THE RELATIONSHIP BETWEEN CREDIT RISK MANAGEMENT PRACTICES AND THE PERFORMANCE OF LOAN PORTFOLIO OF COMMERCIAL BANKS IN KENYA

BY

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D63/79673/2012

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE, UNIVERSITY OF NAIROBI

NOVEMBER, 2015

DECLARATION

I declare that this research project is my original work and has not been presented to any other University for academic award to any examination body.

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ACKNOWLEDGEMENT

I would like to thank the Almighty God for granting me the opportunity and strength to pursue this course. It is through his grace and power that he has enabled me to undertake this research. This research project would not have been possible without the support of my Supervisors Mr. Patrick Kiragu and Dr. Mirie Mwangi for their valuable guidance, advice and mentorship.

To the University of Nairobi and the lectures that have impacted knowledge that has enabled my completion of the project. To the management of the various banks that helped and provided information as requested. Last and not least I owe my deepest gratitude to my family for their financial support, patience and understanding throughout the course, for offering encouragement every step of the way.

DEDICATION

This project is dedicated to my family that has been by my side throughout my study and whose inspirations keep me going. To Jeff, Ayden and Theo who walked this journey with me.

ABSTRACT

Credit risk management is a structured approach to managing uncertainties through risk assessment, developing strategies to manage it, and mitigation of risk using managerial Credit risk management practices in banks influence the efficiency of bank's risk management and are expected to significantly influence its loan portfolio. Commercial banks in Kenya adopt different credit risk management practices informed by ownership of the banks, credit policies of banks, credit scoring systems, banks regulatory environment and the caliber of management of the banks. This study therefore sought to fill the existing knowledge gap by answering the question what is the relationship between credit risk management practices and the performance of loan portfolio of commercial banks in Kenya. This research used descriptive survey research design. The study adopted a census study and collected data for five years from 2010 to 2014. Primary data was collected using semi-structured questionnaires. The secondary data was collected from commercial banks financial reports and CBK supervisory reports. The study used qualitative and quantitative techniques in analyzing the data. The study established that commercial banks used credit risk control practices in credit risk management to a very great extent to minimize credit loss A linear regression model was applied to examine the relationship between the variable. From the findings, the study concluded that commercial banks uses credit risk identification to a very great extent which resulted in reduction in default rates among bank clients. The study concluded that there existed a significant negative relationship between use of credit risk control and level of non-performing loans .Hence use of credit risk control practices to a very great extent led to a decrease in level of non-performing loans in commercial banks in Kenya. The study recommends that commercial banks should use credit risk identification practices in risk management to a very great extent. This is due to its impact on reduction of the level of non-performing loans. The study also recommends that bank should use credit risk identification to a very great extent as this resulted into significant reduction in default rates among banks' clients.

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LIST OF ABBREVIATIONS

CAPR - Ratio of Total Capital to Total Assets

CAR -Capital Adequacy Ratio

CBK - Central Bank of Kenya

CRM - Credit Risk Management

GCC - Gulf Cooperation Council

LLP - Loan Loss Provision

MFIs - Microfinance Institutions

NPL - Non-Performing Loans

ROA - Return on Assets

ROE - Return on Equity

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Credit risk management is a structured approach to managing uncertainties through risk assessment, developing strategies to manage it, and mitigation of risk using managerial resources. The strategies include transferring the risk to another party, avoiding the risk, reducing the negative effects of the risk, and accepting some or all of the consequences of a particular risk (Greuning & Bratanovic, 2003). The overall aim of a credit analyst is to reach a judgment about extending credit to a customer using information that is relevant to the principles of good credit management (Coyle, 2000). Basel (2000) states that lax credit standards for borrowers and counterparties, poor portfolio risk management, or a lack of attention to changes in economic or other circumstances that can lead to a deterioration in the credit standing of a bank's counterparties are banks' major cause of serious banking problems.

The world over, credit risk has proved to be the most critical of all risks faced by a banking institution (Sabrani, 2002). Developed and developing countries' economies have had significant crises relating to non-performing loans (Prahlad, 2002). According to Greuning and Bratanovic (2003) the basis of a sound credit risk management practices include guidelines that clearly outline the scope and allocation of bank credit facilities and the manner in which the credit portfolio is managed, that is, how loans are originated, appraised, supervised and collected. Derban, Binner and Mullineux (2005) posited that borrowers should be screened especially by banking institutions in form of credit assessment. Collection of reliable information from prospective borrowers becomes

critical in accomplishing effective screening as indicated by symmetric information theory.

It may be difficult to establish an optimal credit policy as the best combination of the variables of credit policy is quite difficult to obtain. A firm changes one or two variables at a time and observe the effect. It should be noted that the firm's credit policy is greatly influenced by economic conditions (Pandey, 2008). As economic conditions change, the credit policy of the firm may also change. Commercial banks develop credit management practices to govern their credit management operations (Owizy, 2013). Pandey (2008) indicated that commercial banks generate revenue from credit extended although the loan repayments may be uncertain. The success of lending out credit depends on the methodology applied to evaluate and to award the credit to customer (Ditcher, 2003). Credit decisions should therefore be based on a thorough evaluation of the risk conditions of the lending and the characteristics of the borrower to achieve loan portfolio performance.

1.1.1 Credit Risk Management Practices

Credit risk is the possibility that the actual return on an investment or loan extended will deviate from that, which was expected (Conford, 2000). Coyle (2000) defines credit risk as losses from the refusal or inability of borrowers to pay what is owed in full and on time. Credit risk management practice is defined as the combination of coordinated tasks and activities for controlling and directing credit risks confronted by an organization through the incorporation of key risk management tactics and processes in relation to the organization's objectives (Nikolaidou & Vogiazas, 2014). It is important to note that risk

management practices are not developed and aimed to eliminate risks altogether but they aim at controlling opportunities and hazards that may result in risk (Frank, Simon & Josephine, 2014). Credit risk management is essential in optimizing the performance of financial institutions (Basel, 2010).

A key requirement for effective credit management is the ability to intelligently and efficiently manage customer credit lines. In order to minimize exposure to bad debt, and bankruptcies, banks must have insight into customer financial strength, credit score history and changing payment patterns (Caoutte, Altman & Narayanan, 1998). Collection of reliable information from prospective borrowers becomes critical in accomplishing effective screening as indicated by symmetric information theory. Qualitative and quantitative techniques can be used in assessing the borrowers to minimize default rates.

1.1.2 Performance of Loan Portfolio of Commercial Banks

Performance of loan portfolio refers to rate of profitability or rate of return of an investment in various loan products. Thus broadly, it looks at the number of clients applying for loans, how much they are borrowing, timely payment of installments, security pledged against the borrowed funds, rate of arrears recovery and the number of loan products on the chain. It refers to the total amount of money given out as loans to the different types of borrowers (Derban *et al*., 2005).

Loan portfolio is banks' most important asset and therefore portfolio quality reflects on the risk of loan delinquency and determines future revenues as well as an institutions ability to increase outreach and serve existing customers. Portfolio quality is measured as portfolio at risk over 30 days (Kisala, 2014). The performance of a loan portfolio is

looked at in terms of profitability and /or rate of return on the different loan products, this is a function of the number of the loans and the cost of administering these loans (Nikolaidou & Vogiazas, 2014).

To enhance the performance of a loan portfolio, which is the process by which inherent risks in the credit process are managed and controlled, the lending process involved is assessed and the steps the management takes to identify and control risk throughout the credit process evaluated. The banks need to know and identify these credit risks by establishing crucial observation areas inside and outside the corporation. (Christen and Pearce, 2005). Upon identification of the credit risk, measures should be taken to mitigate these risks. Tools used to control credit risk include the use of covenants, use of adequate collateral, use of guarantors, use of savings/deposit accounts and also insurance against default.

Credit risk analysis is the process in which the lending decision is based on. It evaluates the firm's financial position and its future prospects. It consists in estimating the probability that a borrower fails to return its credit in accordance to the terms agreed (probability of default) and the expected loss that the bank would incur in case of default. The process involves an estimation of the firm's future cash flow and the value of the assets that could be provided as collateral or security for the credit in the event of default (Guimon, 2005). It includes analysis of the firm's financial Statements, credit scoring, assessing the character of the borrower, client's ability to service his debts fully, collateral provided, general economic environment or special conditions applying to the borrower.

When customers default in payment, the bank looses funds which could affect its loan portfolio performance. The collection effort should, therefore aim at accelerating collections from slow payers and reducing bad debt losses (Kariuki, 2010). The firm should make credit terms more attractive to act as an incentive to clients without incurring unnecessary high levels of bad debts and increasing organizations risk. Credit terms normally stipulate the credit tenor, interest rate, method of calculating interest and frequency of loan installments. According to Dawkin (2010) posited that prompt payments aimed at increasing turn over keeping low bad debts. Collection efforts are directed at accelerating recovery from slow payers and decreases bad debts losses increase profitability of the banking institution.

Credit risk is the possibility that the actual return on an investment or loan extended will deviate from that, which was expected (Conford, 2000). Coyle (2000) defines credit risk as losses from the refusal or inability of a borrower to pay what is owed in full and on time. The main sources of credit risk include, inappropriate credit policies, volatile interest rates, poor management, inappropriate laws, low capital and liquidity levels, poor credit assessment and laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the central bank. These risks can be minimized by having well-capitalized banks, service to a wide range of customers, sharing of borrowers' information, stabilization of interest rates, reduction in non-performing loans, increased bank deposits and increased credit extended and reduction of loan defaults and non-performing loans (Sandstorm, 2009).

Banks have credit policies that guide them in the process of awarding credit. The policy sets the rules on who should access credit, when and why one should obtain the credit including repayment arrangements and necessary collaterals. The method of assessment and evaluation of credit risk of each prospective applicant are part of a credit control policy. Simonson and Hempel (1999), observed that sound credit policy would help improve asset quality, establish a set of minimum standards, and apply a common language and methodology, assessment of risk, pricing, documentation, securities, authorization, and ethics for measurement and reporting of non-performing assets, loan classification and provisioning and improve performance of loan portfolio in the banks.

1.1.3 Credit Risk Management Practices and Loan Portfolio Performance

In the recent years, credit risk gained focal importance because of huge financial losses faced by international financial organizations (Nikolaidou & Vogiazas, 2014). Since the financial crisis, financial organizations particularly commercial banking sector have taken special measures to mitigate any forthcoming financial losses caused by mismanagement in loan allocations and credit recoveries. Banks need to have strong and effective credit risk management policies for ensuring consistent recoveries from clients (Frank *et al*., 2014).

Today, credit risk management practices constitute a critical component of risk management so as reduce loan default rates (Arora & Kumar, 2014). Loan portfolio Performance of commercial banks depends on the effective credit risk planning, analysis and monitoring. Chipembere (2009) assert that loan portfolio performance of banks is determined by effective credit risk management practices. Bank need to reduce the risk of

loan default because the institutions financial viability is weakened by the loss on principle and interest, the cost of recovery and the opportunity cost of management time taken to recover.

According to Al-Khouri (2011), credit risk management practices used by banks include credit limits, taking collateral, diversification, loan selling, consortium loans, credit insurance and securitization. Pykhtin (2005) states credit risk management practice is an important function of financial institutions in reduction of banks exposure to credit risks. Efficient credit risk management practices have been vital in preventing occurrence of bad debt and non-performing loans. Credit risk management practices, namely credit terms, credit appraisal, credit risk control and collection policy were found to be of great significance to loan performance in banking sector. Credit terms constitute the conditions under which banks give credit (Greuning & Bratanovic, 2003).

1.1.4 Commercial Banks in Kenya

The Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the prudential guidelines issued by the Central Bank of Kenya (CBK). The Central Bank of Kenya, is responsible for formulating and implementing monetary policies and fostering the liquidity, solvency and proper functioning of the financial system. There have been significant developments in the structure of the Kenyan financial services sector in the past one decade. Until the early 1990s functional demarcation was predominant with many regulatory restrictions imposed and poor economic growth, one main consequence being limited competition both locally and internationally.

The banking sector in Kenya has over the last few years, witnessed significant growth in consumer lending. This is evidenced by the growth in real private sector credit (CBK, 2008). The resultant credit expansion has brought significant benefits to the economy, but the information asymmetry that is prevailing in the lending environment poses a real challenge in the form of credit risk for the banking sector in Kenya (CBK, 2008). There were 43 commercial Banks in Kenya as at March, 2011 (CBK, 2011).These commercial banks offer both corporate and retail banking services. Licensing of financial institutions in Kenya is done by the CBK.

Financial reforms and free market spur the adoption of innovations that improve efficiency and provide a healthy balance between lending and deposit rates. According to Central Bank of Kenya (CBK) (2014), the commercial banks adopt credit risk management practices to mitigate against credit risks. The commercial banks in Kenya have adopted various risk management systems such as loan appraisal and subsequent approval, borrower's capacity, character, condition, credit history and collateral. The banks also adopted various tools for controlling credit losses such as covenants, collateral, credit rationing, loan securitization, and loan syndication.

Effective credit risk management practices involve reporting and reviewing the structure to ensure that credit risks are effectively identified assessed and appropriate controls and responses are in place in Commercial banks (CBK, 2015). After a loan is approved, the loan is continuously monitored keeping track of borrowers' compliance with credit terms, identifying risks, controlling risks and conducting periodic valuation of collateral and monitoring timely repayments. An empirical study needed to be carried out to establish

the relationship between credit risk management practices and loan portfolio performance in commercial banks in Kenya.

1.2 Research Problem

Credit risk management practices in banks influence the efficiency of bank's risk management and are expected to significantly influence its loan portfolio (Chen & Pan, 2012). The financial success of commercial banks depends on the effectiveness of their credit management practices as most of their income from interest is earned on loans extended (Mwirigi, 2006). Credit risk gained importance because of huge financial losses faced by commercial banks (Nikolaidou & Vogiazas, 2014). Due to the financial crisis in 2007-2008, commercial banks have taken special credit management measures to mitigate any forthcoming financial losses caused by mismanagement in loan allocations and credit recoveries (Nagarajan, 2011).

Commercial banks in Kenya adopt different credit risk management practices informed by ownership of the banks, credit policies of banks, credit scoring systems, banks regulatory environment and the caliber of management of the banks. However, Banks continue to experience increase in high default rate and high level of non-performing loans indicating credit management practices will not necessarily lead to record high bank performance. The quarterly financial report on banks performance indicate the sector's gross loans and advances increased from KShs. 1.40 trillion in March, 2015 to Kshs. 1.45 trillion as at June 20, 2015 which translated to a growth of 3.6 per cent (CBK, 2015). However the banks also faced higher loan default rate as non-performing rate rose by 10 per cent from Kshs. 70.3 billion in March, 2015 to Sh77.3 billion in June, 2015

attributed partially to credit risks in the market. This is despite commercial banks adopting credit risk management practices. Looking at the emphasis that is laid on credit risk management by commercial banks the level of contribution to loan performance has not been analyzed (CBK, 2015).

The reviews of previous studies indicate credit risk management practices adopted by commercial banking institutions have an impact on performance. For instance, Qaisar and Malik (2015) carried out an empirical study on the impact of credit risk management on loan performance in commercial Banks of Pakistan. The results showed that the credit terms and client appraisal have positive and significant impact on the Loan performance, while the credit policy and credit risk control have positive but insignificant impact on loan performance. Luqman (2014) carried a study on effect of credit risk on commercial banks performance in Nigeria. The result shows that the ratio of loans and advances to total deposits negatively relate to profitability though not significant at 5% and that the non-performing loans to loans and advances ratio negatively relate to profitability at 5% level of significant. This study shows that there is a significant relationship between credit risk management, loan performance and bank profitability. Felix and Claudine (2008) investigated the relationship between bank performance and credit risk management in Hong Kong. Their findings found that return on equity (ROE) and return on assets (ROA) both measuring profitability were inversely related to the ratio of non-performing loans to total loans of financial institutions thereby leading to a decline in profitability.

Locally, Ngare (2008) who studied credit risk management practices by commercial banks and found that, credit risk management has an impact on performance of commercial banks. Orua (2009) who studied the relationship between loan applicant appraisal and loan performance of microfinance institutions (MFI) in Kenya revealed that short-term debt significantly impacted MFI outreach positively. Long term debt however showed positive relationship with outreach but was not significant with regard to default rate. Kiplimo and Kalio (2012) investigated the effect of credit risk management practices on loan performance in MFIs in Baringo County. The study revealed that there was a strong relationship between client appraisals and loan performance in MFIs as an increase in client appraisal led to an increase in loan performance in MFIs. Kosgei (2012) investigated effects of lending methodology on performance of loan portfolio in microfinance institution in Kenya and revealed that there was a strong relationship between client appraisals and loan performance in MFIs as an increase in client appraisal led to an increase in loan performance in MFIs.

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 loan portfolio performance in

commercial banks, most local studies done have focused on Microfinance institutions. This study therefore sought to fill the existing knowledge gap by answering the question what is the relationship between credit risk management practices and the performance of loan portfolio of commercial banks in Kenya?

1.3 Objective of the Study

To determine the relationship between credit risk management practices and the performance of loan portfolio of commercial banks in Kenya.

1.4 Value of the Study

The study will be significant to the management of commercial banks in Kenya as they will be able to gain insight on the relationship between credit risk management practices on the loan performance and adopt appropriate credit risk management practices in reducing level of non-performing loans and enhance loan performance. The study will provide an insight on the best credit risk management approaches commercial banks 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 loan requirements and also for the supervision of commercial banks. The policy makers will obtain knowledge on the best mechanisns that should be adopted to curb the poor loan perfomance 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.

This study will contribute to theory by showing how credit risk management (CRM) practices can affect the performance of loans in commercial banks. It will also add to the body of literature on the effects of CRM practices on the management of the lending portfolio of commercial banks. The study will also be significant to researcher who may find this study valuable to form a foundation to indentify research gap and carry out further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presented the theoretical and empirical review on studies related to the purpose of the study. The chapter also presented determinants of the loan portfolio performance.

2.2 Theoretical Review

The study was grounded on the following theories.

2.2.1 Liquidity Theory of Credit

Liquidity theory originated from John Maynard Keynes in 1989 (Gauti, 2008). This theory is also known as liquidity preference hypothesis. Liquidity preference theory intimates the idea that investors demand a premium for securities with longer maturities, which entail greater risk, because they would prefer to hold cash, which entails less risk. The more liquid an investment is, the easier it is to sell it off quickly for its full value (Reilly & Brown, 2011). According to Keynes, the demand for liquidity is determined by three motives; the transactions motive where people prefer to have liquidity to assure basic transactions since their income is not constantly available (Uyemura & Deventer, 1993). The precautionary motive; which states that people prefer being liquid in case of social unexpected needs that may require unusual costs. The speculative motive, where people retain liquidity for speculative purposes such as bond prices falling (Al-Khouri, 2011).

When the interest rates decrease people demand more money to hold until the interest rate increases, which would drive down the price of an existing bond to keep its yield in line with the interest rate (Reilly & Norton, 2006).The demand for money increases the number of loan facilities. A commercial bank lending out credit to borrowers may face default problems especially if the borrowers are not able to pay the loans on time (Myers & Majluf, 2004). This influences banks to adopt risk-rating components to indentify credit risks that borrowers are exposed to .Accordingly, the analysis helps to indentify and sort risk according to their importance and assists management to develop risk management practices to reducing non repayment rates of loan by Borrowers. According to this theory, it is therefore important for the bank to mitigate the level of credit risk by ensuring that borrowers are credit worthy before giving out credit.

2.2.2 Asymmetric Information Theory

The asymmetric information theory was developed by Akerlof in 1970. Akerlof's (1970) basic argument is that in many markets, the buyer uses some market statistic to measure the value goods. Thus the buyer sees the average of the whole market while the seller has more intimate knowledge of a specific item. Akerlof argues that this information asymmetry gives the seller an incentive to sell goods of less than the average market quality (Parrenas, 2005). The average quality of goods in the market will then reduce and so will the market size. There is various available information for each agent, however, there is a strong information asymmetry between the managers and the investors of the firm (Akkizidis & Khandelwal, 2008).

Information asymmetry theory describes the condition in which relevant information is not known to all parties involved in an undertaking (Eppy, 2005). Stiglitz (2001) showed that in such markets, competitive behavior include inter-temporal linkages. The theory points out that perceived information asymmetry poses two problems for the financial institution, moral hazard and adverse selection, that is making errors in lending decisions. The theory informs the study in that, if commercial banks exchange information about their clients' credit worthiness, they can lower loan repayment rate (Weinberg, 2006). By reducing information asymmetry between lenders and borrowers, credit reference bureaus develop credit risks management practices such credit rating and thus banks extend loans to creditworthy borrowers resulting in higher aggregate lending and low default rates.

2.2.3 Transactions Costs Theory

Transaction cost theory was developed by Williamson in 1975. Williamson (1984) builds on the earlier work of Robert Coase, which indicated that a transaction occurs when a good or service is transferred across technologically separable interfaces. He states that the operation of a market costs something and by forming an organization and allowing some authority or an entrepreneur to direct the resources, certain marketing costs are saved. The entrepreneur has to carry out his function at less cost, taking into account the fact that he may get factors of production at a lower price than the market transactions which he supersedes (Chen & Pan, 2012).

Transaction costs due to information asymmetry between banks and borrowers can impact on lending decisions of the bank due to the high credit risks that the bank is exposed to. Williamson (1986) developed a model of credit rationing where borrowers

are subject to a moral hazard problem. The bank has an information advantage in checking the credit worthiness of their clients. The banks also have better ability to monitor and force repayment of the credit due to information acquisition, controlling the buyer and salvaging value from existing assets (Petersen and Rajan, 1997). An increase in the loan costs raises the expected return to the lender, but also results in an increase in the probability that the borrower defaults (Mattius, 2009). This theory views the banks as a governance structure. This influences development of credit guidelines that clearly outline the scope and allocation of bank credit facilities and the manner in which the credit portfolio is managed, which is how loans are originated, appraised, supervised and collected.

2.2.4 Portfolio Theory

Portfolio Theory was first developed by Harry Markowitz in 1952 (Sharpe, 1964). He derived the expected rate of return for a portfolio of assets and the expected risk measure. Markowitz (1952) established that under reasonable assumptions, the variance of the expected rate of return was a meaningful measure of portfolio risk. The full spectrum of investments must be considered because the returns from all these investments interact hence the relationship between the returns for assets in the portfolio is important (Pykhtin, 2005). Portfolio theory tries to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. Portfolio theory deals with the selection of portfolios that maximize expected returns consistent with the individual

acceptable levels of risk. Its main basic assumption is that investors often want to maximize returns from their investments for a given level of risk (Prahlad, 2002).

It is in every bank's interest to look for the right strategic techniques that will reduce its overall credit risk as much as possible and still be able to profit from the lending business (Felix & Claudine, 2008). This theory is applicable in the study in that quality portfolio of performing assets exhibit good credit culture which has strong policies and credit standards. The new markets are selected to conform to the existing culture. The effectiveness of the credit risk management is verified by internal risk control and audit that monitor credit discipline, loan policies, approval policies, facility risk exposure and portfolio level, credit terms and policies to extend credit to borrowers with the lowest risk of default.

2.3 Determinants of Loan Portfolio Performance

2.3.1 Interest Rates

Interest rates affect bank liquidity, when the management of the firms expects the interest rates to increase then it might decide to hold less cash and opt to invest more in order to take advantage of the expected higher returns (Godquin, 2004). When the interest rates are very high the borrowers are likely to default as a result of an increase in the cost of borrowing. Interest rates marked the beginning of many attempts at explaining credit rationing in credit markets.

Weinberg (2006) opined that interest charged and the amount of debt, are the two main factors affecting loan performance. Some banks use the interest rates that an individual is willing to pay as a screening device to identify borrowers with a high probability of

repayment. This may be dangerous since high risk-takers are the worst rate payers, in the process affecting default by borrowers on loans. However, if the government deficit is higher, the interest rates increases and thus most firms opts not to hold cash but invest in profitable investments hence affecting a firm's liquidity (Harvey, Lins & Roper, 2004).

2.3.2 Liquidity

Liquidity is characterized by a high level of trading activity. It measures how much cash a company has and how easily it is able to pay its debt (Parrenas, 2005). Assets in any firm are categorized into various classes. A firm that holds high amount of cash is likely to take advantage of profitable investments unlike a firm that is illiquid. The basic function of modern banks is to provide liquidity on demand to depositors and to supply funds as well as liquidity to their borrowers through loans and lines of credit (Jappelli & Pagano, 2002). Accordingly, the bank risk management task involves holding capital to guard against insolvency, and maintaining a store of liquid assets as well as access to a variety of borrowing sources to guard against unexpected cash shortfalls.

Credit risk may expose a firm to low liquidity. Liquid assets constitute a significant portion of a firm's total asset. Financial managers pay due attention to the measurement and management of corporate liquidity failure to which may lead to severe shortage of liquidity leading to inability to meet its short and medium term obligations as and when they become due hence financial distress (Harvey & Roper, 2004)

2.3.3 Capital Adequacy

Regulators impose liquidity monitoring measures on banks to meet specified minimum levels of withdrawals. However, such measures are precautionary against short-term cash flow problems rather than a situation of panic outburst (Gleeson, 2006). Capital adequacy regulation establishes the maximum level of leverage that a financial institution is allowed to reach on its operations (Jansson, 2007). It is measured by the ratio of risk-weighted assets relative to regulatory equity.

Benh-Khedhiri, Casu, and Sheik-Rahim (2005) state that capital adequacy show the level and quality of capital and overall financial conditions of the institutions, ability of the management to address the emerging needs for additional capital, access to capital markets, the adequacy of underwriting standards and soundness of credit administrations. The asset quality position measures the financial efficiency of the commercial banks while the capital adequacy position measures the going concern of the commercial banks. However the capital adequacy position depends on asset quality due to great risks facing commercial banks, decline in asset quality do increase the capital adequacy position in order to offer the banking protection against risk (Mitchell, 1984).

2.3.4 Loan Size

Godquin (2004) reported that both age and size of loans have an inverse relationship to repayment performance. According to Chong (2010) the main determinant of repayment obligations is the amount of debt. Furthermore, loans that are too big also lead to repayment problems, dissatisfaction and high dropouts .According to Chong (2010) efficient loan sizes fit borrowers' repayment capacity and stimulate enterprise. If the

amount of loan released is enough for the purposes intended, it has a positive impact on the borrower's capacity to repay. On the other hand, in case of over and under finance, the expected sign is negative.

If the amount of loan exceeds what the borrower needs and can handle, it would be more of a burden than help and extra funds may go toward personal use, thereby undermining repayment performance. If the loan is too small, it may also encourage borrowers to divert the loan to other purposes. Njoku (1997) reported that both age and size of loans have an inverse relationship to repayment performance. The main determinants of repayment obligations are the interest charged and the amount of debt Hietalahti & Linden (2006). Financial institution sanction loans based on cash flow requirements of the borrower. Small Short-term loans are intended to test the client's commitment to repay the loan.

2.4 Empirical Review

Kargi (2011) evaluated the impact of credit risk management practices on the profitability of Nigerian banks. The traditional profit theory was employed to formulate profit, measured by Return on Asset (ROA), as a function of the ratio of Non-performing loan to loan and Advances (NPL/LA), ratio of Total loan and Advances to Total deposit (LA/TD) and the ratio of loan loss provision to classified loans (LLP/CL) as measures of credit risk. Panel model analysis was used to estimate the determinants of the profit function. The results showed that the effect of credit risk on bank performance measured by the Return on Assets of banks is cross-sectional invariant. A 100 percent increase in non-performing loan reduces profitability (ROA) by about 6.2 percent, a 100 percent

increase in loan loss provision also reduces profitability by about 0.65percent while a 100 percent increase in total loan and advances increase profitability by about 9.6 percent. The study failed to determine whether credit risk management practices had impact on loan portfolio performance.

Byusa and Nkusi (2012) investigated effects of credit policy on bank performance in selected Rwandan Commercial banks using methods such as quantitative data collection, questionnaire, and review of the existing literature. The study evaluates the banking sector performance, its deepening over time, profitability, and efficiency in the light of post-liberalization policies. All 3 banks have adequate credit policies which are reflected in their banks' mission, goals, credit responsibility, collection policy and credit evaluation policies ranging from car loans, personal loans, overdrafts and mortgages at interest rate ranging from 17.25% to 20% per year. The results obtained indicated that the Rwanda's commercial banks increase their accounts, increase customer base, thereby maximizing their profits.

Ntiamoah, Egyiri, Fiaklou and Kwamega (2014) carried out assessing the relationship between credit management practices and loan performance using some selected microfinance in the Greater Accra region of Ghana. The study adopted both qualitative and quantitative methods respectively. Data was collected from 400 Microfinance companies using administered questionnaires with the population consisting the management and non-management staff of the selected Microfinance companies in Ghana. Hypotheses of the study were to be analyzed using correlation and regression. Results of the study indicated that there was high positive correlation between the credit

terms and policy, lending, credit analysis and appraisal, and credit risk control and loan performance. The study however failed to establish whether there was significant influence of credit risk management practices on loan portfolio performance in commercial banks.

Kurawa and Garba (2014) assessed the effect of credit risk management (CRM) on the profitability of Nigerian banks with a view to discovering the extent to which default rate (DR), cost per loan asset (CLA), and capital adequacy ratio (CAR) influence return on asset (ROA) as a measure of banks' profitability. Data was generated from the annual reports and accounts of quoted banks from 2002 to 2011. Descriptive statistics, correlation, as well as random-effect generalized least square (GLS) regression techniques were utilized as tools of analysis in the study. The findings establish that CRM as measured by three independent variables has a significant positive effect on the profitability of Nigerian banks.

Gizaw, Kebede and Selvaraj, (2015) examined the impact of credit risk on profitability of commercial banks in Ethiopia. The objective of the study was to empirically examine the impact of credit risk on profitability of commercial banks in Ethiopia. Data was collected from 8 sample commercial banks for a 12 year period (2003-2004) from annual reports of respective banks and National Bank of Ethiopia. The data were analyzed using a descriptive statics and panel data regression model and the result showed that credit risk measures, non-performing loan, loan loss provisions and capital adequacy have a significant impact on the profitability of commercial banks in Ethiopia.

Kosgei, (2012) investigated effects of lending methodology on performance of loan portfolio in microfinance institution in Kenya. Secondary Data used in the study of 8 out of 56 microfinance institutions under umbrella Association of Microfinance Institutions of Kenya (AMFI). This was motivated by availability of data. Panel data analysis was applied to test hypothesis that there is no relationship between group lending on performance of loan portfolio. After running a regression in which loan portfolio performance is the dependent variable, the study found a positive significant coefficient of 0.79 and (p=0.42) on group lending without moderating factors. When moderating factors were included the coefficient becomes 0.38 and (p=0.19).

Wanja (2013) investigated the effects of credit policy used by commercial banks on their performance. The objective of the study was to examine relationship between loan terms and conditions and performance, to examine the relationship between loan processing procedures, amount of loan disposable, credit information and length of credit relationship with the bank and performance. The study was carried out using descriptive research design. The study found that the nature of the loan policies, borrower's credit history in awarding loan amounts and borrower's personal behaviour as credit policies adopted by the banks influence the volumes of the loans procured by the banks and thus the competitiveness of the bank in lending and thus the performance in the industry.

Essendi (2013) examines the effects of credit risk management on the loans portfolio among SACCOs licensed by SASRA in Nairobi County. Descriptive research design was used with a target population of 106 licensed SACCOs from which a sample of 35 SACCOs was identified. The study used both primary data through questionnaires and

secondary data from Sasra reports. Data collected was analyzed using descriptive statistics and regression analysis. Results indicate that formulation of the credit policy is largely done by members of the organization and regulation with moderate involvement of employees and the directors. Findings further show that CAMEL rating system plays a central role in the assessment of the soundness of SACCOs. The study failed to indicate whether credit risk management had significance on loan portfolio. This study did not determine whether credit risk management practices influence performance of the Loan portfolio.

Kisala (2014**)** carried out a study on the effect of credit risk management on the loan performance of microfinance institutions for a period of 2007 to 2011 in Kenya. The concern of the study was increase in loan performance result mostly from effective management of credit risks. The research design used in this study was descriptive research design as it involved an in depth study of credit risk management and its relationship with loan performance in micro finance institutions. This study however, showed that there was significant relationship between loan performance and credit risk management. The results of the analysis state that, both non-performing loans ratio and capital adequacy ratio, have a negative and relatively significant effect on ROE with NPL having higher significant effect on ROE in comparison to CAR. This study indicated some inconsistencies by focusing on profitability model as a measure of loan performance.

Kiage, Musyoka and Muturi (2015) conducted a study on the influence of positive credit information sharing determinants among commercial banks in Kenya. It assessed the

influence of privacy protection of positive information sharing, influence of cost of sharing positive information, influence of level of technology and also established the influence of competition on financial performance of commercial banks in Kisii town, Kenya. The target population was 34 credit managers and branch managers working in the 17 commercial banks in Kisii town. A survey questionnaire was developed and employed to collect data. The study established that competition had a positive influence on financial performance of Commercial Banks. This study however failed to show whether credit information sharing had significant impact on loan portfolio performance.

2.5 Summary of Literature Review

From the review of the literature, credit risk management practices play a critical role in improving financial performance in commercial banking institutions. Most studies such as Ntiamoah, Egyiri, Fiaklou and Kwamega (2014) have been inclined to focus on determining effects of credit risk management practices on performance of non-performing loans and loan performance in commercial banks, rather than for the provision of a good credit policy framework for their prevention and control of quality portfolio

Review of local studies such as Kisala (2014) and Kosgei (2012) focused on determining effects of credit risk management practices on loan performance in used by Microfinance Institutions in Kenya. It was therefore evident that the studies determining the relationship between credit risk management practices and the performance loan portfolio of commercial banks in Kenya remained elusive. This motivated the study to determine

the relationship between of credit risk management practices and performance of loan portfolio in commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presented the research design and methodology that was used to carry out the research. It presented the population, sample size and sampling procedure, data collection and data analysis.

3.2 Research Design

Research design refers to the method used to carry out the research (Mugenda and Mugenda, 2003). This research used a descriptive survey research design. The major purpose of descriptive survey research design is to describe the state of affairs as it is at present. According to Cooper and Schindler (2003) a descriptive survey research design helped in collecting data in order to test hypotheses or answer questions concerning the current status of the subjects in the study.

Descriptive survey research design involves methods such as the survey which describes the status quo, the correlation study which investigates the relationship between variables and developmental studies which seek to determine changes over time. Descriptive research design was chosen because it enabled the researcher to generalize the findings to the larger population.

3.3 Target Population

A population is a group of individuals, persons, events, objects or items from which samples are taken for measurement, it is the group the investigator wishes to make inference (Saunders, 2003). The population of the study consisted of all 43 commercial banks in Kenya (CBK, 2014). The study adopted a census study and collect data for five years from 1st January, 2010 to 31st December, 2014.

3.4 Data Collection

The study used both primary and secondary data. Primary data was collected using semi-structured questionnaires. The questionnaires were administered using drop and pick method. The questionnaires were used to allow the respondents who were the credit managers and credit officers to give their responses in a free environment and help the researcher gather information on credit risk management practices.

The study also collected secondary data from commercial banks financial reports and CBK supervisory reports. From the financial reports, non-performing loans over gross loans was extracted from the financial statements to determine loan portfolio performance. Further, total capital and total assets was extracted from balance sheet statements of banks to determine capital control ratio (CAPR).

3.5 Data Analysis

The collected data was examined and checked for completeness and comprehensibility. The questionnaire was edited, classified and coded using Statistical Package for Social Science (SPSS version 21). Tables were used for presenting data for easy understanding,

interpretation and analysis. The collected data was analyzed through descriptive analysis and means to determine the extent to which credit risk management practices influence the loan portfolio performance of commercial banks. Inferential statistics correlation and regression analysis was used to establish the relationship between credit risk management practices and the loan portfolio performance of commercial banks. The inferential analysis sought to establish the relationship between the independent variables and the dependent variable. Credit risk management practice was quantified from 1-5 Likert scale questions. Correlation analysis was used to establish the strength of the relationship between credit risk management practices and the loan portfolio performance of commercial bank.

A linear regression model was applied to examine the relationship between the variables. The model treats loan portfolio performance of banks as the dependent variable while the independent variables was the credit risk management practices which include risk identification, credit risk control, credit risk assessment, credit risk mitigation. The response on credit risk management practices was measured by computing indices based on the responses derived from the Likert-Scaled questions. The relationship model was represented in the linear equation below:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Where, Y= Performance of Loan Portfolio was measured as a percentage of non-performing loans to the total amount of loans advanced to clients. Non-Performing loans are loans categorized as substandard, doubtful and loss (CBK, 2013). The loan portfolio

was measured as the value of the non-performing loans expressed as a percentage of the total loan portfolio outstanding in the banks.

α= Constant Term: The average loan performance holding the explanatory variables constant, $\beta_{1...7}$= Beta coefficients, X_1= Credit Risk identification, X_2= Credit Risk Control, X_3= Credit risk assessment, X_4= Credit Risk Mitigation, X_5= Capital Control (CAPR), and ẹ= Error Term: captures variables that are not included in the model.

3.5.1 Operationalization of Variables

Variables	**Indicator**	**Measurement**	**Extracted From**
Y	Loan Portfolio Performance (LP) -Default Rate ratio	Non-performing Loans/ Total loan	Extracted from financial books on profit and loss statement
X_1	Credit Risk identification	Likert scale	Questionnaire
X_2	Credit Risk Control	Likert scale	Questionnaire
X_3	Credit risk assessment	Likert scale	Questionnaire
X_4	Credit Risk Mitigation	Likert scale	Questionnaire
X_5	Capital Control (CAPR)	Total Capital/Total Assets	From balance sheet statement

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the findings of the study on the relationship between credit risk management practices and the performance of loan portfolio of commercial banks in Kenya. The chapter presents the data analysis, results and discussions for the findings.

4.2 Response Rate

From the study, the target population was 43 commercial banks. The data was collected from all the 43 commercial banks. The respondents were credit managers (58%) and credit officers (42%). The response rate was high due to the researcher's efforts in collection of the data, administering of the questionnaires and making follow ups.

4.3 Descriptive Statistics

Table 4. 1: Descriptive Statistics on Risk Management Practices

	Non-performing Loans/ Total loan	Credit Risk Identification	Credit Risk Control	Credit Risk Mitigation	Credit Risk Assessment
Minimum	0.108	1.000	1.000	1.000	1.000
Maximum	0.0519	5.000	5.000	5.000	5.000
Mean	0.0278	4.546	4.590	4.496	4.5416
Std. Deviation	0.0132	0.569	0.518	0.518	0.515
Kurtosis	4.3029	-0.6613	-0.5172	1.3259	-2.8436

The study found that the mean of loan portfolio performance for commercial banks was 0.0278, standard deviation of 0.0132 and relatively peaked distribution as indicated by

KURT of 4.3029. This implied that use of credit risk management practices lowers default rate. The table indicated that commercial banks used credit risk identification in risk management to a very great extent as indicated by a mean of 4.546 with a standard deviation of 0.569 with a relatively flatter distribution as indicated by KURT of -0.6613. This demonstrated that banks assess the long term plans of loan applicants to indentify future risks of the business and assess the long term plans of loan applicants to indentify future risks of the business, assesses whether the clients are professionals in their business area to a very great extent. The banks assess prevailing inflation and political conditions facing the client's business and analyses clients' track record of bank loan repayment, checking of business proposal and business plan to identify credit risks the bank is exposed, evaluates the net worth of the client's business bank analyses the character of the clients such as credit history of loan applicants to a very great extent.

The findings on rating of credit risk control use in risk management had a mean of 4.590, a standard deviation of 0.5975 with a relatively flattened distribution as indicated by negative KURT of -0.5172. This demonstrated that banks engage in loan securitization to ensure clients' loan facilities are secure and banks' credit loss minimized, banks carry out external and internal audit of the business activities to determine how to respond to bank risks, vets clients before approving loan facility to reduce occurrence of credit risk and adopts legal department checks such as signing of a binding contract to ensure loan repayment without defaults to a very great extent. This was in addition to guarantors from clients to ensure bank is safe from client failure to repay loan and imposes penalties on loan defaulters to minimize occurrence of non-performing loans

The mean on use of credit risk mitigation measures was 4.496, a standard deviation of 0.518 and positive KURT of 1.3259 indicated high peaked distribution. This demonstrated that commercial banks use credit risk mitigation practices to a great extent in managing credit risks in commercial banks. The bank insures the loan portfolio to mitigate risk due to client defaults to mitigate non-performing loan, prices loans depending on the level of risk of the clients' business and diversifies its credit facilities to various clients in different sector to minimise credit risks occurrence from financing limited business activities. The study found that banks assess purpose of the loan applied for by the clients as well as the use of the loan to ensure bank funds a less risky venture and evaluates the credit quality of a client's loan portfolio often and takes measures to curb risks as a mitigation measure against non-performing loan to a great extent.

From the table the mean on extent of use of credit risk assessment practices was 4.5416, a standard deviation of 0.515 and negative KURT 0f -02.8436 indicating a flatter distribution. This indicated that commercial banks were using credit risk assessment practices to a very great extent to mitigate occurrence of non-performing loans. The study revealed that bank updates borrowers' credit files for purposes of client rating to be used for approval or sanctions to minimize risks facing the bank, analyses profitability, efficiency and leverage of a client's business before awarding loans and banks constitutes credit evaluation committee to determine risks facing client business activities to a very great extent as indicated by a mean of 4.69 with a standard deviation of 0.71. The banks were found to evaluate loan performance on a monthly basis to assess the impact of risks on clients' business and loan repayment, classify risks based on the amount of damage,

take corrective measures to manage banks' risks and adopt loan recovery methods to lower non-performing loans.

4.4 Correlation Analysis

Table 4. 2: Correlation between Credit Risk Management Practices and the Performance of Loan Portfolio.

	Loan Portfolio Performance	Credit Risk identification	Credit Risk Control	Credit risk assessment	Credit Risk Mitigation	Capital Control (CAPR)
Loan Portfolio Performance	1					
Credit Risk identification	-.622*	1				
Credit Risk Control	-.598*	.439	1			
Credit risk assessment	.-514*	.534	0.469	1		
Credit Risk Mitigation	.-421*	.698	0.624	0.543	1	
Capital Control (CAPR)	-.601*	.798	0.524	0.543	0.651	1

Pearson correlation is used to evaluate the relationship between the variables. The correlation matrix is an important indicator that tests the linear relationship, between the variables. The matrix also helps to determine the strength of the variables in the model.

From the Table 4.2 .The study found that there existed significant strong and negative correlation between credit risk identification and loan portfolio performance as correlation coefficient r=-0.622, P=0.021<0.05. The study found that there existed a significant strong negative correlation between credit risk control and loan portfolio performance as the correlation coefficient r=-0. 598, P=0.003<0.05.This is significant at 5% significance level.

The study found that there existed a significant strong negative correlation between credit risk assessment and loan portfolio performance in commercial banks as correlation coefficient r=-.514, P=0.0012<0.05. The study further established that there existed a significant strong negative correlation between credit risk mitigation and loan portfolio performance in commercial banks as correlation coefficient r=0.421, P=0.001<0.05. The study further established that there existed a significant strong negative correlation between capital control and loan portfolio performance in commercial banks as correlation coefficient r=0.601, P=0.021<0.05. These correlation coefficients indicate strong power of correlation between credit risk management practices and level of non-performing loans in commercial banks.

4.5 Regression Analysis and Hypothesis Testing

A regression analysis between the dependent variable and the independent variables was performed; independent variables being credit risk management practices and level of non-performing loan being dependent variable.

4.5.1 Regression Model Summary

Table 4. 3: Regression Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig
0.748a	0.559	0.522	0.468	0.0021

Independent Variables: (Constant), Credit Risk Identification, Credit Risk Control, Credit Risk Assessment, Credit Risk Mitigation

Dependent Variable: Loan Portfolio Performance

Adjusted R^2 is called the coefficient of determination and indicated the level of non-performing loan varied with variation in credit risk management practices. From table above, the value of adjusted R^2 is 0.522. This implies that, there was a significant variation of 52.2% of level of non-performing loans varied with variation in credit risk management practices with confidence level of 95%, P= 0.0021 < 0.05

4.5.2 Analysis of Variances

Table 4. 4: Analysis of Variances in the Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.036	4	1.759	8.186	0.001a
Residual	73.827	39	1.893		
Total	80.863	43			

Independent Variables: (Constant), Credit Risk Identification, Credit Risk Control, Credit Risk Assessment, Credit Risk Mitigation

Dependent Variable: Loan Portfolio Performance

The Results in Table 4.4 gives the analysis of variances in the regression model. These results indicate that the model had an F-ratio of 8.186 P=0.001<0.05. This result indicates that the overall regression model had a significant goodness of fit as F-calculated, 10.547 was greater than critical F at 8.186. This further indicates that use of credit risk management practices would be statistically significant in predicting level of non-performing loans.

4.5.3 Regression Coefficients

Results in table 4.5 below present the test of the statistical significance of the independent variables in the model. This provides the estimates of independent variables, their standard error and the t-ratios.

Table 4. 5: Test of Significance of Independent Variables

Model	Unstandardized Coefficients		Standardized	t	Sig.
			Coefficients		
	B	Std. Error	Beta		
(Constant)	2.03	2.845		5.978	.0106
CAPR Ratio	0.714	.301	.612	10.336	.0061
Credit Risk Identification	-0.485	0.132	-0.338	13.587	0.042
Credit Risk Control	-0.681	.251	-0.376	12.703	.0018
Credit Risk Assessment	-0.354	0.012	-0.187	7.980	0.0023
Credit Risk Mitigation	-0.569	0.182	-0.463	6.145	0.014

Independent Variables: (Constant), Credit Risk Identification, Credit Risk Control, Credit Risk Assessment, Credit Risk Mitigation

Dependent Variable: Loan Portfolio Performance

The resultant regression model took the form of

$Y = 2.03 - 0.485\ X_1 - 0.681X_2 - 0.354X_3 - 0.569X_4 + 0.714X_5 + e$

The study's compliance with capital requirement led to significant positive influence on credit risk management as r=0.714, P=0.0061, t=10.336. This clearly indicates that commercial banks that have adequate capital would influence effectiveness in use of

credit risk management practices in commercial banks.

The use of credit risk identification practice led to significant decrease in level of Non-performing loans in commercial as r=0.485, P=0.042, t=13.587. This clearly indicated that the use of credit risk identification would lower the level of non-performing loans to a very great extent.

The study found that use of credit risk control to a very great extent led to significant decrease in non-performing loans as r=0.681, P=.0018, t=12.703. This clearly indicates that use of credit risk control to a very great extent led to a decrease in the level of non-performing loans in commercial banks in Kenya.

The study found that use of credit risk assessment practices to a very great extent led to significant decrease in non-performing loans as r=0.354, P=.0.0023, t=7.980. This clearly indicates that use of credit risk assessment practices to a very great extent led to a significant decrease in level of non-performing loans in commercial banks in Kenya.

The study found that use of credit risk mitigation practices to a very great extent led to significant decrease in non-performing loans as r=0.569, P=0.014, t=6.145. This clearly indicates that use of credit risk mitigation practices to a very great extent led to a significant decrease in level of non-performing loans in commercial banks in Kenya.

4.6 Discussion of Research Findings

The study found that commercial banks use credit risk identification in risk management to a very great extent as indicated by a mean of 4.546 with a standard deviation of 0.569. This was indicated by the banks assessment of long term plans of loan applicants to

indentify future risks of the business and assess whether the clients are professionals in their business areas to a very great extent as well as assessing the prevailing inflation and political conditions facing the client's business and analyses clients' track record of bank loan repayment. Credit risk identification was also practiced in banks to a very great extent through checking of business proposal and business plan to identify credit risks the banks are exposed to, evaluation of the net worth of the client's business, bank analyses the character of the clients such as credit history of loan applicants to a very great extent. The findings were consistence with Nikolaidou & Vogiazas (2014) who established that credit risk management, identification, controlling and directing risks confronted by financial institutions through the incorporation of key risk management tactics and processes improve loan portfolio management.

Use of credit risk control in credit risk management was rated high in credit risk management in commercial banks as indicated by mean of 4.590. The banks used credit risk control to a great extent through engaging in loan securitization to ensure client loan facilities are secure to minimize credit loss, carries out external and internal audit of the business activities to determine how to respond to bank risks, vetting clients before approving loan facility to reduce occurrence of credit risk and adopts legal department checks such as signing of a binding contract to ensure loan repayment without defaults to a very great extent. The bank also put requirement of guarantors from clients to ensure bank is safe from client failure to repay loan and imposes penalties on loan defaulters to minimize occurrence of non-performing loans.

The use of credit risk mitigation was rated to a great extent 4.496 with a standard deviation of 0.518. Commercial banks were found to use credit risk mitigation practices to a great extent through insuring the loan portfolio to mitigate risk due to client defaults to mitigate non-performing loan, prices loan depending on the level of risk of the clients' business and diversifies its credit facilities to various clients in different sector to minimise credit risks occurrence from financing limited business activities. The study found that bank assesses purpose of the loan applied for by the clients as well as the use of the loan to ensure banks funds a less risky venture and evaluates the credit quality of a client loan portfolio often and takes measures to curb risks as a mitigation measure against non-performing loan to a great extent. The findings were similar to Ross et al., (2008) who found that credit risk mitigation lowers rate of interest loan loss provision in financial institutions.

The study found that use of credit risk assessment practices was rated to a very great extent 4.5416with a standard deviation of 0.515. This indicated that commercial banks were using credit risk assessment practices to a very great extent to mitigate occurrence of non-performing loans. The study revealed that banks updates borrowers' credit files for purposes of client rating to be used for approval or sanctions to minimize risks facing the bank, analyses profitability, efficiency and leverage of a client's business before awarding loans and banks constitutes credit evaluation committee to determine risks facing client business activities to a very great extent as indicated by a mean of 4.69 with SD= 0.71. The banks were found to evaluate loan performance on a monthly basis to assess the impact of risks on a client's business and loan repayment, classify risks based

on the amount of damage and take correct measure to manage bank risks and adopt loan recovery methods to lower non-performing loan.

The study found that there existed significant strong and negative correlation between credit risk identification and loan portfolio performance as Correlation coefficient r=-0.622, P=0.021<0.05. There existed a significant strong and negative correlation between credit risk control and loan portfolio performance as the correlation coefficient r=-0. 598, P=0.003<0.05 while the correlation between credit risk assessment and loan portfolio performance in commercial banks was -.514, P=0.0012<0.05. There also existed a significant strong and negative correlation between credit risk mitigation and loan portfolio performance in commercial banks as correlation coefficient r=-0.421, P=0.001<0.05. The findings concurred with Ntiamoah, et al (2014) who established that there was high positive correlation between the credit terms and policy, lending, credit analysis and appraisal, and credit risk control and loan performance in commercial banks in Ghana.

The study's compliance with capital requirement led to significant positive influence on credit risk management as r=0.714, P=0.0061, t=10.336. This clearly indicates that commercial bank that has adequate capital would influence effectiveness in use of credit risk management practices in commercial banks.

The use of credit risk identification practice led to significant decrease in level of non-performing loans in commercial as r=0.485, P=0.042, t=13.587. This clearly indicated that the use of credit risk identification would lower level of non-performing loans very great extent. The findings were consisted with Gisemba (2010) who found that credit risk

identification would result to an increase in financial performance and lower default rates.

The use of credit risk control to a very great extent led to significant decrease in non-performing Loan as r=0.681, P=.0018, t=12.703. This clearly indicates that use of credit risk control to a very great extent led to decrease in level of Non-performing loans in commercial banks in Kenya. The findings concurred with Kargi (2011) who evaluated the impact of credit risk management practices on lowering the ratio of non-performing loan to total loans.

The use of credit risk assessment practices to a very great extent led to significant decrease in non-performing loan as r=0.354, P=.0.0023, t=7.980. This clearly indicates that use of credit risk assessment practices led to a very great extent led to a significant decrease in level of non-performing loans in commercial banks in Kenya. The findings were consistent with Essendi (2013) who found that credit risk assessment is largely done and improves loan portfolio performance.

The use of credit risk mitigation practices to a very great extent led to significant decrease in Non-performing Loan as r=0.569, P=0.014, t=6.145. This clearly indicates that use of credit risk mitigation practices led to a very great extent led to a significant decrease in level of non-performing loans in commercial banks in Kenya. The study concurred with Kisala (2014**)** who found that both non-performing loans ratio and capital adequacy ratio, have a negative and relatively significant effect on ROE with NPL having higher significant effect on ROE in comparison to CAR.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings from chapter four, conclusions and recommendations of the study based on the objectives of the study. The main objective of this study was to determine the relationship between credit risk management practices on and loan portfolio performance.

5.2 Summary of the Findings

A linear regression model was applied to examine the relationship between the variables.This had been done through banks' assessment of long term plans of loan applicants to indentify future risks of the business and assesses whether the clients are professionals, assessing the prevailing inflation and political conditions facing the client's business and analyses clients' track record of bank loan repayment. The commercial banks credit risk identification also involved checking of business proposal and business plan to identify credit risks the bank is exposed, evaluation of the net worth of the clients' business banks' analyze the character of the clients such as credit history of loan applicants to a very great extent. From the regression findings, the use of credit risk identification practice led to significant decrease in level of non-performing loans in commercial banks hence, use of credit risk identification would lower level of non-performing loans to a very great extent.

The study established that commercial banks used credit risk control practices in credit risk management to a very great extent by engaging in loan securitization to ensure client loan facilities are secure to minimize credit loss, carries out external and internal audit of the business activities to determine how to respond to bank risks, vetting clients before approving loan facility to reduce occurrence of credit risk and adopts legal department checks such as signing of a binding contract to ensure loan repayment without defaults to a very great extent. The bank also put requirement of guarantors from clients to ensure bank is safe from client failure to repay loan and imposes penalties on loan defaulters to minimize occurrence of non-performing loans. From the regression analysis, the study revealed that use of credit risk control to a very great extent led to significant decrease in non-performing loans. This clearly indicates that there existed a significant negative relationship between use of credit risk control and level of Non-performing loans .Hence use of credit risk control practices to a very great extent led to decrease in level of non-performing loans in commercial banks in Kenya.

The study revealed that credit risk mitigation was used in minimizing credit risk to a great extent. Commercial banks were found to use credit risk mitigation practices to a great extent through insuring the loan portfolio to mitigate risk due to client defaults to mitigate non-performing loan, prices loan depending on the level of risk of the clients' business and diversifies its credit facilities to various clients in different sector to minimize credit risks occurrence from financing limited business activities. The banks were also found to assess the purpose of the loan applied by the clients as well as the use of the loan to ensure bank funds a less risky venture and evaluates the credit quality of a

client loan portfolio often and takes measure to curb risks as a mitigation measure against non-performing loan to a great extent. The study also established that use of credit risk mitigation practices to a very great extent led to significant decrease in non-performing loans. This clearly indicates that there exist a significant negative relationship between use of credit risk mitigation practices and level of non-performing loans. Therefore, use of credit risk mitigation to a very great extent would lead to a significant decrease in level of non-performing loans in commercial banks in Kenya.

The study also revealed that use of credit risk assessment practices was rated to a very great extent. The study revealed credit risk assessment was done through bank updates on borrowers' credit files for purposes of client rating to be used for approval or sanctions to minimize risks facing the bank, analyses profitability, efficiency and leverage of a client's business before awarding loans and banks constitutes credit evaluation committee to determine risks facing client business activities. The study revealed that bank evaluate loan performance on a monthly basis to assess impact of risks on client business and loan repayment and classify risks based on the amount of damage and take correct measure to manage bank risks and adopts loan recovery methods to lower non-performing loan.

From the regression analysis, use of credit risk assessment practices to a very great extent led to significant decrease in non-performing loans. This revealed that there existed a significant negative relationship between use of credit risk assessment practices and level of non-performing loans in commercial banks. This implied that use of credit risk assessment practices to very great extent led to a significant decrease in level of non-performing loans in commercial banks in Kenya. The study revealed that adhering to

capital requirement would result into significant positive influence on credit risk management clearly demonstrating that commercial bank that has adequate capital would result into success in use of credit risk management practices in commercial banks.

5.3 Conclusions

The study concluded that commercial banks used credit risk identification practices in risk management to a very great extent which resulted to significant reduction in level of non-performing loans. The bank concluded that commercial banks assess long term plans of loan applicants to indentify future risks of the business and assesses whether the clients are professionals, assessing the prevailing inflation and political conditions facing the client's business, analyses clients' track record of bank loan repayment which reduce default rates among bank clients lowering level of non-performing loans.

From the findings, the study concluded that commercial banks uses credit risk identification to a very great extent which resulted into reduction in default rates among bank clients. The use of credit risk identification practice led to significant decrease in level of non-performing loans in commercial hence, use of credit risk identification would lower level of non-performing loans very great extent. The study concluded that banks check on business proposals and business plan to identify credit risks the bank is exposed to and evaluation of the net worth of the client's business bank analyses the character of the clients such as credit history of loan applicants.

The study concluded that there existed a significant negative relationship between use of credit risk control and level of non-performing loans .Hence use of credit risk control practices to a very great extent led to decrease in level of Non-performing loans in commercial banks in Kenya. From the results, the study revealed that commercial banks uses credit risk control practices in credit risk management to a very great extent reducing default rates indicated by reduction in level of non-performing Loans. The study concluded that commercial banks engaged in loan securitization to ensure client loan facilities are secure to minimize credit loss, carries out external and internal audit of the business activities to determine how to respond to bank risks, vetting clients before approving loan facility, use of guarantors and adopts legal department checks mechanisms such as in signing of a binding contract to ensure loan repayment and imposes penalties on loan defaulters to minimize occurrence of non-performing loans without defaults to a very great extent.

The study concluded that there existed a significant negative relationship between use of credit risk mitigation practices and level of non-performing loans. Commercial banks insuring the loan portfolio, prices loan depending on the level of risk of the clients' business and diversifies its credit facilities to various clients in different sector, assessing purpose of the loan applied by the clients as well as the use of the loan to ensure bank funds a less risky and evaluates the credit quality of a client loan portfolio often and takes measure to curb risks as a mitigation measure against non-performing loan to a great extent reduce loan default rate.

The study concluded that there existed a significant negative relationship between use of credit risk assessment practices and level of non-performing loans in commercial banks. The use of credit risk assessment practices to very great extent led to a significant decrease in level of non-performing loans in commercial banks in Kenya. The study concluded that bank updates borrowers' credit files for purposes of client rating to be used for approval or sanctions to minimize risks facing the bank, analyses profitability, efficiency and leverage of a client's business before awarding loans and banks constitutes credit evaluation committee to determine risks facing client business activities, evaluate loan performance on a monthly basis to assess impact of risks on client business and loan repayment and classify risks based on the amount of damage and take correct measure to manage bank risks and adopts loan recovery methods to mitigate risks and lower non-performing loans.

5.4 Recommendations

The study recommends that commercial banks should uses credit risk identification practices in risk management to a very great extent. This is due to its impact on reduction of level of non-performing Loans .The bank should therefore assess long term plans of loan applicants to indentify future risks of the business and assesses whether the clients are professionals, assessing the prevailing inflation and political conditions facing the client's business, analyses clients' track record of bank loan repayment which reduce default rates among bank clients lowering level of non-performing loans.

The study also recommend that bank should uses credit risk identification to a very great extent as this resulted into reduction in default rates among bank clients. The use of credit

risk identification practice led to significant decrease in level of non-performing loans in commercial hence, use of credit risk identification would lower level of non-performing loans very great extent. Hence bank should put measures to enhance checks on business proposal and business plan to identify credit risks the bank is exposed to and evaluation of the net worth of the client's business bank analyses the character of the clients such as credit history of loan applicants.

The study recommends that commercial banks should enhance usage of credit risk control practices in credit risk management to a very great extent. This is because, through engaging in loan securitization, carrying out external and internal audit of the business activities to determine how to respond to bank risks, vetting clients before approving loan facility, use of guarantors and adopts legal department checks mechanisms such as in signing of a binding contract and imposes penalties would minimize occurrence of non-performing loans.

The study recommend that commercial banks should ensure loan portfolio are insured, pricing of loan is made depending on the level of risk of the clients' business and diversifies its credit facilities to various clients in different sector, assess purpose of the loan applied by the clients as well as the use of the loan to ensure bank funds a less risky and evaluates the credit quality of a client loan portfolio often and takes measure to curb risks as a mitigation measure against non-performing loan to a great extent reduce loan default rate .

The study concluded that commercial banks should updates of borrowers' credit files for purposes of client rating to be used for approval or sanctions to minimize risks facing the

bank, analyses profitability, efficiency and leverage of a client's business before awarding loans and banks constitutes credit evaluation committee to determine risks facing client business activities, evaluate loan performance on a monthly basis to assess impact of risks on client business and loan repayment and classify risks based on the amount of damage and take correct measure to manage bank risks and adopts loan recovery methods to mitigate risks and lower non-performing loans.

5.5 Limitations of the Study

The main limitation of study was inability to include more financial institutions. This study concentrated only on commercial banks. The study would have covered more financial institutions across financial sectors so as to provide a more broad based analysis. However, resource constraints placed this limitation.

The study also faced challenge of time resource, limiting the study from collecting information for the study particularly where the respondents delayed in filling the questionnaire and travelling for collection of the filled questionnaire.

The study also faced limitation where the management were failing to reveal the credit risk management practices of the banks and sometime delayed in filling of the questionnaire. The researcher did follow up to ensure data was collected without further delays.

The study also faced a limitation, whereby the respondents were found to be uncooperative because of the sensitivity of the information required for the study. The

researcher explained to the respondents that the information they provided was to be held confidential and was only for academic purpose only.

5.6 Suggestions for Further Research

This study determined the relationship between credit risk management practices and the performance of loan portfolio of commercial banks in Kenya. The study recommends that a further study should be carried out to determine the relationship between credit risk management and Loan Performance in deposit taking micro finance institutions and other financial institution such as Deposit taking SACCOs.

The study may be replicated by adding more dimensions of the credit risk management and to further test the impact of studied variables on the performance of loan to add to the current findings. It is further suggested that the secondary data may also be incorporated in such studies to better explore the influence of credit management on loan portfolio from in that specific dimension.

The study recommends that a further study should be carried out to determine the impact of credit management policy and level of non-performing loans in financial institution including commercial banks, deposit taking micro finance institutions in Kenya and deposit taking SACCOs in Kenya

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APPENDICES

Appendix I: Questionnaire

Section A: General Information

1. Name of your institution

   ……

2. Your designation.(Tick as appropriate)

   Credit Manager ( )
   Credit Officer ( )
   Other (specify)…….

Section B: Credit Risk Management Practices

Credit Risk Identification

1. Rate the extent of use of the risk identification in managing credit risks in banks.

   Use a scale of 1 to 5 where, 1-No Extent, 2- Less extent, 3-Moderate, 4- Great Extent and 5- Very Great Extent.

Credit Risk Identification	**1**	**2**	**3**	**4**	**5**
The bank checks business proposal and business plan to identify credit risks the bank is exposed to.					
The bank evaluates the net worth of the client's business.					
The bank assesses whether the clients are professionals in their business area.					
The bank analyses the character of the clients such as credit history of loan applicants.					
The bank analyses the capacity of the loan applicants to assess their ability to repay the credit facility.					
The bank assesses the long term plans of loan applicants to indentify future risks of the business.					
The bank assess prevailing inflation and political conditions facing the client's business.					
The bank analyses credit trustworthiness of loan applicants to determine whether a client is likely to default loan payment.					
The bank analyses clients' track record of bank loan repayment.					

The bank monitors client business activities and performance to determine its capacity to repay a bank loan.					

Credit Risk Control

2. Rate the extent of use of the credit risk control in managing credit risks in your bank.

   Use a scale of 1 to 5 where, 1-No Extent, 2- Less extent, 3-Moderate, 4- Great Extent and 5- Very Great Extent.

Credit Risk Control	**1**	**2**	**3**	**4**	**5**
The bank carries out external and internal audit of the business activities to determine how to respond to bank risks.					
The bank vets clients before approving loan facility to reduce occurrence of credit risk.					
The bank adopts legal department checks such as signing of a binding contract to ensure loan repayment without defaults.					
The bank imposes penalties on loan defaulters to minimize occurrence of non-performing loans.					
The bank holds collateral such as legal charges over properties for loan applicants to cater for bank credit loss.					
The bank participates in loan portfolio hedging against risks to ensure control of bank credit risks.					
The bank engages in loan securitization to ensure client loan facilities are secure and bank credit loss minimized.					
The bank requires guarantors from clients to ensure bank is safe from client failure to repay loan.					

Credit Risk Assessment

3. Rate the extent of use of credit risk assessment in managing credit risks.

   Use a scale of 1 to 5 where, 1-No Extent, 2- Less extent, 3-Moderate, 4- Great Extent and 5- Very Great Extent.

Credit Risk Assessment	**1**	**2**	**3**	**4**	**5**
The bank constitutes credit evaluation committee to determine risks facing client business activities.					
The bank evaluates loan performance on a monthly basis to assess impact of risks on client business and loan repayment.					
The bank analyses profitability, efficiency and leverage of a client's business before awarding loans.					
The bank classifies risks based on the amount of damage they cause so as to take correct measure to manage bank risks.					
The bank adopts loan recovery methods to lower non-performing loan.					
The bank updates borrowers' credit files for purposes of client rating to be used for approval or sanctions to minimize risks facing the bank.					

Credit Risk Mitigation

4. Rate the extent of use of the credit risk mitigation in managing credit risks?

   Use a scale of 1 to 5 where, 1-No Extent, 2- Less extent, 3-Moderate, 4- Great Extent and 5- Very Great Extent.

Credit Risk Mitigation Practices	**1**	**2**	**3**	**4**	**5**
The bank insures the loan portfolio to mitigate risk due to client defaults.					
The bank assesses purpose of the loan applied by the clients as well as the use of the loan to ensure bank funds a less risky venture.					
The bank diversifies its credit facilities to various client in different sector to minimise credit risks occurrence from financing limited business activities.					
The bank prices loan depending on the level of risk of the clients' business.					
The bank evaluates the credit quality of a client loan portfolio often and take measure to curb risks.					

Appendix II: List of Commercial Banks in Kenya

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

30) I&M Bank Limited
31) Imperial Bank Limited
32) Kenya Commercial Bank Limited
33) K-Rep Bank Limited
34) Middle East Bank (K) Limited
35) National Bank of Kenya Limited
36) NIC Bank Limited
37) Oriental Commercial Bank Limited
38) Paramount Universal Bank Limited
39) Prime Bank Limited
40) Standard Chartered Bank (K) Limited
41) Trans-National Bank Limited
42) UBA Kenya Bank Limited
43) Victoria Commercial Bank Limited

(Source, CBK as at December 2014)

Appendix III: Gross Non-Performing Loans and Total Loans (Kshs, Million) 2010-2014

	Name of Institution	NPL 2010 (M)	TL (M) 2010	NPL (M) 2011	TL (M) 2011	NPL 2012	TL (M) 2012
1	African Banking Corporation Limited	208	5,288	238	7,074	335	10,134
2	Bank of Africa (K) Limited	318	19,588	389	29,982	1,231	37,588
3	Bank of Baroda (K) Limited	512	20,578	511	22,578	511	22,578
4	Bank of India Limited	134	8,015	145	9,015	158	10,015
5	Barclays Bank of Kenya Limited	6,539	87,147	5,482	99,901	3,772	104,204
6	CfC Stanbic Bank (K) Limited	1,888	75,225	862	94,885	1,048	66,150
7	Chase Bank Limited	418	11,131	432	18,244	1,052	29,742
8	Citibank N.A. Kenya	954	18,976	640	28,451	331	29,284
9	Co - operative Bank of Kenya Limited	3,817	86,618	4,137	109,409	5,334	119,088
10	Commercial Bank of Africa Limited	8,933	57,935	9,197	64,257	10,077	66,150
11	Consolidated Bank of Kenya Limited	733	6,047	813	9,197	1,150	10,077
12	Credit Bank Limited	373	1,927	315	2,883	289	3,112
13	Development Bank of Kenya Limited	955	4,802	1,055	5,902	1,016	6,632
14	Diamond Trust Bank (K) Limited	690	51,260	637	71,298	957	87,707
15	Dubai Bank Limited	434	1,431	302	1,517	315	1,783
16	Ecobank Kenya Limited	6,158	11,256	6,890	12,177	708	13,968
17	Equatorial Commercial Bank Limited	1,046	4,792	476	6,635	560	7,538
18	Equity Bank Limited.	3,904	78,302	2,689	113,824	3,055	135,692
19	Family Bank Limited.	1,000	10,208	1,825	16,332	2,446	17,896
20	Fidelity Commercial Bank Limited	62	5,838	612	6,239	686	6,639
21	First Community Bank Limited	508	4,053	608	4,353	768	5,453
22	Giro Commercial Bank Limited	137	4,933	142	6,360	164	5,519

23	Guaranty Trust Bank Limited	1,619	10,165	451	11,836	330	14,180
24	Guardian Bank Limited	301	5,253	441	6,153	461	7,153
25	Gulf African Bank Limited	142	6,271	474	7,440	318	9,447
26	Habib Bank A.G. Zurich	56	451	67	382	65	436
27	Habib Bank Limited	73	259	77	288	54	341
28	HF Bank Limited	161	4,467	163	5,223	168	5,294
29	I&M Bank Limited	861	50,273	684	66,366	491	87,835
30	Imperial Bank Limited	621	11,153	663	15,659	784	21,292
31	Jamii Bora Bank Limited	167	2,451	250	2,799	262	3,453
32	K - Rep Bank Limited	1,054	5,252	772	6,754	821	6,955
33	Kenya Commercial Bank Limited	12,787	148,113	11,003	198,725	12,934	211,664
34	Middle East Bank (K) Limited	589	2,911	589	2,911	601	3,411
35	National Bank of Kenya Limited	907	20,845	1,155	28,068	2,196	28,347
36	NIC Bank Limited	1,383	40,755	1,626	56,625	2,051	71,540
37	Oriental Commercial Bank Limited	167	2,451	250	2,799	262	3,453
38	Paramount Universal Bank Limited	144	2,342	167	2,851	274	3,112
39	Prime Bank Limited	545	14,837	670	18,394	590	21,151
40	Standard Chartered Bank (K) Limited	792	60,337	677	96,098	1,692	112,695
41	Trans - National Bank Limited	537	1,938	381	3,308	512	4,239
42	UBA Kenya Limited	118	1,215	486	1,517	53	440
43	Victoria Commercial Bank Limited	101	3,485	158	4,110	121	5,291

Gross Non-Performing Loans and Total Loans (Kshs, Million) 2010-2014

Name of Institution	**NPL 2013**	**TL (M) 2013**	**NPL 2014**	**TL (M) 2014**
African Banking Corporation Limited	544	11,491	693	13,680
Bank of Africa (K) Limited	1,767	37,938	2,203	46,372
Bank of Baroda (K) Limited	525	23,579	946	28,389

Bank of India Limited	107	10,673	69	12,376
Barclays Bank of Kenya Limited	3,580	118,362	4,554	125,423
CfC Stanbic Bank (K) Limited	1,785	103,848	3,024	180,512
Chase Bank Limited	1,026	41,430	2,500	57,236
Citibank N.A. Kenya	712	77,993	881	68,093
Co - operative Bank of Kenya Limited	5,426	137,087	7,670	179,486
Commercial Bank of Africa Limited	599	65,203	811	12,851
Consolidated Bank of Kenya Limited	1,382	10,855	2,331	9,213
Credit Bank Limited	249	4,328	456	5,528
Development Bank of Kenya Limited	1,008	8,108	1,140	8,528
Diamond Trust Bank (K) Limited	1,211	110,945	1,603	137,655
Dubai Bank Limited	1,650	2,483	785	2,461
Ecobank Kenya Limited	1,436	18,460	2,002	22,982
Equatorial Commercial Bank Limited	1,076	9,029	2,525	10,068
Equity Bank Limited.	7,530	171,363	8,230	214,170
Family Bank Limited.	2,014	27,943	2,390	37,925
Fidelity Commercial Bank Limited	590	7,259	690	9,259
First Community Bank Limited	504	7,212	1,470	9,766
Giro Commercial Bank Limited	375	6,909	247	7,717
Guaranty Trust Bank Limited	1,070	17,955	1,239	19,348
Guardian Bank Limited	509	8,604	625	9,627
Gulf African Bank Limited	622	10,665	896	13,791
Habib Bank A.G. Zurich	871	13,856	863	7,786
Habib Bank Limited	759	11,181	913	5,389
HF Bank Limited	1,911	18,447	2,020	31,827
I&M Bank Limited	705	91,833	1,408	101,611
Imperial Bank Limited	1,386	26,172	1,847	30,998
Jamii Bora Bank Limited	245	4,035	290	4,628
K - Rep Bank Limited	688	8,892	707	10,608
Kenya Commercial Bank Limited	13,521	227,722	15,816	283,732
Middle East Bank (K) Limited	628	3,711	1,003	3,466

National Bank of Kenya Limited	4,170	39,567	7,048	65,641
NIC Bank Limited	4,521	83,493	4,032	102,042
Oriental Commercial Bank Limited	245	4,035	290	4,628
Paramount Universal Bank Limited	914	9,044	1,063	5,887
Prime Bank Limited	499	26,752	462	34,481
Standard Chartered Bank (K) Limited	3,107	129,672	8,888	122,749
Trans - National Bank Limited	615	5,297	458	6,163
UBA Kenya Limited	34	1,932	52	2,443
Victoria Commercial Bank Limited	145	8,363	105	10,979

Appendix IV: Credit Risk Identification

Credit Risk Identification	Mean	Std Dev
The bank checks business proposal and business plan to identify credit risks the bank is exposed to.	4.44	0.53
The bank evaluates the net worth of the client's business.	4.35	0.33
The bank assesses whether the clients are professionals in their business area.	4.71	0.64
The bank analyses the character of the clients such as credit history of loan applicants.	4.21	0.30
The bank analyses the capacity of the loan applicants to assess their ability to repay the credit facility.	4.76	0.75
The bank assesses the long term plans of loan applicants to indentify future risks of the business.	4.80	0.88
The bank assesses prevailing inflation and political conditions facing the client's business.	4.61	0.73
The bank analyses credit trustworthiness of loan applicants to determine whether a client is likely to default loan payment.	4.57	0.53
The bank analyses clients' track record of bank loan repayment.	4.59	0.55
The bank monitors client business activities and performance to determine its capacity to repay a bank loan.	4.42	0.45

Appendix V: Credit Risk Control

Credit Risk Control	Mean	Std Dev
The bank carries out external and internal audit of the business activities to determine how to respond to bank risks.	4.72	0.25
The bank vets clients before approving loan facility to reduce occurrence of credit risk.	4.67	0.46
The bank adopts legal department checks such as signing of a binding contract to ensure loan repayment without defaults.	4.63	0.51
The bank imposes penalties on loan defaulters to minimize occurrence of non-performing loans.	4.51	0.64
The bank holds collateral such as legal charges over properties for loan applicants to cater for bank credit loss.	4.36	0.74
The bank participates in loan portfolio hedging against risks to ensure control of bank credit risks.	4.47	0.79
The bank engages in loan securitization to ensure client loan	4.74	0.86

facilities are secure and bank credit loss minimized.		
The bank requires guarantors from clients to ensure bank is safe from client failure to repay loan.	4.62	0.53

Appendix VI: Credit Risk Assessment

Credit Risk Assessment	**Mean**	**Std Dev**
The bank constitutes credit evaluation committee to determine risks facing client business activities.	4.69	0.71
The bank evaluates loan performance on a monthly basis to assess impact of risks on client business and loan repayment.	4.41	0.40
The bank analyses profitability, efficiency and leverage of a client's business before awarding loans.	4.74	0.65
The bank classifies risks based on the amount of damage they cause so as to take correct measure to manage bank risks.	4.32	0.24
The bank adopts loan recovery methods to lower non-performing loan.	4.30	0.34
The bank updates borrowers' credit files for purposes of client rating to be used for approval or sanctions to minimize risks facing the bank.	4.79	0.75

Appendix VII: Credit Risk Identification

Credit Risk Mitigation Practices	**Mean**	**Std Dev**
The bank insures the loan portfolio to mitigate risk due to client defaults.	4.73	0.62
The bank assesses purpose of the loan applied by the clients as well as the use of the loan to ensure bank funds a less risky venture.	4.40	0.46
The bank diversifies its credit facilities to various clients in different sector to minimise credit risks occurrence from financing limited business activities.	4.66	0.58
The bank prices loan depending on the level of risk of the clients' business.	4.68	0.66
The bank evaluates the credit quality of a client loan portfolio often and takes measure to curb risks.	4.01	0.27