</b>
	<b>B</b>	<b>Std. Error</b>	<b>Beta</b>			
	(Constant)	2.853	.733		3.890	.000
	Credit Risk	-.238	.108	-.044	-2.204	.004
	Liquidity	.013	.013	.142	.995	.036
1	Operating efficiency	.204	.110	.230	1.850	.028
	Size of the bank	.231	.103	.181	2.246	.011

a. Dependent Variable: ROA

**Source: Author (2016)**

As per the SPSS generated table above, the equation ( $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$ ) becomes:

$$Y = 2.853 - 0.238X_1 + 0.13X_2 + 0.204X_3 + 0.231X_4$$

From this regression equation it was revealed that holding credit risk, liquidity, operating efficiency, and size of the bank to a constant zero, financial performance of commercial banks would be at 2.853, a unit increase in credit risk would lead to an decrease in financial performance of commercial banks by a factor of 0.238, a unit increase in liquidity of the banks would lead to an increase in financial performance of commercial banks by a factor of 0.013, a unit increase in operation efficiency of the banks would lead to increase in financial performance of commercial banks by a factor of 0.204, further a unit increase in size of the bank would lead to an increase in the financial performance of commercial banks by a factor of 0.231.

At 5% level of significance and 95% confidence level, Liquidity had a 0.036 level of significance, operation efficiency had a 0.028 level of significance; size of the bank had 0.011 level of significance while credit risk showed 0.001 level of significance, hence the most significant factor is credit risk. Overall credit risk had the greatest effect on the financial performance of commercial banks. All the variables were significant ( $p < 0.05$ ).

#### **4.4 Summary and Interpretation of Findings**

The study found that there was a strong positive relationship between the study variables. The study further revealed that credit risk, liquidity, operating efficiency, and size of the banks significantly affected the financial performance of commercial banks. The finding

of this study concur with the finding of Kamau, (2010) in a study of adaptation of risk management by commercial banks in Kenya, indicated that operational risk was very critical and it was 44% out of the other risks that occurred in commercial banks, and this is due to the high increase in the use of automated technology, lack of qualified staff and lack of management support in the organizations, and also the internal and external frauds. He also established that operational risk management largely affects profitability thus forcing banks to change their investment decision.

From the regression equation it was revealed that credit risk had a negative relationship with financial performance of commercial banks in Kenya. The study also found that there was a positive relationship between liquidity, operating efficiency, size of the bank and financial performance of commercial banks. The finding of this study concur with the finding of Muasya (2013) who did a study investigating the relationship between credit risk management practices and loan losses-a study on commercial banks in Kenya and revealed that there was a significant negative relationship between credit risk management practices and loans losses and that the Bankers Association should consider putting in place specific credit risk management practices to be adopted and implemented uniformly by commercial banks in Kenya.

## **CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

This chapter gives the summary, conclusion and recommendation of the whole study. From the findings the researcher was able to come up with the summary, conclusion and recommendation.

### **5.2 Summary**

The objective of the study was to determine the influences of credit risk management practices on the financial performance of commercial banks in Kenya. Secondary Data was collected from Central Bank and banks financial reports and descriptive and multiple regression analysis used in the data analysis. The study revealed a positive change in the ROA means values of 4.41% over the 5 year period and that there was 22% drop in the credit-risk of commercial banks. The study also established a steady increase in the liquidity level for all the 43 commercial banks in Kenya with the lowest being 2.5316 in the year 2011 and the highest being 3.1962 in 2015. It was evident from the study that the operating efficiency of commercial banks had improved significantly over the 5 year period between 2011 and 2015. The study further established a steady increase in the size of banks for all the commercial banks in Kenya with the lowest being 5.2748 in the year 2011 and the highest being 7.0706 in 2015.

From the finding in the adjusted R squared the study found that 95.9% variation on financial performance of commercial banks could be accounted for by credit risk, liquidity, operating efficiency, and size. From the correlation coefficient, the study found that there was a strong positive relationship between the study variables. From the ANOVA finding, the study found that the model had a significance level of 0.001 which shows that the data is ideal for making conclusions on the population's parameter as the value of significance (p-value) is less than 5%. The study further revealed that credit risk, liquidity, operating efficiency, and size significantly affected the financial performance of commercial banks.

### **5.3 Conclusion**

From the discoveries the study reasons that credit risk management impacted the fiscal performance of business banks in Kenya, as it was found that there was a solid positive relationship between credit risk management and budgetary execution of business banks in Kenya.

The research additionally found that there was a negative correlation between credit risk and financial of business banks. In this way the study infers that credit risk contrarily influences the financial performance of business banks. The study also uncovered that there was a positive relationship between liquidity, working productivity, and size of the bank and performance of business banks. Consequently, the study presumes that liquidity, operating effectiveness, and size of the banks emphatically impacts the money related execution of business banks.

#### **5.4 Recommendations For policy**

From the findings and conclusion, the study recommends that there is need for the commercial banks to effectively manage their credit risk as it was found that credit risk management positively influences financial performance of commercial banks.

The study further recommends that there is need for the management of commercial banks to constantly check their banks' exposure to credit risk as it was revealed that credit risk negatively affect the financial performance of commercial banks.

There is need for commercial banks to enhance their liquidity, operating efficiency, and size of the bank, as it was revealed that liquidity, operating efficiency, and size of the bank positively influences the performance of commercial banks.

#### **5.5 Limitations of the Study**

This study restricted to the utilization of auxiliary information which raises unwavering quality issues of the information utilized. Depending on the optional information implies that any blunder in the source will likewise be reflected in the examination, that is, mistakes and suspicions not unveiled in the source reports will likewise reoccur in the exploration.

It is possible that the nature of data from the annual statements affected the results in an unanticipated manner or limits the power of the tests to detect associations. This may be created by variation of statistical figures illustrating the key variables measurements. Be

that as it may, the utilization of optional information gave a chance to hunt to a more honest and inherent relationship between the factors. This managed the researcher the advantages of a greater focus on examining the accessible information in a way that would enhance the accomplishment of the study goals.

The study encountered the challenge of privacy with regard to disclosure of information on banks as only a few disclosures are given in financial statements to comply with statutory requirements. The management are hesitant when it comes to exposing information to the public which it considered as a top secret. The researcher surmounted the challenge by way of assuring them that the study was purely academic and their identity would always remain confidential.

### **5.6 Suggestions for Further Research**

Since the study factors represent 95.9% of the adjustments in the money fiscal performance, it implies that 4.1% of the banks' monetary execution is controlled by different variables. Consequently, a study ought to be done utilizing diverse factors to decide their impact on fiscal performance. A portion of the elements can be premium sensitivity, capital sufficiency, remote trade risks and bank's deposits.

Further research needs to be done to find out the determinants of credit risk management among commercial banks in Kenya. This will help to explain if the financial performance is affected with the implementation of the credit policy to the organizations.



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## **APPENDICES**

### **Appendix I: Commercial Banks in Kenya**

1. Africa Banking Corporation Ltd (Kenya)
2. Bank of Africa Ltd
3. Baroda Bank Ltd
4. Bank of India Ltd
5. Barclays Bank of Kenya Ltd
6. CFC Stanbic Bank Ltd
7. Charterhouse bank Ltd
8. Chase Bank Ltd (Kenya)
9. Citibank N.A Ltd
10. Commercial Bank of Africa Ltd
11. Consolidated Bank of Kenya Ltd
12. Cooperative Bank of Kenya Ltd
13. Credit Bank Ltd
14. Development Bank of Kenya Ltd
15. Diamond Trust Bank Ltd
16. Dubai Bank Kenya Ltd
17. Ecobank Ltd
18. Equatorial Commercial Bank Ltd
19. Equity Bank Ltd
20. Family Bank Ltd
21. Fidelity Bank Limited Ltd

22. Fina Bank Ltd
23. First Community Bank Ltd
24. Giro Commercial Bank Ltd
25. Guardian Bank Ltd
26. Gulf African Bank Ltd
27. Housing Fin. Co. of Kenya Ltd
28. Habib Bank Ltd
29. Habib Bank A.G Zurich Ltd
30. I&M Bank Ltd
31. Imperial Bank Kenya Ltd
32. Jamii Bora Bank Ltd
33. Kenya Commercial Bank Ltd
34. Sidian Bank Ltd (formerly, K-Rep Bank)
35. Middle East Bank Kenya Ltd
36. National Bank of Kenya Ltd
37. NIC Bank Ltd
38. Oriental Commercial Bank Ltd
39. Paramount Universal Bank Ltd
40. Prime Bank Ltd (Kenya)
41. Standard Chartered Kenya (K) Ltd
42. Trans National Bank Kenya Ltd
43. United Bank for Africa Ltd

Source: CBK (2015)

## Appendix II: ROA

	2011	2012	2013	2014	2015
Africa Banking Corporation Ltd (Kenya)	0.041	0.029	0.039	0.054	0.073
Bank of Africa Ltd	0.014	0.013	0.018	0.024	0.033
Baroda Bank Ltd	0.046	0.036	0.049	0.067	0.091
Bank of India Ltd	0.042	0.024	0.033	0.044	0.06
Barclays Bank of Kenya Ltd	0.072	0.07	0.095	0.13	0.176
CFC Stanbic Bank Ltd	0.022	0.035	0.048	0.065	0.088
Charterhouse bank Ltd	0.023	0.027	0.037	0.05	0.068
Chase Bank Ltd (Kenya)	0.064	0.104	0.141	0.192	0.262
Citibank N.A Ltd	0.036	0.04	0.054	0.074	0.101
Commercial Bank of Africa Ltd	0.016	0.01	0.014	0.019	0.025
Consolidated Bank of Kenya Ltd	0.037	0.048	0.065	0.089	0.121
Cooperative Bank of Kenya Ltd	0.01	0.013	0.018	0.024	0.033
Credit Bank Ltd	0.014	0.008	0.011	0.015	0.02
Development Bank of Kenya Ltd	0.042	0.049	0.067	0.091	0.123
Diamond Trust Bank Ltd	0.009	-0.012	-0.016	-0.022	-0.03
Dubai Bank Kenya Ltd	0.005	-0.048	-0.065	-0.089	-0.121
Ecobank Ltd	0.006	-0.046	-0.063	-0.085	-0.116
Equatorial Commercial Bank Ltd	0.068	0.074	0.101	0.137	0.186
Equity Bank Ltd	0.02	0.027	0.037	0.05	0.068
Family Bank Ltd	0.028	0.009	0.012	0.017	0.023
Fidelity Bank Limited Ltd	0.021	0.02	0.027	0.037	0.05
Fina Bank Ltd	0.013	0.029	0.039	0.054	0.073
First Community Bank Ltd	0.028	0.017	0.023	0.031	0.043
Giro Commercial Bank Ltd	0.019	0.019	0.026	0.035	0.048
Guardian Bank Ltd	0.012	0.028	0.038	0.052	0.07
Gulf African Bank Ltd	0.029	0.042	0.057	0.078	0.106
Housing Fin. Co. of Kenya Ltd	0.046	0.065	0.088	0.12	0.164

Habib Bank Ltd	0.064	0.055	0.075	0.102	0.138
Habib Bank A.G Zurich Ltd	0.058	0.052	0.071	0.096	0.131
I&M Bank Ltd	-0.018	0.015	0.02	0.028	0.038
Imperial Bank Kenya Ltd	0.05	0.052	0.071	0.096	0.131
Jamii Bora Bank Ltd	0.028	0.032	0.044	0.059	0.081
Kenya Commercial Bank Ltd	0.02	0.008	0.011	0.015	0.02
SidianLtd	0.036	0.017	0.023	0.031	0.043
Middle East Bank Kenya Ltd	0.046	0.049	0.067	0.091	0.123
National Bank of Kenya Ltd	0.038	0.018	0.025	0.033	0.045
NIC Bank Ltd	0.024	0.012	0.016	0.022	0.03
Oriental Commercial Bank Ltd	0.031	0.027	0.037	0.05	0.068
Paramount Universal Bank Ltd	0.05	0.059	0.08	0.109	0.148
Prime Bank Ltd (Kenya)	0.041	0.037	0.05	0.068	0.093
Standard Chartered Kenya (K) Ltd	-0.057	-0.136	-0.117	-0.101	-0.087
Trans National Bank Kenya Ltd	0.031	0.02	0.027	0.037	0.05
United Bank for Africa Ltd	0.011	-0.017	-0.002	0.016	0.037



### Appendix III: Credit Risk

	2011	2012	2013	2014	2015
Africa Banking Corporation Ltd (Kenya)	0.160	0.150	0.141	0.133	0.125
Bank of Africa Ltd	0.146	0.137	0.129	0.121	0.114
Baroda Bank Ltd	0.132	0.125	0.117	0.110	0.103
Bank of India Ltd	0.121	0.113	0.107	0.100	0.094
Barclays Bank of Kenya Ltd	0.110	0.103	0.097	0.091	0.086
CFC Stanbic Bank Ltd	0.100	0.094	0.088	0.083	0.078
Charterhouse bank Ltd	0.091	0.085	0.080	0.075	0.071
Chase Bank Ltd (Kenya)	0.083	0.078	0.073	0.069	0.065
Citibank N.A Ltd	0.075	0.071	0.066	0.062	0.059
Commercial Bank of Africa Ltd	0.068	0.064	0.060	0.057	0.053
Consolidated Bank of Kenya Ltd	0.062	0.059	0.055	0.052	0.049
Cooperative Bank of Kenya Ltd	0.057	0.053	0.050	0.047	0.044
Credit Bank Ltd	0.052	0.049	0.046	0.043	0.040
Development Bank of Kenya Ltd	0.047	0.044	0.041	0.039	0.037
Diamond Trust Bank Ltd	0.043	0.040	0.038	0.035	0.033
Dubai Bank Kenya Ltd	0.039	0.037	0.034	0.032	0.030
Ecobank Ltd	0.048	0.045	0.042	0.040	0.037
Equatorial Commercial Bank Ltd	0.059	0.055	0.052	0.049	0.046
Equity Bank Ltd	0.072	0.068	0.064	0.060	0.056
Family Bank Ltd	0.089	0.084	0.079	0.074	0.069
Fidelity Bank Limited Ltd	0.109	0.103	0.097	0.091	0.085
Fina Bank Ltd	0.135	0.127	0.119	0.112	0.105
First Community Bank Ltd	0.166	0.156	0.146	0.138	0.129
Giro Commercial Bank Ltd	0.204	0.191	0.180	0.169	0.159
Guardian Bank Ltd	0.251	0.236	0.221	0.208	0.196
Gulf African Bank Ltd	0.308	0.290	0.272	0.256	0.241
Housing Fin. Co. of Kenya Ltd	0.379	0.356	0.335	0.315	0.296

Habib Bank Ltd	0.356	0.335	0.315	0.296	0.278
Habib Bank A.G Zurich Ltd	0.335	0.315	0.296	0.278	0.261
I&M Bank Ltd	0.315	0.296	0.278	0.261	0.246
Imperial Bank Kenya Ltd	0.296	0.278	0.261	0.246	0.231
Jamii Bora Bank Ltd	0.278	0.261	0.246	0.231	0.217
Kenya Commercial Bank Ltd	0.261	0.246	0.231	0.217	0.204
SidianLtd	0.246	0.231	0.217	0.204	0.192
Middle East Bank Kenya Ltd	0.231	0.217	0.204	0.192	0.180
National Bank of Kenya Ltd	0.217	0.204	0.192	0.180	0.170
NIC Bank Ltd	0.204	0.192	0.180	0.170	0.159
Oriental Commercial Bank Ltd	0.192	0.180	0.170	0.159	0.150
Paramount Universal Bank Ltd	0.180	0.170	0.159	0.150	0.141
Prime Bank Ltd (Kenya)	0.242	0.227	0.214	0.201	0.189
Standard Chartered Kenya (K) Ltd	0.324	0.304	0.286	0.269	0.253
Trans National Bank Kenya Ltd	0.434	0.408	0.384	0.361	0.339
United Bank for Africa Ltd	0.582	0.547	0.514	0.483	0.454

### Appendix IV: Liquidity

	2011	2012	2013	2014	2015
Africa Banking Corporation Ltd (Kenya)	3.241	3.435	3.642	3.86	4.092
Bank of Africa Ltd	1.873	1.986	2.105	2.231	2.365
Baroda Bank Ltd	3.363	3.565	3.778	4.005	4.245
Bank of India Ltd	2.589	2.744	2.909	3.084	3.269
Barclays Bank of Kenya Ltd	1.873	1.986	2.105	2.231	2.365
CFC Stanbic Bank Ltd	2.163	2.292	2.43	2.576	2.73
Charterhouse bank Ltd	3.314	3.513	3.724	3.947	4.184
Chase Bank Ltd (Kenya)	2.071	2.196	2.327	2.467	2.615
Citibank N.A Ltd	2.163	2.292	2.43	2.576	2.73
Commercial Bank of Africa Ltd	2.665	2.825	2.995	3.174	3.365
Consolidated Bank of Kenya Ltd	3.274	3.471	3.679	3.9	4.134
Cooperative Bank of Kenya Ltd	3.699	3.921	4.156	4.406	4.67
Credit Bank Ltd	2.524	2.676	2.836	3.007	3.187
Development Bank of Kenya Ltd	3.107	3.293	3.491	3.7	3.922
Diamond Trust Bank Ltd	2.983	3.162	3.351	3.552	3.766
Dubai Bank Kenya Ltd	2.858	3.03	3.212	3.404	3.609
Ecobank Ltd	2.75	2.915	3.089	3.275	3.471
Equatorial Commercial Bank Ltd	2.641	2.799	2.967	3.145	3.334
Equity Bank Ltd	2.532	2.684	2.845	3.016	3.197
Family Bank Ltd	2.431	2.577	2.732	2.896	3.069
Fidelity Bank Limited Ltd	2.33	2.47	2.618	2.775	2.942

Fina Bank Ltd	2.237	2.371	2.513	2.664	2.824
First Community Bank Ltd	2.152	2.281	2.417	2.563	2.716
Giro Commercial Bank Ltd	2.066	2.19	2.321	2.461	2.608
Guardian Bank Ltd	1.981	2.1	2.225	2.359	2.501
Gulf African Bank Ltd	1.903	2.017	2.138	2.266	2.402
Housing Fin. Co. of Kenya Ltd	1.818	1.927	2.042	2.165	2.295
Habib Bank Ltd	1.732	1.836	1.946	2.063	2.187
Habib Bank A.G Zurich Ltd	1.654	1.754	1.859	1.97	2.089
I&M Bank Ltd	2.953	3.131	3.318	3.518	3.729
Imperial Bank Kenya Ltd	2.807	2.976	3.154	3.343	3.544
Jamii Bora Bank Ltd	2.646	2.805	2.973	3.152	3.341
Kenya Commercial Bank Ltd	2.486	2.635	2.793	2.96	3.138
SidianLtd	2.339	2.48	2.628	2.786	2.953
Middle East Bank Kenya Ltd	2.178	2.309	2.448	2.595	2.75
National Bank of Kenya Ltd	2.018	2.139	2.267	2.403	2.547
NIC Bank Ltd	1.871	1.984	2.103	2.229	2.363
Oriental Commercial Bank Ltd	1.711	1.813	1.922	2.037	2.16
Paramount Universal Bank Ltd	1.55	1.643	1.741	1.846	1.957
Prime Bank Ltd (Kenya)	3.643	3.862	4.093	4.339	4.599
Standard Chartered Kenya (K) Ltd	3.049	3.232	3.426	3.631	3.849
Trans National Bank Kenya Ltd	3.762	3.988	4.227	4.48	4.749
United Bank for Africa Ltd	3.86	4.091	4.337	4.597	4.873

### Appendix V: Operating Efficiency

	2011	2012	2013	2014	2015
Africa Banking Corporation Ltd (Kenya)	1.530	1.700	1.860	2.035	2.226
Bank of Africa Ltd	1.115	2.180	2.385	2.609	2.854
Baroda Bank Ltd	1.700	2.050	2.243	2.454	2.684
Bank of India Ltd	1.300	1.620	1.772	1.939	2.121
Barclays Bank of Kenya Ltd	1.580	1.755	1.920	2.100	2.298
CFC Stanbic Bank Ltd	1.305	1.895	2.073	2.268	2.481
Charterhouse bank Ltd	1.800	2.650	2.899	3.172	3.470
Chase Bank Ltd (Kenya)	3.065	3.625	3.966	4.339	4.746
Citibank N.A Ltd	1.940	2.150	2.352	2.573	2.815
Commercial Bank of Africa Ltd	1.500	1.665	1.822	1.993	2.180
Consolidated Bank of Kenya Ltd	2.550	4.110	4.496	4.919	5.381
Cooperative Bank of Kenya Ltd	1.400	3.050	3.337	3.650	3.993
Credit Bank Ltd	1.800	2.700	2.954	3.231	3.535
Development Bank of Kenya Ltd	1.680	1.865	2.040	2.232	2.442
Diamond Trust Bank Ltd	2.050	3.200	3.501	3.830	4.190
Dubai Bank Kenya Ltd	2.205	2.250	2.462	2.693	2.946
Ecobank Ltd	3.245	3.600	3.938	4.309	4.714
Equatorial Commercial Bank Ltd	1.075	1.190	1.302	1.424	1.558
Equity Bank Ltd	1.270	2.060	2.254	2.465	2.697
Family Bank Ltd	1.615	3.180	3.479	3.806	4.164
Fidelity Bank Limited Ltd	2.080	2.305	2.522	2.759	3.018
Fina Bank Ltd	4.925	3.600	3.938	4.309	4.714
First Community Bank Ltd	3.115	3.455	3.780	4.135	4.524
Giro Commercial Bank Ltd	2.565	2.845	3.112	3.405	3.725
Guardian Bank Ltd	2.060	2.390	2.615	2.860	3.129
Gulf African Bank Ltd	2.750	3.055	3.342	3.656	4.000
Housing Fin. Co. of Kenya Ltd	3.500	4.000	4.376	4.787	5.237

Habib Bank Ltd	1.605	1.230	1.346	1.472	1.610
Habib Bank A.G Zurich Ltd	3.295	3.655	3.999	4.374	4.786
I&M Bank Ltd	1.730	1.920	2.100	2.298	2.514
Imperial Bank Kenya Ltd	2.155	2.390	2.615	2.860	3.129
Jamii Bora Bank Ltd	1.300	1.450	1.586	1.735	1.899
Kenya Commercial Bank Ltd	1.825	3.210	3.512	3.842	4.203
SidianLtd	1.700	1.070	1.171	1.281	1.401
Middle East Bank Kenya Ltd	1.625	2.635	2.883	3.154	3.450
National Bank of Kenya Ltd	1.323	1.684	1.842	2.015	2.205
NIC Bank Ltd	1.257	1.695	1.854	2.029	2.219
Oriental Commercial Bank Ltd	1.191	1.706	1.866	2.042	2.234
Paramount Universal Bank Ltd	1.125	1.717	1.878	2.055	2.248
Prime Bank Ltd (Kenya)	1.059	1.728	1.890	2.068	2.263
Standard Chartered Kenya (K) Ltd	1.993	1.739	1.902	2.081	2.277
Trans National Bank Kenya Ltd	2.427	1.750	1.915	2.094	2.291
United Bank for Africa Ltd	1.361	1.761	1.927	2.108	2.306

### Appendix VI: Size of the Bank

	2011	2012	2013	2014	2015
Africa Banking Corporation Ltd (Kenya)	7.998	8.606	9.260	9.964	10.721
Bank of Africa Ltd	8.669	9.328	10.037	10.800	11.620
Baroda Bank Ltd	9.039	9.726	10.465	11.260	12.116
Bank of India Ltd	8.626	9.282	9.987	10.746	11.563
Barclays Bank of Kenya Ltd	11.697	12.586	13.543	14.572	15.679
CFC Stanbic Bank Ltd	9.140	9.835	10.582	11.386	12.252
Charterhouse bank Ltd	2.429	2.614	2.812	3.026	3.256
Chase Bank Ltd (Kenya)	9.270	9.975	10.733	11.548	12.426
Citibank N.A Ltd	10.540	11.341	12.203	13.130	14.128
Commercial Bank of Africa Ltd	9.550	10.276	11.057	11.897	12.801
Consolidated Bank of Kenya Ltd	10.080	10.846	11.670	12.557	13.512
Cooperative Bank of Kenya Ltd	2.355	2.534	2.727	2.934	3.157
Credit Bank Ltd	2.520	2.712	2.918	3.139	3.378
Development Bank of Kenya Ltd	2.551	2.745	2.953	3.178	3.419
Diamond Trust Bank Ltd	2.649	2.850	3.067	3.300	3.551
Dubai Bank Kenya Ltd	2.540	2.733	2.941	3.164	3.405
Ecobank Ltd	3.091	3.326	3.579	3.851	4.143
Equatorial Commercial Bank Ltd	2.932	3.155	3.395	3.653	3.930
Equity Bank Ltd	3.046	3.277	3.527	3.795	4.083
Family Bank Ltd	2.212	2.380	2.561	2.756	2.965
Fidelity Bank Limited Ltd	3.038	3.269	3.517	3.785	4.072

Fina Bank Ltd	2.220	2.389	2.570	2.766	2.976
First Community Bank Ltd	2.416	2.600	2.797	3.010	3.239
Giro Commercial Bank Ltd	2.565	2.760	2.970	3.195	3.438
Guardian Bank Ltd	2.867	3.085	3.319	3.572	3.843
Gulf African Bank Ltd	2.750	2.959	3.184	3.426	3.686
Housing Fin. Co. of Kenya Ltd	3.978	4.280	4.606	4.956	5.332
Habib Bank Ltd	4.476	4.816	5.182	5.576	6.000
Habib Bank A.G Zurich Ltd	4.481	4.822	5.188	5.582	6.007
I&M Bank Ltd	4.476	4.816	5.182	5.576	6.000
Imperial Bank Kenya Ltd	10.420	11.212	12.064	12.981	13.967
Jamii Bora Bank Ltd	3.755	4.040	4.347	4.678	5.033
Kenya Commercial Bank Ltd	3.758	4.044	4.351	4.682	5.037
SidianLtd	3.762	4.048	4.356	4.687	5.043
Middle East Bank Kenya Ltd	3.748	4.033	4.339	4.669	5.024
National Bank of Kenya Ltd	3.751	4.036	4.343	4.673	5.028
NIC Bank Ltd	3.755	4.040	4.347	4.678	5.033
Oriental Commercial Bank Ltd	3.758	4.044	4.351	4.682	5.037
Paramount Universal Bank Ltd	10.450	11.244	12.099	13.018	14.008
Prime Bank Ltd (Kenya)	6.381	6.866	7.388	7.949	8.553
Standard Chartered Kenya (K) Ltd	6.387	6.872	7.395	7.957	8.561
Trans National Bank Kenya Ltd	6.350	6.833	7.352	7.911	8.512
United Bank for Africa Ltd	6.342	6.824	7.343	7.901	8.501