RELATIONSHIP BETWEEN FINANCIAL PERFORMANCE AND CAMEL RATING OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

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

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D61/70364/2008

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

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DEDICATION

I dedicate this work to the Githinji's family for the sacrifice they made for me to complete this project. Their love, care, concern, support, encouragement and enthusiasm inspired me to achieve this goal.

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ABSTRACT

Sound financial health of a bank is the guarantee not only to its depositors but is equally significant for the shareholders, employees and whole economy as well. As a sequel to this maxim, efforts have been made from time to time, to measure the financial position of each bank and manage it efficiently and effectively. The purpose of CAMELS ratings is to determine a bank's overall condition and to identify its strengths and weaknesses in Financial, Operational and Managerial aspects. Despite the use of CAMEL Model by regulators to assess financial performance of banks, inefficiencies in performance have been experienced. some countries have shifted to other Models like EAGLES (Earning ability, Asset quality, Growth, Liquidity, Equity and Strategy)

This study was an explorative study. It focused on banks registered by the Central bank of Kenya. Both primary and secondary data was be used; questionnaires and audited Financial statements. The study used statistical data analysis methods in addition to the use of computer softwares: SPSS and Microsoft Excel. The findings have been presented in the form of tables and scatter diagrams.

From the findings of the study it was concluded that although CAMEL Model is used to measure financial performance of banks by regulators, no one factor in CAMEL Model is able to capture the wholistic efficiency of a bank. It can also be argued that no one CAMEL rating factor taken separately from the others can influence the financial performance of a bank. Therefore the CAMEL Model rating factors should be considered together as a combination and are inter-related .

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LIST OF ACRONYMS/ABBREVIATION

A.I	Artificial intelligence
CAMELS	Capital, Asset, Management, Earnings, Liquidity, Sensitivity
CLSA	Credit Leona's securities Asia
DEA	Data envelopment analysis
DFA	Distribution free hall approach
IMF	International Monetary Fund
LOLR	Lender-of-last-resort
MDA	Multiple discriminant analysis
NBFIs	Non-bank financial institutions
O.R.	Operational research
PCA	Principal Component Analysis
ROA	Returns on assets
SFA	Stochastic frontier approach
TFA	Thick frontier approach
U.S	United States
VAICTM	Value added intellectual coefficient (Trade mark)

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Sound financial health of a bank is the guarantee not only to its depositors but is equally significant for the shareholders, employees and whole economy as well. As a sequel to this maxim, efforts have been made from time to time, to measure the financial position of each bank and manage it efficiently and effectively. There are various ratios used to measure financial performance namely the Asset ratios-The return on Assets (ROA), Operating Ratios- Return on Income (ROI) and operating Equity - Return on Equity (ROE), (Ikhide 2000).

The CAMELS acronym stands for Capital adequacy, Asset quality, Management, Earnings and Liquidity, (Rose 2010). The purpose of CAMELS ratings is to determine a bank's overall condition and to identify its strengths and weaknesses in Financial, Operational and Managerial aspects. Despite the use of CAMEL Model by regulators to assess financial performance of banks, inefficiencies in performance have been experienced. Other countries have shifted to other Models like EAGLES (Earning ability, Asset quality, Growth, Liquidity, Equity and Strategy) (Wirnkar and Tanko 2007). There is therefore need to reassess the adequacy of the CAMEL Model as tool for assessing financial soundness of banks.

The main advantage of this sort of approach over others like balanced score card is that exam ratings (CAMEL ratings) are thought to be highly accurate measures of bank condition (at least of current condition), since they reflect supervisory assessments of private information (e.g., on

the quality of non-traded loans and the institution's management) that may be superior to that available to outside analysts (Cetorelli 1999). Although CAMEL ratings are not a comprehensive indicator of all the supervisory information gathered during a full scope exam, they serve as a convenient summary measure for analysis, (Lopez 1999).

CAMELS' framework system looks at five major aspects of a financial institution (FI): capital adequacy, asset quality, management soundness, earnings, liquidity, and an additional sixth aspect on sensitivity to market risk, (Hilbers, Krueger and Moretti 2000). The capital adequacy determines how well financial instititions can manage to operate with shocks to their balance sheets. It tracks capital adequacy ratios that take into account the most important financial risks; foreign exchange, credit, and interest rate risks by assigning risk weightings to the institution's assets.

Asset quality determines the output/income for banks, credit risk affects the financial performance of an individual bank. The extent of the credit risk depends on the quality of assets held by an individual bank. The quality of assets held by a bank depends on exposure to specific risks, trends in non-performing loans, and profitability of bank borrowers—especially the corporate sector, (Saunders, et al 2004).

Management determines the strategy and policy for financial performance improvement and wealth maximization for the stakeholders, (Saunders, et al 2004). Sound management is key to bank performance but is difficult to measure. It is primarily a qualitative factor applicable to individual institutions. Several indicators, however, can jointly serve as an indicator of

management soundness , (McNally, Edward 1996). Expenses ratio, earning per employee, cost per loan, average loan size and cost per unit of money lent can be used as a proxy of the management quality, (Keshar Baral 2005).

Earning capacity or profitability keeps up the sound performance of a bank. Chronically unprofitable bank risks insolvency on one hand and on the others, unusually high profitability can reflect excessive risk taking of a bank, (Evan et al 2000). There are different indicators of profitability; Return on assets, return on equity, interest-spread ratio, earning-spread ratio, gross margin, operating profit margin and net profit margin are commonly used profitability indicators, (Keshar Baral 2005).

Liquidity risk threats the solvency of banks and in return the performance (Khan, Tariqullah 1997). liquidity risk arises when depositors of commercial banks seek to withdraw their money or when commitment holders want to exercise the commitments recorded off the balance sheet. Commercial banks have to borrow the additional funds or sell the assets at fire sale price to pay off the deposit liabilities. Liquidity risk may also arise when demand for unexpected loans cannot be met due to the lack of the funds. (Khan, Tariqullah 1997).Maintaining a high liquidity position to minimize such risks also adversely affects the profitability of banks.

Banks play a central role in the economy, they perform the role of financial intermediation ensuring efficiency in the economy through resource allocation.

The banking sector is faced by various financial risks among them liquidity risk, exchange risk,

rate risk, operational risk, price risk and credit risk. The liquidity risk comes from the transformation role of a bank which uses- term is generally superior to the resources- term, inherent transformation to the banking activity. It refers to financial investments that are hard to liquidate (meaning to sell) very quickly (Keshar 2005). The exchange risk results from holding of assets and liabilities with fixed income securities that, defer in terms of dates of payment and remuneration conditions, or holding of assets and liabilities with variable rates when they either show a certain viscosity of adaptation to the new market conditions, or when they have different indexations. The credit risk is the risk that the borrower does not pay back his debt in due time., (Sundarajan and Errico, 2002). All these risks affect the performance of a bank, (Central bank of Kenya prudential guidelines 2006).

The performance of banks has been an issue of major interest for various stakeholders such as depositors, regulators, customers, and investors and the Government policy makers (Board et al 2003). It is usual to measure the performance of banks using financial ratios. Often, a number of criteria such as profits, liquidity, asset quality, attitude towards risk and management strategies must be considered.

There has been a shift towards the use of such state-of-the-art techniques like operational research (O.R.) and artificial intelligence (A.I.). O.R. has been extensively applied to finance during the last half century, (Board et al. 2003).

In the early 1970s, the federal regulators in the USA developed a rating system (CAMEL) to help structure the bank examination process. In 1979, the Uniform rating system was adopted to

provide federal bank regulatory agencies with a framework for rating financial condition and performance of individual banks (siems and Barr, 1998). Since then CAMEL factors have been widely used among the regulators. Financial ratios are often used to measure the overall financial soundness of a bank and the quality of the management. CAMEL rating system has five factors that are used to evaluate the bank's performance which includes; C- Capital adequacy, Asset quality, M-Management quality, E-Earning ability, L- Liquidity.

The commercial Bank Examination Manual produced by the Board of Governors of the Federal Reserve System in U.S. describes the five composite rating levels as a rating of 1 meaning that the institution is basically sound in every respect, a rating of 2 meaning that the institution is fundamentally sound but has modest weakness, a rating of 3 meaning that the institution has financial, operational, or compliance weakness that gives cause for supervisory concern, a rating of 4 meaning that the institution has a serious financial weakness that could impair future viability and a rating of 5 meaning that the institution has critical financial weakness that render the probability of failure extremely high in the near term.

Proper management of financial institutions is therefore very important in enhancing their performance and the economy at large. This chapter presents the statement of the problem, objectives of the study, research questions, and justification of the study.

1.2 Statement of the problem

The confidence of the public and private investors in financial institutions has been shaken by recent failures in the banking sector in Kenya. The first cycle of the bank failures began in

1984-1986 with the collapse of Rural- Urban credit finance, Continental and Union Bank groups. The banks were liquidated after they were unable to repay the deposits obtained from government parastatals (Brown Bridge 1998). This has led to some commercial banks being closed down e.g. Euro bank and Trade bank, while others were placed by Central Bank of Kenya under statutory management e.g. Daima bank. Others which experienced liquidity problem were merged e.g. The home savings and Mortgage company limited and Nationwide Finance company ltd formed part of the present consolidated bank (Njihia 2005)

Bank failures damage the credibility of financial institutions raising costs of deposits and forcing financial institutions to maintain high liquidity as a precaution against bank runs that could lead to insolvency. Many countries in sub-Saharan Africa liberalized their financial sector in late 1990's to encourage greater financial efficiency, (Brown bridge, 2002). Kenya did it in 1990's with interest rate liberalization in 1991.

Bank's performance or rather solvency or insolvency has been given much attention both at the local and international level. Financial ratios are often used to measure the overall financial soundness of a bank and the quality of its management. (Yue, 1992) argues that bank regulators use financial ratios to help evaluate a bank's performance as part of the CAMEL system.

Despite the continuous use of ratios analysis in banks performance appraisal by regulators, opponents to it still thrive. Financial ratios are somewhat limited in scope, that is simple gap analysis are one dimensional views of a service, product, or process that ignore any interactions, substitutions or trade-offs between key variables (siems and Barr, 1998).

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Studies on productivity growth in the banking sector usually base their analysis on cost ratios comparisons, (David et al. 2002). There are several cost ratios to be used and each one of them refers to a particular aspect of bank activity. Banking industry use multiple inputs to produce multiple outputs thus a consistent aggregation may be problematic. Some attempts have been made to estimate average practice cost functions. While these approaches were successful in identifying the average practice productivity growth, they failed to take into account the productivity of the best practice banks. These problems associated with the classical approach to productivity led to the emergence of other approaches which incorporate multiple inputs/outputs and take into account the relative performance of banks. CAMELS is one of such approaches which incorporates even the qualitative aspects. Other models includes EAGLES (Earning ability, Asset quality, Growth, Liquidity, Equity and Strategy), balanced scorecard among others.

Despite many studies on commercial banks having been done in Kenya on topics such as performance by Musyoki (2003),profitability by Njihia (2005), efficiency by Mutanu(2002), X-efficiency by Lyaga Sheilla (2006) and Financial distress in local banks in Kenya by Brown Bridge (1998).

The study on the relationship between the financial performance and the CAMEL rating factors had not yet been done to assess its adequacy as a performance measuring tool. It therefore important to assess the relationship between the financial performance and the CAMEL model factors used to measure the financial soundness of a bank. As an improvement to the study done by Lyaga Sheilla(2006) on X-efficiency this study covers all the five rating factors of CAMEL Model. Further to Improve on the studies done by Njihia (2005) and Musyoki (2003)this study

focuses on financial performance and its drivers.

This leads us to the question: is there a relationship between the financial performance and the CAMEL rating factors or not.

1.3 Objectives

The objective of the study was to analyze the financial performance of the banks aimed at testing the relationship between financial performance and CAMEL rating of commercial banks.

1.4 Justification of the study

The governments, the managers of various commercial banks, investors and savers (lenders) have long been concerned with why various financial institutions have collapsed, other put into receivership and others rescued by the government and parent institutions as happened during the inflationary effects of the 1990's, (Central bank of Kenya economic review 2000). The central Bank of Kenya which is responsible for regulation of these institutions has tried to put in place measures to enhance their performance and reporting, (Central bank of Kenya prudential guidelines 2006).

The study will be a useful guide into policy formulation by the government of Kenya being stakeholders/ shareholders and policy makers. It will help them make appropriate policies regarding establishment of more financial institutions and how the existing ones can be encouraged to expand, promote growth, mobilize savings and allocate resources efficiently . The Commercial bank managers being the key players entrusted with management of assets/investment of their customers (savers) and shareholders will be enlightened on their

strengths and weaknesses, make proper decisions on expansion, introduce new products, understand cost structure, operations and financial performance. The investors / savers, who are concerned with increase in their wealth, safeguard against risk and the performance of their investments in a bank will also find the findings of this study useful. Further the findings of this study will be useful to Central Bank of Kenya which is charged with the regulation and supervision of these institutions in assessing the adequacy of the model in measuring Performance. In addition, other scholars e.g. students may use the findings as a reference material for their future studies.

<center>**CHAPTER TWO**</center>

<center>**LITERATURE REVIEW**</center>

2.1 Introduction

This chapter contains literature review on where the CAMEl Model has been previously applied successfully, empirical literature review and how inputs were measured, the advantages of the Model and guiding theories and measures of financial performance.

2.2 Measures of Financial performance

There are various ratios used to measure financial performance namely the Asset ratios-The return on Assets (ROA), Operating Ratios- Return on Income (ROI) and operating Equity - Return on Equity (ROE), (Ikhide 2000). Regarding the earnings and profitability factors, (Sahajwala and Bergh, 2000) included aspects like: return on assets compared to peer group averages and the bank's own trends, material components and income and expenses—compared to peers and the bank's own trends, adequacy of provisions for loan losses, quality of earnings, and dividend payout ratio in relation to the adequacy of bank capital

2.3 The CAMEL Model and Financial Ratios

CAMEL model has been used very successfully by many researchers to evaluate the operational and financial performance of banks; one of the latest studies was done by (Sangmi and Nazir 2010). They used the CAMEL parameters to highlight the position of banks in northern India after evaluating their capital adequacy, asset quality, management capability and liquidity.

Bank's performance or rather solvency or insolvency has been given much attention both locally and internationally; (Saidov Elyor, 2009) in Malaysia, (Abdul Awwal Sarker 2006) in India

among others. Financial ratios are often used to measure the overall financial soundness of bank and the quality of its management. Banks' regulators use financial ratios to help evaluate a bank's performance as part of the CAMEL system (Yue, 1992). Empirical evidence on the use of ratios for banks' performance appraisal include: (Beaver 1966), (Altman 1968), (Maishanu 2004), (Mous 2005).

The changing nature of the banking industry has made such evaluations even more difficult, gingering the need for more flexible alternative forms of financial analysis. Empirical evaluation methods have been adopted (Lopez 1999). These are the parametric methods of; the stochastic frontier approach (SFA), the thick frontier approach (TFA) and the distribution free hall approach (DFA); and the non parametric method of data envelopment analysis (DEA).

The proponents of the parametric approaches are; (Asaftei 2003), (Limam 2002) while the empirical evidence of the non parametric of data envelopment analysis (DEA) are; (Cinca and Molinero 2001), (Cinca et al 2002), (Sathye 2001), (Yue 1992), (Grigorian and Manole 2002), (Su 2004) and (Tanko 2006), (Wirnkar 2007), (Wirnkar and Tanko 2007).

2.4 Relevant theories

The research is guided the banking theory and practice as propagated by wirnkar and tanko 2007, expectancy theory and the theory of the firm, (Hannan, T. 1980)

2.5 Empirical literature review

2.5.1 CAMEL Rating system

(Keeley 1988) carried out a study that used the capital adequacy component of the CAMEL rating system to assess whether regulators in the 1980s influenced inadequately capitalized banks to improve their capital. Using a measure of regulatory pressure that is based on publicly available information, he found that inadequately capitalized banks responded to regulators' demands for greater capital. Yet, a measure of regulatory pressure based on confidential capital adequacy ratings reveals that capital regulation at national banks was less effective than at state-chartered banks. This result strengthens a conclusion reached by Gilbert (1991)

2.5.2 Banks performance evaluation by CAMEL model

Despite the continuous use of financial ratios analysis on banks performance evaluation by banks' regulators, opposition to it skill thrive with opponents coming up with new tools capable of flagging the over-all performance (efficiency) of a bank. (Hirtle and Lopez 1999) carried out a study to find the adequacy of CAMEL in capturing the overall performance of a bank, to find the relative weights of importance in all the factors in CAMEL and lastly to inform on the best ratios to always adopt by banks regulators in evaluating banks' efficiency. In addition, the best ratios in each of the factors in CAMEL were identified. For example, the best ratio for Capital Adequacy was found to be the ratio of total shareholders' fund to total risk weighted assets. The paper concluded that no one factor in CAMEL suffices to depict the overall performance of a

bank. Among other recommendations, banks' regulators are called upon to revert to the best identified ratios in CAMEL when evaluating banks performance.

2.5.3 CAMEL model examination

To assess the accuracy of CAMEL ratings in predicting failure, (Rebel Cole and Jeffery Günter 1996) used as a benchmark an off-site monitoring system based on publicly available accounting data. Their findings suggest that, if a bank has not been examined for more than two quarters, off-site monitoring systems usually provide a more accurate indication of survivability than its CAMEL rating. The lower predictive accuracy for CAMEL ratings "older" than two quarters causes the overall accuracy of CAMEL ratings to fall substantially below that of off-site monitoring systems. The higher predictive accuracy of off-site systems derives from both their timeliness-an updated off-site rating is available for every bank in every quarter-and the accuracy of the financial data on which they are based. Cole and Gunther conclude that off-site monitoring systems should continue to play a prominent role in the supervisory process, as a complement to on-site examinations. The deregulation of the U.S. banking industry has fostered increased competition in banking markets, which in turn has created incentives for banks to operate more efficiently and take more risk. They examine the degree to which supervisory CAMEL ratings reflect the level of risk taken by banks and the risk-taking efficiency of those banks (i.e., whether increased risk levels generate higher expected returns). Their results suggest that supervisors not only distinguish between the risk-taking of efficient and inefficient banks, but they also permit efficient banks more latitude in their investment strategies than inefficient banks.

2.5.4 Bank soundness - CAMEL ratings

(Kenton Zumwalt 1995) in their study used a unique data set provided by Bank Indonesia to examine the changing financial soundness of Indonesian banks during this crisis. Bank Indonesia's non-public CAMEL ratings data allow the use of a continuous bank soundness measure rather than ordinal measures. In addition, panel data regression procedures that allow for the identification of the appropriate statistical model are used. They argue the nature of the risks facing the Indonesian banking community calls for the addition of a systemic risk component to the Indonesian ranking system. The empirical results show that during Indonesia's stable economic periods, four of the five traditional CAMEL components provide insights into the financial soundness of Indonesian banks. However, during Indonesia's crisis period, the relationships between financial characteristics and CAMEL ratings deteriorate and only one of the traditional CAMEL components—earnings—objectively discriminates among the ratings.

2.5.5 CAMELs and Banks Performance Evaluation

(Muhammad Tanko) in their study argues that despite the continuous use of financial ratios analysis on banks performance evaluation by banks' regulators, opposition to it skill thrive with opponents coming up with new tools capable of flagging the over-all performance (efficiency) of a bank. This research paper was carried out; to find the adequacy of CAMEL in capturing the overall performance of a bank; to find the relative weights of importance in all the factors in CAMEL; and lastly to inform on the best ratios to always adopt by banks regulators in evaluating banks' efficiency. The data for the research work is secondary and was collected from the annual reports of eleven commercial banks in Nigeria over a period of nine years (1997 - 2005). The

purposive sampling technique was used. The findings revealed the inability of each factor in CAMEL to capture the holistic performance of a bank. Also revealed, was the relative weight of importance of the factors in CAMEL which resulted to a call for a change in the acronym of CAMEL to CLEAM. In addition, the best ratios in each of the factors in CAMEL were identified. The paper concluded that no one factor in CAMEL suffices to depict the overall performance of a bank. Among other recommendations, banks' regulators are called upon to revert to the best identified ratios in CAMEL when evaluating banks performance.

2.6 Examiners ratings

In early 1970's regulators of the federal financial institutions, realized the advantages of a standardized framework for the examination process. They developed a rating system whereby the most critical components of a financial institution's overall safety and soundness could be identified, measured and quantified. In 1979 the uniform Financial rating system was adopted commonly referred to by the Acronym CAMEL: Capital adequacy, Asset quality, Management, Earnings and Liquidity. The outcome of an on-site examination of a financial institution has become a concise and indispensable tool for examiners and regulators(Barr,1999).

2.7 Operating ratios

This is a method of measuring efficiency/performance using accounting data on bank management, costs and profit maximization measures of bank efficiency (Ikhide 2000). The ratios mainly used are Asset ratios-The return on Assets (ROA), Operating Ratios- Return on Income (ROI) and operating Equity - Return on Equity (ROE).

The setback of this method is the differences between capital structures, the business mix, the different accounting standards across banks affecting the ratios (Ikhide 2000) . This is evident in Kenya and if used alone may not be a good measure of Commercial banks performance.

(Barr 1999), argues that the examiner rating i.e. CAMEL Model may introduce bias in measuring efficiency as a firm has to be fitted in either one of five listed categories. Most commonly used methods are Data Enveloping Analysis (DEA), Stochastic Efficient cost frontier approach (SECFA). DEA does not capture cost element but only looks at input compared to corresponding output (Weill 2003)

2.8 Bank efficiency, performance and its measurement

Previous studies have examined efficiency and associated effects on financial institution performance from several different perspectives. These include the effects of mergers and acquisitions (Berger, Demsetz, and Strahan, 1999, and Resti, 1998), institution failure (Barr, Seiford, and Siems, 1993), and (Cebenoyan, Cooperman, and Register, 1993), and deregulation issues (Humphrey and Pulley, 1997), and (DeYoung, 1998), among many others. Models like Frontier efficiency models are employed by these researchers over other performance indicators primarily because these models result in an objectively determined quantified measure of relative performance that removes the effects of many exogenous factors. This permits the researcher to focus on quantified measures of costs, inputs, outputs, revenues, profits, etc. to impute efficiency relative to the best practice institutions in the population. However these Models could not assess the performance of a bank comprehensively necessitating development of other Models like CAMEL Model.

2.9 Advantages of using CAMEL Model

Numerous studies have explored banking supervisory issues, many relying on CAMEL(S) ratings, an internationally agreed approach for bank examination that produces disaggregated and composite bank-specific comparable information on the performance and risk exposure of commercial banks. In his research on the value of CAMEL(S) ratings to monitor bank conditions, (Lopez, 1999) concluded that CAMEL ratings are not a comprehensive indicator of all the supervisory information gathered during a full scope exam, but they serve as a convenient summary measure for analysis. CAMEL ratings are thought to be highly accurate measure of bank condition (at least of current condition), since they reflect supervisory assessments of private information (e.g., on the quality of non-traded loans and the institution's management) that may be superior to that available to outside analysts (Cetorelli ,1999).

In general, authors agree that banks with composite CAMEL ratings of 1 or 2 require minimal attention of supervisors as they pose few systemic risks and are considered to be high-quality institutions. On the other hand, banks with ratings of 3 or higher are not satisfactory and, as confirmed by (Lopez, 1999), their operations cause moderate to extreme degrees of supervisory concern.

2.10 The CAMEL Rating Components

2.10.1 Capital Adequacy

Capital   adequacy is measured in terms of absolute minimum as prescribed in the banking Act is Kshs 250m for banks Kshs 200m for Non-bank financial institutions (NBFIs).

In the standard CAMELS framework, capital adequacy focuses on the total risk weighted capital intended to protect the depositors from the potential shocks of losses that a bank might incur. Capital adequacy is assessed according to the volume of risk assets, the volume of marginal and inferior assets, bank growth experience, plans, and prospects; and the strength of management in relation to all the above factors (Sundarajan and Errico, 2002). (Sahajwala and Bergh, 2000) added other factors like quality of capital, retained earnings, access to capital markets, and non-ledger assets and sound values not shown on books (real property at nominal values, charge-offs with firm recovery values, tax adjustments)

2.10.2 Asset Quality

Asset quality is measured in terms of non-performing loans less provisions as a percentage of gross loans. Non-performing loans are those facilities whose performance does not conform to the terms and conditions in the letter of offer (agreement). These are facilities classified as substandard, doubtful and loss in accordance with the prudential guidelines on loan classification and provisioning. An increase in percentage of non-performing loans to gross advances is an indication of declining asset quality.

In the standard CAMELS framework, asset quality is assessed according to: the level, distribution, and severity of classified assets, the level and composition of nonaccrual and reduced rate assets, the adequacy of valuation reserves; and the demonstrated ability to administer and collect problem credits (Sundarajan and Errico, 2002). (Sahajwala and Bergh, 2000) on other hand argues that asset quality include factors such as, volume of transactions, special mention loans—ratios and trends, level, trend and comparison of non-accrual and

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renegotiated loans, volume of concentrations, and volume and character of insider transactions (Sahajwala and Bergh, 2000).

2.10.3 Management Soundness

Financial institutions supervision division (FISD) incorporated 'M' for management in the rating parameters. The rating is based on qualitative factors using a standard questionnaire that incorporates aspects of corporate governance and put emphasis on risk management systems. The following parameters are used in rating management: Role of shareholders, Board and senior management oversight and financial performance indicators. The composite rating is derived by aggregating the parameters and by allocating weight to these parameters. The state of each of the other factors in the CAMEL system (CAEL- capital adequacy, Asset quality, Earning capability and Liability) determines the quality, ability and effectiveness of management and therefore management is rated last after rating all the other components

Sound management is a key pre-requisite for the strength, profitability and growth of any financial institution. Since indicators of management quality are primarily specific to individual institution, these cannot be easily aggregated across the sector. In addition, it is difficult to draw any conclusion regarding management soundness on the basis of monetary indicators, as characteristics of good management are generally qualitative in nature. X-efficiciency which is measured using efficiency frontier is used to assess management quality. Ratios such as total expenditure to total income, operating expenses to total expenses, earnings and operating expenses per employee, and interest rate/mark-up spread are generally used to gauge management soundness. In particular, a high and increasing expenditure to income ratio indicates

the operating inefficiency that could be due to weaknesses in management.

2.10.4 Earnings and Profitability

Earnings/profitability is measured in terms of return on assets (ROA) expressed as profit before tax as a percentage of gross assets including off-balance sheet asset. The return on Assets ratio may be supplemented by other ratios which include: Net interest/Average earning Assets, Non-Interest expenses/ Operating income and Total expenses/Total income. (Central bank of Kenya prudential guidelines 2006).

Strong earnings and profitability profile of a bank reflect good performance and banks enhance their ability to support present and future operations. More specifically, this determines the capacity to absorb losses by building an adequate capital base, finance its expansion and pay adequate dividends to its shareholders. In the standard CAMELS framework, earnings are assessed according to: the ability to cover losses and provide for adequate capital; earnings trend; peer group comparisons; and quality and composition of net income (Sundarajan and Errico, 2002). As regards the earnings and profitability factors, (Sahajwala and Bergh, 2000) highlights aspects like: return on assets compared to peer group averages and the bank's own trends, material components and income and expenses—compared to peers and the bank's own trends, adequacy of provisions for loan losses, quality of earnings, and dividend payout ratio in relation to the adequacy of bank capital

2.10.5 Liquidity

Liquidity refers to the ability of a financial institution to meet its maturing obligations. Liquidity

is measured in terms of net liquid assets as a percentage of net deposit liabilities. Liquidity gap can be supplemented by gap analysis of maturity mismatches between assets and liabilities within the specified maturity bands. (Central bank of Kenya prudential guidelines 2006).

In the standard CAMELS framework, liquidity is assessed according to: volatility of deposits; reliance on interest-sensitive funds; technical competence relative to structure of liabilities; availability of assets readily convertible into cash; and access to inter-bank markets or other sources of cash, including lender-of-last-resort (LOLR) facilities at the central bank (Sundarajan and Errico, 2002). (Sahajwala and Bergh, 2000) regarding the liquidity factors, highlights aspects like adequacy of liquidity sources compared to present and future needs, availability of assets readily convertible to cash without undue loss, access to money markets, level of diversification of funding sources: on- and off-balance sheet, degree of reliance on short-term volatile sources of funds, trend and stability of deposits, ability to securitize and sell certain pools of assets, and management competence to identify, measure, monitor and control liquidity position.

2.10.6 Sensitivity to Market Risk

The sensitivity to market risk is assessed by the degree to which changes in market prices, notably interest rates, exchange rates, commodity prices, and equity prices adversely affect a bank's earnings and capital. The following factors may be taken into consideration to measure the sensitivity to market risk: The sensitivity of the bank's earnings or the economic value of its capital base or net equity value due to adverse effect in the interest rates of the market. The amount of market risk arising from trading and foreign operations.

2.11 Measuring Inputs and Outputs of Banks

Management efficiency is analyzed by way of comparing inputs against the resulting outputs. In the banking literature, there has been some disagreement on the definition of banks' inputs and outputs and how they could be measured. (Su ,2004), (Mlima and Hjalmarsson 2002), (Sathye 2001). These terms form the quantum of services banks provide as well as the different views regarding the treatment of such services as inputs and/or outputs.

Banks mostly provide customers with low risk assets, credit and payment services, and play an important role as intermediaries in directing funds from savers to borrowers. They also perform non-monetary services such as protection of valuables, accounting services and running of investment portfolios (Colwell and Davis, 1992) and (Mlima and Hjalmarrson; 2002).

Other services include, Deposit collection through savings account, current account and fixed deposit account; Provision of credit to customers in form of loans, overdraft, advance, bill discounting, leasing, acceptance of bills, bonds and guarantees; Money transmission services such as cheque, mail transfer, telegraphic transfer; Provision of financial services such as tax administration, stock exchange services, insurance services, investment advisory services, business advisory services, status enquiry, safe custody, administration of Wills; Foreign services, such as travelers' cheque, foreign currency, foreign draft, mail transfer, telegraphic transfer, letter of credit, bills of collection and international settlement (Ahmed 1999)

Despite the disagreement as to the definition of inputs and outputs in the banking industry, there is a general agreement in the literature among authors on two main approaches that could be used

to define the input and output variables in the spectrum of services that banks provide. These two approaches are the production approach and the intermediation approach (Berger and Humphrey 1997), (Piyu, 1992), (Sathye 2001), (Su Wu 2004), (Mlima and Hjalmarrson, 2002). Some authors call the production approach, Service Provision or Value Added Approach (Grigorian and Manole, 2002).

In the production approach banks are treated as firms that use capital and labour to produce different categories of deposit and loans accounts whereas in the assets approach banks are viewed as intermediators of financial services rather than producers of deposit and loans accounts services. In this the value of loans and investments is used as output measures, labour and capital are input to this process. These two processes are basically the same the only the difference is that the latter uses value instead of quality which may not vary significantly in assets

2.12 Conclusion

It is important to assess the relationship between CAMEL ratings and Financial performance of commercial banks so as to assess the adequacy of the Model as a measurement and regulation tool.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Methodology describes the research route to be followed, the instruments to be used, population and sample of the study for the data to be collected, the tools of analysis used and pattern of deducing conclusions. For the purpose of the present study, the research instrument used is the CAMEL Model which is the recent innovation in the area of financial performance evaluation of banks.

3.2 Research Design

Research design deals with a logical problem and not a logistical problem (Yin, 1989). Before a builder or architect can develop a work plan or order materials they must first establish the type of building required, its uses and the needs of the occupants. The research design was descriptive. The study used longitudinal analysis focusing on different years financial statements. The design made it easy to compare the different year's performance. The research was based on analysis of selected banks representing the industry for three years and comparison made to arrive at a conclusion from the findings.

3.3 Population

Kenya had fourty four (43) Commercial banks with one under statutory management, one (1) mortgage institution, two(2) microfinance institutions, One Hundred and thirty (130) foreign exchange bureaus and one(1) credit bureau registered by Central bank of Kenya as at January

2010. (Central bank of Kenya Central bank of Kenya prudential guidelines 2006).

The target population was all the fourty four (43) commercial banks registered by the central bank of Kenya

3.4 Sample of the study

The question of sample size is complex because it depends on the type of sample, the statistic question, the homogeneity of the population, the time, money and personnel available for the study among other factors, (Churchill and Iacobecci 2002).

The banks were first grouped into the following five categories; Foreign owned and not locally incorporated, Foreign owned but locally incorporated institutions, institutions with Government participation, Institutions locally owned and Institutions listed on the NSE.

The sample size of the study was twenty two banks registered by the Central Bank of Kenya and operating within the country. The rule of the thumb is that the sample size should be around 1/10 of the population. The twenty two banks were considered adequate due to limitation of time and cost involved in data collection and analysis. Other studies such as the one done by sheilla (2006) focused on one rating factor with a sample of thirty three (33) while this study focused on more factors (five factors) thus too involving in terms of time and cost . In addition similar studies such as the one done by wirnkar(2007) used smaller samples of eight to arrive at a comprehensive conclusion.

3.5 Sampling Method

Random sampling method was used after the banks are grouped into stratas. The main reasons for selecting the method were that; the method is convenient and there is some similarity/homogeneity in each category. It would have been cumbersome and time consuming to analyze all the financial statements of the fourty four banks each for three years. The Financial statements were readily available from the Capital Markets Authority, Nairobi stock exchange and the central bank for the said banks.

3.6 CAMEL parameters

This system was adopted by Central bank of Kenya since back in 1980's to evaluate performance of financial institutions for purpose of supervision. Under this system the rating of individual banks is done along five key parameters- Capital adequacy, Asset quality, Management capability, Earnings capacity, and Liquidity (yielding the rating systems acronym – CAMEL). Each of the five dimensions of performance is rated on a scale of 1 to 5, varying from fundamentally strong bank to fundamentally weak bank.

The rating was based on the Composite ratings. The ratings are based on careful evaluation of an institution's managerial, operational, financial, and compliance performance. The Key components used to assess an institution's financial condition and operations are: capital adequacy, asset quality, management capability, earnings quantity and quality, adequacy of liquidity and sensitivity to market risk.

The rating scale ranges from 1 to 5, with a rating of 1 indicating: the strongest performance and risk management practices relative to the institution's size, complexity and risk profile and the level of least supervisory concern. A 5 rating indicates: the most critically deficient level of performance inadequate risk management practices relative to the institution's size, complexity, and risk profile and the greatest supervisory concern. The composite ratings are arrived at by computing the average/mean of the rating assigned to each the five components upon determination of the ranges.

3.7 The Variables used in the study

The variables in this study based on CAMEL framework comprising, capital adequacy, asset quality, management, earnings and liquidity. In the following figure is described the theoretical framework for the bank performance. There are five categories under the independent variables and each category has its own ratios. ROE (return on equity) and Return on Assets (ROA) was computed as part of the dependent variables.

3.7.1 Theoretical framework by Saidov Elyor, October (2009).
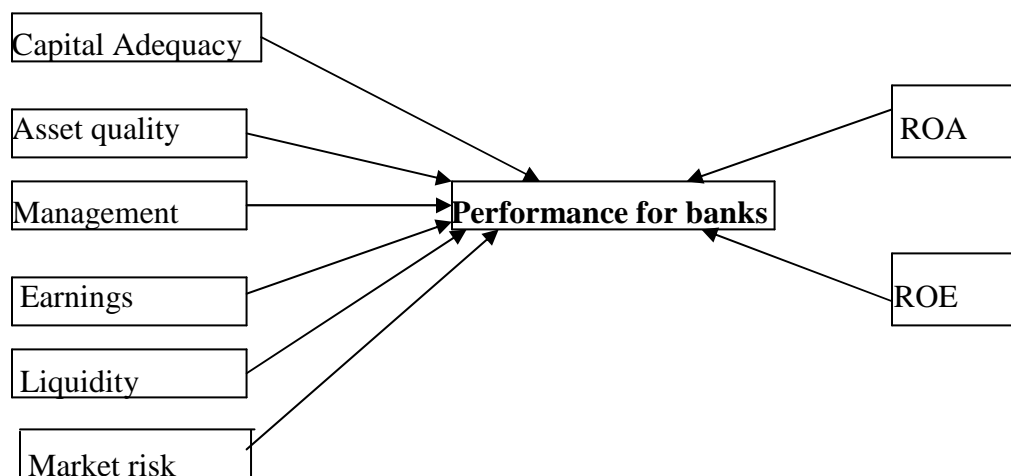
3.8 Data Collection

Data to be used was mainly secondary data and respondents to self administered questionnaire. Audited Financial statements for twenty two banks for at least three years was needed. A questionnaire to test the management's aspect was used. The questionnaire was pretested to ensure no ambiguity and relevance to the area of study. Basically audited financial statements for three financial years for the selected banks were used. Financial statements for the year before and after the three year period may be needed to compute the opening and closing averages. Questionnaire to gather information on the board of directors, the shareholders and compliance with the banking Act was administered.

3.9 The data analysis technique

Data analysis was done by use of important statistical tools like the mean and standard deviation to arrive at conclusions. Findings and results were presented in graphical form. Conclusions were made based on analysis of the relationship between the variables. Simple linear regression analysis tool was used to assess the relationship between the variables and financial performance. Return on equity and return on Assets were taken as the dependent variables each separately and the computed composite ratings for each CAMEL factor were the independent variable. Linear relationship was assessed using the equation

$ROE_y = a + bx + e$

$ROA_y = a + bx + e$

Where 'a' is the intercept, X the assessed factor i.e. Capital adequacy, Asset quality, Management, Earnings and Liquidity, b the coefficient of the factor and e is the error term.

$$b = \frac{n\sum xy - \sum x \sum y}{n\sum(x^2) - (\sum x)^2}$$

$$a = \frac{\sum y - b\sum x}{y}$$

ROA and ROE have previously been used by previous researchers like Saidov Elyor (2009) and Wirnkar A.D. and Tanko M (2007). Ratios for each variable were first computed and then the results were fitted into a regression equation where the number of banks represent 'n', the CAMEL ratings ratios the 'x' and ROE/ROA the 'y'. Statistical softwares, the SPSS and the Ms Excel were used to analyze data.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND PRESENTATION

4.1 Introduction

This chapter presents the results of data analysis as captured in the study instruments. Raw data retrieved from the field was checked for errors and completeness, coded and entered into the computer worksheet. The data was finally analyzed using statistical package for social sciences and the results tabulated on an Excel worksheet for ease of comparison, deduction and conclusion. The retrieved questionnaires were 16 out of 22 distributed questionnaires resulting to a response rate of 73 %. The study results detailed below.

4.2 Management relationship with the shareholders/stakeholders

This part of the study attempted to capture respondent's information on how the shareholders participate in the Annual General meeting, their wealth maximization through adequate returns on their investment in relation to the prevailing market condition as indicated by the treasury bills. Equity between majority and minority shareholders and competence of the board of directors. The respondents are supposed to rate the bank by assigning a number 1-5. 1 to denote strong, 2 for satisfactory, 3 for fair, 4 for marginal and 5 for unsatisfactory.

4.3 Board of Director and senior management: Their attitude towards risk management, policy and procedures formulation, risk monitoring and management information, internal controls and other strategies.

This section focused on senior managements' and board of directors ability to identify clearly understand the types of risks inherent in their institutions, policies and procedures towards identification, measurement, monitoring and control of risks that may adversely affect the performance of a bank. Consistency of the said policies and procedures with that stated goals, objectives and the overall financial strength. The section also addressed the risk monitoring, reporting, timely execution by the management and managements' response to advice offered by the regulatory bodies. The strength of the internal controls to safeguard against the bank's assets. Finally the management's strategy to retain its bank customers. The respondents are supposed to rate the bank by assigning a number 1-5. 1 to denote strong, 2 for satisfactory, 3 for fair, 4 for marginal and 5 for unsatisfactory.

4.4 Managements' compliance with the regulating/governing laws.

This section is divided into four (4) classes. Class 1 assesses the banks compliance with capital requirements and how it gives out loans and advances make adequate provisions for non-performing loans and advances and liquidity requirements with regard to reserve ratio. The respondent is required to indicate 1 for compliance or simply 5 for non- compliance. Class 2 assesses the bank's compliance with law on conflict of interest, ownership/ controlling interest in companies and financial reporting. The respondent is required to indicate 1 for compliance or simply 4 for non- compliance. Class 3 assesses the bank's compliance with law on licensing,

safeguard of its depositors through contribution to Deposit protection Fund. Co-operation during

inspection done in accordance with the banking Act. The respondent is required to indicate 1 for

compliance or simply 3 for non- compliance. Class 4 assesses the bank's compliance with law on

financial reporting, appointment of auditors and closure of business. The respondent is required

to indicate 1 for compliance or simply 2 for non- compliance.

4.5 Regression analysis

The data from the management's questionnaire together with the results of analysis of financial

statements into the SPSS software work sheet for analysis. The data was analyzed using the

SPSS computer software and fitted into the equations iii and iv below for the three years of

study. The results were as tabulated in table 1 and 2 below: The results would then used to form

the equations i and ii below. Scatter diagram for the regression data were plotted   using excel

programme for each CAMEL factor for three years and results represented in figures 1 to 10

below.

$$\text{ROE } y = a + bx + e \text{ (i) and}$$

$$\text{ROE } y = a + bx + e \text{ (ii) each equation being independent of each other.}$$

Where a is the   y intercept, b the coefficient of x the factor (*Capital adequacy or Asset quality or Management or Earnings or Liquidity*) being analyzed and e is the error term.

The value of a and b were computed using the equations below. The value of e is computed by

comparing the value of y as computed using equations (i) and (ii) above and the actual value of y

from the regression scatter diagram.. For the purpose of this study the focus was on finding the

values of a and b which would help in assessing the existence of any significant relationship (r-

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the coefficient of correlation) between x (the CAMEL rating factors and y (the Financial

performance ratios)

$$b = \frac{n\sum xy - \sum x \sum y}{n\sum (x^2) - (\sum x)^2} \qquad \text{(iii)}$$

$$a = \frac{\sum y - b\sum x}{y} \qquad \text{(iv)}$$

$$r = \frac{n\sum xy - \sum x \sum y}{\sqrt{[n\sum (x^2) - (\sum x)^2][n\sum (y^2) - (\sum y)^2]}} \qquad \text{(iv)}$$

Where y the ROE or ROA values for each bank , b is the coefficient of x (Capital Capital

adequacy or Asset quality or Management or Earnings or Liquidity- each was taken one at a time

and regression analysis done), a the y-intercept, r the coefficient of correlation, n the number of

banks used in the study (i.e.16),   The results of equations iii ,iv and v are presented in table 1

and 2 below;

Table 1: The values of a,b and r for each CAMEL rating factor regressed against ROE

CAPITAL ADEQUACY (x) AND ROE (y)	2007	2008	2009
a- intercept	18.9	18.94	14.95
b- coefficient of x	-0.03	-0.06	-0.04
r- correlation coefficient	-0.16	-0.13	-0.09
ASSET QUALITY AND ROA (y)	2007	2008	2009
a-intercept	16.88	17.38	13.40
b-coefficient of x	0.14	-0.12	0.04
r- correlation coefficient	0.20	-.0.09	0.02
MANAGEMENT QUALITY AND ROA (y)	2007	2008	2009
a-intercept	55.13	-19.84	-86.41
b-coefficient of x	-31.38	30.58	83.28
r- correlation coefficient	-0.29	0.26	0.65

EARNING ABILITY AND ROA (y)	2007	2008	2009
a-intercept	12.86	7.48	3.68
b-coefficient of x	1.29	2.84	3.62
r- correlation coefficient	0.31	0.59	0.83
LIQUIDITY *AND ROA (y)*	2007	2008	2009
a-intercept	17.06	18.27	15.93
b-coefficient of x	0.01	-0.03	-0.05
r- correlation coefficient	0.04	-0.13	-0.26

Table 2: The values of a,b and r for each CAMEL rating factor regressed against ROA

CAPITAL ADEQUACY (x) AND ROA (y)	2007	2008	2009
a- intercept	1.12	1.12	0.01
b- coefficient of x	0.03	0.04	0.00
r- correlation coefficient	0.82	0.47	0.25
ASSET QUALITY *AND ROA (y)*	2007	2008	2009
a-intercept	2.36	2.10	0.02
b-coefficient of x	0.05	0.07	0.00
r- correlation coefficient	0.34	0.34	0.25
MANAGEMENT QUALITY AND ROA (y)	2007	2008	2009
a-intercept	9.36	-5.23	-0.15
b-coefficient of x	-5.67	6.38	0.14
r- correlation coefficient	-0.27	-0.31	0.56

EARNING ABILITY AND ROA (y)	2007	2008	2009
a-intercept	-0.24	-0.15	0.00
b-coefficient of x	0.79	0.78	0.01
r- correlation coefficient	-.98	0.94	0.98
LIQUIDITY AND ROA (y)	2007	2008	2009
a-intercept	1.80	2.35	0.02
b-coefficient of x	-0.01	0.00	0.00
r- correlation coefficient	0.04	-0.13	-0.26

4.6 Interpretation of the table 1 and 2 results

The y intercept (a) for all the factors in both the ROA and ROE analysis is positive except for the case of management quality which is negative. This means that the banks cannot perform properly without quality management. The value of *r* for all the factors is too low meaning there is little relationship between financial performance and CAMEL rating of commercial banks . This was further confirmed by the form of Scatter diagram in figures 1 to 10 reflected below.

Capital adequacy has a negative gradient in relation to ROE, this is true in that as capital increases, the Equity denominator for ROE increase thus a lower value of ROE ratio. Capital adequacy and ROA has a positive gradient though at times very low (Zero) this means as capital increases the value of ROA ratio increases, higher capital may improve the stability of bank against shocks in the economy this may in turn increase depositors confidence, attract many and more of deposits at low cost, reducing expenditure and improving performance leading to a higher ROA.

Asset Quality in both ROE and ROA analysis has a positive gradient, generally this means that an increase in the quality of asset leads to an improved financial performance. However the value is too low meaning it has very little influence.

Management quality in both ROE and ROA analysis has a positive gradient, generally meaning that increase in the management quality leads to an improved financial performance. Management is a key factor because it determines the other factors, quality management determines earning ability strategies, the liquidity level, how much capital is adequate and how to hedge/ control risks that affect the quality of assets.

Earning ability in both ROE and ROA analysis has a positive gradient, generally this means that an increase in the earning ability leads to an improved financial performance. Higher earning ability means higher earnings thus a higher numerator (of earnings) thus high ROE/ROA ratio. The correlation coefficient (r) for earning ability is also higher than for the other factors. This is

true because the better the earning ability the better the financial performance for a bank as measured by ROA and ROE.

Liquidity in both ROE and ROA has a negative gradient or too low. The negative gradient means that when liquidity increases ROE/ROA decreases. Normally a bank that maintains a higher liquidity does it at the expense of good performance since a lot of funds that would have been advanced as loans to earn income/interest is tied up.

Figures 1 (a), (b) and (c) to 5 (a), (b) and (c): Scatter diagrams for CAMEL factors and ROE
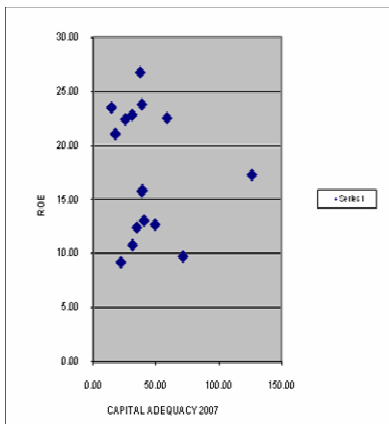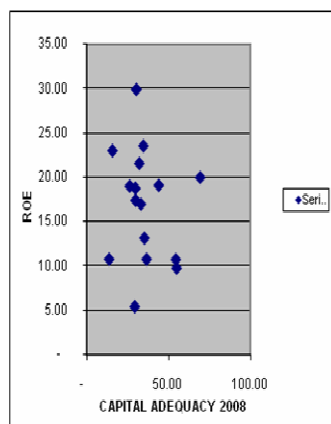
Figure 1(a)   Figure 1(b)   Figure 1(c)
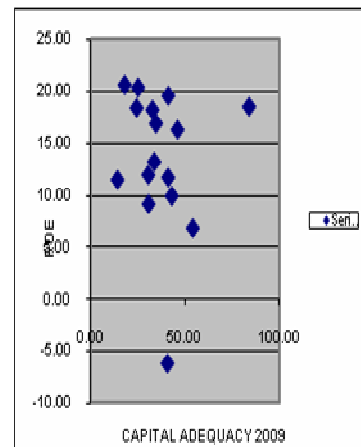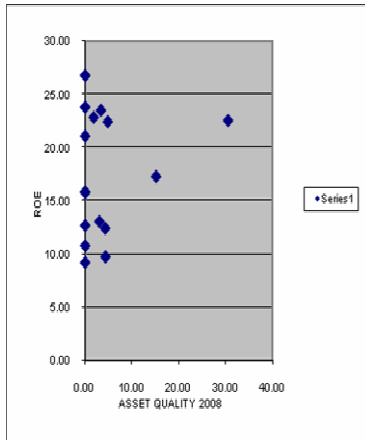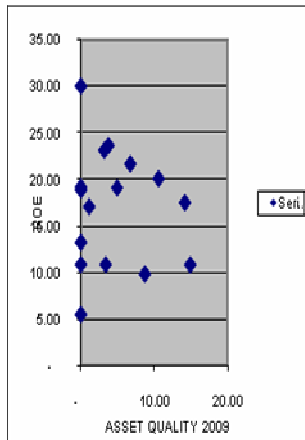
Figure 2 (a)   Figure 2 (b)   Figure 2 (c)
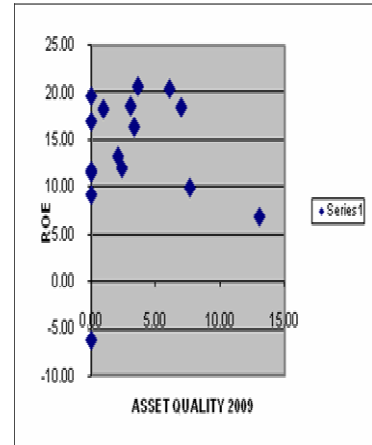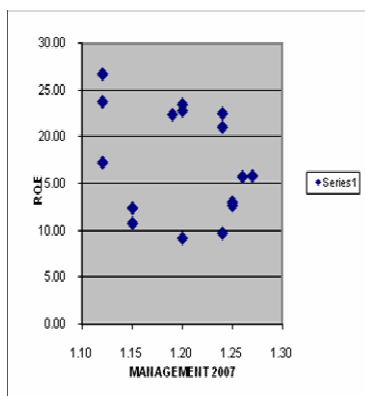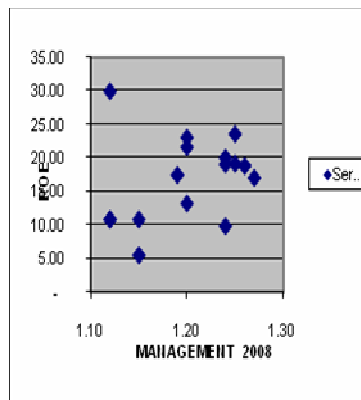
Figure 3(a)   Figure 3(b)   Figure 3(c)
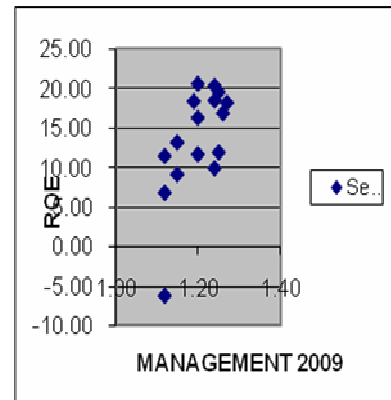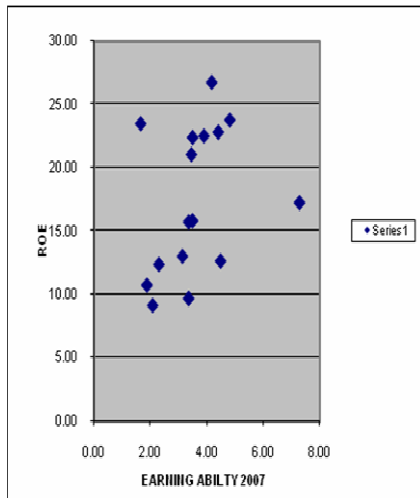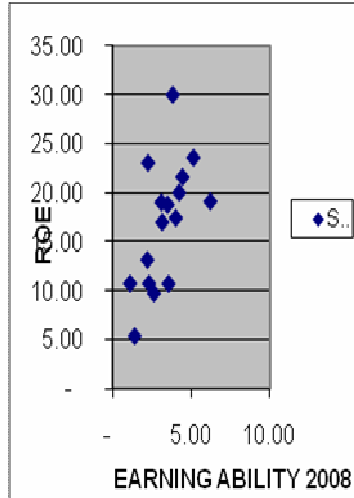
Figure 4(a)   Figure 4(a)   Figure 4(a)
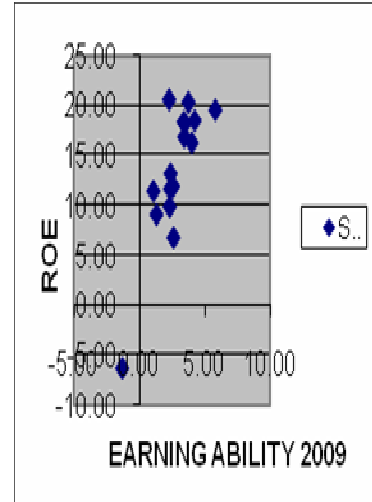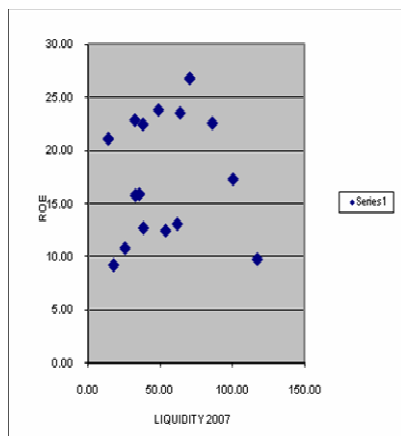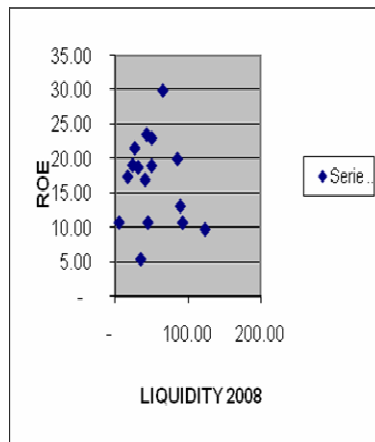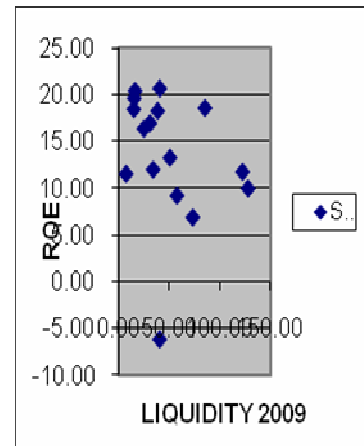

Figure 5(a)   Figure 5(b)   Figure 5s(c)

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Figures 6 (a), (b) and (c) to 10 (a), (b) and (c): Scatter diagrams for CAMEL factors and
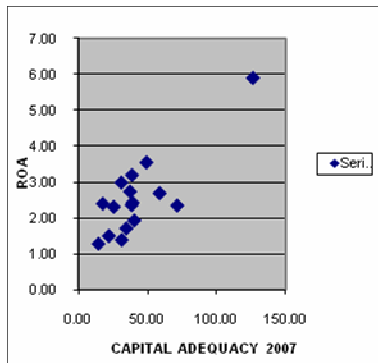
ROA

Figure 6 (a)   Figure 6 (a)   Figure 6 (a)
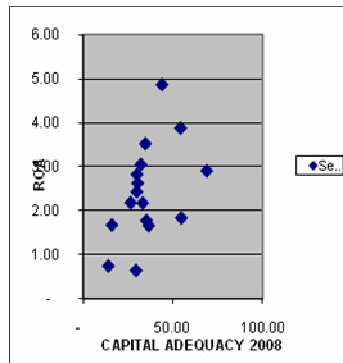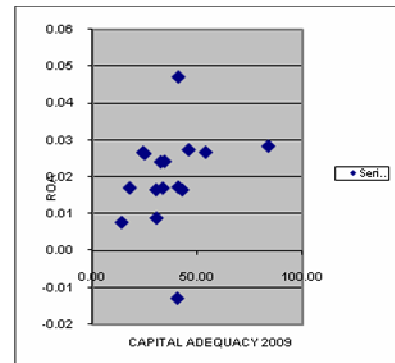

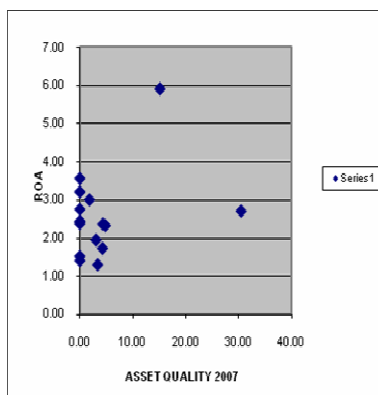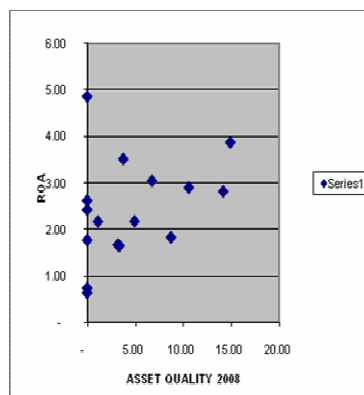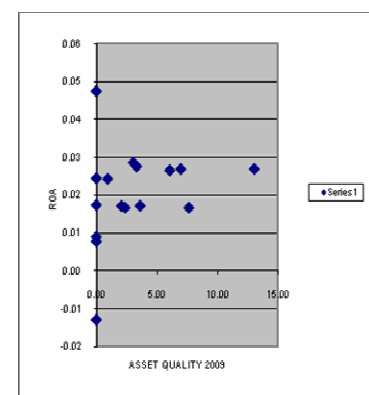Figure 7 (a)   Figure 7 (a)   Figure 7 (a)

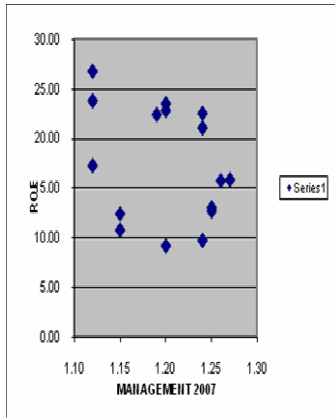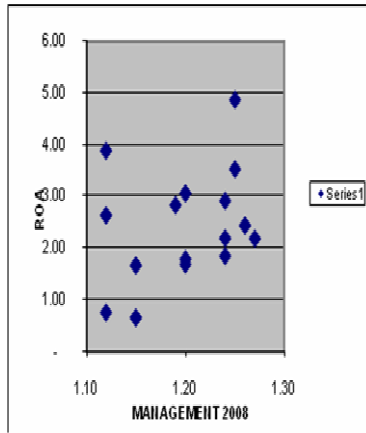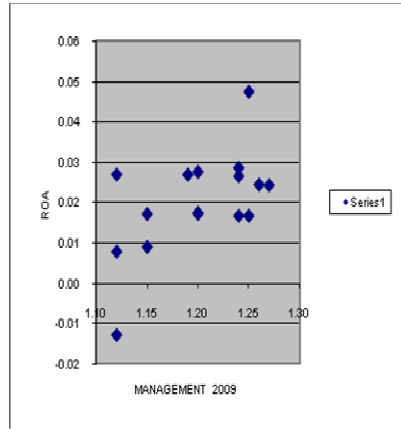Figure 9(a)   Figure 9(a)   Figure 9(a)

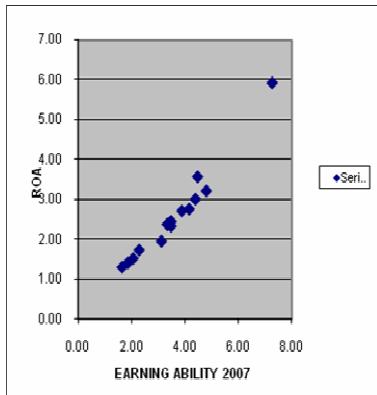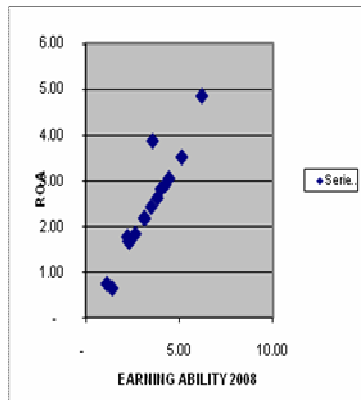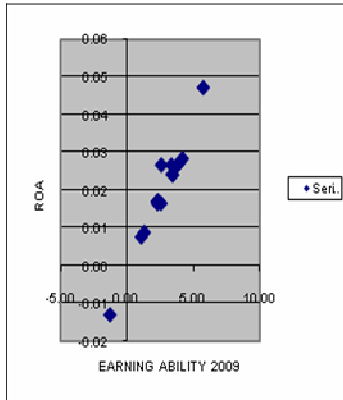Figure 8 (a)   Figure 8 (a)   Figure 8 (a)
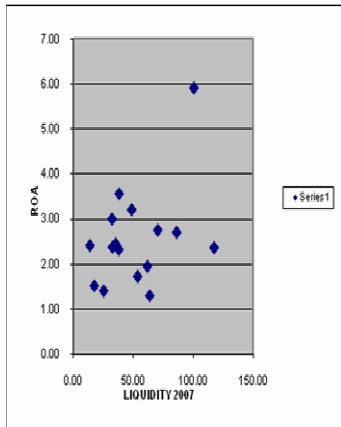

Figure 10(a)   Figure 10(a)   Figure 10(a)

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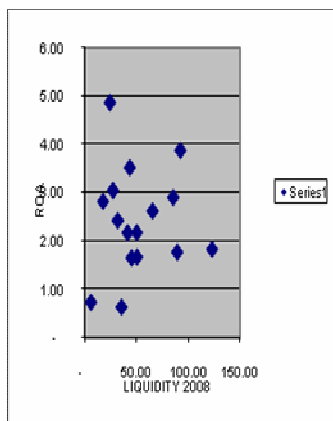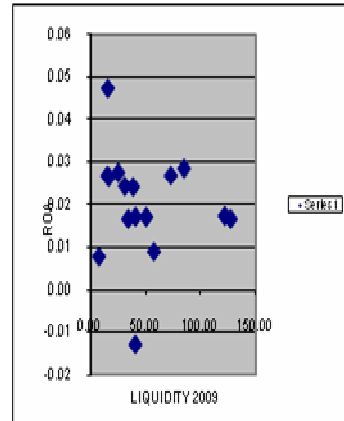
4.7 Interpretation of the Scatter diagrams [figure 1(a) to 10(c)]

A Scatter Diagram examines the relationships between data collected for two different characteristics. Although the Scatter Diagram cannot determine the cause of such a relationship, it can show whether or not such a relationship exists, and if so, just how strong it is. The analysis produced by the Scatter Diagram is called Regression Analysis.

From the scatter diagrams [figure 1(a) to 10(c)], the results of the study show that the points are clustered around a point or spread in a haphazard manner. This is not the case for earning ability which has a near linear curve. The findings are similar to the results in table 1 and 2 above where Earning ability in both ROE and ROA analysis has a positive gradient, meaning that an increase in the earning ability leads to an improved financial performance. The correlation coefficient (r) for earning ability is also higher than for the other factors. This is true because the better the earning ability the better the financial performance for a bank as measured by ROA and ROE.

5.0 SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings, and also gives the conclusions and the recommendations of the study based on the objectives of the study.

5.2 Summary of the Findings

Study   result   revealed that the correlation coefficient between ROE and CAMEL lies at very low values for all the other factors of the CAMEL model except for earning ability. The gradient/coefficient of X is also too low meaning that a change in X does not bring a greater/significant change in Y. The coefficient of Earnings ability is higher than in the rest of the factors this means that a change in earnings ability will bring about a greater/significant change in ROE.

Equally the Study result   revealed that the correlation coefficient between ROA and CAMEL lies at very low values for all the other factors of the CAMEL model except for Earning ability. The gradient/coefficient of X is also too low meaning that a change in X does not bring a greater/significant change in Y. The coefficient of Earnings ability is higher than in the rest of the factors this means that a change in earnings ability will bring about a greater/significant change in ROA.

The results of the study revealed that no one factor in CAMEL Model is able to capture the wholistic efficiency of a bank. This is evidenced by very low values of (r) correlation coefficient. The highest value of (r) correlation coefficient is 0.98 which is under earning ability. This may be expected because earning ability and financial performance are intertwined in that high earning ability results into better financial performance, high financial performance boosts the confidence of investors thus attracts more deposits at low cost which in turn may generate funds to give out as loans thus higher revenue.

The value of (r) correlation coefficient should lie between (o) zero and one (1). Zero means that there is no relationship between the factors and that knowing the value of X, the assessed factor (capital adequacy, asset quality, management quality and liquidity) does not help you know the value of Y, i.e. the financial performance of a bank. A value of one (1) means a perfect liner Relationship which is a straight line.

In the study the results showed low values of r of up to 0.31 meaning no one CAMEL rating factor taken alone low can influence the financial performance of a bank. The low values of less than one (1) for coefficient of X (b) i.e. the assessed factor, capital adequacy, asset quality, management quality and liquidity is an evidence also that though there is some relationship between CAMEL rating and financial performance each factor has a contribution to the overall performance. Capital adequacy seems to have an inverse relationship with return on equity.

5.3 challenges

Some bank managers were reluctant to fill in the questionnaires.

5.4 Conclusion

The following conclusions can be made   based on the study   findings. They include;

That although CAMEL Model as a is used to measure financial performance of banks by regulators no one factor in CAMEL Model is able to capture the wholistic efficiency of a bank.

It can also be concluded that no one CAMEL rating factor taken alone low can influence the financial performance of a bank

5.5 Recommendation

 The following recommendation can be made   based on the conclusion of the study.

The study recommends that all factors in the CAMEL Model should be considered as a whole when evaluating financial performance. More factors e.g. risk and customer perception on the banks should be considered for inclusion and the model may further be modified.

5.6 Recommendation for Further Studies

The current study   focused on relationship between financial performance and camel rating of

commercial banks in Kenya, further studies may be done to find out why the model is not popular in some of the developed countries. Further research may also be done to assess the inter-relationship between the Camel rating factors to enhance policy formulation

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