THE EFFECT OF CREDIT RISK MANAGEMENT ON THE FINANCIAL PERFOMANCE OF COMMERCIAL BANKS IN KENYA

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DECLARATION

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

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DEDICATION

I dedicate this work to my family for their love, moral support and the faith they had in me during my period of study.

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In my literature review I have cited quite a lot of scholarly publication. Some are from earlier research finding from project done by other MBA students. I have used scholarly papers from the wider academia. These are works without which I could not have had a scholarly insight into this research

Finally, yet importantly, I take this opportunity to express my deep gratitude to my loving family and friends who are always a constant source of support and motivation for their immense support and encouragement while doing this project.

ABSTRACT

Credit risk in banks is the possibility that loans will not be paid or go in to default with resultant loss to the bank. Proper management of credit risk by commercial banks is therefore crucial to enhancing their financial performance. The objective of this research was to determine the relationship between credit risk management and financial performance of commercial banks in Kenya.

This research study adopted a descriptive research design. Regression analysis model was used with the ROA as the dependent variable. Credit risk was the independent variable measured by variability in the ratio of loans to deposits. The research was done on all the commercial banks in Kenya over a five year period. Return on assets was determined as the ratio of Earnings before Interest and Tax to book values of assets. The regression results showed that the constant term was positive and significantly different from zero. The regression the constant term was 0.0179148 which was significantly different from zero indicating that a part of variation in ROA could not be explained by variation in credit risk across commercial banks. However, the coefficient of credit risk was a positive value of 0.00982604 indicating that higher credit risk led to better financial performance for commercial banks in Kenya as measured by an improvement in the ROA.

The study recommends that commercial banks in Kenya should be encouraged to share information on their borrowers in order to improve the quality of the loan book. However banks should have better credit risk management practices so as to enhance their financial performance.

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ABBREVIATIONS

CAMEL	-	Capital adequacy Asset Management Earnings Liquidity
CAMPARI	-	Character Ability Means Purpose Amount Repayment and Interest
CAPM	-	Capital Assets Pricing Model
CAR	-	Capital Adequacy Ratio
CBK	-	Central bank of Kenya
CRO	-	Credit Risk Officer
KBA	-	Kenya Banker's Association
MPC	-	Monetary Policy Committee
MSE	-	Micro- and Small- Enterprise
NPL	-	Non Performing Loans
NSE	-	Nairobi Securities Exchange
ROA	-	Return on Assets
ROE	-	Return on Equity

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Credit risk in banking relates to the possibility that loans will not be paid or that investments will deteriorate in quality or go in to default with resultant loss to the bank. This is the most obvious and most important risk to the banking industry in terms of potential losses. The default of a small number of key customers could generate very large losses and in an extreme case could lead to a bank becoming insolvent. Credit risk is not confined to the risk that borrowers are unable to pay, it also includes the risk of payments being delayed, which can also cause problems for the bank. In order to protect their own interest and the wealth of bank depositors, banks need to investigate and monitor the activities of the will be and existing borrowers. Adequately managing of those risks related with credit is critical for the survival and growth of any financial institution. According to Zewude (2011), for banks, the issue of credit risk is of even of greater concern because of the higher level of perceived risk resulting from the loan book which is the largest asset for any commercial bank.

Even though credit creation is the main income generating activity for commercial banks, it involves a huge risk to both the banks and the borrowers. As development takes place, one question that arises is the extent to which credit can be offered by commercial banks. Although commercial banks have a primary role of providing credit, there is historical evidence of limiting loans that can be availed even to creditworthy borrowers by commercial banks all over the world. Only 1.5 percent of MSEs (Micro- and Small- Enterprises) receive loans from commercial banks in Kenya. This is because of the credit risk management practices adopted by

commercial Banks in Kenya as regulated by the central bank (International Centre for Economic Growth, 1999). This study will focus the effect of credit risk management on the financial performance of commercial banks in Kenya.

1.1.1 Credit Risk Management

Credit risk refers to the possibility that the borrower or counter party may fail in part or fully in meeting the payment obligation with or without a covenant. Credit risk management entails adopting mechanisms such as screening and monitoring, collateral requirements and credit rationing for potential and existing customers. These risk management practices are important for the success of banks since they determine its profitability, liquidity, solvency and quality of the loan portfolio. When Bank managers are aware of the effect credit risk management towards financial performance, then they are bound to take care of their credit decision and adopt best credit risk management mechanisms which will be good for the bank. Credit markets are characterized by asymmetric information between borrowers and creditors that lead to credit rationing, inefficient allocation and credit decisions based upon an incomplete picture of credit risk associated with the borrower (Stieglitz & Weiss, 1981).

1.1.2 Financial Performance

Measures of after-tax rates of return such as the Return on Average total Assets (ROA), and the Return on Total Equity (ROE) are widely used to assess the performance of firms including commercial banks. Bank regulators and analysts have used ROA and ROE to assess industry performance, and forecast trends in market structure such as inputs in statistical models to predict bank failures and mergers and for a variety of other purposes where a measure of profitability is desired. The usefulness of standard profit measures can be affected by tax laws

and regulations which are subject to occasional amendment and revision (Gilbert and Wheelock, 2007).

There are many different ways to measure financial performance but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt. Financial performance is a measure of how well a firm can use assets from its primary mode of business and generate revenues. This term is also used as a general measure of a firms' overall financial health over a given period of time and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation (Hales, 2005).

1.1.3 Credit Risk Management and Financial Performance

Emphasis on credit risk management by commercial banks in Kenya began between the year 2000 and 2008. During this period Basle II and credit risk guidelines were controlled at the global level. The country experienced negative economic growth at the beginning of this era. The minimum capital requirement for commercial banks was increased and management had to be assessed to ensure they are 'fit and proper'. Bad debts continued to be provided for therefore reducing the balance of nonperforming loans and reducing profits. Some institutions merged to increase their capital base so that they could remain within the minimum capital requirements and capital revised to conform to the Basle 1 accord. Inflation increased from 5% to 8.3%, CAMPARI (Character Ability Means Purpose Amount Repayment and Interest) was emphasized on for borrower analysis and directors were vetted to ensure they were 'fit and proper'. The

Monetary Policy Committee (MPC) was formed in 2004. In 2008/09, two banks which are Sharia compliant were registered in Kenya (Central Bank Annual Report, 2009).

The model emphasized in this era by the Central Bank for on-site and off-site inspection was CAMEL (Capital adequacy Asset Management Earnings Liquidity). Capital adequacy was enhanced as a number of institutions injected additional capital and others merged to boost the capital base. (Central Bank Annual Supervision Report, 2005). CAMPARI was applied for credit analysis and provisioning of bad loans became a reality. Asset quality improved as bad debts were provided for. This led to relatively lower profits but a more stable financial system. Financial Performance of banks improved and non-performing loans decreased by the year 2006 due to enhanced corporate governance and provisioning of bad debts. Establishment of credit reference bureaus received emphasis from the central bank to enable sharing of information on non-performing loans and one credit rating bureau was established in 2008 (Central Bank Annual Report, 2008).

Increased use of CAMPARI by commercial banks to assess borrowers was expected to lead to a further reduction in non-performing loans. Borrowers were to be subjected to a stringent credit analysis system to analyze their character, ability to repay their loans, margin of the venture that the loan was to finance, purpose for the loan emphasizing on viability, amount of the loan relative to the venture, repayments and insurance to caution risk defaulting on the loan (Checkley & Dickinson, 2001).

Liquidity continued to be assessed using statutory standards and various ratios including the cash ratio (Central Bank Annual Report, 2005). As a result of this stringent credit risk management and monitoring, banking sector pre-tax profit increased by 46.6 percent from Ksh 16.3 billion in

June 2007 to Ksh 23.9 billion in June 2008. Income before tax for the period ended June 2008 was Ksh 70.8billion, an increase of 38.3 percent compared with Ksh51.2 billion in June 2007. Interest income amounted to Ksh47.7 billion and accounted for 67.4 percent of the total income in June 2008.Return on equity and return on assets was 40.7percent and 4.2 percent, respectively (Central Bank Annual Report, 2008).

Banks need to gather adequate information about potential customers to be able to mitigate the credit risk exposure by lending to the less risky ones while still complying with the CBK regulations. Stringent credit risk management practices as emphasized by the CBK have therefore largely been seen to result in improved financial performance of commercial banks as evidenced by a reduction in the NPL (Non Performing Loans) ratio and therefore less interest is suspended as required by the Central Bank of Kenya prudential guidelines. The improved loan book is generally expected to contribute towards interest income generated from loans advanced to the different categories of customers of commercial banks. This is expected to result in improved financial performance for the commercial banks.

1.1.4 Commercial Banks in Kenya

The Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the CBK. 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. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banking sector's interests (Central Bank Annual Report, 2013).

During the period ended June 30, 2013, the Kenyan banking sector comprised 43 commercial banks, 1 mortgage finance company, 9 deposit taking microfinance institutions, 7 representative offices of foreign banks, 107 foreign exchange bureaus and 2 credit reference bureaus. The Sector recorded enhanced performance with the size of assets standing at Ksh 2.5 trillion, loans and advances amounting to Ksh 1.5 trillion, while the deposit base stood at Ksh 1.9 trillion and profit before tax of Ksh 61.5 billion as at June 30, 2013. During the same period, the number of bank customer deposit and loan accounts stood at 18.9 million and 3.8 million, respectively. The non performing loans increased by from a gross figure of Ksh 57.5 billion in June 2012 to Ksh. 77.3 billion in June 2013.(Central Bank Annual Report, 2013).

1.2. Research Problem

The concept of credit risk management is crucial to any banking institution. Credit risk management entails putting in place proper measures for the bank to have a well management and performing loan portfolio. Commercial banks adopt different credit risk management policies majorly determined by factors such as ownership structure of the banks that is privately owned, foreign owned, government influenced and locally owned, credit policies of banks, credit scoring systems, banks regulatory environment and the caliber of management of the banks. Banks may, however have the best credit management policies but may not record high profits.

The Kenya banking system began to have apparent weaknesses in the late 1980s which were felt in the then relatively controlled and fragmented financial system. During this time there were differences in regulations governing banking and non-bank financial intermediaries, there was lack of autonomy and weak supervisory capacities to carry out the Central Bank's surveillance

role and enforce banking regulations, there were inappropriate government policies which contributed to an accumulation of nonperforming loans, and non-compliance by financial institutions to regulatory requirements of the 1989 Banking Act among others. All these issues posed a challenge to the Kenya banking system. Many banks that collapsed in the late 1990's were as a result of the poor management of credit risks which was manifested by the high levels of nonperforming loans (Central Bank Supervision Report, 2005). The implementation of stringent credit rationing measures by the CBK has led to improved financial performance for commercial banks due to stability and adoption of better lending practices by commercial banks in Kenya (Central Bank Annual Report, 2008).

The guiding principle in credit appraisal is to ensure that only those borrowers who require credit and are able to meet repayment obligations can access credit. Lenders may refuse to make loans even though borrowers are willing to pay a higher interest rate, or, make loans but restrict the size of loans to less than what the borrowers would like to borrow thus rationing the credit (Mishkin, 1997)

Many studies have been done in the area of credit risk and profitability of commercial banks. Some studies have indicated that banks may have the best credit management policies but might not necessarily record high profits. Zewude (2011) did a study on credit risk management and profitability of commercial banks in Ethiopia. To examine this, the researcher used multiple regression models by taking 10 years ROE (dependent variable), NPL Ratio and CAR (Capital Adequacy Ratio) (independent variables) from each bank and in addition to that, a questionnaire that was also distributed to the authorized bodies in the risk management position of each bank. The results of the study were that both NPL ratio and CAR were inversely related with

profitability of commercial banks in Ethiopia. The ratio of the total loans to deposits was however not used as an explanatory variable.

Oretha (2012) did a study on the relationship between credit risk management practices and financial performance of commercial banks in Liberia. Quantitative research design was employed under the quantitative research design survey method that was used. The data was collected by cross sectional survey method. The conclusion of the study showed a positive relationship between the credit risk management practices and financial performance.

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

Njeule (2013) did a study on the effects of Central Bank of Kenya prudential regulations on the financial performance of commercial banks in Kenya. He did a comparative analysis on the effects of CBK Prudential Regulations of 2006 on the financial performance of commercial banks. Regression analysis was used to analyze the data. Means of the variables between pre and post introduction in 2006 were compared using the t-tests. The study revealed that CBK prudential regulations had great positive effects on the financial performance of commercial banks in Kenya. There was no focus on the effect of credit risk management practices as regulated by the CBK on the profitability of commercial banks.

All of the above studies did not include the ratio of the total loan book to the deposits of commercial banks as an explanatory variable to measure of commercial banks' profitability. This is the gap that this study attempted to fill by investigating the effects of credit risk management on the financial performance of commercial Banks in Kenya with the additional explanatory variable. This research therefore answered the question: To what extent credit risk management affects the financial performance of banks.

1.3. Research Objective

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

1.4. Value of the Study

Government Policy Makers; the findings of this study will enable policy makers understand how their policies impact on the financial performance of Commercial Banks in Kenya and therefore come up with relevant amendments to policy. It will further enable policy makers to determine whether they could develop other policies or make amendments to existing policies in a bid to strengthen performance of commercial banks.

Academicians; the research findings will add additional literature to the area of study in the area of credit risk management and financial performance of commercial banks in Kenya. It will also provide a basis for further and future research in this area.

Bank Credit Risk Officers (CRO); the study will serve to guide the CROs of commercial banks in Kenya in developing risk management policies for their Banks while still in conformity with CBK regulations while enhancing profitability .

New and Potential Investors; Prospective new and potential investors can use this study in identifying the level of capital investment that they would need to put in a commercial bank venture in order to be lend effectively within the CBK regulations and still compete effectively with other players within the banking industry in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Risk always exists in every financial decision taken by financial institutions such as commercial banks. Financial Institutions, therefore, should manage the risk efficiently to survive in the inherently uncertain financial environment. Generally credit risk can be defined as the potential loss in mark to market value that could arise from a credit event such as a credit downgrade. Unlike other industries such as airlines, the failure of a bank could endanger other banks. Also, banks deposits are insured by the government which therefore has the incentive to ensure that banks do not take too much risk. (Jorion, 2006). It is on this premise that the Central Bank is keen on ensuring that credit is rationed and monitored closely so as to reduce the incidences of NPLs. The central bank does this in a bid to manage credit risk which is the biggest risk in a commercial bank. Moreover, banks provide also the kernel of national payment systems and are the major conduit of monetary policy. Promoting a healthy and efficient banking system has been, therefore, a crucial policy goal of Government and society at large (Rocha, et al. 1999).

2.2. Theoretical Review

There are a few relevant theories that explain why commercial banks would always wish to report improved financial performance in terms of measures such as ROA and ROE.

2.2.1. The Agency Theory

The Agency theory in Finance looks at the ever present agency relationship in which one party, the principal, delegates work to another, the agent who performs the specific duties. The

Agency theory is concerned with resolving issues of conflict of interest that can occur in agency relationships. The agency problem normally arises when the principal cannot verify what the agent is doing and therefore the agent can use his position to advance personal interests. The other problem normally arises due to the fact that the principal and agents have different attitudes towards risk and hence the risk has to be shared between the principal and the agent. There is therefore need to ensure that they is harmony between the actions of the principal and those of the agent (Eisenhardt, 1989). In order to protect their own interest and the wealth of bank shareholders and depositors, bank managers need to investigate and monitor the activities of the will be and existing borrowers. Adequately managing of those risks related with credit is critical for the survival and growth of any commercial bank. Having in place sound credit risk management practices is one way that that the CBK uses to protect the shareholders interests in commercial banks and to protect them from any activities by managers that may lead to losses.

2.2.2. The Capital Asset Pricing Model

The capital Asset Pricing Model (CAPM) suggests that investors should fully diversify their portfolios so as to have a mix of both risky and risk free investments. Investors with different goals on risk and return should use the leverage process to increase the ratio of the risky to the risk free assets portfolio to an optimal level that meets their needs. The CAPM is used to determine a theoretically appropriate required rate of return of an asset, if that asset is to be added to an already well-diversified portfolio of investments by taking into account, that asset's systematic or market risk. The model takes into account the asset's sensitivity to non-diversifiable risk or market risk, often represented by the quantity beta in the financial industry, as well as the expected return of the market and the expected return of a theoretical risk-free

asset (French ,2003). Effective credit risk management in commercial banks ensures that there is an optimal mix of assets in terms of loans that are advance by commercial banks to the various categories of customers. It further ensures an optimal mix of loans to the risky as well as the less risky segments so that the bank is not unduly exposed in case one segment of the market is adversely affected due to economic downturn.

2.2.3 The Moral Hazard Theory

According to Krugman (2009) the moral hazard can be described as any situation in which one person makes the decision about how much risk to take, while someone else bears the cost if things go badly. Financial bailouts of lending institutions by governments, central banks or other institutions can encourage risky lending in the future if those that take the risks come to believe that they will not have to carry the full burden of potential losses. Lending institutions need to take risks by making loans, and usually the most risky loans have the potential for making the highest return. The big banks or lending institutions can make risky loans that will pay handsomely if the investment turns out well but be bailed out by the taxpayer through the government if the investment turns out badly. It is on this premise that the central bank of expects all commercial banks to have sound risk management guidelines to regulates the way loans are advanced by commercial banks to the various categories of customers.

2.2.4. The Portfolio Theory

The portfolio theory is a critical theory in Finance especially in the area of investments. This theory tries to look for the most efficient combination of assets to maximize portfolio expected returns for given level of risk or to minimize risk for a given level of expected return. Portfolio theory is presented in the form of a mathematical formula with the objective of diversifying the

asset investment combination with a purpose of selecting those assets that will collectively lower the risk than any single asset. The theory further states that this combination is made possible when the individual assets return and movement is opposite direction. An investor therefore needs to study the value movement of the intended asset investment and find out which assets have an opposite movement. For instance an optimum allocation of available resources in stock and bonds provides a better investment other than investing the entire portfolio in one asset. When the stock value increases as the bond fall, an investor's investment is cushioned from massive loss hence a stability in the investment compared to a case where the investment is made in one individual asset (Markowitz, 1952).

However, risk diversification lowers the level of risk even if the assets' returns are not negatively or positively correlated. Risk is defined as the standard deviation of return that is, to what extent the actual return is deviating from the expected return. Therefore, portfolio being a combination of assets, the model becomes a weighted combination of these assets' returns. When different assets are combined and whose returns are not perfectly positively correlated, then portfolio theory leads to reduction of the total variance of such asset combination returns over a given period of investment. The return is calculated by getting the change in value of the assets plus any distribution received during a given period over which the assets are held and expressed as a fraction of the initial outlay. From this theory, it is evident that the level of risk in a portfolio depends on risk of each asset, proportion of resources allocated on each asset and the interrelationship between the assets making up the portfolio (Markowitz, 1952). The theory therefore applies in the area of lending in Banks due to the fact that the banks will need to lend to different sectors of the economy and in regulated proportions as regulated by the Central Bank with the objective of diversifying their portfolio an minimizing the level of risk in the

entire portfolio. In regulating the loans that commercial banks can lend to the various sectors, in order to have an optimal mix of risk assets, they are therefore required to have documented risk management policies to guide the process.

2.2.5. Public Interest Theory and Market Failure

According to Pigou (1932) the theory of economic regulation is rooted in perception that Government has to step in to regulate markets in those instances when markets are unable to regulate themselves. The market failures or cases when markets are unable to regulate themselves occur where the price mechanism that regulates supply and demand breaks down, thus forcing government to take action. Natural monopolies and external costs are the most prominent types of market failure. Natural monopolies occur when the fixed costs of supplying a given commodity are so great that it makes sense for only one firm to supply that commodity. Public utilities like the delivery of electricity or water to people's homes usually require a heavy capital outlay to build the necessary infrastructure such that no company would take on the task without having the confidence that it would have the ability to control a sizeable portion of the market. A problem normally arises when monopoly businesses end up using their market power in ways that can be highly detrimental to the community at large. This is where governmental regulation becomes important.

Pigou (1932) further states that externalities occur when the costs or benefits of producing a good or service are not fully incorporated into the price of that commodity. Economists usually note air pollution as a cost incurred by almost any sort of economic activity, but which is ignored when determining the prices. When the polluting activity is very concentrated, as in the case of a manufacturing plant, the costs to the surrounding community can be considerable. However

without government regulation there is nothing that would compel the plant to either minimize the environmental impact or otherwise compensate the community for bearing that part of the cost of production. These sorts of market failures, along with the general need for mechanisms of regular public disclosure by business, make regulation critical if the public interest is to be protected. In this view, regulation results from the need to protect the public from the negative impacts of such market failures and other harmful business behavior. It is on this premise that the government of Kenya though the Central bank of Kenya has issued risk management guidelines that ensure proper risk management by commercial banks as one of its regulatory measures in a bid to regulate lending by commercial banks.

2.2.6. Capture Theory and Monopoly Control

The vision of the above highlighted public interest theory of regulation began to be challenged systematically in the early 1970s when researchers suggested that the individual regulatory agencies of government did not work for the public interest at all. It turned out that instead, they worked for private interests who actually demanded to be regulated as way of enhancing their own profits. There was an argument that each individual government agency was controlled by the leading organized interest of a dominant company or business association in the industry over which the agency operated. This view rested on the premise that the political actors most interested in the regulation of a particular industry were the companies in that very industry. As a result of this it has been argued that each regulating agency has been isolated and essentially taken over by a single powerful interest or interest association representing the very industry under regulation (Stigler, 1971).

It is also believed that powerful interests in one industry generally do not interfere with the regulating activities in other industries. This line of analysis implies that there is little or even no competition over control of public policy among economic interests. Within each industry a single company or industry association dominates, and each industry minds its own business being careful not to interfere with other industries and their particular public agencies. Citizens, meanwhile, are thought to be largely absent from the processes of economic regulation. For instance, a citizen paying a few dollars more per month for electricity is relatively insignificant compared to the millions of dollars at stake for an electric utility company. This implies that regulation exists not because citizens need it, but because the regulated industry wants it. The capture theory of economic regulation provides some of the theoretical foundation on the concept of iron triangles also known as policy sub-governments, which depict a three-way relationship between a government agency, the industry over which it has responsibility and the relevant legislative committees (Stigler, 1971). The CBK risk management guidelines on lending and requirement for a bank to have a credit policy, are therefore necessary because the banking industry in Kenya needs it.

2.3. Determinants of Bank Performance

Bank performance is determined by using measures such as the Return on Average total Assets (ROA), and the Return on Total Equity (ROE) (Gilbert and Wheelock, 2007). Over the years, it has been found that both accounting based and market based measures of financial performance are generally accepted as suitable indicators of banks' financial performance even though their relationship in is not well defined Keats (1988). The different measures of Financial Performance, which represent different perspectives of how to evaluate a firm's financial

performance, have different theoretical implications due to the bias that each can have (Hillman and Keim, 2001).

The application of different measures complicates the comparison of the results of different studies. Accounting measures capture only historical aspects of firm performance. They are further subject to errors and bias due to managerial manipulation and differences in accounting procedures (McGuire et al.,1986). Market measures on the other hand are forward looking and focus on market performance. They are less susceptible to different accounting procedures and represent the investor's evaluation of the ability of a firm to generate future economic earnings (McGuire et al., 1988). It is therefore better to use both measures of financial and market based measures of performance in order to assess the correct financial position of a Bank.

2.4. Empirical Review

Zewude (2011) did a study on credit risk management and the profitability of commercial banks in Ethiopia. The purpose of the study was to measure the impact of credit risk management on profitability's of seven major commercial banks in Ethiopia. The researcher used regression model, to analyze the data which was collected from the National Bank of Ethiopia and from seven commercial banks of the country. The study used a multiple regression model with one dependent and two independent variables. The ROE was taken as the dependent variable while the independent variables were the NPL ratio and the CAR. A few questioners were also distributed to credit risk management bodies of each bank in the study. The Probability value (P-value) was used to measure how reliably the independent variables can predict the dependent variable. It was 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. The study revealed that both nonperforming loan ratio and capital adequacy ratio has a negative impact on profitability‘s of commercial banks in Ethiopia. The impact level of nonperforming loan ratio was negative which means that a single unit increase in nonperforming loan ratio led in (.594077) decrease of profitability of commercial banks of Ethiopia. A unit increase of capital adequacy ratio also led to 0.831816 decreases in profitability of commercial banks of Ethiopia.

Ahmad & Ahmad (2004) did a study on the Key Factors Influencing Credit Risk of Islamic Bank, A Malaysian Case. According to the study, the rapid and dynamic changes in the global financial landscape pose various risks to banking institutions both conventional and Islamic banks. The future of Islamic financial institutions depended to a large extent on how well they managed the risks. According to his study, this ability could be enhanced if the factors affecting these risks were systematically identified. The study provided descriptive statistics about Islamic and selected conventional banks risk characteristics. It then used regression analysis to determine the underlying factors influencing risk of Islamic banking and that of the major six anchor banks on interest-based banking system. This was done by identifying and examining for each year, each risk predictor of Bank Islam Malaysia (BIMB) and the Islamic windows of 6 anchor banks (for Islamic banking) as well as risk predictors of the 6 anchor banks from their conventional banking performance (for conventional banking). The analysis shed light as to what factors were critical to influencing credit risk in Islamic banking in Malaysia. The study revealed that regulatory capital was negative and significantly related to credit risk of conventional banks. The result in Islamic banking showed a contrast where regulatory capital was positive and not significant in its association with credit risk. A possible explanation given was that Islamic banks

are not in dire need to have a big capital base to cushion against losses since risks are absorbed by investment depositors or equity holders and losses are shared between entrepreneur and bank.

Waweru & Kalani (2009) did a study on commercial banking crises in Kenya, causes and remedies. The study investigated the causes of non-performing loans, the actions that bank managers have taken to mitigate that problem and the level of success of such actions. Using a sample of 30 managers selected from the ten largest banks the study found that national economic downturn was perceived as the most important external factor. Customer failure to disclose vital information during the loan application process was considered to be the main customer specific factor. The study further found that Lack of an aggressive debt collection policy was perceived as the main bank specific factor, contributing to the non performing debt problem. The research sought to document the causes of non- performing loans in Kenyan banks and the relative importance of these causes with the help of questionnaires send to bank officials. The questionnaire was developed from an extensive review of literature and was designed on the on the basis of the research questions, namely as to the causes of nonperforming loans in Kenyan banks, the steps bank managers have taken as a result of the effects of the NPL's problem and how successful the steps have been. Simple regression analysis was used to test the relationship between the perceived success of the actions taken by the managers (dependent variable) and the independent variable (actions taken by the managers). Confirmatory factor analysis was used to test the reliability of the items in the multi item scales, while the t-test was used to test for significant differences between the factors means.

Chemjor (2007) in her study on the Significance of the factors contributing to non-performing loans in Commercial Banks in Kenya had an objective of determining the significance of the factors leading to non-performing loans problem in commercial banks in Kenya. The researcher

used questionnaires that were administered to the 43 commercial banks in Kenya that year. The factors leading to non-performing loans were divided into 3 categories, bank related factors, economic factors and customer related factors. To rank the factors according to their significance, a Likert scale continuum was used then Factor Analysis was used to determine their significance. From the study, she established that insolvency or dissolving of the borrowing company had the most significant contribution to the non-performing loan problem. The second factor was death of the borrower. The study further revealed that the major factors the bank management need to pay attention to were poor monitoring and control of loans by bank management, breach of contract, lack of proper knowledge, artificial and natural disasters, bank takeovers by other banks, company dissolution due to loan default, loss of job by the borrower, bankruptcy of the debtor and closing down of businesses with commercial bank loan due to competition. The study concluded that Commercial banks needed to have proper monitoring systems and sound credit management systems in order to alleviate the problem. However, the study did not incorporate an analysis of the effect of the credit risk management practices on the profitability of commercial banks.

Oretha (2012) did a study on the relationship between credit risk management practices and financial performance of commercial banks in Liberia. The research objective was to gain a better understanding of credit risk management practices and its relationship with financial performance. The measure of financial performance was the return on asset. The results of the researcher showed a positive relationship between credit risk management practices and the financial performance of commercial banks in Liberia.

Muasya (2013) did a study investigating the relationship between credit risk management practices and loans losses-a study on commercial banks in Kenya. The objective of the study was

to establish if there was a relationship between credit risk management practices and loans losses in commercial banks in Kenya. A descriptive research design was utilized in the study. The study also tried to look at the most preferred practice in commercial banks and the effects on loans portfolio losses. The study utilized a standard questionnaire to collect primary data from the credit officers and managers through the drop and pick method. The data was then analyzed and the findings presented using tables giving descriptive statistics including frequencies, mean and percentages. Research findings concluded that a significant number of commercial banks in Kenya had not put in place credit risk management information systems to effectively measure, monitor, control and identify risk. It further revealed that a majority of management of commercial banks in Kenya recognized the need for information sharing among players within the industry in order to mitigate the risk. It was concluded that credit risk management practices are common among most of the commercial banks in Kenya and that management of these commercial banks appreciated government legislation relating to credit risk management and that there is a significant negative relationship between credit risk management practices and loans losses in commercial banks in Kenya. In line with the findings and conclusions of the study the researcher recommended that sound credit risk management practices are adopted and implemented especially though credit risks management information systems, and that the board of directors of commercial banks in Kenya and Kenya Bankers Association should consider putting in place specific credit risk management practices to be adopted and implemented uniformly by commercial banks in Kenya.

Poudel (2012) in Nepal did a study on the effect of credit risk management n the financial performance of banks in Nepal. The study by Poudel (2012) was done to determine how credit risk indicators like default rate that are pertinent to credit risk management affect banks'

financial performance in Nepal. In agreement with the conventional views, the study found a negative relationship between credit risk and financial performance of banks in Nepal.

Ogboi and Unuafe (2013) in Nigeria carried out a study to find out the effect of credit management on financial performance of banks in Nigeria. They found a negative relationship between ROA and credit risk indicators like loan loss provisions, loans and advances and non-performing loans. The findings indicated that tighter credit risk management resulted in higher financial performance of commercial banks in Nigeria.

Njeule (2013) did a research study on the effects of Central Bank of Kenya prudential regulations on the financial performance of commercial banks in Kenya. The objective of the study was to establish the effects of CBK Prudential Regulations of 2006 on the financial performance of commercial banks in Kenya. The researcher did a comparative analysis on the effects of CBK Prudential Regulations of 2006 on the financial performance of commercial banks. The study covered a twelve year period from 2001 to 2012; six years prior to implementation of the prudential regulations and six years after implementation of the prudential regulations. The descriptive research methodology was adopted in this study. The study used secondary quantitative data to determine the effects of CBK Prudential Regulations of 2006 on the financial performance of commercial banks. The data was sourced from Central Bank of Kenya's Bank Supervision Department. These were in form of financial reports of the banks involved covering a twelve year period from 2001 to 2012. Regression analysis was used to analyze the data. Means of the variables between pre and post introduction in 2006 were compared using the t-tests. The study revealed that there was great positive variation on the financial performance of commercial banks due to changes in Capital Adequacy, Liquidity Management, Risk Classification of Assets and Provisioning, Foreign Exchange Risk Exposure

and Corporate Governance. This was an indicator that CBK prudential regulations had great positive effects on the financial performance of commercial banks. The adjusted R squared value for the period after introduction of CBK prudential regulations 2006 was found to be greater than that of the period prior to the regulations an indicator of the fact that the regulations greatly influenced the financial performance of commercial banks.

2.5. Summary of Literature Review

A number of studies have been carried out with the objective of establishing the relationship between credit risk management and the financial performance of commercial banks in different parts of the world. From my review, similar studies have been done for commercial banks in Ethiopia and Liberia. The researchers sought to identify the effect of credit risk management practices on the ROA or the ROE of commercial banks. One of the studies focused on NPL ratio and CAR as measures of credit risk and focused on the large commercial banks in Ethiopia. Another study focused on a comparative analysis of the effect credit risk on regulatory capital on the Islamic versus conventional banks. The study revealed the effect of regulatory capital on NPLs was different for conventional and Islamic Banks. There was a study in Kenya on the effect of the broad CBK prudential guidelines on the financial performance of commercial banks in Kenya with no specific in depth focus on the effect of credit risk management on the profitability on the profitability of commercial banks.

The studies generally focused on the broader risk management practices and the NPL ratio but did not include the ratio of loans to the total deposits as one of the variables in their analysis. Most of the studies also recognized the fact that there was need for the government to focus on regulations that would strengthen credit risk management functions in commercial banks. Further

the studies mostly focused on the large commercial banks in their respective countries as a representation of the entire banking Industry. It is this gap that this study attempted to fill by doing a research on the effect of credit risk management practices on the financial performance of all commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines three major elements of the study. First it gives the methodology adopted for this study. In this segment, the researcher defines the research design, the target population and the sampling strategy of the study. Secondly, it outlines the data collection tools. The chapter further presents data analysis and inference approaches upon the findings.

3.2 Research Design

This research adopted a descriptive research design. Cooper and Schindler (2003), describe a descriptive study as one that is concerned with finding out what, where and how of a phenomenon. This study was quantitative. This study adopted the model by Zewude, T., T. (2011) The study sought to confirm the following analytical model $Y= F(Xi,B)$ where Y is the dependent variable as represented by the ROA of selected commercial banks. Xi was the ratio of amount loans to deposits. B is a scalar which is a constant that represents the unknown parameters.

3.3 Population

The population comprised of the all registered and licensed commercial banks that are operating in Kenya as per the CBK list of registered commercial banks. This study was census comprising of the 43 registered and licensed Commercial Banks in Kenya as at end of December 2013. (Appendix 1) The census method was adopted due to the small population under study.

3.4 Data Collection

The study adopted the data collection method that was used by Njeule (2013) in his study on the effects of Central Bank of Kenya Prudential Regulations on the Financial Performance of Commercial banks in Kenya. This study used secondary data for analysis. The secondary data included the ratio of amount borrowed to amounts deposited. Return on Assets was the measure of financial performance. The data was obtained from the quarterly financial Statements of Commercial Bank. The study covers a period of five years from 2008 to 2012.

3.5 Data Analysis

This study used regression analysis model in which the dependent variable is the ROA. The independent variable was the ratio of borrowed to the amounts deposited in the banks. The regression analysis was used to determine how the dependent variable relates to ROA.

The regression analysis will take the form below:

$$Y = \alpha + \beta_1(X) + \epsilon$$

Whereby;

Y = Financial performance of commercial banks as expressed by ROA - ratio of after tax profits to total assets

X_1= The ratio of amounts of loan advanced to deposits of a Bank

α = The constant of regression

ϵ = The error term.

The $t - tests$ at 95 % confidence level will be used to determine the statistical significance of the constant term, α, and the coefficient terms. Other statistical tools such as t-test will be used for the test of significance of individual coefficient, F-test for joint significance of all coefficients, and R-squared for the explanatory power of the model.

In order to test the relationship between the variables the inferential tests including the Pearson Product-Moment Correlation Coefficient will be used. The relation will be explored with the use of Pearson‘s correlation coefficient. Pearson‘s correlation coefficient calculates a relationship between two variables.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter discusses the findings of the research. The objective of this research was to find out relationship between credit risk management and financial performance of commercial banks in Kenya. The research applied cross-sectional regression analysis in which the return on Assets was regressed against credit risk. The chapter therefore discusses how the two variables were operationalized and it provides a statistical description of the distribution of the data on the variables and their correlation. Further, the regression analysis findings are presented. An interpretation of the results is presented in the last subtitle of this chapter.

4.2 Descriptive Statistics

In determining the effects of credit risk management on the on financial performance of commercial banks in Kenya, the study first found it necessary to evaluate the performance of the bank's financial performance variables under consideration that is the ROA as the dependent variable and the ratio of loans to deposits as independent variables influencing the financial performance.

4.2.1 Returns on Assets

Returns on Assets (ROA) were generated from the EBITs and the corresponding book value of total assets of a commercial bank in a given year. The resulting values are presented in the table in Appendix II. For every bank the arithmetic mean of ROA for the years 2009 to 2012 were calculated to provide the values of ROA per bank presented in the table in Appendix IV.

4.2.2 Credit Risk

The independent variable which was the credit risk was calculated by dividing total amounts of loans to the amounts of deposits for a bank in a given year. The values found are presented in the table in Appendix III. To calculate the level of risk for each bank for the period between 2009 and 2012, the standard deviations of the ratios of loans to deposits were calculated. The values of risk for each bank are presented as the column for risk in the table in Appendix IV.

4.2.3 Descriptive Analysis

Descriptive statistics of the two variables were calculated to provide a descriptive insight into their nature. Specifically, the minimum, the maximum, the mean and the standard deviation of each of the two variables were calculated. The findings are tabulated in Table 4.1 below.

As shown in the table, the highest return on assets was 0.0437 while the lowest realized return on assets was -0.0367. The mean return on assets for the 43 banks was 0.01952 with a standard deviation of 0.0131. The maximum credit risk realized by a bank was 0.5345 while the bank with the least credit risk recorded a risk of 0.0265. The mean credit risk, found as the average of the risk per bank as 0.1279.

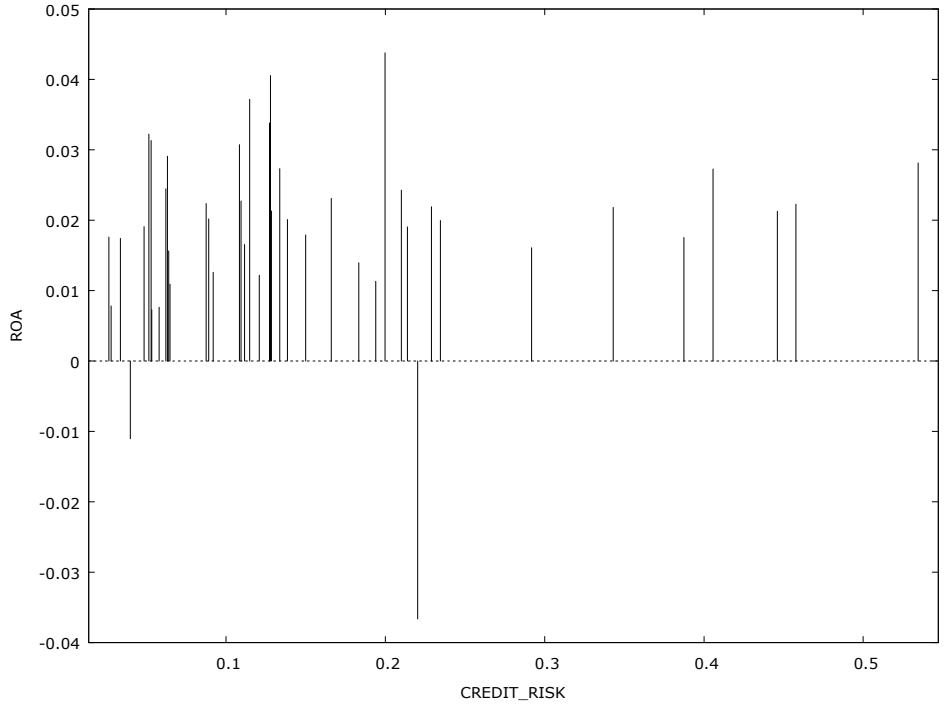
Table 4.1: Descriptive statistics of the Mean and standard deviation

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
ROA	43	-.0367	.0437	.01952	.0131
CREDIT RISK	43	.0265	.5345	.1629	.1279

(Source: Research Data, 2014)

Figure 4.1 shows the impulse plots of credit-risk against ROA. As shown in the diagram, the most dominant credit risk-return plot was 0.0437 against 0.2009 respectively. This is represented by the highest line in the diagram. The poorest plot of credit risk and ROA was 0.2203 against -0.367. This is shown by the longer line from the horizontal axis downwards. It was noted that most banks had credit risk below 0.3 while most had their ROA below 0.035.

Figure 4.1: Impulse Plot of ROA against Credit Risk



(Source: Research Data, 2014)

4.2.4 Trend Analysis

As shown in Fig. 4.2 below, credit risk was higher than 0.7 in 2009 before slightly dropping to 0.666 in 2010. The rate of risk increased again in 2011 to above 0.7. The level of risk was then

maintained in 2012. The rate of ROA seems to be maintained at about 0.02 throughout the period. The trend lines shown by the broken lines on each of the graphs show an almost constant level of risk and ROA across the period. However, the rate of credit risk is way above the return on assets.

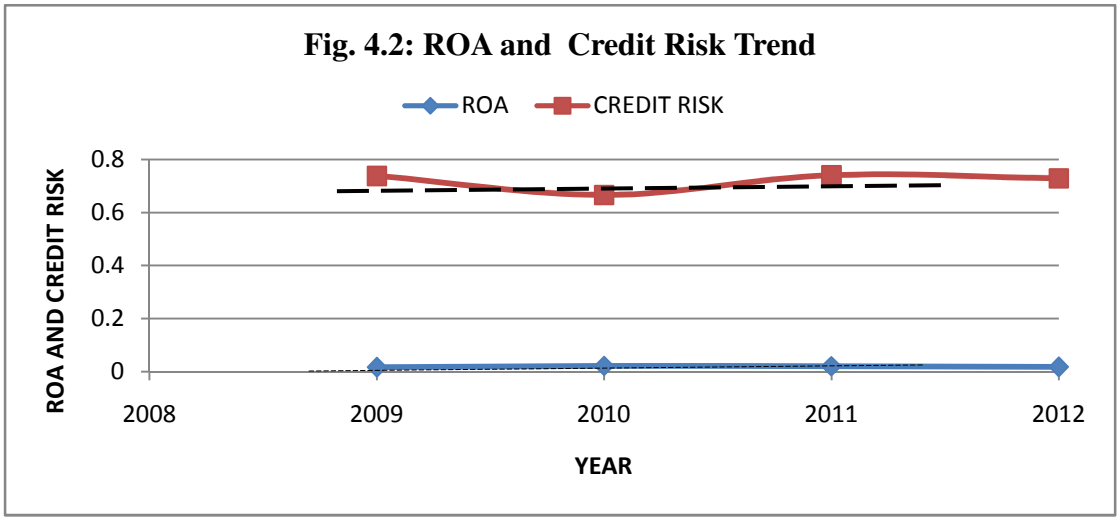


Fig. 4.2: ROA and Credit Risk Trend

(Source: Research Data)

4.2.5 Normality Analysis

Fig. 4.3 shows the Q-Q plot for the returns across the 43 commercial banks in Kenya. The straight line shows the expected plots of ROA if they were normally distributed. However, the plots from actual findings show that the distribution of ROAs is not normal. The left side shows the ROAs are further from the expected normal values as compared to the right side of the distribution. This indicates the negative skewness of the ROA.

Fig. 4.3: Q-Q Plot for ROA

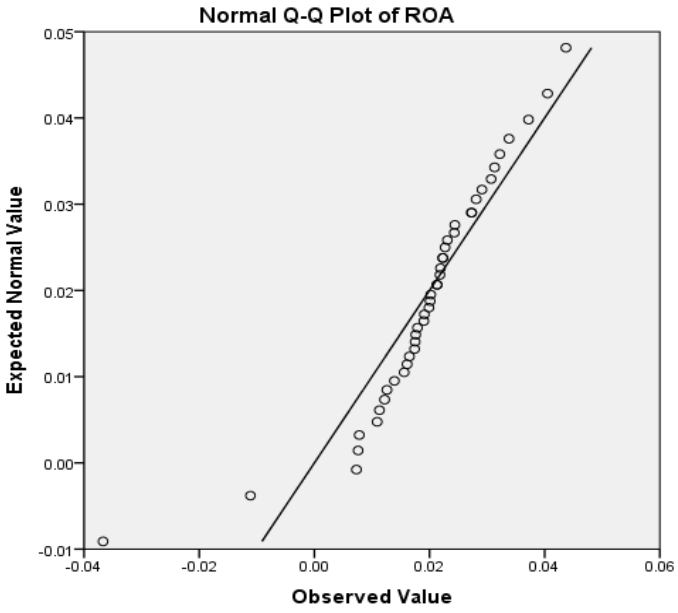
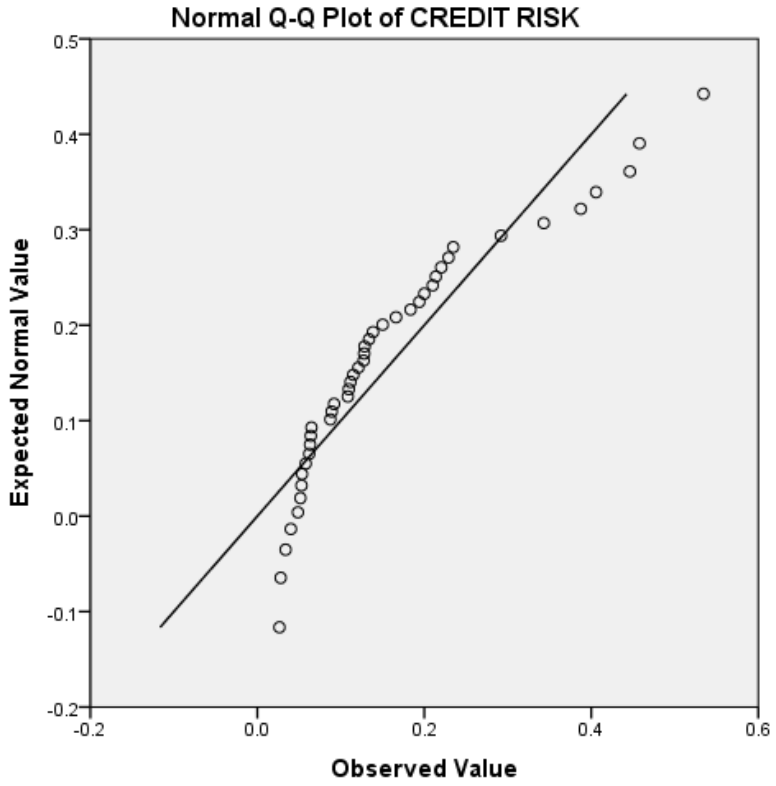


Fig. 4.4 shows the Q-Q plot for Credit Risk. In a normal distribution, the values of Credit Risk plot on the straight line. The plot indicates positive skewness. This indicates that credit risk rates of the 43 banks tend to be clustered on the lower side with few banks in the high risk zone.

Fig. 4.4: Q-Q Plot for Credit Risk



4.3 Correlation Analysis

This section provides the correlation analysis of ROA and Credit Risk. The Pearson correlation coefficient is a common tool used to show how two variables co-move. As shown by the correlation matrix in Table 4.2, there was weak correlation between ROA and Credit Risk. The

correlation between ROA and Credit Risk, $r(43) = 0.0960, \mathrm{p} > 0.05$ as shown in Table 4.4 and it was weak.

Table 4.2: Correlation analysis

	ROA	**CREDIT RISK**
ROA	1.0000	0.0960
CREDIT RISK		1.0000

(Source: Research Data, 2014)

4.4 Regression Analysis

Table 4.3 provides the regression analysis results and the regression statistics concerning the relationship between ROA and Credit Risk. The constant term of the correlation was 0.0179148 which was significantly different from zero, $t_{(43)} = 5.456, \mathrm{p} < 0.05$. The coefficient of Credit Risk was 0.00982604 which was not significant, $t_{(43)} = 0.6170, \mathrm{p} > 0.05$. The regression was not statistically significant, $F_{(1,\ 41)} = 1.7319, p > 0.05$. The variation in ROA was poorly explained by the variation in Credit Risk as shown by $R^2 = 0.009200$.

Table 4.3: Regression Model and Regression Statistics

	Coefficient	*Std. Error*	*t-ratio*	*p-value*
Constant	0.0179148	0.00328330	5.456	0.000002.56
CREDIT RISK	0.00982604	0.0159249	0.6170	0.5406
F(1, 41)	0.380720			0.540630

R-squared	0.009200
Adjusted R-squared	-0.014965

(Source: Research Data, 2014)

The model for the relationship between ROA and Credit Risk is, therefore explained by the following model.

$$ROA = 0.0179148 + 0.00982604 \text{ (CREDIT RISK)}$$

4.5 Interpretation of Findings

The correlation between ROA and Credit Risk was a value of $r(43) = 0.0960$. This indicates that the pattern of changes in ROA across commercial banks did not replicate the pattern of changes in credit risk. Their movements were independent to a large extent. From the regression analysis, the constant term was 0.0179148 which was significantly different from zero indicating that a part of variation in ROA could not be explained by variation in credit risk across commercial banks. The coefficient of Credit Risk was a positive value of 0.00982604 though not significantly different from zero. This indicates that Credit Risk did not strongly explain variation in ROA for commercial banks in Kenya. However, the coefficient of Credit risk was a positive value of 0.00982604 indicating that higher credit risk led to better financial performance for commercial banks in Kenya as measured by an improvement in the ROA.

These findings are similar to those of the study done by Boahene, Dasah and Agyei (2012). This study found that in Ghana, banks enjoyed high profitability in spite of high credit risk, contrary to the normal view that credit risk indicators were negatively related to profitability. Their results were attributed to prohibitive lending rates, fees and commission charged.

The findings are in support of those by Afriyie and Akotey (2011). In their study Afriyie and Akotey (2011) sought to find out the effect of impact of credit risk management on the profitability of rural and community banks in the Brong Ahafo Region of Ghana. The study found a positive relationship between credit risk and profitability of the community banks. Just like the findings of this research, Afriyie and Akotey (2011) found that the banks benefited from the high credit risk.

The findings of this research are, however contrary to those of Poudel (2012) in Nepal. The study by Poudel (2012) was done to determine how credit risk indicators like default rate that are pertinent to credit risk management affect banks' financial performance I Nepal. In agreement with the conventional views, the study found a negative relationship between credit risk and financial performance of banks in Nepal. However, just like the findings of this research, the research by Poudel (2012) found weak correlation between credit risk and financial performance.

The findings of this research are also contrary to those of Ogboi and Unuafe (2013) in Nigeria. They carried out a study to find out the effect of credit management on financial performance of banks in Nigeria. They found a negative relationship between ROA and credit risk indicators like loan loss provisions, loans and advances and non-performing loans. The findings indicated that tighter credit risk management resulted in higher financial performance. The contrast is that this research finds a weak positive relationship between credit risk and ROA.

The inconsistencies in the results by researchers in the different countries could be explained by the differences in banking regulations between the different counties and the number of commercial banks in the different countries. There are 43 commercial banks in Kenya as compared to smaller numbers of 25 banks and 31banks in Nigeria and Nepal respectively.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the findings of this study. The first section provides a summary of the findings. The other sections provide the conclusions of the study, the limitations of the study, suggestions for further research and recommendations in that order.

5.2 Summary

The objective of this research was to establish the relationship between credit risk and financial performance of commercial banks in Kenya. Management of risk is viewed as a mechanism of ensuring financial performance of firms in the financial sector. However, the methods used vary from bank to bank.

The research was done on all the commercial banks in Kenya. Variables used for the research were return on assets and credit risk. Credit risk was measured by the variability in the ratio of loan advances to deposits by customers. Return on assets was determined as the ratio of EBIT to book values of assets. For each bank the ROA variable was the arithmetic average of ROAs for the study period.

The regression results show that the constant term was positive and significantly different from zero. From the regression analysis, the constant term was 0.0179148 which was significantly different from zero indicating that a part of variation in ROA could not be explained by variation in credit risk across commercial banks. However, the coefficient of Credit risk was a positive

value of 0.00982604 indicating that higher credit risk led to better financial performance for commercial banks in Kenya as measured by an improvement in the ROA.

5.3 Conclusion

In the regression analysis, the constant term was significantly different from zero indicating that a part of variation in ROA could not be explained by variation in credit risk across commercial banks. The coefficient of Credit Risk was a positive value of 0.00982604 which was not significantly different from zero. This indicates that Credit Risk had a positive effect on the financial performance of commercial banks. However, credit risk did not strongly explain variation in ROA. This was confirmed by the weak value of the coefficient of determination and the analysis of variance which showed the regression model was not. This leads to the conclusion that credit even though proper credit risk management is essential in determining the financial performance of commercial Banks, it is not a key driver of profitability of commercial banks in Kenya. The mechanisms of handling risk seem to have reduces the importance of risk to financial performance of commercial banks in Kenya.

The findings are similar to those by Oretha (2012) on the relationship between credit risk management practices and financial performance of commercial banks in Liberia. The research objective was to gain a better understanding of credit risk management practices and its relationship with financial performance. The measure of financial performance was the return on asset. The results of the researcher showed a positive relationship between credit risk management practices and the financial performance of commercial banks in Liberia.

The findings of this research are however contrary to those of Ogboi and Unuafe (2013) in Nigeria. They carried out a study to find out the effect of credit management on financial

performance of banks in Nigeria. They found a negative relationship between ROA and credit risk indicators like loan loss provisions, loans and advances and non-performing loans. The findings indicated that tighter credit risk management resulted in higher financial performance. The contrast is that this research finds a weak positive relationship between credit risk and ROA.

The findings of this research are also contrary to those of Poudel (2012) in Nepal. The study by Poudel (2012) was done to determine how credit risk indicators like default rate that are pertinent to credit risk management affect banks' financial performance I Nepal. In agreement with the conventional views, the study found a negative relationship between credit risk and financial performance of banks in Nepal. However, just like the findings of this research, the research by Poudel (2012) found weak correlation between credit risk and financial performance.

The inconsistency in the findings by the researchers from different countries could be explained by the different regulations by the regulatory bodies in the different countries. It could also be explained by the numbers of commercial banks in the different countries. Kenya has a total of 43 commercial banks while Nigeria and Nepal have 25 and 31 commercial banks respectively.

5.4 Policy Recommendations

From the findings, there seems to be uniformity in the manner in which commercial banks handle credit risk. However to enhance the quality of the loans advances and reduce the level of nonperforming loans there is need to put in place guidelines that compel banks to share information about their borrowers. This would ensure that loans are granted to the honest borrowers.

This study can be repeated with a wider population of study across all countries in East Africa. The formation of the East African Community is a current issue affecting the horn of Africa region. Such a study conducted for this region will provide handy and current input for decision making concerning effects of fraud on performance of commercial banks in the region

5.4 Limitations of the Study

The scope of this research was for the five years ending and including year 2012. Had a longer period been considered, it is possible that the results may have been different.

The findings of the research are limited to commercial banks in Kenya. However, the financial sector is made up of many other organizations that are not commercial banks and that grant credit to the Kenyan population.

The ratio of loans to deposits, which is one of the variables used for data analysis, keeps on changing from period to period depending on prevailing financial situations in commercial banks in Kenya. The findings therefore may not reflect the accurate effect of financial fraud and liquidity ratios across the commercial banks in Kenya for a period considered.

The ROA which has been used as a measure of financial performance is an accounting measure of financial performance. Being that the figures are prepared by managers, they are subject to managerial manipulation and differences in accounting procedures.

The study focused on Kenya only and for a period of 5 years. It is not known how the results would have turned out if the study was extended to other countries, say, in East Africa, in the whole of Africa or in the Sub-Saharan Africa.

5.5 Suggestions for Further Research

There is a need to answer the question of whether the findings of this research can be made universal across time. Commercial banks have been serving since pre-independence to date. However, this study used data for a period of five years. This reduces the power of applying the results universally across time. A longitudinal research can be conducted to reveal whether there is a relationship between credit risk and bank performance with focus on each bank and for a longer period of time.

There are very many commercial bank markets in the world. Some are in the developed world while others are in the developing world. These markets face different types of risks that vary in degree. The responses to the various risks vary from bank to bank and from market to market. This study covered the Kenyan market only. A research can be conducted to determine the situation in other types of banking markets of the world.

There is need to determine whether the relation between credit risk and return in an environment like Kenya where banks seem to be showing similar approaches to credit risk management. This is given that due to credit referencing, banks have information on borrowers. This information is used to separate risky borrowers from safe borrowers. This seems to diminish the effect of credit risk on performance.

Further research could be done on commercial banks using a different measure of financial performance to assess whether the results would be the same.

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APPENDICES

Appendix 1: List of Commercial Banks in Kenya

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank
6. CFC Stanbic Bank
7. Charter House Bank
8. Chase Bank (Kenya)
9. Citibank
10. Commercial Bank of Africa
11. Consolidated Bank of Kenya
12. Cooperative Bank of Kenya
13. Credit Bank
14. Development Bank of Kenya
15. Diamond Trust Bank
16. Dubai Bank Kenya
17. Ecobank
18. Equatorial Commercial Bank
19. Equity Bank
20. Family Bank
21. Fidelity Commercial Bank Limited
22. Fina Bank
23. First Community Bank
24. Giro Commercial Bank
25. Guardian Bank
26. Gulf African Bank
27. Habib Bank
28. Habib Bank AG Zurich

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

(Source: CBK, Bank Supervision Department, December 2013)

Appendix II: Returns on Assets

NAME OF BANK	ROA 2009	ROA 2010	ROA 2011	ROA 2012
CFC Stanbic Bank	0.0082	0.0138	0.0250	0.0233
Fina Bank Limited	0.0013	0.0095	0.0126	0.0077
African Banking Corporation	0.0382	0.0332	0.0084	0.0179
Bank of Africa	0.0114	0.0133	0.0372	0.0184
Bank of Baroda (K) Ltd	0.0239	0.0431	0.0326	0.0097
Bank of India	0.0260	0.0349	0.0078	0.0236
Barclays Bank	0.0369	0.0614	0.0355	0.0411
Chase Bank Limited	0.0162	0.0174	0.0171	0.0298
Citibank, N.A.	0.0362	0.0279	0.0221	0.0367
Commercial Bank of Africa	-0.0156	0.0294	0.0220	0.0286
Consolidated Bank of Kenya	0.0213	0.0165	0.0294	0.0222
Co-op Bank	0.0117	0.0284	0.0483	0.0367
Credit Bank Ltd	0.0268	0.0075	0.0101	0.0408
Development Bank of Kenya	0.0156	0.0150	0.0212	0.0184
Diamond Trust Bank Kenya	0.0166	0.0351	0.0344	0.0263
Dubai Bank Limited	0.0242	0.0010	-0.0735	-0.0983
Ecobank Kenya Ltd	0.0017	0.0047	0.0328	0.0406
Equitorial Commercial Bank	-0.0571	-0.0103	0.0065	0.0165
Equity Bank Limited	0.0120	0.0564	0.0293	0.0510
Family Bank	0.0467	0.0194	0.0174	-0.0332
Fidelity Commercial Bank	0.0166	0.0331	0.0122	0.0076
First community Bank	0.0088	-0.0153	0.0113	0.0242
Giro Commercial Bank	0.0253	0.0503	0.0067	0.0054
Guardian Bank	0.0215	0.0094	0.0322	0.0340
Gulf African Bank	0.0057	0.0077	0.0512	-0.0342
Habib AG Zurich	-0.0159	0.0196	0.0263	0.0258
Habib Bank Limited	0.0251	0.0275	0.0084	0.0152
Housing finance	0.0273	0.0339	0.0111	0.0169
I & M Bank	0.0275	0.0462	0.0290	0.0325
Imperial Bank Limited	0.0362	-0.0488	0.0612	0.0175
Jamii Bora Bank	0.0264	0.0395	-0.0118	-0.0089
Kenya Commercial (KCB)	-0.0292	0.0066	0.0348	0.0365
K-Rep Bank Ltd	0.0092	0.0351	0.0142	0.0131
Middle East Bank of Kenya	0.0285	0.0337	0.0175	0.0076
National Bank(NBK)	0.0238	0.0316	0.0428	0.0109
NIC Bank Ltd	0.0125	0.0342	0.0186	0.0636
Oriental Comm. Bank	0.0111	0.0571	0.0118	0.0109
Paramount-Universal Bank	0.0170	0.0187	0.0115	0.0152
Prime Bank Limited	0.0382	0.0376	0.0185	0.0220
Standard Chartered Bank Ltd	0.0268	0.0299	0.0583	0.0472
Transnational Bank Limited	0.0293	-0.0451	0.0351	0.0242
UBA BANK	0.0293	0.0346	0.0061	0.0150

Victoria Comm. Bank Ltd	0.0176	0.0176	0.0176	0.0205

(Source: Research Data, 2014)

Appendix III: Ratio of Loan Advances to Deposits

:	ADV/DEP	ADV/DEP	ADV/DEP	ADV/DEP
NAME OF BANK	**2009**	**2010**	**2011**	**2012**
CFC Stanbic Bank	0.8063	0.8105	0.8644	0.8266
Fina Bank Limited	0.5946	0.5796	0.5871	0.6417
African Banking Corporation	0.5538	0.6328	0.6755	0.5478
Bank of Africa	0.7352	0.6743	0.9022	0.5712
Bank of Baroda (K) Ltd	0.4875	0.7138	0.6326	0.8022
Bank of India	0.4183	0.5248	0.3913	0.7563
Barclays Bank	0.7432	0.3685	0.7976	0.7556
Chase Bank Limited	0.6668	0.7038	0.7308	0.5301
Citibank, N.A.	0.6437	0.6594	0.6114	0.8514
Commercial Bank of Africa	1.1861	0.5580	0.5885	0.8569
Consolidated Bank of Kenya	0.6796	0.6130	0.7658	0.8085
Co-op Bank	0.7924	0.7551	0.7667	0.8726
Credit Bank Ltd	0.6802	0.6985	0.7323	0.4503
Development Bank of Kenya	0.6735	0.5914	1.4151	0.6671
Diamond Trust Bank Kenya	1.9778	1.3136	0.8523	0.8436
Dubai Bank Limited	0.8445	0.8429	0.9718	1.3101
Ecobank Kenya Ltd	1.1602	0.9004	0.6870	0.6504
Equatorial Commercial Bank	0.5957	0.5877	0.6747	0.6352
Equity Bank Limited	0.7806	0.6037	0.8745	0.8020
Family Bank	0.9095	0.7657	0.7616	0.6903
Fidelity Commercial Bank	0.7317	0.6489	0.6898	0.6895
First community Bank	0.6737	0.6208	0.5451	0.6306
Giro Commercial Bank	0.6288	0.5318	0.6317	1.0459
Guardian Bank	0.6196	0.5938	0.7726	1.0514
Gulf African Bank	0.7156	0.6789	0.6847	0.5815
Habib AG Zurich	0.7705	0.7683	0.4004	0.5297
Habib Bank Limited	0.3725	0.3371	0.4613	0.8050
Housing finance	0.3558	0.4057	1.3507	0.7255
I & M Bank	0.7067	0.7753	0.8215	0.5313
Imperial Bank Limited	0.7886	0.8234	0.7744	0.5761
Jamii Bora Bank	0.6999	0.6148	0.7692	0.3276
Kenya Commercial (KCB)	1.0859	0.8416	0.8557	0.8368
K-Rep Bank Ltd	0.8555	0.9630	1.0478	0.6998
Middle East Bank of Kenya	0.3133	0.8443	0.9487	0.3005
National Bank(NBK)	0.8420	0.4360	0.4948	1.3189
NIC Bank Ltd	0.7548	0.8460	0.8390	0.8746
Oriental Comm. Bank	0.5322	0.7503	0.7717	0.6509
Paramount-Universal Bank	0.5533	0.4871	0.5626	0.6431
Prime Bank Limited	0.6534	0.5816	0.6371	0.5136

Standard Chartered Bank Ltd	0.9094	0.6003	0.7856	0.7339
Transnational Bank Limited	0.7793	0.6556	0.6401	0.7279
UBA BANK	0.2390	0.2390	0.3981	1.0790
Victoria Comm. Bank Ltd	0.7062	0.7062	0.6959	0.6173

(Source: Research Data, 2014)

Appendix IV: Average ROA and Credit Risk

NAME OF BANK	AVERAGE ROA	CREDIT RISK
CFC Stanbic Bank	0.0176	0.0265
Fina Bank Limited	0.0078	0.0280
African Banking Corporation	0.0244	0.0622
Bank of Africa	0.0201	0.1386
Bank of Baroda (K) Ltd	0.0273	0.1337
Bank of India	0.0231	0.1661
Barclays Bank	0.0437	0.1999
Chase Bank Limited	0.0202	0.0891
Citibank, N.A.	0.0307	0.1084
Commercial Bank of Africa	0.0161	0.2919
Consolidated Bank of Kenya	0.0223	0.0875
Co-op Bank	0.0313	0.0529
Credit Bank Ltd	0.0213	0.1285
Development Bank of Kenya	0.0175	0.3874
Diamond Trust Bank Kenya	0.0281	0.5345
Dubai Bank Limited	-0.0367	0.2203
Ecobank Kenya Ltd	0.0199	0.2346
Equitorial Commercial Bank	-0.0111	0.0401
Equity Bank Limited	0.0372	0.1149
Family Bank	0.0126	0.0919
Fidelity Commercial Bank	0.0174	0.0338
First community Bank	0.0073	0.0535
Giro Commercial Bank	0.0219	0.2290
Guardian Bank	0.0243	0.2101
Gulf African Bank	0.0076	0.0580
Habib AG Zurich	0.0139	0.1835
Habib Bank Limited	0.0190	0.2138
Housing finance	0.0223	0.4578
I & M Bank	0.0338	0.1273
Imperial Bank Limited	0.0165	0.1116
Jamii Bora Bank	0.0113	0.1941
Kenya Commercial (KCB)	0.0122	0.1209
K-Rep Bank Ltd	0.0179	0.1501
Middle East Bank of Kenya	0.0218	0.3431
National Bank(NBK)	0.0273	0.4057
NIC Bank Ltd	0.0322	0.0516
Oriental Comm. Bank	0.0227	0.1095

Paramount-Universal Bank	0.0156	0.0640
Prime Bank Limited	0.0291	0.0632
Standard Chartered Bank Ltd	0.0405	0.1280
Transnational Bank Limited	0.0109	0.0648
UBA BANK	0.0213	0.4462
Victoria Comm. Bank Ltd	0.0191	0.0486

(Source: Research Data, 2014)