

**RELATIONSHIP BETWEEN FINANCIAL RISK MANAGEMENT PRACTICES
AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA**

BY

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DECLARATION

This research project is my original work and to the best of my knowledge, has not been presented for the award of a degree in any university.

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

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DEDICATION

To my daughter, Nassim.

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First and foremost, I am grateful to the almighty God for keeping me alive and well enough to undertake and successfully complete this course.

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ABSTRACT

In the past two decades, the banking industry has evolved from a financial intermediation between depositors and borrowers, to a one-stop centre for a range of financial services. Banks also ventured into the low income segment to provide vast banking opportunities which were previously out of reach for the low income segment which consequently heightens the competition and risks faced by banks in the financial sector.

This study investigated the relationship between financial risk management practices and financial performance of commercial banks in Kenya. The researcher used descriptive design. The population of the study was forty commercial banks which traded consistently for the period 2007-2011. Out of the forty banks, only thirty four responded. Both primary and secondary data were collected. The primary data were collected using questionnaires while secondary data was collected from the central bank of Kenya annual supervisory report for the period 2007-2011. Data was analyzed using descriptive analysis and regression analysis. The results are presented in tables.

The study established that there is a positive relationship between financial risk management practices and financial performance of commercial banks with banks with a better risk monitoring and management information system as well as tight internal controls performing better than banks with lax internal control and less stringent risk monitoring and management information system. The policy makers need to put stringent measures on internal controls since more banks have lax internal controls.

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LIST OF ABBREVIATIONS

CAMEL – Capital Adequacy, Asset Quality, Management Efficiency and Liquidity

CBK – Central Bank of Kenya

CEO – Chief Executive Officer

CRO – Credit Risk Officer

RMI – Risk Management Index

RMP – Risk Management Practices

ROE – Return on Equity

RSA – Rate sensitive asset

RSL – Rate Sensitive Liability

VaR – Value at Risk

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In the past two decades, the banking industry has evolved from a financial intermediation between depositors and borrowers, to a “one-stop” centre for a range of financial services. The advancement of information and communicative technology (ICT) is given credit for the evolution of banking services, in particular, online banking. The development in ICT has not only provided vast banking opportunities previously beyond reach, but also heightens the competition and risks faced by banks in the financial system. (Voon-Choong, *et al.*, 2010).

Risk is the deviation of the expected outcome. Risk can be classified as business risk and financial risk. Business risk arises from the nature of a firm’s business which relates to factors affecting the product market. Financial risk arises from possible losses in financial markets due to movements in financial variables (Jorion & Sarkis, 1996). It is usually associated with leverage with the risk that obligations and liabilities cannot be met with current assets (Gleason, 2000).

Banking is a risky business and several risk factors such as credit, liquidity, operational and market risks have been identified as critical to ensure that the banks position remain intact amid the intense competition in the industry. The survival and success of a financial organization depends critically on the efficiency of managing these risks (Khan

& Ahmed, 2001). More importantly, prudent risk management by financial institutions is the hallmark to avoid financial distress that could lead to a full blown financial crisis.

Ozturk (2007) defines risk management as the process by which managers satisfy their risk taking needs by identifying key risks, obtaining consistent, understandable, operational risk measures, choosing which risks to reduce and which to increase and by what means, and establishing procedures to monitor the resulting risk position.

Effective risk management is accepted as a major cornerstone of bank management by academics, practitioners and regulators. Acknowledging this reality and the need for a comprehensive approach to deal with bank risk management, the Basel Committee on Banking Supervision adopted the Basel I Accords, followed by the Basel II Accords and recently by the Basel III, to deal with the matter. Moreover, risk management is found to be one of the determinants of future survival and growth of banks (Sensarma and Jayadev, 2009)

1.1.1 Financial Risk Management

Risk management refers to “the overall process that a financial institution follows to define a business strategy, to identify the risks to which it is exposed, to quantify those risks, and to understand and control the nature of risks it faces” (Cumming & Hirtle 2001).

According to reserve bank of Malawi (Reserve Bank of Malawi, 2007) Risk Management entails four key processes:

Risk identification: In order to properly manage risks, an institution must recognize and understand risks that may arise from both existing and new business initiatives; for

example, risks inherent in lending activity include credit, liquidity, interest rate and operational risks. Risk identification should be a continuing process, and should be understood at both the transaction and portfolio levels.

Risk Measurement: Once risks have been identified, they should be measured in order to determine their impact on the banking institution's profitability and capital. This can be done using various techniques ranging from simple to sophisticated models. Accurate and timely measurement of risk is essential to effective risk management systems. An institution that does not have a risk measurement system has limited ability to control or monitor risk levels. Banking institutions should periodically test their risk measurement tools to make sure they are accurate. Good risk measurement systems assess the risks of both individual transactions and portfolios.

Risk Monitoring: Institutions should put in place an effective management information system (MIS) to monitor risk levels and facilitate timely review of risk positions and exceptions. Monitoring reports should be frequent, timely, accurate, and informative and should be distributed to appropriate individuals to ensure action, when needed.

Risk Control: After measuring risk, an institution should establish and communicate risk limits through policies, standards, and procedures that define responsibility and authority. These limits should serve as a means to control exposure to various risks associated with the banking institution's activities. Institutions may also apply various mitigating tools in minimizing exposure to various risks. Institutions should have a process to authorize and document exceptions or changes to risk limits when warranted.

1.1.2 Financial Performance of Commercial Banks

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 shillings terms. Profitability ratio shows a company's overall efficiency and performance.

Brealey and Meyers (2003) argue that there are various important measures in determining profitability of an organization. These include: net profit margin and return on equity (ROE). In 1972 David Cole introduced a procedure for evaluating bank performance via ratio analysis (MacDonald & Koch, 2006). This procedure enables an analyst to evaluate the source and magnitude of banks profit relative to risk taken. David Cole employed return on equity model to analyze bank profitability and identified specific measures of credit risk, liquidity risk, operational risk and capital risk (MacDonald & Koch, 2006).

1.1.3 Commercial Banks in Kenya

According to central bank of Kenya (CBK 2010), Commercial banks and mortgage finance institutions are licensed and regulated conforming to the provisions of the banking act and the regulations and prudential guidelines issued.

CBK (2011) notes that as at March 2011, there are 43 licensed commercial banks and 1 mortgage finance company. Out of the 44 institutions, 31 are locally owned and 13 are foreign owned. The locally owned financial institutions comprise 3 banks with significant shareholding by the government and state corporations, 27 commercial banks and 1 mortgage finance institution.

1.2 Research Problem

Risk management can briefly be defined as the process that a financial institution goes through ‘to identify the risks to which it is exposed, to quantify those risks, and to understand and control the nature of risks it faces’ (Cumming & Hirtle 2001).

Past financial crisis and volatility in financial sector point to the need for risk management. A stable financial sector is crucial for the economy. according to Pyle (1997) banks and similar financial institutions need to meet regulatory requirements for risk measurement and capital but meeting regulatory requirement is not the sole or most important reason for establishing sound, scientific risk management system. Managers need reliable risk measures to direct capital to activities with best risk/reward ratios. They need estimates of the size of potential losses to stay within limits imposed by readily available liquidity by creditors, customers and regulators. They need mechanisms to monitor positions and create incentives for prudent risk taking.

Past studies have covered extensively on risk and factors contributing to risks of financial institutions in the conventional banking system (Berger and de young, 1997;angbazo et al.,1998;ahmad 2003).Recent related studies have mainly focused on areas of micro finance institutions and conventional commercial Banks. Oludhe (2011) studied the impact of credit risk management on financial performance of commercial banks in Kenya and found that credit risk management by capital adequacy, asset quality, management efficiency and liquidity (CAMEL) has a strong impact the financial performance of commercial banks. Wanjiru (2011) studied the relationship between risk management practices and financial performance of micro finance institutions in Nairobi

and established that proper risk management does encourage the institution to focus clearly on its objectives thus enhancing financial performance.

While the above research outcome provides insight on risk management, they only provide partial insight as they mainly focused on credit risk management by microfinance institutions and commercial banks in Kenya. This study aims to fill the gap in the literature by analyzing the relationship between financial risk management practices and financial performance of commercial banks in Kenya. The study will be answering the question: what is the relationship between risk management practices and financial performance of commercial banks in Kenya?

1.3 Objectives of the Study

- i. To determine the relationship between financial risk management practices and financial performance of commercial banks in Kenya.
- ii. To investigate the impact of each risk management practice element on bank performance in Kenya.

1.4 Value of the Study

This study will be very important to the banks in the Kenyan banking industry as it will provide guidance on identification and framework of financial risk management within the banking industry, risk managers can also use the findings of the study to identify and put in place proper and effective risk management methods to enhance profitability.

This study bridges the research gap in the relationship between financial risk management and banks financial performance and also offers a solid foundation for future academic research.

The study will provide insight to the bank supervision department of central bank and other regulatory authorities charged with the mandate of ensuring proper functioning of the financial system.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter seeks to identify the type of financial risks faced by commercial banks and the risk management practices adopted by these banks to mitigate such risks. The chapter also highlights the theories of risk management and empirical studies carried out in this area by other researchers. Lastly this chapter concludes with the summary of literature review.

2.2 Theoretical Review

2.2.1 Agency Theory

Agency theory extends the theory of the firm to include separation of ownership and control, and managerial motivation. In the field of corporate risk management, agency issues have been shown to influence managerial attitudes towards risk taking and hedging (Smith & Stulz, 1985). The theory also explains a possible mismatch of interest between shareholders, management and debt holders due to asymmetries in earning distribution, which can result in the firm taking too much risk or not engaging in positive net value projects (Mayers & Smith, 1987). Consequently, agency theory implies that defined hedging policies can have important influence on firm value. Klimczak (2007). Jensen (1986) argues that the role of managers as agents for stakeholders is full of conflict of interest which can affect asset selection, firm behavior, efficiency and performance. Managers especially if they are risk averse, seek to maximize their own explicit and implicit compensation at the expense of shareholders. This theory also suggests that

agency problems will induce managers to evade monitoring by capital markets by relying upon internal as opposed to external financing of investments.

2.2.2 Stakeholder Theory

Stakeholder theory, developed originally by Freeman (1984) as a managerial instrument, has since evolved into a theory of the firm with high explanatory potential. Stakeholder theory focuses explicitly on equilibrium of stakeholder interest as the main determinant of corporate policy. The most promising contribution to risk management is the extension of implicit contracts theory from employment to other contracts, including sales and financing (Cornell & Sharpiro, 1987). In certain industries, particularly high-tech and services, consumer trust in the company being able to continue offering its services in the future can substantially contribute to company value. However, the value of these implicit claims is highly sensitive to expected costs of financial distress and bankruptcy. Since corporate risk management practices lead to a decrease in these expected costs, company value rises (Klimczak, 2005). Therefore stakeholder theory provides a new insight into possible rationale for risk management.

2.2.3 New Institutional Economics Theory

New institutional economics focus on governance processes and socio-economic institutions that guide these processes, as explained by Williamson (1998). This theory offers an alternative explanation of corporate behavior, namely it predicts that risk management practices may be determined by institution or accepted practice within a market or industry. Moreover the theory links security with specific asset purchase (Williamson, 1985), which implies that risk management can be important in contracts

which bind two sides without allowing diversification, such as large financing contracts or close cooperation within a supply chain.(klimczak,2007)

2.3 Types of Financial Risks

Gertler (1988) defines credit risk as the risk that a shift in the credit quality of a counter party will affect the value of a financial institution's position. In a bank's portfolio, losses stem from outright default due to inability or unwillingness of a customer to meet its commitment in relation to lending, trading, settlement and other financial transactions. For most banks loans are the largest and most obvious source of credit risk. In addition to direct accounting loss, credit risk should be viewed in the context of economic exposures. This encompasses opportunity costs, transaction costs and expenses associated with a non performing asset. Credit risk does not occur in isolation, the same source of that endangers credit risk to an institution may also expose it to other risks. For instance a bad portfolio may attract liquidity problem. (State bank of Pakistan, 2003)

Liquidity risk comprises both funding liquidity risk and trading related liquidity risk, though the two have a closer relationship. While the former relates to the ability of a bank to raise funds to roll over debt obligations, meet statutory requirement, cash margin and collateral requirements of counter parties, the latter is the risk that a bank will be unable to manage and hedge market risk(Cohen & morse,2009)

Market risk refers to the risk that the changes in financial market prices and rates will alter the value of a banks position (Gregory,1996).the sub class of market risk include interest rate risk, currency risk, commodity risk and equity risk (stulz 1984).measuring of market risk in trading portfolio is done through summary measure of value at risk (VaR)

models, where these models are designed to estimate for a given trading portfolio, the maximum loss that a bank could incur over a specific time period with a given probability. A comprehensive risk management approach requires supplementing by a stress testing program to evaluate the impact of extreme market events. Ultimately it is these large price movements that cast great risk to the bank, which are not captured by VaR models.

Kabir and Jason (2006) suggest that operational risk refers to potential financial losses emanating from inadequate systems, failure of management, defective controls, frauds and human error.

CBK Guidelines (2006) defines reputational risk as a potential negative publicity regarding an institutions business practices, whether true or not will cause a decline in the customer base, costly litigation or revenue deductions. This risk may result from a financial institutions failure to effectively manage any or all of the other financial risk.

CBK risk management guidelines (2006) define regulatory risk as a risk of non compliance with regulatory guidelines. It includes the current and prospective risk to earnings or capital arising from violations of or non-conformance with laws, rules, regulation, prescribed practice, or ethical standards issued by the regulator from time to time. The risk also arises in situations where the laws or rules governing certain bank products or activities of the banks client might be ambiguous or untested. Regulatory risk exposes an institution to fines, civil money penalties, payment of damages and violation of contracts. It can lead to diminished reputation, reduced franchise value, limited business opportunities, reduced expansion potential and inability to enforce contracts.

2.4 Financial Risk Management Practices of Banks

Central bank of Kenya issued risk management guidelines in 2006 for commercial banks to adopt in their risk management framework. They include:

Establishing Appropriate Risk Management Environment and Sound Policies and Procedures - An institution's directors and senior management should tailor their risk management policies and procedures to the types of risks that arise from the activities the institution conducts. Once the risks are properly identified, the institution's policies and its more fully articulated procedures should provide detailed guidance for the day-to-day implementation of broad business strategies, and generally include limits designed to shield the institution from excessive and imprudent risks. While all institutions should have policies and procedures that address their significant activities and risks, management is expected to ensure that they are modified when necessary to respond to significant changes in the banking institution's activities or business conditions.

Adequate Risk Monitoring and Management Information Systems (MIS) -Effective risk monitoring requires institutions to identify and measure all material risk exposures. Consequently, risk-monitoring activities must be supported by information systems that provide senior managers and directors with timely reports on the financial condition, operating performance and risk exposure of the consolidated organization.

The sophistication of risk monitoring and MIS should be consistent with the complexity and diversity of the institution's operations. Every financial institution shall require a set of management and board reports to support risk-monitoring activities. These reports may include daily or weekly balance sheets and income statements, a watch list for potentially

troubled loans, a report of overdue loans, simple interest rate risk report and other relevant reports. Financial institutions are expected to have risk monitoring and management information systems in place that provide directors and senior management with a clear understanding of the financial institution's risk exposures.

Adequate Internal Controls - An institution's internal control structure is critical to the safe and sound functioning of its risk management system. Establishing and maintaining an effective system of controls, including the enforcement of official lines of authority and the appropriate separation of duties such as trading, custodial, and back-office is one of management's more important responsibilities.

Indeed, appropriately segregating duties is a fundamental and essential element of a sound risk management and internal control system. Failure to implement and maintain an adequate separation of duties can constitute an unsafe and unsound practice and possibly lead to serious losses or otherwise compromise the financial integrity of the institution. Serious lapses or deficiencies in internal controls, including inadequate segregation of duties, may warrant supervisory action, including formal enforcement action.

When properly structured, a system of internal controls promotes effective operations and reliable financial and regulatory reporting, safeguards assets, and helps to ensure compliance with relevant laws, regulations, and institutional policies. Ideally, internal controls are tested by an independent internal auditor who reports directly either to the institution's board of directors or its audit committee. Given the importance of

appropriate internal controls, the results of audits or reviews, whether conducted by an internal auditor or by other personnel, should be adequately documented, as should management's responses to them.

2.5 Techniques of Financial Risk Management

2.5.1 GAP Analysis

It is an interest rate risk management tool based on the balance sheet which focuses on the potential variability of net-interest income over specific time intervals. In this method a maturity/ re-pricing schedule that distributes interest sensitive assets, liabilities, and off-balance sheet positions into time bands according to their maturity (if fixed rate) or time remaining to their next repricing (if floating rate), is prepared. These schedules are then used to generate indicators of interest-rate sensitivity of both earnings and economic value to changing interest rates. After choosing the time intervals, assets and liabilities are grouped into these time buckets according to maturity (for fixed rates) or first possible re-pricing time (for flexible rates). The assets and liabilities that can be re-priced are called rate sensitive assets (RSAs) and rate sensitive liabilities (RSLs) respectively. Interest sensitive gap (DGAP) reflects the differences between the volume of rate sensitive asset and the volume of rate sensitive liability and given by,

$$\text{GAP} = \text{RSAs} - \text{RSLs}$$

The information on GAP gives the management an idea about the effects on net-income due to changes in the interest rate. Positive GAP indicates that an increase in future interest rate would increase the net interest income as the change in interest income is greater than the change in interest expenses and vice versa. (Cumming & Beverly, 2001).

2.5.2 Duration-GAP Analysis

It is another measure of interest rate risk and managing net interest income derived by taking into consideration all individual cash inflows and outflows. Duration is value and time weighted measure of maturity of all cash flows and represents the average time needed to recover the invested funds. Duration analysis can be viewed as the elasticity of the market value of an instrument with respect to interest rate. Duration gap (DGAP) reflects the differences in the timing of asset and liability cash flows and given by,

$$DGAP = DA - u DL$$

Where *DA* is the average duration of the assets, *DL* is the average duration of liabilities, and *u* is the liabilities/assets ratio. When interest rate increases by comparable amounts, the market value of assets decrease more than that of liabilities resulting in the decrease in the market value of equities and expected net-interest income and vice versa. (Cumming & Beverly, 2001)

2.5.3 Value at Risk

The Value at Risk (VaR) indicates how much a firm can lose or make with a certain probability in a given time horizon. VaR summarizes financial risk inherent in portfolios into a simple number. Though VaR is used to measure market risk in general, it incorporates many other risks like foreign currency, commodities, and equities. (Jorion, 2001)

2.5.4 Risk Adjusted Rate of Return on Capital

It gives an economic basis to measure all the relevant risks consistently and gives managers tools to make the efficient decisions regarding risk/return tradeoff in different

assets. As economic capital protects financial institutions against unexpected losses, it is vital to allocate capital for various risks that these institutions face. Risk Adjusted Rate of Return on Capital (RAROC) analysis shows how much economic capital different products and businesses need and determines the total return on capital of a firm. Though Risk Adjusted Rate of Return can be used to estimate the capital requirements for market, credit and operational risks, it is used as an integrated risk management tool (Crouhy & Robert, 2001).

2.5.5. Derivatives

A derivative is an instrument whose value depends on the value of something else. The major categories of derivatives are futures, options, and swap contracts. Futures are forward contracts of standardized amounts that are traded in organized markets. Like futures, options are financial contracts of standardized amounts that give buyers (sellers) the right to buy (sell) without any obligation to do so. Swap involves agreement between two or more parties to exchange set of cash flows in the future according to predetermined specifications. Hull (1995)

2.6 Empirical Studies on Risk Management

Hassan (2009), made a study “Risk Management Practices of Islamic Banks of Brunei Darussalam” to assess the degree to which the Islamic banks in Brunei Darussalam implemented risk management practices and carried them out thoroughly by using different techniques to deal with various kinds of risks. The results of the study showed that, like the conventional banking system, Islamic banking was also subjected to a variety of risks due to the unique range of offered products in addition to conventional

products. The results showed that there was a remarkable understanding of risk and risk management by the staff working in the Islamic Banks of Brunei Darussalam, which showed their ability to pave their way towards successful risk management. The major risks that were faced by these banks were Foreign exchange risk, credit risk and operating risk. A regression model was used to elaborate the results which showed that Risk Identification, and Risk Assessment and Analysis were the most influencing variables and the Islamic banks in Brunei needed to give more attention to those variables to make their Risk Management Practices more effective by understanding the true application of Basel-II Accord to improve the efficiency of Islamic Bank's risk management systems.

Ellul and Yerramilli (2010) investigated on whether a strong and independent risk management is significantly related to bank risk taking and performance during credit crisis in a sample of 74 large U.S banks. They constructed a risk management index (RMI) which is based on five variables related to the strength of a bank's risk management: a dummy variable whether the bank has a designated credit risk officer (CRO) who is a member of the executive board, a dummy variable whether the CRO is among the top five highly paid executives, the ratio of the CROs total compensation to the chief executive officers (CEO) total compensation, a dummy variable whether at least one of the non executive directors on the banks risk committee met more frequently in the respective year as compared to the average value across the other sample banks. Their findings indicate that banks with a high RMI value in 2006 had lower exposure to private label mortgage backed securities, were less active in trading off balance sheet derivatives

and had a smaller fraction of non-performing loans, a lower downside risk and a higher Sharpe ratio during the crisis year 2007-2008.

Tafri et al (2011) carried out a study “Empirical evidence on the risk management tools practiced in Islamic and conventional banks and established that there are significant differences in the level of extensiveness of the usage of market value at risk (VaR), usage of stress testing results, the usage of credit risk mitigation methods and also the level of extensiveness of the usage of operational risk management tools between Islamic and conventional banks in Malaysia. The findings further show that risk management tools and systems for Islamic banking are inadequate, particularly in the critical areas of “IT professionals with relevant expertise in process integration and risk analytics”, “IT systems to cater for each Islamic instrument” and also the “capacity of human capital in the highly technical areas of risk measurement.” This implies that more innovations and product developments are needed for Islamic banking in managing risks.

Hameeda and Al Ajmi (2012) carried out a study “Risk management practices of conventional and Islamic banks in Bahrain”, and found Banks in Bahrain to have a clear understanding of risk and risk management, and have efficient risk identification, risk assessment analysis, risk monitoring, credit risk analysis and risk management practices. In addition, they established that credit, liquidity and operational risk are the most important risks facing both conventional and Islamic banks. The risk management practices are determined by the extent to which managers understand risk and risk management, efficient risk identification, risk assessment analysis, risk monitoring and credit risk analysis. Islamic banks are found to be significantly different from their

conventional counterparts in understanding risk and risk management. The levels of risks faced by Islamic banks are found to be significantly higher than those faced by conventional banks. Similarly, country, liquidity, and operational, residual, and settlement risks are found to be higher in Islamic banks than in conventional banks.

Kimeu (2006) in his study on credit risk management technique of unsecured bank loans of commercial banks found that majority (86.7%) of banks indicated credit and liquidity risk as their most important risks and that majority of the banks have credit management policies as a basis for objective credit risk appraisal, and formulation of those policies was undertaken by top management. He noted that majority of the banks used statistical method of credit assessment in screening loan applications and used on the job training to sensitize their employees on credit risk. The study revealed that majority of the respondents (86.7%) indicated that improved credit appraisal is considered as the most responsible factor for their improved financial performance.

Wanjiru (2011) carried out a study on the relationship between risk management practices and financial performance of microfinance institutions in Nairobi. The study established that proper risk management does encourage the institution to focus clearly on its objectives thus enhancing financial performance. She established that the risks faced by most of the respondents most frequently were liquidity and credit risk.

2.7 Summary and Conclusion

After reviewing the literature in the risk management practices and financial performance of banks it's clear that different researchers have studied management of different risks and how it influences performance of banks. The empirical results indicate that banks have a clear understanding of risk and risk management and have efficient risk identification, risk assessment analysis, risk monitoring, credit risk analysis and risk management practices. Moreover the results indicate that common risks faced by the banks are credit, liquidity and operational risk. The findings further show that proper risk management does encourage the institutions to focus clearly on its objectives thus enhancing financial performance.

Studies done in Kenya are mainly concerned with credit risk management, this study will therefore examine the relationship between financial risk management practices and banks financial performance. The study will be answering the question: what is the relationship between financial risk management practices and financial performance of commercial banks in Kenya?

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets to explain the research design, the population of interest, data collection and data analysis.

3.2 Research Design

The researcher adopted descriptive research design. Descriptive design seeks to establish factors associated with certain occurrences, outcomes and conditions. Descriptive design is deemed appropriate as this study aimed at determining the relationship between financial risk management practices and financial performance of commercial banks in Kenya.

3.3 Research Population

A census survey of all commercial banks in Kenya was undertaken. The target population was the forty commercial banks which have traded consistently for the entire five year period from 2007-2011. One bank was under statutory management and two banks have not traded for the five year period, hence they were left out.

3.4 Data Collection

The study used both primary and secondary data. Data on ROE was collected from the central bank of Kenya annual supervision report for the period 2007-2011.

Primary data was collected by use of a questionnaire. Questionnaires were distributed to risk managers to gauge the current level of risk management practices in the banks. For the purpose of this study, each bank was given a score for its risk management practices,

which is then compared with the mean score for each category of the practice. These practices are being categorized into three types: as Risk Management Environment, Policies and Procedures, Adequate Risk Monitoring and Management Information Systems and Internal Controls. The questionnaire was administered through the drop and pick later method.

3.5 Data Analysis

The completed questionnaires were reviewed and edited for accuracy, consistency and completeness. The responses were coded into numerical form to facilitate statistical analysis using excel and SPSS.

Regression analysis was conducted to find out the relationship between financial risk management practices and financial performance of commercial banks in Kenya and partial correlation was carried out to find the impact of each element of the financial risk management practices on financial performance of banks. The regression model took the form of:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Y = is the value of the dependant variable (ROE)

α = is the constant term

β = beta coefficients

X_1 = Risk management environment, policies and procedures

X_2 = Adequate Risk Monitoring and Management Information Systems

X_3 = Internal controls

ϵ = error term

The model was preferred for analysis as a regression would give both magnitude and direction of relationship between the independent variables and the dependent variable.

3.6.1 Dependent variable

ROE was used as an indicator of profitability in the regression analysis. The use of ROE enhances accuracy as the required information is available in the annual reports of banks.

3.6.2 Independent variable

The researcher used the three aspects of risk management practices of commercial banks as outlined in the risk management guidelines of central bank of Kenya (2006) as the independent variables. These are: Risk management environment, policies and procedures, Adequate Risk Monitoring and Management Information Systems and Internal controls.

The values for the independent variables were obtained by coding the responses of the questionnaires for the items on the variables on a five point likert scale for item two and three and using 1 for No and 2 for Yes on item one.

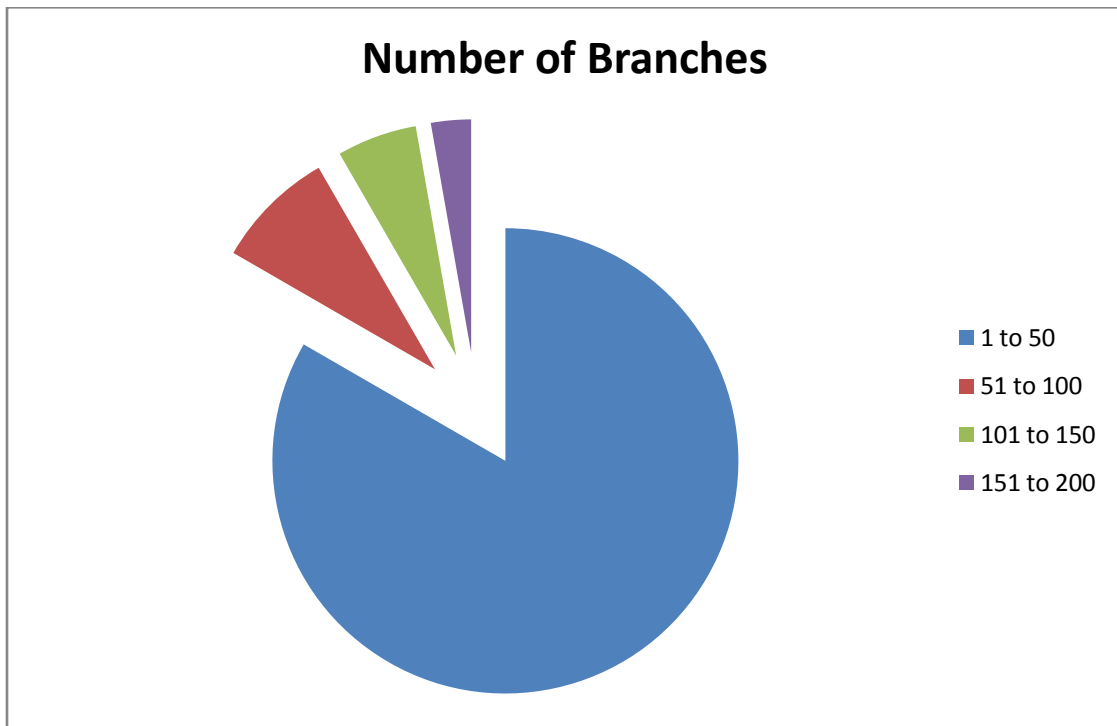
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results of the study. The analysis and findings in this chapter are based on data collected from the respondents. Out of the forty commercial banks targeted only thirty four responded giving a response rate of eighty five percent, which according to the researcher is adequate for the study.

Graph 4.1 Number of branches for each bank

An analysis of the number of branches for each bank was performed and the results are as shown in graph 4.1



Source: Source: Research finding

The study revealed that 83% of the banks have branches of between 1-50,8% have branches between 51-100,8% have branches between 101-150 and 3% have branches between 151-200.

Table results in table 4.1 shows the risk management environment, policies and procedures of commercial banks in Kenya

4.2 Risk Management Environment Policies and Procedures

This section sought to investigate the risk exposure of commercial banks in Kenya by using a set of closed questions.

Table 4.1 Risk Management Environment, Policies and Procedures

Item	Mean	Standard deviation
Formal risk management	2	0
Level of management formulating risk management program and policy	3.166667	1.013794
Policy of investing across different countries	1.416667	0.493007
Policy of diversifying across different sectors	1.833333	0.372678
Risk management environment, policies and procedures	2.083333	0.390868

Source: Research findings

The findings show that all the banks have a formal risk management system as seen from the mean of 2 and standard deviation of zero for the question. However, the level of management charged with formulating programs and policies has a high variation showing the banks employ different strategies with most banks using board of directors

with others using senior management. The findings show that more banks use board of directors. However banks using senior management showed better performance than those using board of directors. The findings also show that not many banks invest in different countries thus majority of the banks are dealing with financial risks in the same environment and have the same financial risk exposure. The banks also have very high diversification across different sectors seen from the very low standard deviation and a mean of 1.8 .

4.3 Risk Monitoring and Management Information System

This section utilized the 5-likert scale to gauge the level of risk monitoring and management information system of commercial bank in Kenya. The results are as shown in tables 4.2.1 – 4.2.3

Table 4.2 Monitoring of individual credit risk

Item	Mean	Standard deviation
Weekly	1.85714	0.9404
Monthly	1.85714	0.77372
Quarterly	1.7619	0.74991
Annually	2.61905	1.39646
Monitoring of individual credit risk	4.78571	2.22314

Source: Research findings

The standard variations show close schedules used by the banks in monitoring individual risks with more banks monitoring individual risks annually but a near equal number of banks monitoring individual credit limit weekly and monthly.

The overall monitoring index shows that banks use combinations of monitoring schedules with most banks combining monthly and annual monitoring schedules. A number of banks also conduct quarterly and annual monitoring schedules.

Table 4.3 Risk Reporting

Item	Mean	Standard deviation
Weekly	2.66667	1.35693
Monthly	2.28571	0.88063
Quarterly	1.47619	0.49943
Annually	1	0
Risk reporting	5.369	2.2671

Source: Research findings

The findings show that most banks have weekly and monthly reporting of risks. A deviation of zero also shows that all the banks report risks annually. This suggest a combination where banks report risks both weekly and annually, monthly and annually as well as quarterly and annually.

Table 4.4 Monitoring of Customers' Business Performance

Item	Mean	Standard deviation
Weekly	1.52381	0.66326
Monthly	1.90476	0.97124
Quarterly	2.09524	0.97124
Annually	3.666667	0.776643
Monitoring of customers' business performance	4.916667	2.07147

Source: Research findings

The findings show that most banks monitor customer's business performance quarterly and annually. The overall monitoring shows a combination of monthly and annually and quarterly and annually with more banks using a combination of quarterly and annually.

There is however a high variation in the types of combinations used.

Table 4.5 Overall Risk Monitoring and Management Information System

Item	Mean	Standard deviation
Monitoring of individual credit risk	4.78571	2.22314
Risk reporting	5.369	2.2671
Monitoring of customers' business performance	4.916667	2.07147
risk monitoring and management information system	5.02381	2.187243

Source: Research findings

There is a high variation in risk monitoring and management information system with various banks using different frequencies to monitor and report risks as well as monitor customers' business risks

4.4 Internal Controls

This section utilized the 5-likert scale to gauge the strength of the internal control system of commercial banks and the results are presented in the tables below.

Table 4.6 Internal Control System

Item	Mean	Standard deviation
Internal control system	2	0

Source: Research findings

A standard deviation of 0 shows that all the banks have internal control system

Table 4.7 Responsibility for identifying risk

Item	Mean	Standard deviation
Clerks	2.1429	0.9404
Line manager	2.380952	0.898474
General manager	2.238095	0.749906
Risk manager	3.04762	0.78535
Responsibility for identifying risk	5.25	1.99807

Source: Research findings

The findings show that more banks use risk managers in identifying risk with more banks equally using clerks, line managers and branch managers to identify the risks.

However it is noted that banks that use clerks to identify risks perform better than the other banks. The overall responsibility shows that a number of banks use a combination of personnel to identify risks with more banks using a combination of line managers and risk managers. It is also noted that banks using combination of clerks and line managers in risk identification perform better than the other banks

Table 4.8 Responsibility for Managing and Controlling Risk

Item	Mean	Standard deviation
Clerks	1.761905	0.749906
Line manager	1.9048	0.4259
Branch manager	3.33333	0.4714
Risk manager	3.9524	0.213
Responsibility for managing and controlling risk	5.845238	1.358286

Source: Research findings

More banks are using Branch managers and risk managers to manage and control risks with a relatively higher number using risk managers to monitor and control risks. The overall shows that some banks also use a combination of personnel with more banks using a combination of line managers and risk managers. Very few banks are seen to use clerks and branch managers in managing and controlling financial risks.

The low standard deviations show close practices of the banks in management and control of financial risks.

Table 4.9 Back up of System and Data Files

Item	Mean	Standard deviation
Real time	2.238095	0.971242
Hourly	2.095238	0.810923
Daily	1.714286	0.764875
Weekly	1.380952	0.652919
back up of system and data files	5.011905	2.125102

Source: Research findings

The findings show that more banks update their systems real time while fewer banks update their systems weekly. The overall backup shows that a number of banks use a mix of the various frequencies where update is done real time but major updates are scheduled daily or weekly with better performing banks using a combination of doing backups on real time and daily basis. The banks doing weekly updates only are showing very poor performance.

Table 4.10 Overall internal controls

Item	Mean	Standard deviation
Internal control system	2	0
Responsibility for identifying risk	5.25	1.99807
Responsibility for managing and controlling risk	5.845238	1.358286
back up of system and data files	5.011905	2.125102
Internal controls	4.526786	1.370365

Source: Research findings

A standard deviation of zero shows that all the banks have internal control systems in place. There is however a high variation in the responsibility for identifying risk as various banks uses different combination of personnel to identify financial risks ranging from clerks to risk manager. There is also high variation in the responsibility for managing and controlling risk ranging from clerks to risk manager. The highest variation is seen in the frequency of backup of system and data files which ranges from real time to weekly. It is thus seen that as much as all the banks have internal control system and segregation of duties between risk identification and risk control as well as backup of system and data files there is a high variations in performance.

Table4.11 Financial Risk Management Practices of Commercial Banks

Item	Mean	Standard deviation
Risk management environment, policies and procedures	2.083333	0.390868
Risk monitoring and management information system	5.02381	2.187243
Internal controls	4.526786	1.370365
Financial risk management practices	3.877976	1.316159

Source: Research findings

There is very minimal variation in risk management environment, policies and procedures as most banks operate in the same business environment. There is however a high variation in the risk monitoring and management information system to show the banks use very different monitoring and management information systems as much as nearly all of them have formal risk management policies in place. This thus shows that the finer details of these policies are very different when it comes to frequency of monitoring and reporting of risks

There is also a high variation in internal controls with some banks having tight internal controls while others have lax internal controls. The highest variation is however seen in the risk monitoring and management information system.

Thus overall, there is seen a relatively high variation in financial risk management

Table 4.12 Performance of Commercial Banks

Item	Mean %	Standard deviation %
2007	21.34667	10.90236
2008	19.20833	15.76694
2009	21.643	12.34562
2010	23.69417	13.62152
2011	23.50944	10.85088
Average performance	21.88032	12.69746

Source: Research findings

A standard deviation of 12 shows a very high variation in the performance of the banks where some banks performs very well while others perform very poorly.

Table 4.13 Regression Analysis

Item	Risk Management Environment	Risk Monitoring and Management Information System	Internal Controls
Beta	0.865	0.491	0.441
T values	1.537	4.143	2.769
P values	0.001	0.143	0.013
Constant	-22.83		

Source: Research findings

The established multiple linear regression equation thus becomes:

$$Y = 0.865X_1 + 0.491X_2 + 0.441X_3 - 22.83$$

This shows that the variation in the performance is caused more by the variations in risk monitoring and management information system as well as internal controls as seen in the t-values where a changes in risk monitoring and management information system and internal controls result in higher changes in performance, 4.143 and 2.769 respectively as compared to change in risk management environment at 1.537.

This is further evidenced by the level of significance which shows higher levels of significance from Risk monitoring and management information system declining through internal control to risk management environment as seen in the respective p values 0.143, 0.013 and 0.001

4.5 Interpretation of Findings

The study used a likert scale thus the responses were coded and quantitatively analyzed. The scale gave high values for the most effective and low as well as high values for high frequencies and levels of agreement. As a result high means high levels of efficiency and strong concurrence while low means low level of efficiency and low concurrence.

The standard deviations also show the level of disparity between banks on the item such that high standard deviations show that the banks have very diverse ways and methods of addressing the item while low means show that the banks have nearly the same ways and methods of addressing the particular situation though slightly varying. A standard deviation of 0 shows that there is homogeneity in the practice of the banks in addressing the particular issue.

The findings thus show that all banks have formal risk management system in place from the mean of two which is the highest possible mean for the item as well as a standard deviation of 0 to show no deviation of the norm by any single bank

Thus overall the banks have similar risk management environment, policies and procedures with a fairly low deviation thus all the banks operate in the same risk management environment, policies and procedures.

In addition, the banks use very efficient levels of risk monitoring and management information system shown by the high mean though there is a wide deviation to indicate that the banks use various mixes of the risk monitoring schedules and levels as well as management information system sequencing.

All the banks have internal control systems as seen from the standard deviation of 0 though there is a disparity in the responsibility for identifying risks, managing and controlling risks as well back up of system and data files.

The overall analysis thus give the banks have highly effective risk management practices which is seen from the high mean of 3.877976

A regression analysis of risk management practices of commercial banks against the performance of the banks show that the performance of commercial banks is strongly caused by the efficiency of the banks risk management practices and on comparing the various components of risk management to the performance of the commercial banks, the performance is more closely related to the risk monitoring and management information system followed by internal controls and finally risk management environment as seen from the p values which show the levels of significance decreasing in that order.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECCOMENDATIONS

5.1 Introduction

This chapter contains a summary of the research findings and the conclusion from these findings. It also contains the recommendation for the proper implementation of financial risk management practices in banks

5.2 Summary

The study revealed that 83% of the banks have branches of between 1-50,8% have branches between 51-100,8% have branches between 101-150 and 3% have branches between 151-200.

On the area of financial risk management practices and organizational performance, all the respondents cited that their bank have a formal risk management system in place. In addition majority of the respondents highly agreed that boards of directors are responsible for formulating risk management program and policy. The findings also showed that not many banks invest in other country but majority of the banks have diversified across different sectors.

On the area of risk monitoring and management information system, the findings showed that more banks are monitoring individual credit limit annually but a near equal number of banks monitor individual credit limit weekly and monthly. The findings also showed that most banks do risk reports for senior officers and management on weekly and monthly basis and all the banks also writing a risk report on annual basis. This suggest that as much as there are risk reports which are done weekly and monthly, there is an overall risk report which is done at the end of the financial year. The findings also

showed that most banks monitor customer's business performance on quarterly and annual basis.

On the area of internal control, the findings showed that all the banks have an internal control system which deals with newly recognized risk arising from changes in the environment. The findings also showed that more banks use risk managers in identifying risk with others using a combination of clerks, line managers and branch managers to identify risk. However it's noted that more banks are using branch managers and risk managers to manage and control risk with a relatively higher number using risk managers to monitor and control risk. On the back up of system and data files, the findings show that more banks backup their systems and data files on real time basis. Overall, the backup is done on real time and daily basis with better performing banks doing back up on real time and daily basis.

5.3 Conclusions

The study concludes that banks in Kenya have better risk monitoring practices followed by internal controls as compared to risk management environment policies and procedures.

The essence of risk management is to find out the extent of the financial institutions risk exposure, to understand what drives it and to identify trends internally and externally that would help in predicting and managing it. The concern for risk management must start from the top management. Effective board and senior management oversight of the banks risk exposure I the cornerstone of the risk management process.

5.4 Recommendations for policy

From the study financial risk management emerges as crucial to the financial performance of banks. Since risk monitoring and management information system has the highest impact on the financial performance, it is highly recommended for banks to monitor credit closely and invest in information system that would help in predicting and mitigating any financial risk exposure.

Moreover all the employees of the bank should be sensitized on the importance of financial risk management and incorporate it into the normal day to day operations. Employees at all the level should be actively involved in the risk management process.

5.5 Limitations of the Study

The major limitations of the study were time and budget constraints which limited the scope of the study. With more time and a higher budget the study would have focused on banks operating in other countries as well.

Other limitation of the study was the response rate. Out of the forty banks which were targeted only thirty four responded. This was a eighty five percent response rate.

Besides the banks have restrictions in divulging management information to third parties

5.6 Recommendations for Further Research

This study focused on the relationship between financial risk management practices and financial performance of banks in Kenya .a study should be carried out in more than one country to establish if financial risk management practices have an impact on financial performance of banks.

Since this study focused on the relationship between financial risk management practices and financial performance of banks using return on equity as a measure of financial performance a study should be carried out using other measure of performance other than return on equity and find out that if the same conclusions can be arrived at.

The study also concentrated on the effect of financial risk management entirely on performance of the bank itself, another study can be carried out to assess the impact of this on the banks customer base.

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APPENDIX 1: QUESTIONNAIRE

SECTION 1: GENERAL INFORMATION

1. Name of the bank

.....

2. Name of respondent (optional)

.....

3. Occupation ranking

.....

4. How many branches does your organization have?

(a) 1 - 50

(b) 51 – 100

(c) 101 – 200

SECTION 2: Risk Management Practices

Below is risk management practices of commercial banks, on a scale of 1-5, kindly indicate by ticking as appropriate the extent to which the practice is being used in your organization.

(1) Risk Management Environment, Policies and Procedures.

1. Does your bank have a formal risk management system in place?

a) Yes

b) No

2. Which level of management formulates the company's risk management programme/policy?

i. Board of directors []

ii. Senior management []

iii. Risk manager []

iv. Other (specify)

3. Does your bank have a policy of investing across different Countries?

(a) Yes

(b) No

4. Does your bank have a policy of diversifying across different sectors?

(a) Yes

(b) No

2) Risk Monitoring and Management Information System

1. To what extent do you agree that your bank monitor individual credit limit?

	SA	A	N	D	SD
i. Weekly	[]	[]	[]	[]	[]
ii. monthly	[]	[]	[]	[]	[]
iii. quarterly	[]	[]	[]	[]	[]
iv. Other (Specify)				

2. To what extent do you agree that your bank does risk report for senior officers and management on the following basis?

	SA	A	N	D	SD
i. weekly	[]	[]	[]	[]	[]
ii. monthly	[]	[]	[]	[]	[]
iii. quarterly	[]	[]	[]	[]	[]
iv. Other (specify)				

4. To what extent do you agree that your bank monitors customer's business performance after extending credit facility to them?

	SA	A	N	D	SD
i. Weekly	[]	[]	[]	[]	[]
ii. Monthly	[]	[]	[]	[]	[]
iii. Quarterly	[]	[]	[]	[]	[]
iv. Annually	[]	[]	[]	[]	[]

3) Internal controls

1. Does your bank have an internal control system in place which deals with newly recognized risk arising from changes in the environment?

(a) Yes

(b) No

2. To what extent do you agree that the following people are responsible for identifying risk?

	SA	A	N	D	SD
i. Clerks	[]	[]	[]	[]	[]
ii. Line manager	[]	[]	[]	[]	[]
iii. Branch manager	[]	[]	[]	[]	[]
iv. Risk manager	[]	[]	[]	[]	[]

3. To what extent do you agree that the following people are responsible for managing and controlling risk?

	SA	A	N	D	SD
i. Clerks	[]	[]	[]	[]	[]
ii. Line manager	[]	[]	[]	[]	[]
iii. Branch manager	[]	[]	[]	[]	[]
iv. Risk manager	[]	[]	[]	[]	[]

4. To what extent do you agree that your bank does back up of system and data files on the following basis?

	SA	A	N	D	SD
i. Real time basis	[]	[]	[]	[]	[]
ii. Hourly basis	[]	[]	[]	[]	[]
iii. Daily basis	[]	[]	[]	[]	[]
iv. Other (specify)				

APPENDIX 2: LIST OF COMMERCIAL BANKS IN KENYA

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

23. Giro Commercial Bank Ltd.
24. Guardian Bank Ltd.
25. Gulf African Bank Ltd.
26. Habib Bank A.G Zurich
27. Habib Bank Ltd.
28. I & M Bank Ltd.
29. Imperial Bank Ltd.
30. Jamii Bora Bank Ltd.
31. Kenya Commercial Bank Ltd.
32. K- rep Bank Ltd.
33. Middle East Bank (K) Ltd.
34. National Bank of Kenya ltd.
35. NIC Bank Ltd.
36. Oriental Commercial Bank Ltd.
37. Paramount Universal Bank ltd.
38. Prime Bank Ltd.
39. Standard Chartered Bank Ltd.
40. Trans-National Bank Ltd.
41. Victoria Commercial Bank Ltd.
42. UBA Kenya Ltd.

Source: Central Bank of Kenya Annual Supervision Report 2011.

APPENDIX 3: DATA COLLECTION SHEET

	2007 ROE	2008 ROE	2009 ROE	2010 ROE	2011 ROE
1. African Banking Corporation					
2. Bank of Africa Kenya Ltd.					
3. Bank of Baroda (K) Ltd.					
4. Bank of India					
5. Barclays Bank of Kenya Ltd.					
6. CfC Stanbic Bank Ltd.					
7. Chase Bank (K) Ltd.					
8. Citibank N.A Kenya					
9. Commercial Bank of Africa Ltd.					
10. Consolidated Bank of Kenya Ltd.					
11. Cooperative Bank of Kenya Ltd.					
12. Credit Bank Ltd.					
13. Development Bank of Kenya Ltd.					
14. Diamond Trust Bank of Kenya Ltd.					
15. Dubai Bank Kenya Ltd.					
16. Ecobank Kenya Ltd.					
17. Equatorial Commercial Bank Ltd.					
18. Equity Bank Ltd.					
19. Family Bank Ltd.					
20. Fidelity Commercial Bank Ltd.					
21. Fina Bank Ltd.					

22. First Community Bank Ltd.					
23. Giro Commercial Bank Ltd.					
24. Guardian Bank Ltd.					
25. Gulf African Bank Ltd.					
26. Habib Bank A.G Zurich					
27. Habib Bank Ltd.					
28. I & M Bank Ltd.					
29. Imperial Bank Ltd.					
30. Jamii Bora Bank Ltd.					
31. Kenya Commercial Bank Ltd.					
32. K- rep Bank Ltd.					
33. Middle East Bank (K) Ltd.					
34. National Bank of Kenya ltd.					
35. NIC Bank Ltd.					
36. Oriental Commercial Bank Ltd.					
37. Paramount Universal Bank ltd.					
38. Prime Bank Ltd.					
39. Standard Chartered Bank Ltd.					
40. Trans-National Bank Ltd.					
41. Victoria Commercial Bank Ltd.					
42. UBA Kenya Ltd.					

Source: Researcher, 2012.