THE RELATIONSHIP BETWEEN CREDIT RISK MANAGEMENT AND PROFITABILITY: A STUDY OF COMMERCIAL BANKS IN KENYA

BY:
JAMES GITONGA MUTHEE
D61/70553/2009

SUPERVISED BY:
DR. JOSIAH ADUDA

A RESEARCH PROJECT REPORT SUBMITTED IN PARTIAL FUILFILMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS; UNIVERSITY OF NAIROBI.

NOVEMBER 2010.

Declaration

This project is my original work and has never been presented for a degree in any other university.

Signature:……. Date:…….

JAMES GITONGA MUTHEE
D61/70553/2009

This project has been submitted for examination with my approval as the University Supervisor.

Signature:…… Date……

DR. JOSIAH ADUDA,
LECTURER, DEPARTMENT OF FINANCE AND ACCOUNTING,
SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI.

Dedication

To my parents Mr. and Mrs. Justus Muthee for their encouragement and ceaseless prayers.

To my best friend, Mercy Mwendwa for her love and patience

Lastly to my siblings; Dorcas, Rose and Peter for their moral support.

Acknowledgement

There are several people who deserve a heart felt appreciation for their guidance and support during the period of my study.

First special thanks goes to my supervisor Dr. Josiah Aduda for his constant support, guidance, clear thinking, positive criticism and passion to see me excel. Thank you so much for your time, I enjoyed being your student.

I greatly appreciate the companionship of my colleagues in the MBA class 2009 class cohort for the support and tolerance throughout the program more specifically I would like to thank the late Agnes Gakii, Peter, Nebati, Brenda, Dan, Elizabeth, Eva, Florence, Moses, Korir……. The list is endless. The discussions really helped and may our good Lord reward you abundantly.

I would like to sincerely thank my parent for their prayers and encouragement. Further, I appreciate the support of my siblings for their constant support. You are the best.

My greatest gratitude is to God the Almighty. He is a faithful God and may His name be praised for ever more.

TABLE OF CONTENTS

Abbreviations

BCBS Basel	Committee on Banking Supervision
CAR	Capital Adequacy Ratio
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CCF	Credit Conversion Factors
Coef.	Coefficient
CRD	Capital Requirements Directives
EU	European Union
FIRB	Foundation Internal Rating-based
FSA	Financial Supervisory Authority
GDP	Gross Domestic Product
ICAAP	Internal Capital Adequacy Assessment Process
IFRS	International Financial Reporting Standards
IRB	Internal Rating-based
LGD	Loss Given Default
MPT	Modern Portfolio Theory
N	Number (of Observations)
NI	Net Income
NPL	Non-performing Loan
NPLR	Non-performing Loan Ratio
PD	Probability of Default
P value	Probability Value
R_2	R-squared
ROA	Return on Assets
ROE	Return on Equity
RORAC	Return on Risk Adjusted Capital
RWA	Risk Weighted Asset

TL	Total Loan
TSE	Total Shareholders' Equity
USA	United States of America

List of Tables

List of Figures

Abstract

Banks operate in an environment of considerate risks and uncertainty. Credit risk has always been a vicinity of concern not only to bankers but to all in the business world because the risks of a trading partner not fulfilling his obligations in full on due date can seriously jeopardize the affaires of the other partner. Credit risk management in banks has become more important not only because of the series of financial crisis that the world has experienced in the recent past but also the introduction of Basel II accord. Managing credit risk thus remains an essential and challenging corporate function. The chief goal of an effective credit risk management policy must be to maximize a commercial banks risk adjusted rate of return by maintaining credit risk exposure within acceptable limits. Moreover banks need to manage credit risk in the entire portfolio as well as the risk in individual credit or transactions.

The objective of the study was to establish the relationship between credit risk management and profitability in commercial banks in Kenya. Both qualitative and quantitative methods were used in order to fulfill the main purpose of the study. A regression model was used to do the empirical analysis. In the model ROE was defined as the profitability indicator while NPLR as credit risk management indicator. The primary data was collected through a structured questionnaire; the information was analyzed with the help of descriptive statistics. The secondary data was collected from the published annual reports for the commercial banks for a period of ten years.

The findings and analysis reveal that credit risk management has effect on profitability in all the commercial banks analyzed. NPLR has a significant effect on profitability indicator (ROE). The study used regression analysis to establish the association between NPLR and ROE; a forecasting model was developed and tested for accuracy in obtaining predictions. The finding of the study indicated that the model was moderately significant. NPLR as an independent variable was linearly related with the dependent variable (ROE) thus simple linear regression model was used to forecast ROE for commercial banks; however care should be taken when using the model and where necessary other independent variables should be included in the model so as to strengthen the value of $R^{2.}$ The results obtained from the regression model show that there is an effect of credit risk management on profitability at a reasonable level. Banks should therefore prudently manage credit risk to bolster their profitability levels.

The analysis on each bank level shows that the impact of credit risk management on profitability is not the same. In view of these findings, the author recommends that there should be continuous financial innovation by commercial banks in Kenya in order to minimize credit risk and boost profitability, in extension this will strengthen the financial system and create more wealth for the shareholders.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the study

In today's environment of intense competitive pressures, volatile economic conditions, rising default rates and increasing levels of consumer and commercial debt, an organizations ability to effectively monitor and manage its credit risk could mean the difference between success and survival (Altman 2002). The past decade has seen dramatic losses in the banking industry. Firms that had been performing well suddenly announced large losses due to credit exposures that turned sour, interest rate positions taken, or derivative exposures that may or may not have been assumed to hedge balance sheet risk (Santomero, 1997). In response to this, commercial banks have almost universally embarked upon an upgrading of their risk management and control systems. Due to the nature of their business, commercial banks expose themselves to the risks of default from borrowers. Prudent credit risk assessment and creation of adequate provisions for bad and doubtful debts can cushion the banks risk. However, when the level of non- performing loans (NPL's) is very high, the provisions are not adequate protection (Gupta, 1998).

Credit is derived from a Latin word "credere" meaning trust. When a seller transfers his wealth to a buyer who has agreed to pay later, there is a clear implication of trust that payment will be made at agreed date (Butterworths, 1990). Major causes of serious banking problems are directly related to lax credit standards for borrowers. Poor portfolio assessment or lack of attention to changes in economic circumstances, common in emerging economies (Basel, 1999). Banks as financial institutions extend credit to their customers in form of loans, overdrafts, off balance sheet activities i.e. Letter of credit (LC) guarantees, and credit card facilities. Banks grant credit to enhance their revenues streams, maintain a competitive edge, to act as its bargaining power in the industry, as the industry practice as well as to enhance the relationship with their customers.

The fundamental objective of the Bank management is to maximize shareholders wealth (Koch and MacDonald, 2006). This goal is interpreted to mean maximizing the market value of the firm's ordinary shares. Wealth maximization, in turn, requires that managers evaluate the present value of cash flows under uncertainty with larger, near- term cash flows proffered when evaluated on a risk adjusted basis (Koch and MacDonald, 2006). To obtain higher yields on returns, a bank must either take an increased risk or lower operating costs (Kegode 2006). Thus managers must evaluate and balance the trade offs between the opportunity for higher returns, the probability of not realizing those returns, and the possibility that the bank might fail (Koch and MacDonald, 2006). The banks profitability will vary with the riskness of its portfolio and operations.

According to Clarke (1999) awarding credit is a journey, the success of which depends on the methodology applied to evaluate and to award the credit. This journey starts from the application for credit through acquisition of credit and ends at the time the credit is fully paid. A credit policy helps to define the frame work within which credit will be extended and managed. Hempel et al (1994) states that there are two credit evaluation systems in relation to banks assessment of loan applications. Judgmental credit analysis which relies on the consumer loan officer's experience in assessing the loan and empirical credit analysis also referred to as credit scoring which assesses applicants based on scores applied to various applicant characteristics. Examples of applicant characterizes assessed include age, employment history, performance on loans currently held and types of accounts held (Shubhasis, 2005).

Profitability is the primary goal of all business ventures. Without profitability the business will not survive in the long-run. So measuring current and past profitability is very important. Profitability is measured with income and expenses. Income is generated from the activities of the business. A business that is highly profitable has the ability to reward its owners with a large return on the investment (Waweru and Kalani, 2009).

A profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Important changes in the operating environment particularly credit risk is likely to affect bank profitability. Empirical analysis finds that both bank- specific as well as macroeconomic factors are important determinants in the profitability of banks (Westerfield, 2008).

1.1.1 Performance Measures

Brealey and Myers (2003) argue that there are various important measures in determining profitability of an organization. These include; Net Profit Margin, Return on Assets and Return on Equity. In 1972 David Cole introduced a procedure for evaluating bank performance via ratio analysis (MacDonald and Koch, 2006). This procedure enables an analyst to evaluate the source and magnitude of banks profits relative to selected risks taken. David Cole employed return on equity model to analyze bank profitability and identified specific measures of credit risk, liquidity risk, interest rate risk, operational risk and capital risk (McDonald and Koch, 2006).

Performance measures derive directly from the income statement. There are various measures of profitability. The ratio of net income to equity is the accounting Return on Equity (ROE). It often serves as a target profitability measure at the overall bank level. Market Return on Equity, is a price return, or the ratio of the price variation between two dates of the banks shares. Under some specific conditions i.e. when the Price Earning ratio remains constant, it can serve as a profitability benchmark. Both ROE and the market return on equity should be in line with shareholders expectations for a given level of risk of the banks shares. A current order of magnitude for the target. ROE is 15% after tax, or about 25% before tax (Bessis, 2005). Return on Assets (ROA) is another measure of profitability for banking transactions. The most common calculation of ROA is the ratio of the current periodical income, interest income and current fees, dividend by asset balance (Bessis, 2005). ROA can be decomposed into four constituent's parts by an accounting identity:

Profitability= ROA= NI/TA + NII/TA – OV/TA- LLP/TA

Where, NI is Net Interest Income, NII is non- interest Income, OV is non- interest overhead expenses and LLP is loan loss provisioning (Westerfield, 2008).

The Net Interest Margin NI/TA creates a wedge between returns to savers and investors and reflects the cost of bank intermediation services and the efficiency of the banking sector. In general, the higher the net interest margin, the higher are banks' profit margins and more stable is the banking sector. However, a higher net interest margin could reflect riskier lending practices associated with substantial loan loss provisions and could be an indication of inefficiency in the banking sector (Westerfield, 2008).

The draw back of accounting ROE and ROA measures, and of the P& L of the trading portfolio, is that they do not include any risk adjustment.Hence, they are not comparable from one borrower to another, because their credit risk differs, from one trading transaction to another, and because the market risk varies across products. This draw back id the origin of the concept of risk- adjusted performance measures. This is an incentive for moving, at least in internal reports of risks and performances to economic values, mark to market or mark to model values, because these are both risk and revenue adjusted (Bessis, 2005).

1.1.2 Credit Risk Management

Greuning (2003) defines credit risk as the chance that a debtor or a financial instrument issuer will not be able to pay interest or repay the principal according to the terms specified in a credit agreement. It means that payments may be delayed or ultimately not paid at all, which may cause cash flow problems and affects banks liquidity. Credit risk is the most important area in risk management. More than 80% of all banks balance sheet relate to credit (Greuning, 2003; Kabiru 2003; Idarus 2005). All over the world exposure to credit risk has led to many banks failure. According to Basel (2004) credit risk exposure particularly to real estate led to widespread banking problems in Switzerland, Spain, The United Kingdom, Sweden, Japan and others. Here in Kenya Obiero (2002) found out that credit risk was only second to poor management in contributing to bank failures. On perception, Idarus (2005) found out that credit risk was the most important area of risk management in Kenya.

Risk management means, increasing the likelihood of success, reducing the possibility of failure and limiting the uncertainty of all the overall financial performance. Best (2000) argues that the purpose of risk management is to prevent an institution from suffering unacceptable loss. He goes on to explain that "unacceptable loss" is one which either causes an institution to fail or materially damages its corporate position. Banks must monitor the ever changing micro and macroeconomic environment to identify the risks therein and find ways of managing these risks. Developing economies of the world; Kenya included, face more uncertainties that the developed counter parts. Banking business in developing worlds therefore faces more risks. Failure to manage risks effectively in the respective banks leads to bank failures. One bank failure may have a contagion effect on the other banks leading to a systematic failure of the whole banking industry in a country or even a whole region as witnessed during the Asian Bank crisis (1997-1998). Kenya has had its share of bank failures. Obiero (2002) noted that in 1993 alone, 14 banks in Kenya collapsed.

In recognization of the high risks involved in banking, the Central Bank of Kenya has published risk management guidelines (2005) for the purpose of providing guidance to all financial institutions on the minimum requirements for a risk management frame work and strategy. It has classified the risks facing financial institutions into nine classes namely: strategic risk, credit risk, liquidity risk, interest rate risk, price risk, foreign exchange rate risk, operational risk, reputation risk and regulatory risk. Banks can project the average level of credit losses it can reasonably expect to experience.

1.1.3 Banking Industry in Kenya

The Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK). The banking sector was liberalized in 1995 and exchange controls lifted (CBK Website). The CBK, which falls under the Minister for Finance docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. As at December 2009

there were forty four banks and non bank institutions, fifteen micro finance institutions and one hundred and nine foreign exchange bureaus (CBK Website).

The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banking sector's interest's .The KBA serves a forum to address issues affecting members for instant government legislation. Over the last few years, the Banking sector in Kenya has continued to growth in assets, deposits, profitability and products offering. The growth has been mainly underpinned by; An industry wide branch network expansion strategy both in Kenya and in the East African community region and automation of a large number of services and a move towards emphasis on the complex customer needs rather than traditional 'off-the-shelf' banking products (CBK, 2006).

Players in this sector have experienced increased competition over the last few years resulting from increased innovations among the players and new entrants into the market. To further strengthen the banking system and enhance surveillance in the industry, the Central Bank took the following actions: Bank Supervision Department was strengthened to enhance closer surveillance aimed at detecting banking problems early enough so as to take preventive action. Guidelines for risk classification of loans were revised and issued to facilitate better credit risk assessment. The Central Bank has recently licensed credit reference and credit rating agencies in order to enhance credit risk assessment. The disclosure of the financial performance was enhanced as a way of ensuring better market discipline. The banks are now required to publish non-performing loans as well as facilities to directors (CBK, 2006).

The Banking Act was amended further in 1999 so as to be in tandem with the regional and international banking regulations as follows: A capital requirement was adopted in order to be in line with the Basel Committee Accord and International Supervisory practice. Restrict advances, credit and guarantees to or in form of an insider or associate in excess of 20% of core capital of the banking institutions. Central Bank may prescribe limits on the preparation of core capital that may be invested in purchase or acquisition of land. Institutions required disclosing to the Central Bank the full particulars of the individuals who hold shares in the banking institutions (CBK, 2004).

1.2 Statement of the Problem

The main aim of every banking institution is to operate profitably in order to maintain its stability and improve in growth and expansion. In the last twenty years, the banking sector has faced various challenges that include non- performing loans, political interference and fluctuations of interest rate among others, which have threatened the banks stability as indicated by Roche (2003).According to Bessis (2005) risk management is important to bank management because banks are 'risk machines' they take risks; they transform them and embed them in banking products and services. Risks are uncertainties resulting in adverse variations of profitability or in losses. Various risks faced by commercial institutions include; credit risk, market risks, interest rates risk, liquidity risk and operational risk (Shubhasis, 2005).

Various local studies conducted have failed to establish any relationship between credit risk management and profitability in commercial banks in Kenya. The study by Mudiri (2003) had sought to determine credit management techniques applied by financial institutions in Kenya. Maina (2003) conducted a survey on risk based capital standards and the riskness of bank portfolio in Kenya. Mboe (2004) studied on the relationship between credit risk analysis and the level of non performance loans. Mwirigi (2006) conducted an assessment of credit risk techniques in commercial banks. Kegendo (2006) sought to establish factors that determine credit worthiness of a visa card. The study by Ngare (2008) was a survey of credit risk management practices by commercial banks in Kenya. Ndung'u (2003) in a study on the determinants of profitability of quoted commercial banks in Kenya finds that sound asset and liability management had a significant influence on profitability.

While the above research outcome provides valuable insights on credit risk management, they have not induced a clear relationship between credit risk management and profitability in Commercial banks in Kenya. Given the gaps poised by the above empirical studies, this study poses the research question: "what is the relationship between credit risk management and profitability in commercial banks in Kenya?" The study hypothesizes that commercial banks should demonstrate to improve profitability of

the bank after administration of a credit. This hypothesis is based on the argument that commercial banks' largest credit risk is loans, although that credit risk exists throughout the other activities of the bank both on and off the balance sheet. These other activities include acceptance, inter-bank transactions, trade financing, foreign exchange transactions, futures, swaps, options and guarantees. To answer the above question, the study seeks to establish a relationship between credit risk management and profitability; this will be done by reviewing various profitability measures and in particular the ROE ratio. ROE has an important indicator to measure the profitability of the banks has been discussed extensively. Foong Kee (2008) indicated that the efficiency of banks can be measured by using the ROE which illustrates to what extent banks use reinvested income to generate future profits.

1.3 Objective of the study

The main objective of the study is to establish a relationship between credit risk management and profitability of commercial banks in Kenya.

1.4 Significance of the Study

The study will be important to various stake holders as indicated here below:

Banking Industry

The industry will obtain information on the relationship between credit risk management and profitability. This information will be especially useful to future investors in the industry and Senior Management.

The Government

The government will obtain information on the importance of implementation of various legal frameworks in relation to credit risk management i.e. Basel Accords.

Academicians

In addition to contributing to the body of knowledge, the research will also help and encourage continuity as far as doing further research is concerned.

Regulatory Body

Central Bank of Kenya will further acknowledge the importance of credit risk management in banks.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter deals with various concepts in regard to the relationship between credit risk management and profitability of commercial banks. In addition, the researcher will discuss various empirical studies done in the same field, theories of credit administration, profitability theories and ratios and summary conclusion of the literature review.

2.2 Theoretical Review

2.2.1 Modern Portfolio Theory

Modern portfolio theory was largely defined by the work of Harry Markowitz (1927) in a series of articles published in the late 1950s. This theory was extended and refined by William Sharpe (1934), John Lintner (1916 1983), James Tobin (1918), and others in the subsequent decades. Portfolio theory integrates the process of efficient portfolio formation to the pricing of individual assets. It explains that some sources of risk associated with individual assets can be eliminated, or diversified away, by holding a proper combination of assets (Bodie et al, 1999).Modern portfolio Theory (MPT) is one of the most important and influential economics theories that deal with finance and investments (Markowitz, 1990). The Modern Portfolio Theory was developed by Harry Markowitz and was published in 1952 in the journal of finance under the name of "Portfolio Selection". Later in 1959, He also published a book by the name of "Portfolio Selection: Efficient Diversification of Investments" (Brealey and Myers, 2003). What Harry Markowitz started back in the early 1960s was continued through the development of the capital market theory, whose final product, the capital asset pricing model (CAPM), allowed a Markowitz efficient investor to estimate the required rate of return for any risky asset (Bodie et al, 1999).

MPT argues that, it is not enough to take only one particular asset's risk and return under consideration but rather invest in several assets with low correlations towards each other. This will give the portfolio advantages of diversification. Hence, the relevant objective in

the MPT concept is to choose the right combination of these assets to the optimal portfolios (Freeman, 2006). The theory of modern portfolio management describes the resulting risk and return of a combination of individual assets. A primary objective of the theory is to identify asset combinations that are efficient. Here, efficiency means the highest expected rate of return on an investment for a specific level of risk (Grinold, 1999). The primary starting point for portfolio theory requires an assumption that investors are risk averse. This means that they will not consider a portfolio with more risk unless it is accompanied by a higher expected rate of return (Greg, 2009).

The main benefit of forming portfolios is the potential to create combinations with lower risk and possibly higher expected returns than can be obtained from individual securities (Butterworths, 1990). Now consider the risk associated with an individual security as the sum of two parts. One part is represented by risk factors that are truly unique to the specific security. The other part is represented by risk factors that are essentially common with all other securities. For example, the potential for a key employee to leave the firm unexpectedly or the possibility of discovering gold under corporate headquarters are unique risk factors that are not shared with other firms (Michaud, 1998). On the other hand, risk factors concerning the potential for unexpected and rapid growth in the national (or international) economy or the enactment of new legislation that affects the operating costs for all firms represent examples of common risk factors. While portfolio formation reduces the influence of unique risks associated with individual securities, it cannot eliminate exposure to common risk factors. Stated differently, properly constructed portfolios allow for diversification of unsystematic (unique) risk, but not for systematic (market) risk (Markowitz, 1991).

In summary, portfolio management theory assesses risk and return relationships for combinations of securities. While the expected return of a portfolio is the simple weighted average of the expected returns of its component securities, portfolio risk must also consider the correlation among the returns of individual securities. Since part of the price fluctuation of a security is unique, it does not relate to price fluctuations of other securities held. This allows the investor to diversify, or eliminate, a portion of each security's risk (Michaud, 1998). With additional analysis, the subset of portfolios with the highest expected return for a given risk level can be identified. If a risk-free asset can also

be purchased or sold, then there is a unique combination of risky securities that will allow all investors to achieve superior returns for a given risk level. The capital asset pricing model and other models use this result to infer the risk-return relationship for individual securities. Although there is imprecision when attempting to implement these theories, they provide a useful way to evaluate and improve a variety of investment strategies (Thygerson, 1995).

In banking, loans constitute the assets in the financials and therefore the theory can be used to expound on the need of commercial banks forming a portfolio that cuts across different industries and businesses (Greg, 2009). The portfolio can be formed on the basis of purpose, time period, industry etc. This theory poses a number of gaps; the initial intent by Markowitz was to address the importance of investment portfolio for investors to spread risk when investing and not management of loan portfolio in banks. Some of the issues not addressed by the theory include; how banks can form a portfolio of loans that minimizes risk and maximizes return? It does not outline ways of determining a risk free portfolio. In addition the theory does not address various risks that are faced by banks when managing a loan portfolio. Therefore the theory cannot apply holistically when managing credit risk in banks.

2.2.2 Trade-off Theory

The initial trade-off models dominated the capital structure literature. The tax benefit-bankruptcy cost trade-off models (DeAngelo and Masulis, 1980) predict that firms will seek to maintain an optimal capital structure by balancing the benefits and the costs of debt. The benefits include the tax shield whereas the costs include expected financial distress costs. Under the agency theoretical models (Jensen and Meckling (1976), Myers (1977) and Jensen (1986)) firms use the benefits of reducing potential free cash flow problems and other potential conflicts between managers and shareholders, to offset costs associated with underinvestment and asset substitution problems. These theories predict that firms maintain an optimum capital structure where the marginal benefit of debt equals the marginal cost. The implication of these trade-off models is that firms have target leverage and they adjust their leverage toward the target over time.

Standard Capital Market Theory states that there is a trade off between risk and return (Markowitz, 1952 and Sharpe, 1964). The more risk one is willing to accept the more return can be expected. However, this trade-off only holds true for the unsystematic risk, not for the risk that can theoretically be avoided by diversification. Financial theory, therefore predicts that well diversified banks yield higher expected returns than banks with little diversification. However, financial theory based on the notion of perfect capital markets is not really applicable to banks. This argument leads to the theory of financial intermediation, taking into account the role of asymmetric information which incorporates the relevance of monitoring. In the Diamond (1984) model- monitoring costs and monitoring quality are considered to be constant across all banks. Thus, the argument by Diamond that diversification reduces the banks monitoring costs and that therefore banks should be as diversified as possible.

What is the trade- off between the risk that the loan will enter default and result in a loss, and the return that the institution will receive in fees and interest income? The answer to this question, through analysis of the risk- return trade- off, is the crux of all investment decisions; the yield on risky assets must incorporate expected credit losses (Thygerson, 1995). If the risk of default is high, then the return should be commensurately high. Inevitably, investors expect to lose on loans and investments expecting those relatively risk- free vehicles. As with any portfolio of assets, the management challenge is to ensure that the experienced losses are less than or equal to those expected when the firm acquired and priced the assets; and management can achieve this stability through careful origination and servicing of individual assets and strategic portfolio diversification and management (Johnson, 2000).

This theory has tempted to explain the importance of trade off between risk and return, however it has not addressed a number of important factors such as; the level of loan portfolio that will be ideal for maximization of return and minimizing of risk, how to determine the optimal level of loans? It has not given tools to be used in determining the optimal loan levels and also the criteria to be used in diversification. This therefore creates a study gap between the theory and credit risk management and profitability in banks.

2.3 Credit Risk

According to Gregoriou and Hoppe (2009) bank loan is a debt, which entails the redistribution of the financial assets between the lender and the borrower. The bank loan is commonly referred to the borrower who got an amount of money from the lender, and need to pay back, known as the principal. In addition, the banks normally charge a fee from the borrower, which is the interest on the debt. The risk associated with loans is credit risk. One of the principal duties of financial institutions is to provide loans, this is typically the source of income to banks, bank loans and credit also constitute one of the ways of increasing money supply in the economy (Waymond, 2007).

The Central Bank of Kenya defines NPLs as those loans that are not being serviced as per loan contracts and expose the financial institutions to potential losses (CBK, 1997). It is important to note that non-performing loans refer to accounts whose principal or interest remains unpaid 90 days or more after due date. According to the Central Bank of Kenya Supervision Report (CBK, 1999), the level of non-performing loans has been increasing steadily from shs.56 billion in 1997, to Shs. 83 billion in 1998 to shs.97 billion in 1999. This high level of non-performing loans continues to be an issue of major supervisory concern in Kenya. The recent financial crises in USA and Europe suggest that NPL amount is an indicator of increasing threat of insolvency and failure. However, the financial markets with high NPLs have to diversify their risk and create portfolios with NPLs along with Performing Loans, which are widely traded in the financial markets. In this regard, Germany was one of the leaders of NPL markets in 2006 because of its sheer size and highly competitive market. Also, Czech Republic, Turkey and Portugal are noticeable NPL markets in EU according to Ernst &Young's Global Non-performing Loan report (2006).

According to Omuodo (2003), as pressure mounts on the banking industry's profitability resulting from over reliance on interest income by banks, it is strategically imperative that banks focus on other revenue streams. National Industrial Credit Bank, NIC, has introduced new products to diversify revenue and to keep its head above the water. Omuodo adds that part of NIC Bank's strategy has been to diversify revenues, by

expanding the scope of its activities in addition to its predominant asset finance focus and offering more general commercial banking facilities and other products. Premium financing and provision of custodial services have reduced over reliance on interest income. According CBK (2002), public sector banks that gave loans without proper documentation are finding the loans difficult to recover. They have now shifted away from security based lending to the emphases on the customers ability to meet the loan repayments.

Several banks in the country are already harvesting the fruits of prudent risk management practices. As reported by Wahome (2004), the Cooperative Bank of Kenya announced a 70 per cent rise in its pre-tax profitability for year 2003 and declared its first dividend in six years. This is the second straight year of profitability for the bank, which had earlier reported a Sh2 billion loss in 2000. The chief executive officer attributed the impressive results to aggressive cost management, focus on non-funded income, debt recovery and prudent liquidity management contributed significantly to the bank's performance in the year (Wahome, 2004).

According to the Basel Accords, banks face various risks, that is, credit risk, market risk and operational risk. Market risk is defined as the risk of losses in on and off-balance sheet positions arising from movements in market prices. The capital treatment for market risk addresses the interest rate risk and equity risk pertaining to financial instruments, and the foreign exchange risk in the trading and banking books. Operational risk is defined as the risk of direct or indirect loss resulting from inadequate or failed internal processes, people and systems or from external events (Basel 1999). A firm wide risk management framework is an amalgam of strategy, process, infrastructure and environment which helps such institutions make intelligent risk taking decisions prior to committing limited resources and then helps to monitor the outcome of these decisions (Venkat, 2000). This integration approach to managing risks ensures full risks identification, risk awareness, risk assessment, measurement and control and finally evaluation.

In response to recent corporate and financial disasters, regulators have increased their examination and enforcement standards. In banking sector, Basel II has established a direct linkage between minimum regulatory capital and underlying credit risk, market risk and corporate risk exposure of banks. This step gives an indication that Capital management is an important stage in risk mitigation and management. However, development of effective key risk indicators and their management pose significant challenge. Some readily available sources such as policies and regulations can provide useful direction in deriving key risk indicators and compliance with the regulatory requirement can be expressed as risk management indicators. A more comprehensive capital management framework enables a bank to improve profitability by making better risk based product pricing and resource allocation (Basel 2004).

Because of the dire consequences of credit risk, it is important that credit managers perform a comprehensive evaluation of credit risk covering the credit portfolio management, lending function and operations, credit risk management policies, non performing loans portfolio, asset classification and loan provisioning policy. This review must be done at least annually (Basel 11 2004). Credit risk management is the process of evaluating risk in an investment. When the risk has been identified, investment decisions can be made and the risk vis a vis return balance considered from a better position. Credit risk can be reduced by monitoring the behavior of clients who intend to apply for credit in the business. These clients may be businesses or individuals (Altman 2002).An important aspect in credit risk management is credit assessment. Due to the dire effects of credit risk (whereby if not well managed can lead to bank failure), it is important for a bank to have capacity to assess, administer, supervise, control, enforce and recover loans, advances, guarantees and other credit instruments (Kabiru, 2002).

It is the responsibility of management to set up a credit administration team to ensure that once credit is granted it is properly maintained and administered. Procedures for measuring a firms overall exposure to credit risk as well as stringent internal rating systems should be adequate. All companies that do not currently have independent risk management structures must immediately set up units that will concentrate fully on the risk management function. This risk management function within an institution should

report directly to the board, to ensure independence (Basel, 1999).The importance of credit risk management has never been more important with the current high default rates and high provisioning. Indeed in 1999, at the end of the benign credit cycle, banks , regulators and financial market practitioners were spending considerable time on this subject due to increased emphasis on sophisticated risk management techniques in a challenging environment, refinements in credit scoring techniques, establishment of relatively large database of defaults, recoveries and credit mitigations, development of offensive credit risk mitigation techniques such as securitizations, credit derivatives and credit insurance products (Altman, 2002).

Financial institutions use various techniques of mitigating credit risk. The most common are collateral, guarantees, netting off of loans against deposits of the same counter-party. The payments are netted off against the receipts and the balance is paid thus reducing the credit risk. Credit Insurance, factoring, debt collection, surety bonds, and letter of credit are other techniques widely used. While use of these techniques will reduce or transfer credit risk, other risks may arise which include legal, operational, liquidity and market risks (Stutz, 1985). The dictum in finance says that “The greater the risk, the higher the return”. Therefore risk can be seen both as an opportunity and as a threat; opportunity, because the most risky businesses are also highly profitable. Risk is a threat because it includes a possibility of losing part or the whole of your investment. Risk cannot however be done away with. Venal (2000) argues that most business managers would agree that it is neither possible nor desirable to completely eliminate risk from the business proposition. What is required is an understanding of all risks that arises from a particular business and managing those risks effectively.

The purpose of Basel II is to create an international standard about how much capital banks need to put aside to guard against the types of risk banks face. In practice, Basel II tries to achieve this by setting up meticulous risk and capital management requirements aimed at ensuring that a bank holds capital reserves appropriate to the risks the bank exposes itself to. These rules imply that the greater risk which bank is exposed to, the greater the amount of capital a bank needs to hold to safeguard its solvency (Basel, 2006.

The theoretical banking literature is, however, divided on the effects of capital requirements on bank behavior and consequently, on the risks faced by the institutions. Some academic works point toward that capital requirement clearly contributes to various possible measures of bank stability. On the contrary, other works conclude that capital requirements make banks riskier institutions than they would be in the absence of such requirements (Joetta, 2007). Jeitshko and Jeung (2005) have discovered numerous aspects that explain the differing implications of portfolio-management models for the responsiveness of bank portfolio risk to capital regulation. Results depend on banks being either value-maximizing or utility-maximizing firms; bank ownership (if limited liability) and whether banks operate in complete or incomplete asset markets. Moreover, the effects of capital regulation on portfolio decisions and therefore on the banking system's safety and soundness eventually depend on which perspective dominates among insurers, shareholders, and managers in the principal-agent interactions (Jeitshko and Jeung 2005).

2.4 Credit administration

According to Muriuki (1998) credit administration is a critical element in maintaining the safety and soundness of a bank. Once a credit is granted, it is the responsibility of the business unit, often in conjunction with a credit administration support team, to ensure that the credit is properly maintained. This includes keeping the credit file up to date, obtaining current financial information, sending out renewal notices and preparing various documents such as loan agreements (Muriuki 1998). Given the wide range of responsibilities of the credit administration function, its organizational structure varies with the size and sophistication of the bank. In larger banks, responsibilities for the various components of credit administration are usually assigned to different departments. In smaller banks, a few individuals might handle several of the functional areas. Where individuals perform such sensitive functions as custody of key documents, wiring out funds, or entering limits into the computer database, they should report to managers who are independent of the business origination and credit approval processes (Tirapat 1999).

In developing their credit administration areas, banks should ensure: the efficiency and effectiveness of credit administration operations, including monitoring documentation, contractual requirements, legal covenants, collateral, etc.; the accuracy and timeliness of information provided to management information systems; adequate segregation of duties; the adequacy of controls over all "back office" procedures; and compliance with prescribed management policies and procedures as well as applicable laws and regulations (Muriuki,1998). For the various components of credit administration to function appropriately, senior management must understand and demonstrate that it recognizes the importance of this element of monitoring and controlling credit risk.

The credit files should include all of the information necessary to ascertain the current financial condition of the borrower or counterparty as well as sufficient information to track the decisions made and the history of the credit. For example, the credit files should include current financial statements, financial analyses and internal rating documentation, internal memoranda, reference letters, and appraisals. The loan review function should determine that the credit files are complete and that all loan approvals and other necessary documents have been obtained (Mullei 2003).

2.5 Credit Risk Management

Risk assessment enables an organization to determine whether a specific transaction or business is appropriate from a risk return perspective. Measurements entail quantifying risk in a consistent corporate wide manner to determine the types and events of risks being assumed in line with the expressed risk appetite. After measurements, then there are controls i.e. setting limits to avoid unnecessary concentration of risks (Saunders and Corrett 2007). Evaluation entails examination of different risk taking activities to ensure that there is adequate differentiation of business or product that create value and those that destroy value(Venkat, 2000).

Risks are identified, captured, assessed measured and reported. Selim (1999) argues that the new paradigm in risk management involves viewing business risks in the context of their relationships to change, opportunities, objectives and controls. It also involves examining threats not only to financial performance and control but also to an

organizations strategies, business objectives and reputation. Venkat (2000) has identified some of the possible risk management objectives namely; link the business strategy to the risk management strategy to ensure consistency with enterprise competitive advantages. The focus should be improving quality and sustainability of earnings, enhancing risk taking efficiency meeting customer needs and increasing shareholders value.

According to Duncan (2000) some of the possible benefits that a bank can accrue from risk management include; avoidance of large unexpected losses, avoidance of large number of small losses, improved operational efficiency, improved customer satisfaction improved awareness of operational risks within the management, better management of knowledge and intellectual capital within the firm, assurance to the senior management and the shareholders that risks are properly addressed. All banks can therefore enormously form an effective risk management strategy. Such a strategy requires a formal process (Greuning, 2003; CBK 2005). The components of an effective risk management framework in a bank should include; an active board and senior management, who must understand and own risk management; adequate policies and procedures, an established risk management department, an adequate risk monitoring and finally, implementation of Basel accords (Greuning, 2003).

2.5.1 Credit Risk Management Indicators

In response to recent corporate and financial disasters, regulators have increased their examination and enforcement standards. In banking sector, Basel II has established a direct linkage between minimum regulatory capital and underlying credit risk, market risk and corporate risk exposure of banks. This step gives an indication that Capital management is an important stage in risk mitigation and management. However, development of effective key risk indicators and their management pose significant challenge. Some readily available sources such as policies and regulations can provide useful direction in deriving key risk indicators and compliance with the regulatory requirement can be expressed as risk management indicators. A more comprehensive capital management framework enables a bank to improve profitability by making better risk based product pricing and resource allocation (Juanjuan et al.2009).

The purpose of Basel II is to create an international standard about how much capital banks need to put aside to guard against the types of risk banks face. In practice, Basel II tries to achieve this by setting up meticulous risk and capital management requirements aimed at ensuring that a bank holds capital reserves appropriate to the risks the bank exposes itself to. These rules imply that the greater risk which bank is exposed to, the greater the amount of capital a bank needs to hold to safeguard its solvency (Joetta 2007). The theoretical banking literature is, however, divided on the effects of capital requirements on bank behaviour and consequently, on the risks faced by the institutions. Some academic works point toward that capital requirement clearly contributes to various possible measures of bank stability. On the contrary, other works conclude that capital requirements make banks riskier institutions than they would be in the absence of such requirements (Madga 2009).

Jeitshko and Jeung (2005) have discovered numerous aspects that explain the differing implications of portfolio-management models for the responsiveness of bank portfolio risk to capital regulation. Results depend on banks being either value-maximizing or utility-maximizing firms; bank ownership (if limited liability) and whether banks operate in complete or incomplete asset markets. Moreover, the effects of capital regulation on portfolio decisions and therefore on the banking system’s safety and soundness eventually depend on which perspective dominates among insurers, shareholders, and managers in the principal-agent interactions.

2.6 Profitability

Bessis (2005) defines profit as the surplus left over from revenue after covering expenses. Profitability is the measure of profit generated on an ongoing basis. Profit is generally measured in shilling terms. Profitability ratios show a company's overall efficiency and performance. We can divide profitability ratios into two types: margins and returns. Ratios that show margins represent the firm's ability to translate sales dollars into profits at various stages of measurement. Ratios that show returns represent the firm's ability to measure the overall efficiency of the firm in generating returns for its shareholders (Bessis, 2005).

2.6.1 Profitability Measure in Banks

The profitability in this case is presented and measured using ROE. In other words, the amount of NI returned as a percentage of TSE. The ROE is defined as the company's annual net income after tax divided by shareholder's equity. NI is the amount of earnings after paying all expenses and taxes. Equity represents the capital invested in the company plus the retained earnings. Essentially, ROE indicates the amount of earnings generated from equity I choose it as profitability indicator because ROE comprises aspects of performance, such as profitability and financial leverage (Foong, 2008).The measurement of bank performance has been developed over time. At the beginning, many banks used a purely accounting-driven approach and focused on the measurement of NI, for example, the calculation of ROA. However, this approach does not consider the risks related to the referred assets, for instance, the underling risks of the transactions, and also with the growth of off-balance sheet activities. Thus the riskiness of underlying assets becomes more and more important. Gradually, the banks notice that equity has become the scarce resource. Thereby, banks turn to focus on the ROE to measure the net profit to the book equity in order to find out the most profitable business and to do the investment (Joetta, 2007).

ROE is commonly used to measure the profitability of banks. The efficiency of the banks can be evaluated by applying ROE, since it shows that banks reinvest its earnings to generate future profit. The growth of ROE may also depend on the capitalization of the banks and operating profit margin. If a bank is highly capitalized through the risk-weighted capital adequacy ratio (RWCAR) or Tier 1 capital adequacy ratio (CAR), the expansion of ROE will be retarded. However, the increase of the operating margin can smoothly enhance the ROE (Foong, 2008) ROE as an important indicator to measure the profitability of the banks has been discussed extensively in the prior studies. Foong (2008) indicated that the efficiency of banks can be measured by using the ROE which illustrates to what extent banks use reinvested income to generate future profits. According to Risk bank's Financial Report (2002, the measurement of connecting profit to shareholder's equity is normally used to define the profitability in the banks.

ROE also hinges on the capital management activities. If the banks use capital more efficiently, they will have a better financial leverage and consequently a higher ROE. Because a higher financial leverage multiplier indicates that banks can leverage on a smaller base of stakeholders fund and produce higher interest bearing assets leading to the optimization of the earnings. On the contrary, a rise in ROE can also reflect increased risks because high risk might bring more profits. This means ROE does not only go up by increasing returns or profit but also grows by taking more debt which brings more risk. Thus, positive ROE does not only represent the financial strength. Risk management becomes more and more significant in order to ensure sustainable profits in banks (Sam and Magda, 2009).Furthermore, the paper "Why Return on Equity is a Useful Criterion for Equity Selection" by Kee (2008) has mentioned that ROE provides a very useful gauge of profit generating efficiency. Because it measures how much earnings a company can get on the equity capital. The increased ROE may hint that the profit is growing without pouring new capital into the company. A steadily rising ROE also refers that the shareholders are given more each year for their investment. All in all, the higher ROE is better both for the company and the shareholders. In addition, ROE takes the retained earnings from the previous periods into account and tells the investors how efficiently the capital is reinvested (Kee, 2008).

In accordance with the study by Waymond (2007), profitability ratios are often used in a high esteem as the indicators of credit analysis in banks, since profitability is associated with the results of management performance. ROE and ROA are the most commonly used ratios, and the quality level of ROE is between 15% and 30%, for ROA is at least 1%. The study of Joetta (2007) presented the purpose of ROE as the measurement of the amount of profit generated by the equity in the firm. It is also mentioned that the ROE is an indicator of the efficiency to generate profit from equity. This capability is connected to how well the assets are utilized to produce the profits as well. The effectiveness of assets utilization is significantly tied to the amount of assets that the company generates for each shilling of equity.

2.7 Empirical Review

In their study 'Credit Risk Management and Profitability in Commercial banks in Sweden' Juanjuan et al (2009) highlighted that credit risk management has effect on profitability. The analysis further indicated that the impact of credit risk management on profitability is not the same on all the four (4) commercial banks sampled. The study was limited to identifying the relationship of credit risk management and profitability of four commercial banks in Sweden. Further, the results of the study were limited to banks sampled and were not generalized for all the commercial banks in Sweden The researchers used regression model to do the empirical analysis. The data was collected from the sample banks annual reports (2000-2008).

A study by Tang and Jiang (2003) on 'The profitability of the banking sector in Hong Kong' finds that both bank-specific as well as macroeconomic factors are important determinants in the profitability of banks. From a sample of four main banks in Hong Kong, Tang and Jiang highlights that macro-economic factors, real GDP growth, inflation and real interest rates have a positive impact. Among bank specific variables the researches identifies operational efficiency and business diversification contribute to higher returns on assets, after controlling for differences in the credit quality of loans. They enlist provisions for bad debts and non- interest expenditure as the major factors influencing banks profitability in Hong Kong. In conclusion the researchers argue that controlling bad debts through prudent credit risk management leads to a more efficient bank and thus higher profits.

Ngare (2008) conducted a survey of Credit Risk Management Practices by commercial banks in Kenya. The specific areas of research were geared towards identifying the sources of credit risk exposures in banks and strategies that the banks in Kenya have adopted to monitor and mitigate against the credit risk exposures inherent in the operations of their business. To facilitate the attainment of the objectives of this study, questioners were administered to the credit risk managers and credit managers. From the study it was found that most banks use qualitative loan assessment methods to make credit granting decisions while liquidity runs on the borrowers' credit concentration and

adverse trading by the borrowers were the main sources of credit risk among the banks in Kenya. In addition, most banks were found to use loan diversification, banks guarantees and bank covenants to mitigate against credit risk.

Mwirigi (2006) in his study survey approach examined the credit risk management techniques adopted by Micro- finance institutions in Kenya. The study reveals that; a significant number i.e. 92% of the respondents used credit management policies as a basis of objective credit risk appraisal, 6705 per cent had distinct departments where credit activities were organized, 67.5 per cent involved their institutions in the development of credit risk management policies and that 87.5 per cent used pre-set credit risk levels as a means of managing credit risk. In conclusion he identifies credit risk as the most important risk with 80 per cent of the respondents ranking it as the most important among other risks faced by their institutions.

Simiyu (2008) while analyzing techniques of credit risk management observed that micro- finance uses 6 C's techniques of credit risk management. The study further established that majority of the institutions used credit Metrix to measure the credit migration and default risk. It was a descriptive study targeting a sample of thirty (30) Micro- finance in Kenya.

Njiru (2003) on credit risk management by co-operatives in Embu district found that none of the credit societies use quantitative methods to evaluate the credit worthiness of their members but use qualitative methods only like the 6 C's technique i.e. character, capacity, condition, collateral, capital and control but to a small extent. It was a census study of twenty four (24) co-operative societies in Embu.

2.8 Conclusion Summary

A profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. Credit forms the largest contributor of the banks bottom line through interest income and related fees. The study hypothesizes that commercial banks should demonstrate to improve profitability of the bank after administration of a credit. This hypothesis is based on the argument that commercial banks' largest credit risk is loans, although that credit risk exists throughout the other activities of the bank both on and off the balance sheet.

The empirical and the theoretical analysis find that credit risk management as vital in management of banks. Juanjuan et al (2009) in their study 'Credit Risk Management and Profitability in Sweden relied on the information of only four commercial banks to establish the relationship thus due to the size of the sample the results might be biased and not applicable to other commercial banks. In addition, the study was carried out in Sweden and thus can not be relied locally. The study by Tang and Jiang (2003) was carried out in Hong Kong and it was based on four (4) banks it established that there are various factors that affects banks profitability and one of them was credit. The study does not establish a relationship between credit risk management and profitability it only states credit as a factor influencing profit.

The local studies analyzed are biased towards the various tools and techniques of credit risk management used by various institutions (Ngare 2008; Simiyu 2008; Mwirigi 2006 and Njiru 2003) the studies did not establish a clear relationship between credit risk management and profitability. In addition, the studies have not discussed measures of profitability and credit risk in Banks. The two theories analyzed have induced a very important element in banks i.e. 'risk and return' and 'holding of a portfolio of assets to diversify risk'. The theorists intention were to address investors of stocks in an Equity market i.e. on how to maximize return while minimizing risk and further diversifying the portfolio held to minimize risk. Thus the theories have not clearly explained the relationship between credit risk management and profitability in commercial banks. From the literature review there are various gaps identified and thus necessitating the study.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design, target population, sampling procedure and design, data collection instrument and procedures and data analysis.

3.2 Research Design

According to Kerlinger (1986) research design is the plan and structure of investigation so conceived so as to obtain answers to research questions. The plan is the overall program of the research and includes an outline of what the investigator will do from writing of the hypothesis and their operational implications for the final analysis of data. Cooper and Schindler (2003) summarizes the essentials of research design as an activity and time based plan. Always based on the research questions, guides the selection of sources and types of information, a frame work for specifying the relationship among the study variables and outlines the procedure for every research activity.

According to Mugenda and Mugenda (1999), research design as the outline plan or scheme that is used to generate answers to the research problems. It is basically the structure and plan of investigation. Descriptive research seeks to establish factors associated with certain occurrences, outcomes, conditions or types of behavior.

The researcher used descriptive research design. This is deemed appropriate because the study involved an in depth study of the credit risk management and profitability in commercial banks in Kenya which helped the researcher in describing the state of current affairs. According to (Mugenda and Mugenda 1999) a descriptive study is undertaken in order to certain and be able to describe the characteristics of the variables of interest in a situation. Other studies Kombo, (1997); Kandie, (2001); Situma, (2006); Juanjuan et al (2009) and Gichuki, 2009 successfully employed descriptive analytical technique.

3.3 Target Population

According to Mugenda and Mugenda (1999), a target population is one the researcher wants to generalize the result of the study. The research comprised of all the commercial banks in Kenya as at 31st December 2010, licensed and registered under the Banking Act. According to the central Bank of Kenya, there were 44 licensed banks as at 31st December 2009 (appendix 1)

3.4 Sample

A random sample of 30 Financial Institutions was taken from the population. This constitutes 73% of the entire population. This sample fairly represented the whole population and was considered large enough to provide a general view of the entire population and serve as a good basis for valid and reliable conclusion.

3.5 Data Collection Instruments and Procedures

The study applied data from both primary and secondary sources. Primary data was collected by use of a questionnaire (appendix 11). According to Kirakoski (1998) defines a questionnaire as a method for the elicitation, recording and collecting of information. Further, Kothari (2003) argues that questionnaires generate data in a systematic and ordered fashion. The questionnaire comprised both of structured and unstructured questions to avoid being too rigid and to quantify the data especially where structured items were used. The questionnaire was administered through the "drop and pick later" method. The follow-up was done by emails, Short Message Service (SMS) and phone calls, on arrangements some questionnaires were personally administered to the respondents.

The researcher also used secondary sources. The data for the banks was extracted from the banks' annual reports and financial statements for a ten year period 2000-2009. These were obtained from the NSE library, the respective banks' secretaries, and the banks supervision department at the Central bank of Kenya.

3.5.1 Reliability and Validity

According to Kee (2008) reliability and validity are often used by the scientific researchers in their studies, both qualitative and quantitative. Reliability refers to the consistency and accuracy of the research results. In the quantitative research, reliability can be illustrated as the stability of the measurement over time, the similarity of the measurements during the given period, and also the degree to the same results of the measurement given repeatedly. Validity means the accuracy of the measurement of which it is intended to be measured and how truthful the results of the research are Joetta (2007).A descriptive study was carried out using a sample of 30 banks representing 73% of the population. Omissions in the questionnaires were corrected to improve reliability of the instrument. Most of the information from the secondary source was from published financial information thus this improved accuracy. In addition, the researcher used SPSS package in obtaining regression output and this information was further confirmed for accuracy by use of MS Excel. Thus, the findings and the results obtained through regression analysis of the study are replicable which consequently guarantee the reliability and validity of the study.

The researcher pre-tested the research instruments before commencing the study; hence this helped in the validity of the questionnaire and elimination of misunderstanding of the questions being asked by the researcher.

3.6 Data Analysis

Data was tabulated and analyzed using descriptive statistic i.e. use of the frequency distribution tables, percentages and charts. The researcher used a regression model to analyze data collected from the annual reports of the sample banks. Based on the regression outputs the researcher conducted the analyses to answer the research question. The analyses are presented by using descriptive approach. The regression outputs were obtained by using SPSS (version 17). In addition, the researcher applied MS Excel 2007 to confirm the accuracy of the results. From the study, the determinant for profitability is ROE (Net Income/Total Shareholders' Equity). For credit risk management the researcher used NPLR (Non-performing Loans/Total Loans).

3.6.1 Dependent variable

The researcher used ROE as the indicator of the profitability in the regression analysis because ROE has been widely used in earlier research. In addition, use of ROE as the indicator of profitability enhanced accuracy in that the required information was available in the annual reports of the banks.

3.6.2 Independent variable

The researcher chose NPLR as the independent variable because it is an indicator of risk management which affects profitability of banks. NPLR indicates how banks manage their credit risk because it defines the proportion of NPL amount in relation to TL amount. Other researchers who have used NPLR to measure credit risk include; Juanjuan et al (2009), Joetta (2007; Brewer et al. (2006). NPLR is defined as NPLs divided by TLs. To calculate this ratio, the researcher used data provided in the annual reports of each bank for a period of ten years i.e. from 2000 until 2009. NPL amount is provided in the Notes to financial statements under Loans section. TL amount, the denominator of the ratio, has been gathered by adding two types of loans: loans to institutions and loans to the public. The loan amount provided in the balance sheet of the banks in their annual reports. Thus, calculation of the NPLR has been accomplished in following way:

NPLR = (NPL amount) ÷ (TL amount).

3.6.3 Regression analysis

The regression analysis was conducted to find out the relationship between credit risk management and profitability in commercial banks: The researcher employed the following regression model presented below:

$Y= \alpha+\beta 1X$

That is;

STANDARD	APPLICATION
Y – The value of dependent variable;	Y: ROE- profitability indicator
α – The constant term;	
β – The coefficient of the function;	
X – The value of independent variables	NPLR –credit risk management indicator

Thus the regression equation becomes ROE= α + βNPLR

It is the regression function which determines the relation of X (NPLR) to Y (ROE). α is the constant term β is the coefficient of the function, it is value for the regression equation to predict the variances in dependent variable from the independent variables. This means that if β coefficient is negative, the predictor or independent variable affects dependent variable negatively: one unit increase in independent variable will decrease the dependent variable by the coefficient amount. In the same way, if the β coefficient is positive, the dependent variable increases by the coefficient amount. α is the constant value which dependent variable predicted to have when independent variables equal to zero (if X=0 then α=Y).

Regression analysis output contains the following variables:

R2 is the proportion of variance in the dependent variable that can be predicted from independent variables. There is also adjusted R2 which gives more accurate value by avoiding overestimation effect of adding more variables to the function. So, high R2 value indicates that prediction power of dependent variable by independent variables is also high. Adjusted R2 is calculated using the formula 1-((1-R2)*((N-1)/ (N-k17-1)) 18. The formula shows that if the number of observations is small the difference between R2 and adjusted R2 is greater than 1 since the denominator is much smaller than numerator. Adjusted R2 sometimes gives negative value. Since R2 is adjusted to find out how much fit probably happen just by luck: the difference is amount of fit by chance. Also, negative values of adjusted R2 occur if the model contains conditions that do not help to predict the response (ROE) or the predictor (NPLR) chosen are wrong to predict ROE. R2 is generally considered to be secondary importance, unless the primary concern is of using regression equation to make accurate predictions. R2 is an overall measurement of the strength of association, and does not reflect how any independent variable is associated with the dependent variable.

The Probability value (P-value) is used to measure how reliably the independent variables can predict the dependent variable. It is compared to the significance level which is typically 0,05. If the P-value is greater than 0,05, it can be said that the independent variable does not show a statistically significant relationship with the dependent variable.

CHAPTER FOUR

4.0 DATA ANALYSIS PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the analysis of data that was collected in the field. The aim of this study was to establish if there is a relationship between credit risk management and profitability in commercial banks in Kenya. The findings were analyzed qualitatively and quantitatively.

4.2 Quantitative Analysis

This involves tabulation and presentation of the numerical data on figure. Numerical data emerges from the closed ended responses.

4.2.1 Response Rate

The response rates were as follows:

Table 4.2.1 Response Rate

Categories	**Respondents**	**Percentage (%)**
Responses	28	93
No response	2	7
Total	30	100

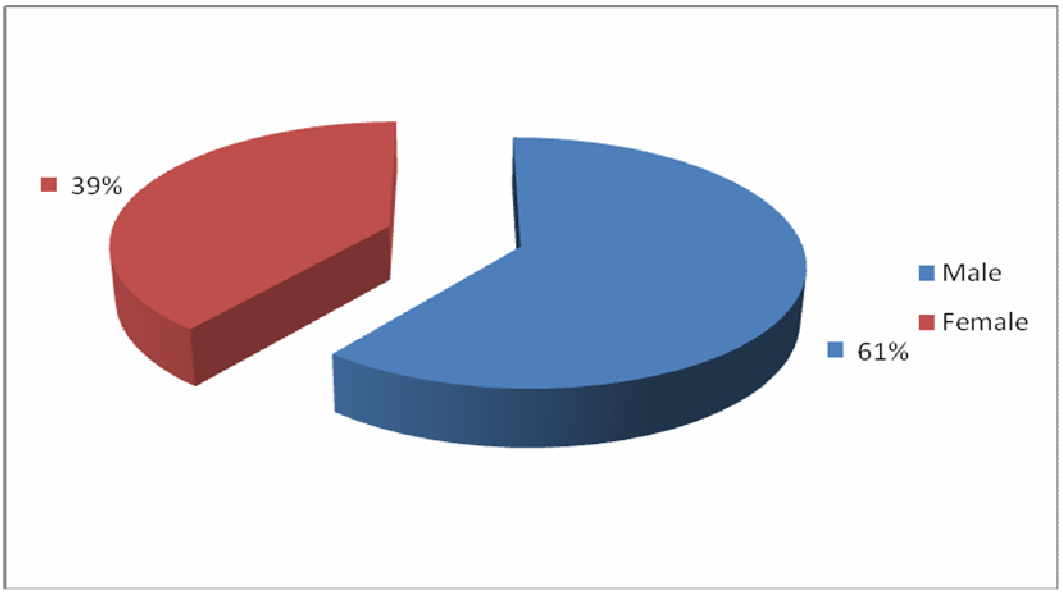
Source: Research data

From the table 4.2.1 above, out of the 30 questionnaires that were issued to the respondents, 28 which translate to 93% were returned while 2 which translate to 7% were not returned. The 7% consist of respondents who were not in the shift during the time of questionnaire collection.93% represents a high response rate.

4.2.2 Gender

Analysis of gender is as follows.

Figure 4.2.2 Gender of Respondents



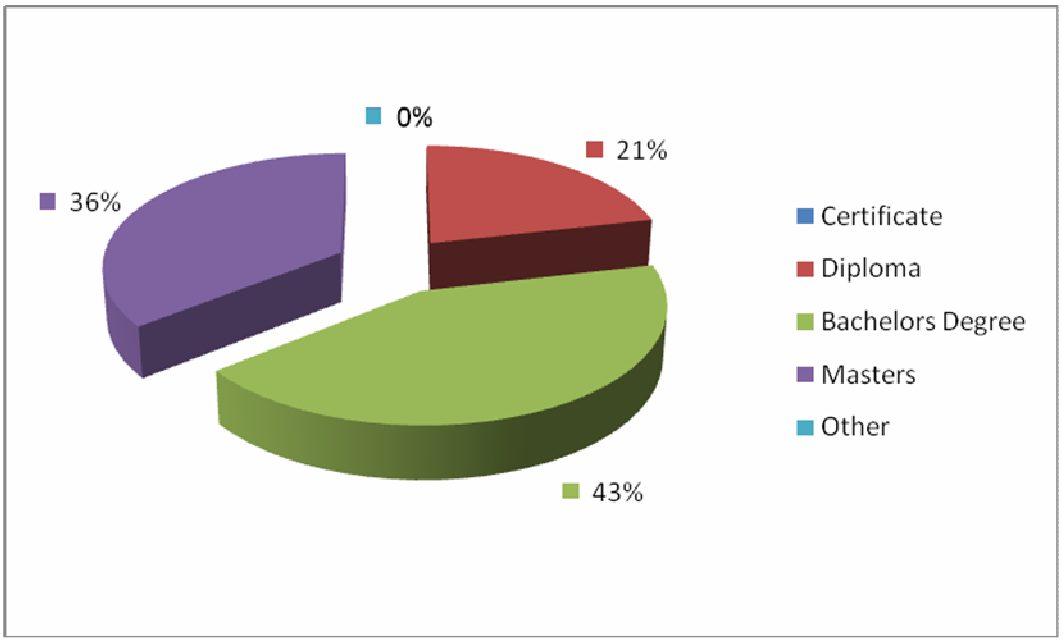
Source: Research data

Figure 4.2.2 above presents the distribution of gender.61% of the respondents were male while 39% were female. This shows that most of the respondents who participated in the study were male.

4.2.3 Highest Education Level

The respondents' education levels were as follows.

Figure 4.2.3 Education Level

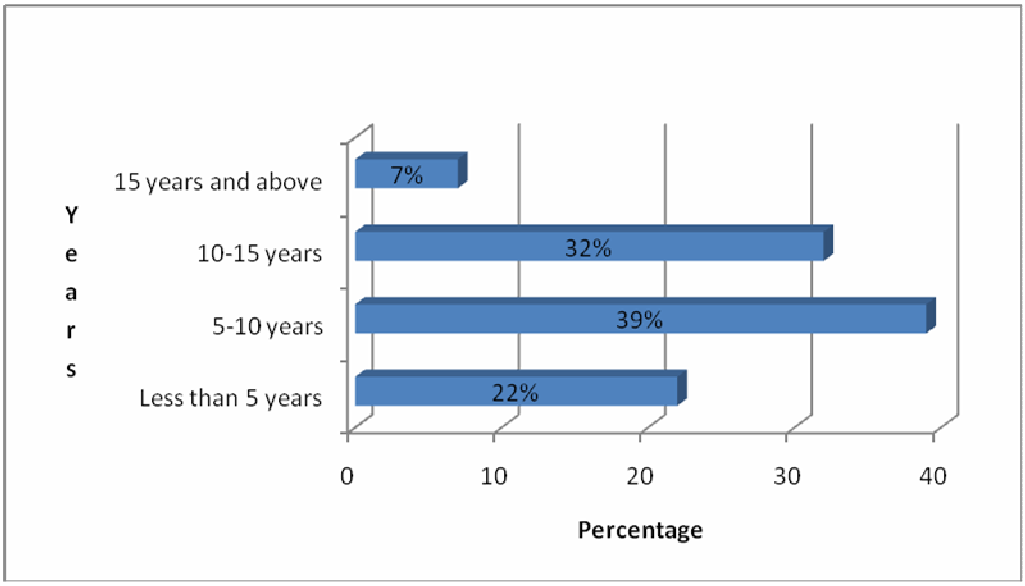


Source: Research data

Figure 4.2.3 above presents the highest education levels attained by the respondents.21% had acquired diploma, 43% bachelors' degree while 36% had masters. These shows that majority had at least bachelors degree thus had an understanding of their work and related issues.

4.2.4 Years of Experience in the Organization

Figure 4.2.4 Years of Experience



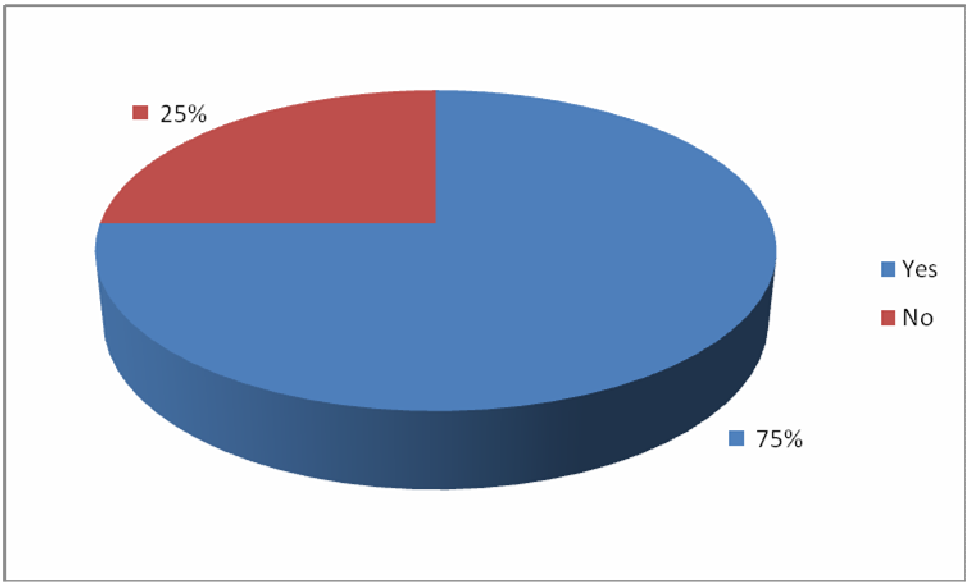
Source: Research data

As in table 4.2.4 above,22% of the respondents had worked with their institutions for less than 5 years.39% had worked for 5-10 years,32% for 10-15 years and 7% for 15 years and above. Majority therefore had been in their banking institutions for 5-10 years which is a period enough to understand the individual firms and the banking industry.

4.2.5 Credit Risk Management

Regarding whether there is a relationship between credit risk management and profitability, the responses were as follows;

Figure 4.2.5 Relationship between Credit Risk Management and Profitability.



Source: Research data

As in table and figure 4.2.5 above 75% of the respondents felt that there was a relationship between credit management and profitability while 25% disagreed. This indicates that there is a relationship between credit management and profitability.

4.2.6 Effect of Credit Risk Management on Profitability

On whether credit risk management affects profitability, the responses were as follows;

Table 4.2.6 Effect of Credit Risk Management on Profitability

Categories	Respondents	Percentage
Yes	19	68
No	9	32
Total	28	100

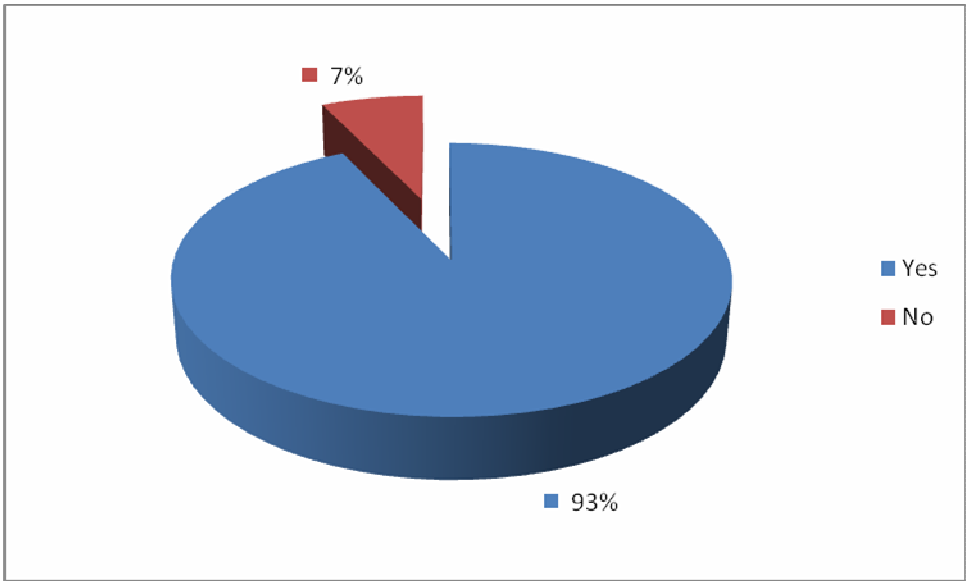
Source: Research data

As in table 4.2.6 above, 68% of the respondents indicated that credit management affects profitability while 32% felt that credit management had no effect on profitability. This shows that credit management affects profitability.

4.2.7 Application of Credit Management Principles

On whether the banks applied the principles of credit management, the responses were as follows.

Figure 4.2.7 Applications of Credit Management Principles

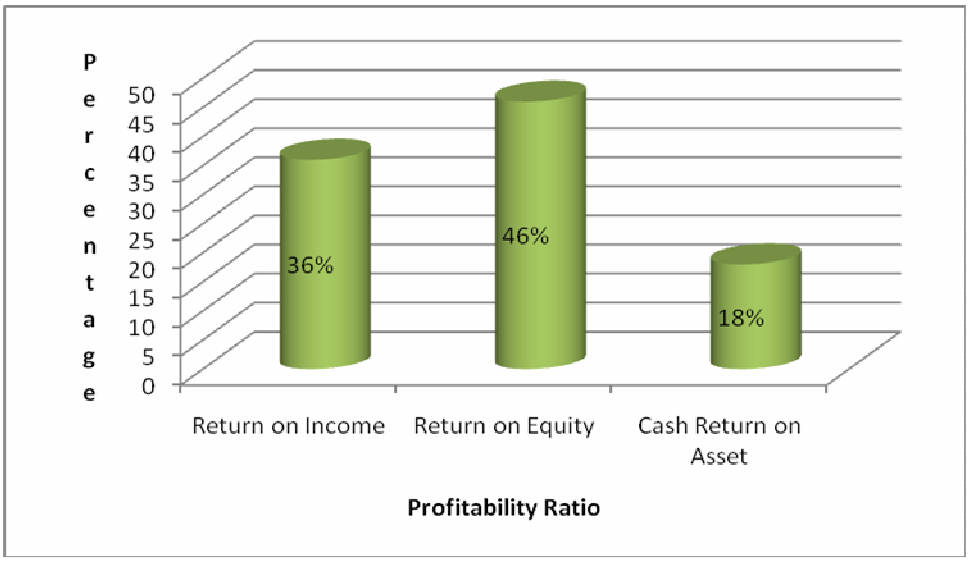


Source: Research data

As in figure 4.2.7 above, 93% of the respondents indicated that credit management principles were applicable in their banking institutions while 7% denied. This shows that credit management principles are applicable in the various banking institutions.

4.2.8 Profitability

Figure 4.2.8 Profit Calculation Ratios



Source: Research data

Figure 4.2.8 above presents the ratios of ascertaining profitability.36% of the respondents indicated that their banking institutions used return on income ratio.46% indicated that they used Return on equity ratio while 18% indicated that they used Cash return on asset ratio. From this, it can be concluded that return on equity is the commonly used ratio followed by return on income.

4.2.9 Effect of Profit Ratios on Credit Management

Table 4.2.9 Effect of Profit Ratios on Credit Management

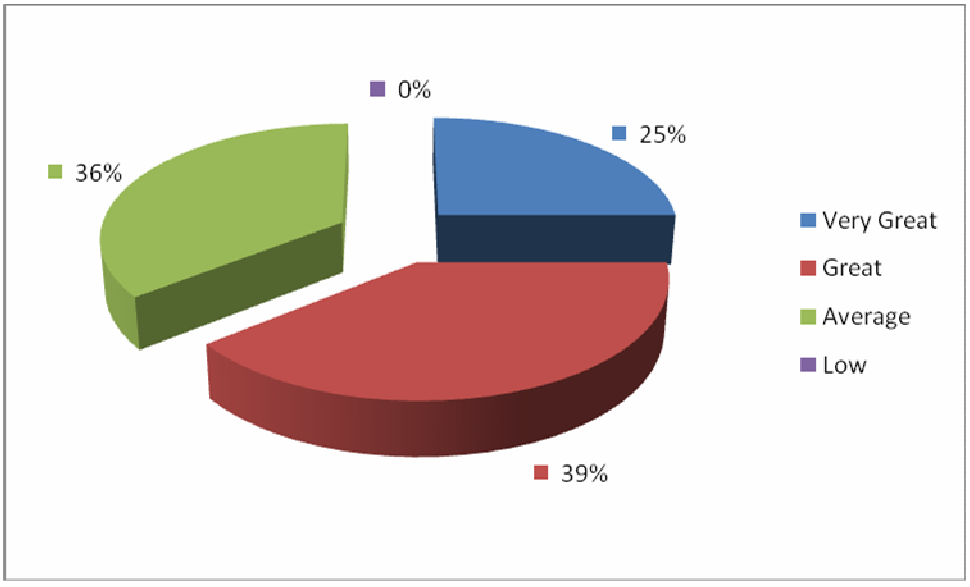
Response	Frequency	Percentage
Yes	17	61
No	11	39
Total	**28**	**100**

Source: Research data

As in table 4.2.9 above, 61% of the respondents indicated that profit ratios affect credit management while 39% disagreed. This shows that credit ratios affect credit management.

4.2.10 Extent to which Ratios Relate to Credit Risk management

Figure 4.2.10 Extent to which Ratios Relate to Credit Risk management



Source: Research data

Figure 4.2.10 above, presents the extent to which ratios relate to credit risk management.25% of the respondents indicated that it was very great extent,39% great extent and 36% average extent .This shows that profitability ratios greatly affect credit risk management.

4.3 Qualitative Analysis

This section of the data analysis gave judgmental opinions of the respondents answers received from open-ended questions on the questionnaire and during short interviews. It consists of explanations from open ended questions which add meaning to the closed ended responses.

When asked about the application of the credit management principles in the banking institutions, majority of the respondents indicated that credit management principles were widely used in the banking and even microfinance institutions. They gave examples of these principle as Creating value , explicitly addressing uncertainty ,basing on the best available information and taking into account human factors .They also cited on the 6 Cs of credit management which include character ,capability, context, credibility, collateral and conditions.

When asked on the procedure of determining profitability most of the respondents pointed out Return on equity which is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. Return on Equity is expressed as a percentage and calculated as net income divided by shareholder's equity. This is also called return on net worth.

When asked about challenges experienced in credit management, respondents indicated that they experienced challenges such as difficult in ascertaining client credibility which cannot be easily determined by assuming credit history. They also cited cases where some clients default in loan repayment.

Respondents suggested that to enhance profitability in credit management, the credit risk measures should be tightened. The loan officer must assemble and evaluate information and then determine what the entire picture looks like. Legal policies are aimed to create legal relationship and thus ability to take the necessary measures in case one of the parties to the contract defaults. Organizational lending policies should be in line with the existing legal policies. It is important for the person to have a good loan history and be of sound character. Respondents pointed out that they had experienced cases where loanees default the loans with many giving the reason of financial constraints. Mechanisms such as substantial security and client vetting can minimize loan defaulting.

4.4 Regression Analysis

The first step in analyzing the data was through descriptive measures and scatter graph, which was done using Microsoft Excel. The results were as shown in Table 1 (descriptive measures) and Figure 1 (scatter plot) below.

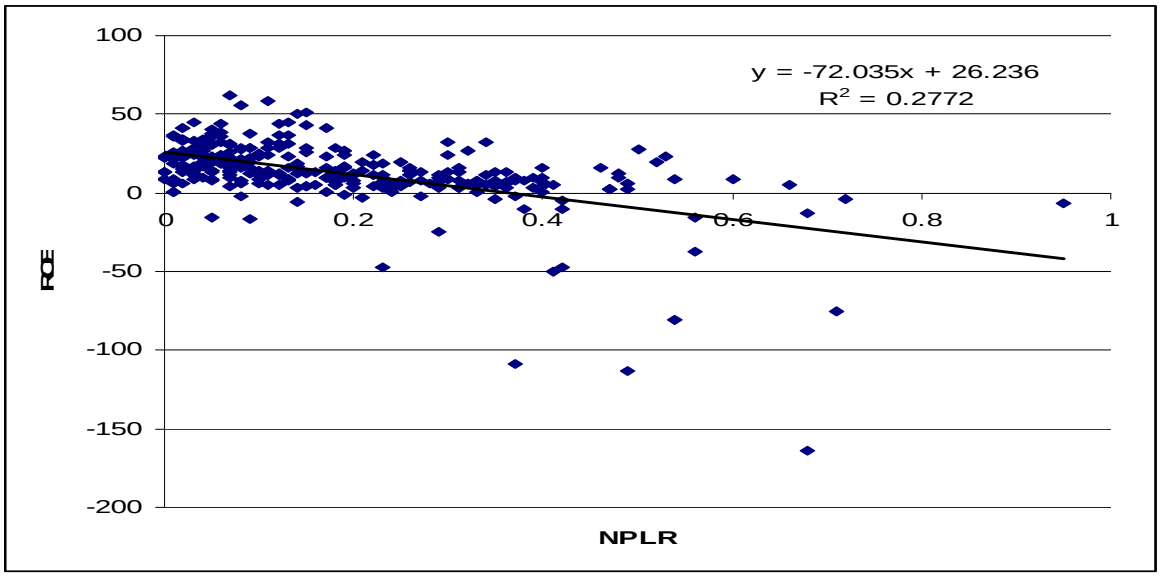
Table 4.4: Descriptive Statistics

	Mean	Std. Deviation
Return on Equity	12.9333	21.94800
NPLR	.1845	.16028

Source: Research data

The average value of ROE had a mean of 12.93 and a standard deviation of 21.95 while NPLR had a mean of 0.1845with a standard deviation of 0.161. There is very high variability in both ROE and NPLR among the commercial banks during the period 2000 to 2009 as shown by their standard deviation values.

Figure 4.4: Scatter plot



Source: Research data

The scatter plot shows a downward trend for the relationship between ROE and NPLR. The trend seems to be linear and as such a linear regression analysis can be used for further analysis.

Table 4.4.1 Pearson Correlation

	Return on Equity	NPLR
Return on Equity	1.000	
NPLR	-.527	1.000

Source: Research data

Correlation matrix is used to check on the concept of multicollinearity, that is if the is a strong correlation between two predictor variables. In this case there was only one predictor variable hence the problem of multicollinearity did not exist. There also exist a moderate negative correlation between ROE and NPLR.

Table 4.4.2: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
				R Square Change	F Change	df1	df2	Sig. F Change
.527(a)	.278	.275	18.68179	.278	114.690	1	298	.000

Predictors: (Constant), NPLR

Source: Research data

Analysis in table 4.4.2 shows that the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R2 equals 0.278, that is, NPLR explain 27.8 percent of ROE for commercial banks leaving 72.2 percent unexplained. The P- value of 0.000 (Less than 0.05) implies that the model of ROE is significant at the 5 percent significance

Table 4.4.3: ANOVA

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	40027.940	1	40027.940	114.690	.000(a)
Residual	104004.726	298	349.009		
Total	144032.667	299			

Predictors: (Constant), NPLR

Dependent Variable: Return on Equity

Source: Research data

ANOVA findings (P- value of 0.00) in table 4.4.3 show that there is correlation between the predictor's variables (NPLR) and response variable (ROE).

Table 4.3.4: Coefficients of regression equation

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	26.251	1.646		15.947	.000
NPLR	-72.189	6.741	-.527	-10.709	.000

Dependent Variable: Return on Equity

Source: Research data

Regression equation

The established simple linear regression equation becomes:

$Y = 26.25 – 72.19X$

Where

Constant = 26.25, shows that at zero value of NPLR for all commercial banks, ROE takes the value 26.25

X_1= -72.19, shows that one unit change in NPLR results in 72.19 units decrease in ROE. NPLR is also linearly related with ROE as shown, its P- value of 0.00 which is less than 0.05.

4.5 Summary of findings and Interpretation

The aim of our study was to establish the relationship between credit risk management and profitability in commercial banks in Kenya. Credit risk management is vital in all commercial banks in that it is one of the major contributors to the income stream. To satisfy the objective of the study both primary and secondary data were collected. The primary data was collected by use of a structured questionnaire to the thirty sampled commercial banks. The secondary data was collected from the annual published financials for the target sample; the data covered a period of ten (10) years i.e. 2000-2009.The data from the two sources was analyzed by use of descriptive statistics and presented in form of frequency tables, graphs and percentages.

As per the response rate analysis, out of the 30 questionnaires that were issued to the respondents, 28 which translate to 93% were returned while 2 which translate to 7% were not returned. The 7% consist of respondents who were on leave and could not be contacted during the time of questionnaire collection.93% represent a high response rate. The questionnaires were given to credit managers and finance managers in respective commercial banks. Gender analysis indicates that 61% of the respondents were male while 39% were female. This shows that most of the respondents who participated in the study were male.

An analysis of the highest education levels attained by the respondents shows that 21% had acquired diploma, 43% bachelor's degree while 36% had masters. This show that majority had at least bachelors degree thus had an understanding of their work and related issues. Regarding work experience 22% of the respondents had worked with their institutions for less than 5 years.39% had worked for 5-10 years, 32% for 10-15 years and 7% for 15 years and above. Majority therefore had been in their banking institutions for 5-10 years which is a period enough to understand the individual firms and the banking industry.

On whether there is a relationship between credit management and profitability 75% of the respondents felt that there was a relationship between credit management and profitability while 25% disagreed. This indicates that there is a relationship between credit management and profitability. When asked about the application of the credit management principles in the banking institutions, majority of the respondents indicated that credit management principles were widely used in the banking and even microfinance institutions.

In determining the effect of credit management on profitability, 68% of the respondents indicated that credit management affects profitability while 32% felt that credit management had no effect on profitability. This shows that credit management affects profitability. On whether credit management principles were applicable in the banking institutions, 93% of the respondents indicated that credit management principles were applicable in their banking institutions while 7% denied. This shows that credit management principles are applicable in the various banking institutions They gave examples of credit management principles used as Creating value , explicitly addressing uncertainty ,basing on the best available information and taking into account human factors .They also cited on the 6 Cs of credit management which include character ,capability, context, credibility, collateral and conditions.

Various ratios are used to ascertain profitability.36% of the respondents indicated that their banking institutions used return on income ratio.46% indicated that they used Return on equity ratio while 18% indicated that they used Cash return on asset ratio. From this, it can be concluded that return on equity is the commonly used ratio followed by return on income. When asked on the procedure of determining profitability most of the respondents pointed out Return on equity which is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. Return on Equity is expressed as a percentage and calculated as net income divided by shareholder’s equity.

Regarding the effect of credit ratios on credit management, 61% of the respondents indicated that profit ratios affect credit management while 39% disagreed. This shows that credit ratios affect credit management.the extent to which ratios relate to credit risk management.25% of the respondents indicated that it was very great extent,39% great extent and 36% average extent .This shows that profitability ratios greatly affect credit risk management.

The study used regression analysis to find the association between NPLR and ROE Forecasting model was developed and tested for accuracy in obtaining predictions. The finding of the study indicated that the model was moderately significant. This is demonstrated in the part of the analysis where R^2 for the association between NPLR and ROE was 27.8%. The results obtained from the regression model show that there is an effect of credit risk management on profitability on reasonable level with 27.8% possibility of NPLR in predicting the variance in ROE. So, the credit risk management strategy defines profitability level to an important extent for commercial banks in Kenya.

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The objective of the study was to establish whether there is a relationship between credit risk management and profitability in commercial banks in Kenya. The study used both primary and secondary data collection methods. The primary data was collected by use of a structured questionnaire and the secondary data was obtained from the banks published annual financials.

To achieve the objective, profitability and credit risk management indicators were computed from all the sampled date. Return on equity was used as an indicator of profitability and Non- performing loan ration was used as an indicator of credit risk management. A regression analysis was done and it established a negative co-relationship between the dependent variable (profit indicator) and independent variable (credit risk management indicator).

The study results reveal that there is a relationship between credit risk management and profitability among the sampled banks the conclusion is also applicable on the un-sampled commercial banks. The respondent on the primary data indicated that there is a relationship between credit risk management and profitability this was further enhanced by the secondary data, the regression analysis equation established a negative relationship. This means that as the independent variable changes it has a negative change on the dependent variable. Therefore, as the non- performing loan ration increases it results to a decrease on the return on equity. The analyses asserts that as the commercial banks non performing loan book increases it has a ripple effect in that it leads to a reduced profitability.

Therefore commercial banks have to prudently manage its loan book to achieve high levels of profitability. This can be achieved through establishment of effective credit risk management tools and close monitoring of the portfolio.

5.2 Conclusions

The findings have shown that there is a relationship between credit management and profitability such that credit management affects profitability. When asked about the application of the credit management principles in the banking institutions, majority of the respondents indicated that credit management principles were widely used in the banking and even microfinance institutions.

Credit management principles were applicable in their banking institutions .They gave examples of credit management principles used as Creating value , explicitly addressing uncertainty ,basing on the best available information and taking into account human factors .They also cited on the 6 Cs of credit management which include character, capability, context, credibility, collateral and conditions.

Various ratios are used to ascertain profitability. These include return on income ratio, Return on equity and Cash return on asset ratio. Return on equity is the commonly used ratio followed by return on income. Return on equity which is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. Return on Equity is expressed as a percentage and calculated as net income divided by shareholder's equity.

NPLR as an independent variable was linearly related with the dependent variable (ROE) thus simple linear regression model could be used to forecast ROE for commercial banks; however care should be taken when using the model and where necessary other independent variables should be included in the model so as to strengthen the value of R^2

The findings are in congruent with other earlier studies i.e. Juanjuan et al. (2009), that concluded that there is a relationship between credit risk management and profitability in commercial banks. The study was carried out on four major banks in Sweden.

5.3 Policy Recommendation

The research findings have showed that there is a relationship between credit risk and profitability in commercial banks therefore policy makers should come up with policies that enhance profitability through prudent credit risk management. These policies should be reviewed periodically to be in check with reality. Based on the findings, following are the recommendations to policy makers and regulators. The main stake holder to ensure that commercial banks adhere to set credit risk management policies is the central bank of Kenya, being the regulator CBK should review policies set to manage credit risk and ensure full implementation. As indicated by the research findings credit risk management is critical to profitability of commercial bank. Profitability is a key pillar to the stability of the financial system, consistent loss making by commercial banks can lead to adverse effect on the country's financial system. Therefore central bank plays a key role in ensuring that the financial system is safe guarded by establishing policies and regulations.

To enhance profitability in credit management, the credit risk measures should be tightened. The loan officer must assemble and evaluate information and then determine what the entire picture looks like. The banking system should be based on organizational and legal policies. Organizational policies regulate the lending activities within individual banking institutions while Legal policies are aimed to create legal relationship and thus ability to take the necessary measures in case one of the parties to the contract defaults.

The modern day shareholder is interested in a firm that generates wealth for them, this can only be achieved through making profits because from the profits the shareholders are paid dividends and also earlier research shows that profitability is a fundamental influencer of the share prices at the stock exchange. High share prices leads to capital gains to shareholders. Therefore, commercial banks managers should establish policies that are geared towards ring fencing the organizations profitability. The policy should seal all the loopholes that lead to hemorrhage of profits. Lending policies should be in line with the existing legal frameworks both internal and external. In addition, the credit policies should facilitate business growth through creating an enabling environment and not hinder it through long bureaucratic procedures.

Banks should develop management systems that feature the creation of credit risk management objectives, the careful monitoring of progress against these goals, tighter expense control, and more aggressive pricing and collection procedures. This however should be based on business intelligence systems. By constantly enhancing existing credit risk management tools banks are able to work towards achieving best practices.

5.4 Limitations of the Study

Researchers on the subject of credit risk management and profitability in commercial banks were few and little literature on the international arena was also not available on the subject, in addition much of the literature obtained related to the developed economies whose circumstances may be different from that of a developing economy like Kenya.

Some of the respondents were suspicious about the study and left gaps on the questionnaires for fear that the confidentiality of certain information about their banks may be exposed to competitors and other parties. This fear was in spite of the respondents not being required to necessarily disclose the identities of their banks. In addition, each questionnaire was attached with an assurance letter to the respondents that their responses would be treated with ultimate confidentiality and solely for academic purposes. This deprived the study some necessary information.

Granted that the secondary data used in this study was obtained from published annual financial reports, one must be cautious of the limitations associated with such data. This data may to some degree be manipulated by the management of a firm to present a “rosy” view of the firm’s position. This kind of manipulation is known as “window dressing”. The possibility of window dressing has been controlled to some extent by use of many commercial banks financial information.

5.5 Suggestions for Further Research

The study sought to establish the relationship of credit risk management and profitability in commercial banks in Kenya. Further research may be carried out to establish the relationship between other various risk exposures i.e. liquidity risk, foreign exchange risk, operational risks, interest rate risk faced by commercial banks and profitability.

The study applied only one independent variable in determining the results, a further study can be carried out by including more independent variables to the regression model. Use of more variables may better capture the strength of the relationship. Also the study could be further enhanced by examining Basel II effect on profitability of commercial banks upon full implementation. Profitability indicator could be developed by adding other relevant dependent variables to grasp the whole variations in profitability.

The study was only carried on thirty commercial banks. As at 30th December 2009 there were forty four commercial banks in Kenya. A further census study should be carried out to evaluate if there is a substantial change of the findings. This study can also incorporate other risk exposures on commercial banks.

REFERENCES

A, S. (2007). Financial Institutions Management. In *A modern Perspective.* McGraw Hill.

Acharya, V. (2005). Credit Risk: Pricing Measurement and Management. Economica. Blackwell Publishing.

al, H. J. (1996). Banking an Industry Accounting and Auditing Guide . In *Accountancy Book.* New York.

Ali Fatami, Iraj Fooladi. (2006). A survey of Practices. In I. F. Ali Fatami, *Credit Risk Management.* Emarald Group Publishing Ltd.

Altman, E. I. (2002). Management Credit Risk. In A. C. Millennium., *Economic Notes* (Vol. 31, pp. 201-214). Blackwell Publishers.

Anthony, S. M. (1997). Commercial Bank Risk Management. In T. W. Paper, *An Analysis of the process* (pp. 95-11-C).

B., B. (1990). Risk Management. In *A Modern Perspective.* McGraw.

Bank, C.-o. (2008). Initial Public Offering (IPO). In C.-o. B. URL. www.co-opbank.co.ke.

Beatrice, M. N. (2007). " A Survey of Credit Risk Management Practices by Pharmaceutical Manufacturing Firms in Kenya.

Bentson, G. J (2002). Whats Special About Banks? *The Financial Review.* (Vol. Vol. 34).

Best, P. (2000). The Professional Hand Book of Financial Risk Management. In *Stress Testing.* Butterworth. Heinemann: Oxford university.

Bodie, Z. A. (1999). Investments . Boston: Irwin/McGraw-Hill.

(2003). Principles of Corporate Governance. . In B. A. C. Tata McGraw—Hill,.

C, J. (2007). Credit risk management: how to avoid lending disasters and maximize earnings.

CBK. (2000). The Practice of Monetary Policy in Kenya. In CBK. Nairobi, Kenya: Central Bank of Kenya.

Charles, K. W. (2007). A Survey of Internal Auditors Risk Management Practices in the Banking Industry in Kenya. . Unpublished MBA Thesis, University of Nairobi.

Chris, L. S. (1993). Corporate Finance Theory and Practice. In . (7th ed.). South-Western Publishers.

(1999). In B. Committee, *Risk in the Banking Industry*. Basel Committee.

Committee, B. (2004). Basel Committee . In B. Accord, *Risk in Banking industry*. Basel Committee.

Diamond, D. (1984). Financial Intermediation and Delegated Monitoring. In *Review of Economic Studies* (Vol. 51, pp. 394-414).

(2000). Operational Risk. In W. Duncan, *the Handbook of Financial Risk Management.* . Heinemann.: Oxford: Butterworth.

E, N. M. (2008). A Survey of Credit Risk Management Practices by Commercial Banks in Kenya.

Freeman, C. a. (2006). Credit Risk Management:. In T. u.-F. Corporations, *Managerial Finance* (Vols. Volume Number 9, , pp. pp. 761-773). Emerald Group Publishing.

G.M, N. (2003). Credit Risk Management by Coffee Co-ops in Embu District. . Unpublished MBA Research, UON.

Greuning, H. a. (2000). Analyzing Banking Risk. In D. Washington, *A Framework For Assessing Corporate Government and Financial Risk Management.* The World Bank.

Grinold, R. C. (1999). In A. P. Management.. New York:: McGraw-Hill.

Gupta, A. (1998). Is Kenya on the Brink of a Banking Crisis. In Marketing Intelligence. Kenya's Top Banks Comprehensive Survey. *The Business and Finance Journal* .

Hellwing, M. (1998). Allowing For Risk Choices in Diamonds. In ., *"Financial Intermediation As Delegated Monitoring"*. Universit' at Mannheim.

Hempel G.H, S. D. (1994). Bank Management . John Wiley and Son Inc.

Hoppe, G. N. (2009). The Hand book of Credit Portfolio Management. . McGraw-Hill.

Hyytinen, A. a. (2004). Preventing Systematic Crisis Through Bank Transparency. In *Economic Notes by Bancamonte* (Vol. Vol. 33). Del Paschi Disiena SPA. .

Idarus, Y. A. (2005). A Survey of Operational Risk Management Practices by Commercial Banks in Kenya. . Unpublished MBA Thesis, University of Nairobi.

Institutions, A. G. (1997). In CBK. Nairobi, Kenya: Central Bank of Kenya.

J, M. (1994). Financial Management. *Routledge* , pg. 34-39.

J.M.G, K. (2002). In T. R.-P. Banks. Unpublished MBA Thesis University of Nairobi.

Jensen, M. C. (1986). Agency Costs of Free-Cash-Flow, Corporate Finance, and Takeovers,. In *American Economic Review,* (pp. 323-329).

K, F. K. (2008). Malaysian Institute of Economic Research. . In *Return-on-equity ratio can show how efficient banks are.* http://biz.thestar.com.

Kalani, N. M. (2009). Economics, Finance and Banking Research. *African Journal of Accounting , Vol. 4* (No. 4), pg. 56-60.

Kellen, M. (2007). "The Response of National Bank Ltd to the Challenge of Non-Performing Loans.

Kenya, C. B. (2006). Prudential Guidelines for Institutions Licensed Under the banking Act. Nairobi: Central Bank of Kenya.

Kenya, C. B. (2004). Risk Management on Kenya's Banking Sector. . Central Bank of Kenya.

(2007). In K. W. Kenya. Unpublished MBA Thesis, University of Nairobi.

Koch, M. S. (2006). Management of Banking. Thomson South- West.

Loan., T. K. (1995). .Management of Financial Institutions- Monitoring Loan Portfolio and Identifying Problem. New York: Hamper Collins College.

Lore, M. a. (2000). The Professional Handbook of Finance Risk Management. Butterworth Heinemann.: Oxford univesity.

Markowitz, H. (1991). Efficient Diversification of Investments. In P. Selection. Cambridge,: MA: Basil Blackwell.

Markowitz, H.). (1952). Portfolio Selection. *Journal of Finance , 7*, 77-91.

Masulis, D. H. (1980). Optimal Capital Structure under Corporate and Personal Taxation. In Journal of Financial Economics.

Michaud, R. (1998). Efficient Asset Management .

Myers, S. C. (1977). Determinants of Corporate Borrowings. *Journal of Financial Economics , 5*, 147–175 .

Myers, S. C. (1984). The Capital Structure Puzzle. *Journal of Finance , 39*, 575-592.

Obierio, D. (2002). The Banking Sector Regulatory Framework in Kenya. In *Its Adequacy In Reducing Bank Failures.* Unpublished MBA Thesis, University of Nairobi.

Odour, Z. J. (2007). A Survey of Credit Risk Assessment Practices in Kenya Banks. Unpublished MBA Thesis, University of Nairobi.

P.K, M. (2006). *An Assessment of Credit Risk Management Techniques Adopted by Micro-Finance Institutions in Kenya* .

Pandey, I. (1997). Financial Management. New Delhi, , India: PVT LTD, Vikas Publishing House .

R, S. S. (2008). A Survey of Techniques of Credit Risk Management in Micro- Finance Institutions in Kenya. Unpublished MBA Research, UON.

Reports., A. B. (2001). CBK. In CBK. Nairobi, Kenya: Central Bank of Kenya.

Robertson, J. C. (1998). Auditing. Boston: Irwin McGraw Hill.

S, G. (2002). Risk management and value creation in financial institutions . John Wiley and Sons .

John S, S. (1985). Basic Concepts in Risk Management. McGraw Hill publishing ltd.

S., A. ((2002),). “Highway to success”. Credit Management Journal. *vol.23* (2), 34-38.

Selim, G. a. (1999). The Risk Management and Internal Auditing Relationship. *International Journal of Auditing , Vol. 3*.

Sinkey, J. (1992). ” Commercial Bank Financial Management”. *Macmillan Perspective Publishing Company* .

Situma, S. (2006). A study of the Turnaround Strategy Adopted at KCB . Unpublished MBA Project, University of Nairobi.

Sons., J. W. (2005). Risk Management in Banking. In B. Joel. New york.

Survirvarma, C. C. (1999). The New Competitive Long Range Planning. *Strategic Risk Management , Volume 32*.

Tang N., a. J. (2003). The Profitability of the Banking Sector in Hong Kong. In *Hong Kong Monetary Authority Quarterly Bulletin* (pp. 5-14).

Jensen M. and W. Meckling (1976). Theory of the Firm:, *Managerial Behavior, Agency Costs, and Capital Structure* (pp. 305-360).

Venkat, S. (2000). Implementing a Firm Wide Risk Management Framework . In *In the Hand Book of Financial Risk Management.* Butterworth Heinemann.: Oxford univesity.

W.F, S. (1964). Capital Asset Prices. A theory of Market Equilibrium under Conditions of Risk. *Journal of Finance , 19* (3), 425-442.

Appendix 1: Letter of introduction

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA PROGRAM – LOWER KABETE CAMPUS

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE.....

TO WHOM IT MAY CONCERN

The bearer of this letter .....

Registration No: .....

is a Master of Business Administration (MBA) student of the University of Nairobi.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate if you assist him/her by allowing him/her to collect data in your organization for the research.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
MBA OFFICE
P. O. Box 30197
NAIROBI

DR. W.N. IRAKI
CO-ORDINATOR, MBA PROGRAM

Appendix 2: Questionnaire

This questionnaire seeks to collect data to be used in a study of "the relationship between credit risk management and profitability in commercial banks in Kenya" you are requested kindly to provide answers to these questions as honestly and precisely as possible. The information you will provide will be treated as confidential and will be used for the intended purpose of this study only. Please tick [ ] where appropriate or fill the required information in the spaces provided.

SECTION A BACKGROUNG INFORMATION

1. Name of your institution?.....(optional)

2. Gender

   Male ( )

   Female ( )

3. Highest education level

Bachelors degree	( )	Masters	( )
Diploma	( )	Certificate	( )
Other	( )		

4. For how long have you been in the organization?

   Less than 5 years ☐

   Between 5 & 10 years ☐

   Between 10 –15 years ☐

   15 years and above ☐

SECTION B CREDIT RISK MANAGEMENT

Please indicate by a tick [ ] to show your answers to the stated questions.

1) Do you think there is a relationship between credit risk management and profitability?

   Yes [ ]
   No [ ]

2) Does credit management affect profitability of your bank?

Yes [ ]

No [ ]

3) Do you apply any principal of credit management?

Yes [ ]
No [ ]

If yes briefly state the principals……

SECTION C: PROFITABILITY

1. Briefly state how you determine profitability ration?

……

……

2. Which of these ratios do you use in calculating your profit?

Return on income [ ]

Return on equity [ ]

Cash return on asset [ ]

3. Does the ratio you use affect credit management?

Yes [ ]

No [ ]

4. State some of the challenges you go though in credit risk management?

……

……

5. To what extent does the ratio relate to credit risk management?

Very great	[ ]
Great	[ ]
Average	[ ]
Low	[ ]

6. What can you advice on credit risk management to profitability of your bank?

……

……

……

……

Appendix 3: List of Commercial Banks'

1	AFRICAN BANKING CORPORATION
2	BANK OF AFRICA
3	BANK OF BARODA
4	BANK OF INDIA
5	BARCLAYS BANK OF KENYA
6	CFC STANBIC BANK
7	CHARTERHOUSE BANK (UNDER STATUTORY MANAGEMENT)
8	CHASE BANK
9	CITIBANK N. A KENYA
10	COMMERCIAL BANK OF KENYA
11	CONSOLIDATED BANK OIF KENYA
12	CO-OPERATIVE VBANK OF KENYA
13	CREDIT BANK
14	DEVELOPMENT BANK
15	DIAMOND TRUST BANK
16	DUBAI BANK OF KENYA
17	ECOBANK KENYA
18	EQUATORIA COMMERCIAL BANK
19	EQUITY BANK
20	FAMILY BANK
21	FIDELITY COMMERCIAL BANK LTD
22	FINA BANK
23	FIRST COMMUNITY BANK LTD
24	GIRO COMMERCIAL BANK
25	GUARDIAN BANK LTD
26	GULF AFRICAN BANK
27	HABIB BANK A.G. ZURICH
28	HABIB BANK LTD
29	IMPERIAL BANK LTD

30	I & M BANK
31	JAMII BORA BANK LTD
32	KENYA COMMERCIAL BANK
33	K-REP BANK
34	MIDDLE EAST BANK
35	NATIONAL BANK OF KENYA
36	NIC BANK
37	ORIENTAL COMMERCIAL BANK
38	PARAMOUNT UNIVERSAL BANK
39	PRIME BANK
40	STANDARD CHARTERED BANK
41	TRANS-NATIONAL BANK
42	VICTORIA COMMERCIAL BANK
43	UBA KENYA
44	HOUSING FINANCE (MORTGAGE FINANCE INSTITUTIONS)

Appendix 4: Secondary data

Commercial Bank		Profit After Tax	Provision	Write-offs	Return on Equity	Total Loans	Total Assets	Non-Performing Loans	NPLR
African Banking Corporation	2000	31	90	89	10	1,639	2,813	272	0.166
	2001	34	159	113	11	1,641	2,978	370	0.225
	2002	41	81	79	12	1,380	2,961	213	0.154
	2003	44	61	26	12	1,644	3,387	152	0.092
	2004	66	77	55	16	1,795	3,818	144	0.080
	2005	119	66	19	24	2,131	4,188	130	0.061
	2006	124	155	22	23	2,768	5,140	145	0.052
	2007	140	190	13	21	3,031	5,357	225	0.074
	2008	185	255	56	23	3,597	6,143	198	0.055
	2009	224	243	42	20	3,793	6,757	184	0.049
Bank Of Africa	2000	155	106	7	26	3,151	4,624	208	0.066
	2001	68	277	138	11	3,132	5,732	304	0.097
	2002	63	224	(24)	9	2,543	5,771	255	0.100
	2003	45	211	(23)	6	2,142	4,665	172	0.080
	2004	1	64	(6)	1	3,345	4,797	30	0.009
	2005	139	64	-	21	3,121	4,942	31	0.010
	2006	7	243	-	1	3,245	5,373	29	0.009
	2007	61	296	-	6	4,069	6,488	29	0.007
	2008	158	371	13	13	4,951	7,657	104	0.021
	2009	93	519	40	6	7,375	12,304	141	0.019
Bank Of Baroda	2000	44	302	5	13	1,693	3,083	529	0.312
	2001	47	223	1	13	1,342	3,309	466	0.347
	2002	52	53	11	14	1,261	3,827	270	0.214
	2003	41	64	13	10	1,533	4,998	257	0.168
	2004	143	75	21	5	1,886	7,998	298	0.158
	2005	274	105	21	28	2,797	8,335	234	0.084
	2006	238	188	3	22	3,747	9,265	249	0.066
	2007	373	181	3	30	4,554	11,773	196	0.043
	2008	524	244	46	33	7,203	14,759	227	0.032
	2009	633	426	243	33	9,364	18,361	416	0.044
Bank Of India	2000	117	168	8	29	1,201	2,551	180	0.150
	2001	94	45	2	29	714	2,528	84	0.118
	2002	116	42	2	30	852	3,131	59	0.069
	2003	63	36	16	8	1,081	4,692	81	0.075
	2004	176	88	54	20	1,452	5,805	120	0.083
	2005	123	87	4	13	1,609	6,039	111	0.069
	2006	124	72	32	14	2,371	7,206	81	0.034
	2007	278	87	36	27	3,319	8,702	119	0.036
	2008	474	77	36	36	3,641	10,344	163	0.045
	2009	609	94	81	36	4,542	12,049	259	0.057
Barclays Bank	2000	3,361	1,392	440	38	39,999	69,292	3,687	0.092

Of Kenya	2001	3,035	2,278	1,641	29	44,519	70,377	4,115	0.092
	2002	4,235	1,961	1,037	37	47,615	73,647	5,950	0.125
	2003	2,550	2,664	1,513	26	53,335	85,914	8,037	0.151
	2004	4,764	3,568	1,613	43	60,038	96,914	8,915	0.148
	2005	5,591	4,057	1,913	45	67,750	110,083	9,081	0.134
	2006	5,401	4,718	1,330	41	69,619	104,522	11,877	0.171
	2007	6,475	4,505	881	44	78,411	117,722	9,214	0.118
	2008	7,079	2,607	687	40	107,953	157,656	5,399	0.050
	2009	8,016	3,328	1,282	39	111,414	168,510	6,582	0.059
Cfc Stanbic Bank	2000	34	1,454	11	3	6,692	6,930	2,081	0.311
	2001	(443)	1,059	311	(47)	4,354	7,129	1,813	0.416
	2002	(294)	328	146	(47)	3,400	6,503	793	0.233
	2003	32	79	(92)	5	2,923	8,104	316	0.108
	2004	(151)	130	62	(16)	4,109	9,931	200	0.049
	2005	153	89	-	9	7,080	11,492	100	0.014
	2006	444	150	68	22	8,648	14,994	124	0.014
	2007	921	216	152	34	11,564	25,824	233	0.020
	2008	1,194	296	121	36	19,959	34,469	287	0.014
	2009	1,313	2,284	602	19	46,488	83,166	2,966	0.064
Chase Bank	2000	8	21	8	4	336	746	23	0.068
	2001	26	6	8	8	390	826	2	0.005
	2002	30	6	1	9	477	972	2	0.004
	2003	47	8	2	13	684	1,156	1	0.001
	2004	59	11	3	13	937	1,704	1	0.001
	2005	(92)	14	150	(17)	1,294	2,082	118	0.091
	2006	65	48	16	11	1,739	2,613	56	0.032
	2007	111	57	11	17	2,072	4,123	68	0.033
	2008	180	135	37	25	3,387	5,776	110	0.032
	2009	247	176	36	29	5,315	10,300	185	0.035
Citibank N.A Kenya	2000	488	118	14	26	6,318	14,786	118	0.019
	2001	619	246	86	27	10,103	22,243	198	0.020
	2002	699	283	71	17	12,388	27,710	296	0.024
	2003	1,159	346	113	29	11,554	30,161	348	0.030
	2004	826	215	4	20	8,795	28,333	466	0.053
	2005	356	210	52	10	9,814	25,108	386	0.039
	2006	1,285	309	(73)	24	10,920	30,928	451	0.041
	2007	1,530	318	66	24	12,644	37,794	339	0.027
	2008	1,782	343	(22)	24	12,967	47,301	310	0.024
	2009	3,353	304	(15)	37	18,458	47,535	129	0.007
Commercial Bank Of Africa	2000	392	278	65	25	5,177	11,872	497	0.096
	2001	392	525	140	24	5,017	12,783	956	0.191
	2002	515	240	(18)	29	4,894	16,082	391	0.080

	2003	382	211	41	23	5,229	16,418	525	0.100
	2004	568	324	116	29	4,631	18,396	503	0.109
	2005	437	343	23	22	5,654	20,189	485	0.086
	2006	369	917	84	16	12,438	29,539	917	0.074
	2007	1,343	982	(187)	36	15,205	37,438	777	0.051
	2008	1,416	1,069	75	30	18,246	42,011	813	0.045
	2009	1,765	1,138	272	34	29,742	55,202	1,098	0.037
Consolidated Bank Of Kenya	2000	13	2,288	(1)	2	5,226	2,272	2,440	0.467
	2001	(34)	1,310	(12)	(4)	2,018	2,501	1,443	0.715
	2002	(14)	294	20	(2)	1,061	2,946	394	0.371
	2003	77	461	167	12	1,487	2,707	712	0.479
	2004	12	485	32	2	1,590	2,442	740	0.465
	2005	(90)	457	4	(16)	1,572	2,753	874	0.556
	2006	(12)	1,689	(12)	(2)	2,978	2,916	802	0.269
	2007	16	1,072	53	2	2,714	3,437	653	0.241
	2008	26	909	100	3	3,154	4,109	624	0.198
	2009	85	886	64	10	3,637	4,657	695	0.191
Co-Operative Bank Of Kenya	2000	(108)	3,082	445	(4)	17,691	24,078	6,130	0.347
	2001	(1,665)	6,179	1,638	(113)	19,566	23,588	9,653	0.493
	2002	(803)	4,623	847	(50)	19,424	23,600	8,013	0.413
	2003	104	4,700	411	5	22,596	28,675	7,679	0.340
	2004	181	5,156	464	8	23,250	32,394	8,195	0.352
	2005	356	6,016	886	11	33,024	46,434	8,663	0.262
	2006	714	15,459	1,164	18	44,548	51,830	9,742	0.219
	2007	1,256	15,474	1,425	24	43,895	58,038	9,486	0.216
	2008	2,094	6,871	700	31	45,300	65,709	5,931	0.131
	2009	3,359	7,124	403	24	60,418	83,871	6,605	0.109
Credit Bank Ltd	2000	17	79	-	5	866	1,708	159	0.184
	2001	26	-	4	8	820	1,710	305	0.372
	2002	38	30	7	11	684	1,561	121	0.177
	2003	31	27	3	8	693	1,795	139	0.201
	2004	49	38	16	12	912	2,155	162	0.178
	2005	47	44	6	11	1,396	2,708	167	0.120
	2006	90	168	7	19	1,867	2,798	263	0.141
	2007	90	162	(7)	18	1,585	2,610	354	0.223
	2008	131	121	11	23	1,753	3,358	230	0.131
	2009	79	167	29	12	1,976	3,637	213	0.108
Development Bank Of Kenya	2000	134	670	85	5	3,914	3,771	1,361	0.348
	2001	84	914	154	6	3,158	3,635	1,559	0.494
	2002	109	9	93	9	2,195	3,147	668	0.304
	2003	59	449	224	5	1,836	2,610	751	0.409
	2004	103	188	21	10	1,171	2,536	464	0.396
	2005	97	180	13	10	826	2,219	319	0.386
	2006	165	308	37	16	1,380	2,718	233	0.169
	2007	126	225	(13)	12	1,802	3,270	221	0.123
	2008	156	96	11	14	2,573	4,678	181	0.070

	2009	169	113	10	14	3,552	6,494	375	0.106
Diamond Trust Bank	2000	155	340	49	14	2,763	5,996	726	0.263
	2001	200	367	28	16	1,853	5,155	483	0.261
	2002	51	484	(10)	4	2,310	5,516	339	0.147
	2003	113	324	(1)	9	3,020	6,274	162	0.054
	2004	204	356	45	15	5,238	8,660	128	0.024
	2005	263	288	36	18	7,425	11,172	114	0.015
	2006	427	367	92	26	10,685	16,384	86	0.008
	2007	681	392	59	24	14,225	21,737	156	0.011
	2008	1,055	360	72	19	23,542	35,998	176	0.007
	2009	1,604	549	197	23	34,612	56,146	395	0.011
Ecobank	2000	23	121	55	4	1,429	10,499	352	0.246
	2001	26	176	54	4	1,507	9,426	532	0.353
	2002	22	211	42	4	2,379	8,910	543	0.228
	2003	19	260	50	3	3,188	8,856	744	0.233
	2004	(754)	254	877	(109)	2,723	4,210	1,011	0.371
	2005	(62)	407	153	(10)	2,714	4,168	1,042	0.384
	2006	13	867	30	1	4,773	3,979	1,549	0.325
	2007	47	1,272	176	3	5,734	3,268	2,234	0.390
	2008	112	1,718	171	7	6,676	2,632	2,396	0.359
	2009	67	2,090	37	4	7,216	2,633	2,890	0.400
Equatorial Commercial Bank	2000	20	210	85	6	1,454	1,961	352	0.242
	2001	30	299	57	8	1,344	2,217	505	0.376
	2002	27	50	56	7	1,002	2,283	178	0.178
	2003	65	76	42	16	1,104	2,498	148	0.134
	2004	96	91	25	21	1,537	2,941	119	0.077
	2005	103	73	5	20	1,823	2,873	73	0.040
	2006	109	58	3	19	1,904	3,671	112	0.059
	2007	94	79	36	15	2,492	3,962	234	0.094
	2008	73	54	(1)	11	2,360	4,879	154	0.065
	2009	(10)	67	102	(2)	2,373	4,409	184	0.078
Fidelity Bank	2000	19	67	8	10	675	996	196	0.290
	2001	2	141	46	1	941	1,313	372	0.395
	2002	23	115	30	10	796	1,229	298	0.374
	2003	22	99	19	9	767	1,169	228	0.297
	2004	18	109	39	7	825	1,227	205	0.248
	2005	1	84	31	1	1,175	1,565	196	0.167
	2006	13	94	4	5	1,154	1,667	141	0.122
	2007	26	100	9	9	1,545	2,314	204	0.132
	2008	49	187	14	16	2,159	3,192	202	0.094
	2009	73	94	16	17	2,854	4,329	118	0.041
Fina Bank	2000	54	339	86	13	3,051	4,389	836	0.274
	2001	51	408	58	11	2,726	4,649	795	0.292
	2002	52	179	57	10	2,869	4,642	514	0.179
	2003	73	169	96	13	2,757	5,291	442	0.160
	2004	106	219	88	17	2,854	5,805	397	0.139

	2005	(51)	370	205	(6)	3,798	8,386	548	0.144
	2006	107	443	12	11	4,371	8,638	485	0.111
	2007	151	401	38	13	5,226	9,785	557	0.107
	2008	150	358	96	10	6,741	11,623	469	0.070
	2009	139	336	134	8	9,394	14,366	467	0.050
Guardian Bank	2000	42	598	22	7	4,017	4,419	1,604	0.399
	2001	56	844	26	9	3,828	4,233	2,283	0.596
	2002	56	127	16	9	2,717	3,626	1,466	0.540
	2003	64	132	(4)	10	2,449	4,011	1,185	0.484
	2004	52	161	48	8	2,776	4,066	927	0.334
	2005	53	306	50	7	3,181	4,112	911	0.286
	2006	56	604	51	7	3,549	4,451	904	0.255
	2007	48	619	90	6	3,579	4,917	1,294	0.362
	2008	25	730	94	3	4,020	5,540	1,169	0.291
	2009	44	725	188	5	4,278	5,558	999	0.234
Giro Commercial Bank	2000	17	160	88	5	2,716	3,745	671	0.247
	2001	20	131	60	6	2,714	4,068	865	0.319
	2002	30	130	39	8	2,925	4,116	851	0.291
	2003	33	165	48	8	2,785	4,100	753	0.270
	2004	33	183	51	8	2,981	4,254	743	0.249
	2005	14	247	70	3	3,274	4,744	774	0.236
	2006	(6)	228	63	(1)	3,534	4,926	677	0.192
	2007	59	161	55	12	3,181	5,098	438	0.138
	2008	41	225	132	8	3,295	5,611	414	0.126
	2009	126	216	26	21	3,627	5,938	295	0.081
Habib Bank A.G Zurich Ltd	2000	86	103	10	31	836	3,118	103	0.123
	2001	106	92	(1)	37	745	3,094	92	0.123
	2002	113	42	4	32	731	3,514	42	0.057
	2003	82	55	19	22	741	3,798	55	0.074
	2004	77	52	16	19	726	4,020	52	0.072
	2005	56	49	6	13	1,082	4,451	49	0.045
	2006	147	48	3	27	1,158	4,743	48	0.041
	2007	165	44	7	25	1,335	5,323	44	0.033
	2008	204	72	7	28	1,684	6,206	72	0.043
	2009	242	117	9	31	2,246	6,557	117	0.052
Investment & Mortgages Bank Ltd	2000	113	267	134	11	4,299	5,962	791	0.184
	2001	132	380	104	12	4,028	6,450	788	0.196
	2002	101	120	64	9	3,696	7,100	462	0.125
	2003	109	168	42	10	3,519	7,176	583	0.166
	2004	285	183	121	17	5,498	12,130	448	0.081
	2005	372	270	139	20	8,468	14,912	766	0.090
	2006	489	281	134	24	11,368	18,046	685	0.060
	2007	936	150	77	34	14,853	22,348	275	0.019
	2008	1,294	174	126	33	19,388	29,420	316	0.016
	2009	1,619	366	172	31	26,253	36,656	1,744	0.066
Kenya	2000	(2,239)	9,897	5,114	(25)	64,757	75,260	18,812	0.291

Commercial Bank	2001	(766)	12,134	4,359	(10)	51,237	73,328	21,731	0.424
	2002	183	7,216	2,772	2	42,203	64,984	20,684	0.490
	2003	(4,179)	8,890	4,877	(81)	38,797	59,689	20,920	0.539
	2004	877	8,786	1,378	16	35,901	60,488	16,478	0.459
	2005	1,074	8,993	838	13	45,218	69,600	16,195	0.358
	2006	1,948	9,352	591	19	45,663	78,315	10,537	0.231
	2007	3,167	8,106	1,158	27	53,376	92,527	9,922	0.186
	2008	4,226	7,901	1,214	32	72,179	120,480	8,055	0.112
	2009	6,013	7,682	3,701	29	101,205	191,212	8,591	0.085
Middle East Bank (K) Ltd	2000	110	168	20	17	1,610	4,271	309	0.192
	2001	111	302	4	16	1,631	4,143	510	0.313
	2002	80	62	4	11	1,528	4,075	299	0.196
	2003	60	60	3	8	1,316	3,918	406	0.309
	2004	79	83	26	11	1,512	3,455	326	0.216
	2005	36	93	10	5	1,701	3,983	400	0.235
	2006	115	209	25	15	1,735	4,051	241	0.139
	2007	100	107	(8)	12	2,089	3,401	53	0.025
	2008	94	69	(9)	11	1,955	3,097	48	0.025
	2009	30	151	39	3	1,802	3,297	243	0.135
National Bank Of Kenya	2000	(3,471)	15,456	2,742	(164)	34,571	25,124	23,602	0.683
	2001	(1,620)	18,575	1,569	(75)	36,965	23,960	26,079	0.706
	2002	(323)	23,335	1,187	(13)	41,672	24,043	28,289	0.679
	2003	390	9,202	1,419	20	28,592	25,231	14,897	0.521
	2004	492	10,765	1,563	23	31,085	25,919	16,432	0.529
	2005	743	12,325	1,575	28	34,627	30,594	17,233	0.498
	2006	859	30,021	1,663	27	54,234	32,584	17,146	0.316
	2007	934	32,227	2,322	24	58,717	36,123	17,438	0.297
	2008	1,610	4,542	595	32	12,386	41,414	3,721	0.300
	2009	1,797	1,892	362	29	10,843	42,696	1,970	0.182
Nic Bank	2000	461	782	228	23	5,847	7,212	1,019	0.174
	2001	451	850	113	20	4,790	7,442	1,218	0.254
	2002	377	546	70	16	4,793	8,396	923	0.193
	2003	340	676	88	14	5,389	9,329	947	0.176
	2004	359	733	57	14	7,629	10,990	759	0.099
	2005	373	548	20	14	12,089	16,643	589	0.049
	2006	403	611	186	14	14,871	20,700	706	0.047
	2007	677	777	133	22	17,347	26,062	1,271	0.073
	2008	1,050	668	100	22	22,878	31,281	968	0.042
	2009	1,484	905	195	27	30,860	42,619	1,032	0.033
Southern Credit Banking Corporation Ltd	2000	8	189	53	3	1,213	1,583	439	0.362
	2001	(14)	906	32	(7)	1,114	777	1,060	0.952
	2002	(60)	310	39	(5)	1,559	2,892	657	0.421
	2003	14	168	52	3	1,668	2,645	516	0.309
	2004	49	145	86	11	1,968	3,264	660	0.335
	2005	61	191	63	13	2,163	3,822	652	0.301

	2006	31	481	72	6	2,439	4,221	694	0.285
	2007	32	648	50	6	2,943	4,598	600	0.204
	2008	(14)	190	108	(3)	2,680	5,218	573	0.214
	2009	6	292	53	1	2,946	5,171	709	0.241
Standard Chartered Bank	2000	2,566	1,746	326	50	20,455	44,056	2,883	0.141
	2001	3,172	1,627	215	51	17,975	49,188	2,693	0.150
	2002	3,232	1,352	186	58	15,106	54,277	1,601	0.106
	2003	3,212	388	122	56	17,048	61,650	1,399	0.082
	2004	4,010	404	81	62	19,328	64,111	1,345	0.070
	2005	2,691	509	247	44	27,065	67,051	1,631	0.060
	2006	3,513	1,076	582	37	35,118	72,842	1,679	0.048
	2007	3,810	1,491	520	38	37,253	81,014	1,890	0.051
	2008	4,910	1,307	250	45	40,775	91,122	1,329	0.033
	2009	4,720	1,252	432	41	44,551	99,020	1,067	0.024
Trans-National Bank Ltd	2000	(152)	493	254	(37)	1,744	1,374	969	0.556
	2001	22	278	56	5	1,088	1,369	718	0.660
	2002	221	106	33	32	992	1,588	341	0.344
	2003	122	135	49	16	1,039	1,746	418	0.402
	2004	121	156	60	14	841	1,475	217	0.258
	2005	200	177	34	20	1,053	2,368	218	0.207
	2006	59	360	30	6	1,578	2,035	365	0.231
	2007	46	302	63	4	1,606	2,566	358	0.223
	2008	81	336	46	7	1,544	3,221	354	0.229
	2009	121	322	37	10	1,763	3,414	398	0.226
Victoria Commercial Bank	2000	20	411	41	5	2,283	3,527	746	0.327
	2001	21	339	65	5	2,001	3,021	662	0.331
	2002	20	304	56	4	1,795	2,760	274	0.153
	2003	22	89	43	5	1,416	3,102	258	0.182
	2004	31	103	47	6	1,746	3,336	182	0.104
	2005	45	49	40	9	1,926	3,620	51	0.026
	2006	124	32	(4)	22	1,943	4,212	31	0.016
	2007	128	13	(20)	22	2,181	4,284	13	0.006
	2008	151	8	(15)	23	2,396	4,131	8	0.003
	2009	170	7	(1)	22	2,785	4,460	10	0.004