

**DETERMINANTS OF FINANCIAL PERFORMANCE OF COMMERCIAL  
BANKS IN KENYA**

**BY  
ONJALA VINCENT NYANGA**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE  
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF  
BUSINESS ADMINISTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF  
NAIROBI**

## **DECLARATION**

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

Signature.....

Date: .....

**ONJALA VINCENT NYANGA**

**REG. NO. D61/75372/2009**

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

Signature .....

Date .....

**HERICK ONDIGO**

**LECTURER, DEPARTMENT OF FINANCE AND ACCOUNTING**

**SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI**

## **ACKNOWLEDGEMENTS**

I thank God for giving me the wisdom and courage and for guiding me throughout my life for without Him I would not have come this far.

Secondly, special thanks go to my supervisor Mr Herick Ondigo, for providing unlimited, invaluable and active guidance throughout the study. His immense command and knowledge of the subject matter enabled me to shape this research project to the product that it is now.

Thirdly, I also thank my family for letting me use their valuable time to work on this project. It is my hope that their sacrifice has finally paid off.

Finally, I owe my gratitude to a number of people who in one way or another contributed towards completion of this project especially my fellow colleagues at work, students, my brother Franklin and his wife Beatrice.

## **DEDICATION**

This work is dedicated to my wife Dr. Brenda Walaba, son Ryan Onjala and my mother Felistas Onjala.

## **ABSTRACT**

Commercial banks financial performance in Kenya is an important subject given the significant role the banks play in the economy. With the number of banks increasing over the years and competition for customers increase, an analysis of what factors influence banks' financial performance is important to the banks as this can aid them in ascertaining the determinants of performance and by extension know the areas to improve in order to perform better. This study was designed to examine the determinants of financial performance of commercial banks in Kenya.

In order to achieve the objectives of this study, the research was designed as an explanatory study. The population was all the 43 commercial banks by December 2011. All the banks were used in the study. A ten year secondary data from 2001 to 2010 was collected from Banking Survey and the Central Bank of Kenya. Descriptive analysis, correlation analysis and regression analysis were used to perform the data analysis. Significance was tested at 5% level.

The study found that capital adequacy and exchange rates were negatively correlated with ROE while liquidity, operating cost efficiency, size, risk, GDP, and inflation had a positive influence on ROE. Overall, the independent variables accounted for 95.3% of the variance in ROE. Further, the results revealed that exchange rate was negatively related with ROA while capital adequacy, liquidity, operating cost efficiency, size, risk, GDP, and inflation had positive effects on ROA. It was noted that the independent variables accounted for 95.6% of the variance in ROA. However, none of these effects were significant at 5% level of confidence. None of the models was also significant at 5%.

The study concludes that none of the determinants tested in this study had a significant influence on the financial performance of commercial banks in Kenya. The study recommends that there is need for commercial banks to improve their performance in terms of their ROEs and ROAs. The study also recommends that banks should improve on their liquidity more so the ability of the banks to promptly repay the depositors.

# TABLE OF CONTENTS

<b>DECLARATION.....</b>	<b>i</b>
<b>ACKNOWLEDGEMENTS .....</b>	<b>ii</b>
<b>DEDICATION.....</b>	<b>iii</b>
<b>ABSTRACT.....</b>	<b>iv</b>
<b>LIST OF TABLES .....</b>	<b>viii</b>
<b>LIST OF FIGURES .....</b>	<b>ix</b>
<b>LIST OF ABBREVIATIONS .....</b>	<b>x</b>
<b>CHAPTER ONE .....</b>	<b>1</b>
<b>INTRODUCTION.....</b>	<b>1</b>
1.1 Background of the Study.....	1
1.2 Research Problem.....	5
1.3 Research Objective.....	6
1.4 Value of the Study.....	6
<b>CHAPTER TWO .....</b>	<b>8</b>
<b>LITERATURE REVIEW .....</b>	<b>8</b>
2.1 Introduction .....	8
2.2 Theoretical Review .....	8
2.3 Measures of Financial Performance.....	11
2.4 Determinants of Financial Performance.....	12
2.5 Summary and Research Gap .....	22
<b>CHAPTER THREE.....</b>	<b>23</b>
<b>RESEARCH METHODOLOGY .....</b>	<b>23</b>
3.1 Introduction .....	23
3.2 Research Design.....	23
3.3 Population.....	23
3.4 Data Collection.....	23
3.5 Data Analysis .....	24
<b>CHAPTER FOUR.....</b>	<b>26</b>
<b>DATA ANALYSIS, RESULTS AND DISCUSSION.....</b>	<b>26</b>
4.2 Introduction .....	26

4.2	Descriptive Analysis Results.....	26
4.3	Correlation and Regression Results .....	37
4.4	Interpretation of Findings.....	41
<b>CHAPTER FIVE .....</b>		<b>44</b>
<b>SUMMARY, CONCLUSION AND RECOMMENDATIONS .....</b>		<b>44</b>
5.1	Introduction .....	44
5.2	Summary .....	44
5.3	Conclusion.....	45
5.4	Recommendations for Policy .....	45
5.5	Limitations of the Study.....	46
5.6	Suggestions for Further Research .....	46
<b>REFERENCES.....</b>		<b>48</b>
<b>APPENDICES.....</b>		<b>54</b>
Appendix 1:	List of Commercial Banks in Kenya.....	54
Appendix 2:	Data Analysis Output from SPSS .....	55

## **LIST OF TABLES**

Table 3.1:	Operationalization of Variables .....	25
Table 4.1:	Descriptive Statistics on Dependent and Independent Variables .....	26
Table 4.2:	Correlation Matrix of Independent Variables .....	39
Table 4.3:	Determinants of Financial Performance of Banks in Kenya .....	40

## **LIST OF FIGURES**

Figure 4.1:	Trend of Return on Equity of Commercial Banks 2001 – 2010.....	27
Figure 4.2:	Trend of Return on Assets of Commercial Banks 2001 – 2010 .....	28
Figure 4.3:	Trend of Capital Adequacy of Commercial Banks 2001 – 2010.....	29
Figure 4.4:	Trend of Asset Quality of Commercial Banks 2001 – 2010.....	30
Figure 4.5:	Trend of Liquidity of Commercial Banks 2001 – 2010.....	31
Figure 4.6:	Operating Cost of Efficiency of Commercial Banks 2001 – 2010 .....	32
Figure 4.7:	Trend of Size of Commercial Banks 2001 – 2010.....	33
Figure 4.8:	Trend of Risk of Commercial Banks 2001 – 2010 .....	34
Figure 4.9:	Trend of GDP Growth Rate 2001 – 2010 .....	35
Figure 4.10:	Trend of Annual Inflation Rate 2001 – 2010 .....	36
Figure 4.11:	Trend of Exchange Rate 2001 – 2010.....	37

## LIST OF ABBREVIATIONS

AIR	-	Annual Inflation Rate
AQ	-	Asset Quality
CA	-	Capital Adequacy
CAMEL	-	Capital Adequacy, Asset Quality, Management Efficiency, Earnings Performance and Liquidity
CBK	-	Central Bank of Kenya
ER	-	Exchange Rate
ES	-	Efficient Structure
EVA	-	Economic Value Added
FIR	-	Financial Interrelation Ratio
FO	-	Foreign Ownership
GDP	-	Gross Domestic Product
LRF	-	Likert Response Format
MP	-	Market Power
NIM	-	Net Interest Margin
NPL	-	Non Performing Loans
OCE	-	Operational Cost Efficiency
ROA	-	Return on Assets
ROAA	-	Return on Average Assets
ROAE	-	Return on Average Equity
ROE	-	Return on Equity
ROS	-	Return on Sales
ROTA	-	Return on Total Assets
SCP	-	Structure-Conduct-Performance

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. It is also a general measure of a firm's overall financial health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt. Other measures of financial performance include liquidity, solvency, profitability, debt repayment capacity and financial efficiency of the firm.

The factors that determine the financial performance of banks in general have been extensively studied. Amongst the various approaches, a number of studies have focused on the structure-performance relationship of banks, with the structure-conduct-performance (SCP) hypothesis and the efficient-structure (EFS) hypothesis widely tested. In general, banks' profitability and pricing power are hypothesized to be determined by market structure of the banking industry, such as the number of participating banks in the market and the market shares of banks, and bank-specific factors, such as cost efficiency,

scale efficiency, and the risk attitude of banks. Macroeconomic factors, such as real GDP growth and unemployment, may also be important determinants (Wong, Fong, Wong, & Choi, 2007).

### **1.1.1 Determinants of Financial Performance of Banks**

Studies have shown a number of determinants of bank financial performance. For instance, Heffernan & Fu (2010) found that some macroeconomic variables and financial ratios significantly influenced financial performance. The study also found that the type of bank was an influential determinant of bank financial performance. Clair (2004) found that the most important macroeconomic indicators were changes in interest rates, exchange rates, unemployment, and aggregate demand.

In a study on performance of Islamic and conventional banks in UAE, (Al-Tamini, 2010) found that liquidity and concentration were the most significant determinants of conventional national banks' performance while cost and number of branches were the most significant determinants of Islamic banks' performance.

According to Demirgüç-Kunt & Huizinga (1999), a larger bank asset to GDP ratio and a lower market concentration ratio lead to lower margins and profits. The authors also note that foreign banks have higher margins and profits compared to domestic banks in developing countries, while the opposite holds in developed countries.

A study in China by Wong, Fong, Wong, & Choi (2007) found that cost efficiency of banks was a major determinant of banks' profitability. No evidence was found for the effect of market structure (market concentration and market shares). Most of these banks were large and therefore efficient hence the conclusion that efficiency was indeed a major determinant of bank performance.

A study by Aburime (2008) revealed that capital size, size of credit portfolio and extent of ownership concentration was significant company-level determinants of bank profitability in Nigeria. In the same study, size of deposit liabilities, labour productivity, state of IT, ownership, control-ownership disparity and structural affiliation were insignificant; and the relationship between bank risk and profitability was inconclusive.

### **1.1.2 Measures of Financial Performance**

Organizational performance comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives). According to Richard et al. (2009) organizational performance encompasses three specific areas of firm outcomes: (a) financial performance (profits, return on assets, return on investment, etc.); (b) product market performance (sales, market share, etc.); and (c) shareholder return (total shareholder return, economic value added, etc.).

In recent years, many organizations have attempted to manage organizational performance using the balanced scorecard methodology where performance is tracked and measured in multiple dimensions such as: financial performance (e.g. shareholder

return); customer service social responsibility (e.g. corporate citizenship, community outreach); employee stewardship.

### **1.1.3 Commercial Banks in Kenya**

According to the Central Bank of Kenya, there are 43 licensed commercial banks in Kenya (see list in appendix 1). Three of the banks are public financial institutions with majority shareholding being the Government and state corporations. The rest are private financial institutions. Of the private banks, 27 are local commercial banks while 13 are foreign commercial banks.

Commercial banks in Kenya play a major role in Kenya. They contribute to economic growth of the country by making funds available for investors to borrow as well as financial deepening in the country. Commercial banks therefore have a key role in the financial sector and to the whole economy.

Bank financial performance in the recent past has significantly improved since 2000. Data from the Central Bank of Kenya shows a significant growth in the industry in all areas including financial performance. While this is the case, some banks, especially the foreign banks, have been performing better than others. The factors leading to this needs an investigation as has been the focus of many studies in other countries such as China, Nigeria, Singapore, UAE, UK, USA, among others.

## **1.2 Research Problem**

A large number of empirical studies have been conducted about factors influencing bank performance or determinants of bank performance. (Al-Tamini, 2010) noted that different factors have been used by researchers such as shareholders' equity to total assets; liquid assets to assets; total loans to total deposits; fixed assets to total assets; total borrowed funds to total assets; reserves for loans to total assets ; market concentration; the market size; labor productivity; bank portfolio composition; capital productivity, bank capitalization; financial interrelation ratio (FIR); M2/ GDP; the level of capitalization; age of the bank; per capita GDP, the cost to-income ratio and customer satisfaction.

Commercial banks financial performance in Kenya is an important subject given the significant role the banks play in the economy. With the number of banks increasing over the years and competition for customers increase, an analysis of what factors influence banks' financial performance is important to the banks as this can aid them in ascertaining the determinants of performance and by extension know the areas to improve in order to perform better.

Most of the studies on bank financial performance determinants have covered developed economies, whereas much less studies covered developing economies such as Kenya's economy. Some of these studies include Aburime (2008) in Nigeria, Al-Tamini (2010) in UAE, Clair (2004) in Singapore, Heffernan & Fu (2010) and Wong, Fong, Wong, & Choi (2007) in China. Moreover, results of these studied have been inconclusive and /or conflicting. This presents a research gap.

Studies that are close to determinants of bank performance in Kenya include Njihia (2005), Mwanja (2009), Okutoyi (1988), and Ndungu (2003). These studies were however designed to focus on each factor of bank financial performance to the exclusion of the other factors while some only focused on listed commercial banks as in the case of Ndungu (2003). There is no study that has been done on a larger sample of commercial banks hence a gap that needs to be filled in by carrying out the present study. This study builds on the study by Njihia (2005) as the former study was limited by the scope as it only focused on one aspect of commercial banks financial performance. Given the passage of time and limitations of case studies as far as generalisation of results to the population is concerned, there is need for the present study to be conducted. The study poses the following research question: What factors influence financial performance of commercial banks in Kenya?

### **1.3 Research Objective**

To examine the determinants of financial performance of commercial banks in Kenya.

### **1.4 Value of the Study**

This study will be useful to commercial banks in Kenya. The management and board of governors of commercial banks will have an empirical basis upon which they can base their strategies to improve bank financial performance.

This study will also guide policy makers in the banking sector especially the Central Bank of Kenya and the Treasury in coming up with policies which will spur growth and profitability in this sector.

Researchers will also find this study a very useful study as regards the variables measured in the study. Future research in Kenya and especially in the financial sector can be based on this study. The recommendations for future studies will also guide future researchers in this area.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents the literature review on the determinants of financial performance of commercial banks. First it reviews the theories of bank profitability. Then it summarizes the empirical studies from various researchers who have carried out research on determinants of bank performance.

#### **2.2 Theoretical Review**

This section presents a theoretical review of the study. The theories reviewed here are efficient structure theory, market power theory, and the balanced portfolio theory. A critique of the theories and models is then made.

##### **2.2.1 Efficient Structure (ES) Theory**

The ES hypothesis, on the other hand posits that banks earn high profits because they are more efficient than others. There are also two distinct approaches within the ES; the X-efficiency and Scale-efficiency hypothesis. According to the X-efficiency approach, more efficient firms are more profitable because of their lower costs. Such firms tend to gain larger market shares, which may manifest in higher levels on market concentration, but without any causal relationship from concentration to profitability (Athanasoglou et al, 2006). The scale approach emphasizes economies of scale rather than differences in management or production technology. Larger firms can obtain lower unit cost and

higher profits through economies of scale. This enables large firms to acquire market shares, which may manifest in higher concentration and then profitability.

### **2.2.2 The Market Power (MP) Theory**

Applied in banking the MP hypothesis posits that the performance of bank is influenced by the market structure of the industry. There are two distinct approaches within the MP theory; the Structure-Conduct-Performance (SCP) and the Relative Market Power hypothesis (RMP). According to the SCP approach, the level of concentration in the banking market gives rise to potential market power by banks, which may raise their profitability. Banks in more concentrated markets are most likely to make “abnormal profits” by their ability to lower deposits rates and to charge higher loan rates as a results of collusive (explicit or tacit) or monopolistic reasons, than firms operating in less concentrated markets, irrespective of their efficiency (Tregenna, 2009). Unlike the SCP, the RMP hypothesis posits that bank profitability is influenced by market share. It assumes that only large banks with differentiated products can influence prices and increase profits. They are able to exercise market power and earn non-competitive profits.

### **2.2.3 Balanced Portfolio Theory**

The portfolio theory approach is the most relevant and plays an important role in bank performance studies (Nzongang and Atemnkeng, 2006). According to the Portfolio balance model of asset diversification, the optimum holding of each asset in a wealth holder’s portfolio is a function of policy decisions determined by a number of factors such as the vector of rates of return on all assets held in the portfolio, a vector of risks

associated with the ownership of each financial assets and the size of the portfolio. It implies portfolio diversification and the desired portfolio composition of commercial banks are results of decisions taken by the bank management. Further, the ability to obtain maximum profits depends on the feasible set of assets and liabilities determined by the management and the unit costs incurred by the bank for producing each component of assets (Nzongang and Atemnkeng, 2006).

#### **2.2.4 Critique of Theories and Models**

The above theoretical analysis shows that MP theory assumes bank profitability is a function of external market factors, while the ES and Portfolio theory largely assume that bank performance is influence by internal efficiencies and managerial decisions. Several models of the banking firm have been developed to deal with specific aspects of bank behavior but none is acceptable as descriptive of all bank behavior. Some of these approaches are: univariant analysis, multiple discriminant analysis, multiple regression analysis, canonical correlations analysis and neural network method. Olugbenga and Olankunle (1998) noted that a major limitation of the univariant analysis approach is that it does not recognize the possibility of joint significance of financial ratios, while the canonical correlations method precludes the explicit calculation of marginal value of independent variables on the dependent variable. Nor can the significance of individual explanatory factors be ascertained. They noted that multiple regression approaches correct for these limitations and they produce comparable results to the discriminant analysis method.

Bakar and Tahir (2009) evaluated the performance of the multiple linear regression technique and artificial neural network techniques with a goal to find a powerful tool in predicting bank performance. Data of thirteen banks in Malaysia for the period 2001-2006 was used in the study. ROA was used as a measure of bank performance and seven variables including liquidity, credit risk, cost to income ratio, size, concentration ratio, were used as independent variables. They note that neural network method outperforms the multiple linear regression method but it lacks explanation on the parameters used and they concluded that multiple linear regressions, not withstanding its limitations (i.e. violations of its assumptions), can be used as a simple tool to study the linear relationship between the dependent variable and independent variables. The method provides significant explanatory variables to bank performance and explains the effect of the contributing factors in a simple, understood manner. This study will adopt this approach together with the correction analysis to determine the effects of various factors on bank performance in Kenya.

### **2.3 Measures of Financial Performance**

Performance encompasses financial performance (profits, return on assets, return on investment, etc.); product market performance (sales, market share, etc.); and shareholder return (total shareholder return, economic value added, etc.) (Richard et al. 2009). In their study, Papadakis et al (1998) used two objective measures of performance. These were return on assets (ROA) and growth in profits. Performance measures in this study were calculated going five years prior to the decision studied.

Zahra and Bogner (2000) measured firm's performance using sales growth, employment growth, and pretax net profit percentage of total sales. Baum and Wally (2003) in their study measured firm performance as growth and profit. In the study, self-reported objective measures were used where the respondents were asked in a questionnaire to fill in the figures for total sales and the number of employees for two years as well as profit for the year.

In a study by Zehir and Ozsahin (2008), a Likert Response Format (LRF) was used to measure innovation performance. A five point Likert scale was used where the respondents scored their choices on various questions relating to innovation performance in a structured questionnaire. Souitaris and Maestro (2010) measured new venture financial performance using return on total assets (ROTA) and return on sales (ROS) based on archival objective measures. Hsu and Huang (2011) measured performance using subjective measures. Five self-reported items were evaluated by respondents on a 7-point Likert scale.

## **2.4 Determinants of Financial Performance**

Several studies (Elyor (2009), Uzhegova (2010)) have used CAMEL to examine factors affecting bank profitability with success. CAMEL stands for Capital adequacy, Asset quality, Management efficiency, Earnings performance and Liquidity. The system was developed by the US Federal Deposit Insurance Corporation (FDIC) for "early identification of problems in bank operations" (Uzhegova, 2010). Though some alternative bank performance evaluation models have been proposed, the CAMEL

framework is the most widely used model and it is recommended by Basel Committee on Bank Supervision and IMF (Baral, 2005).

Capital adequacy refers to the sufficiency of the amount of equity to absorb any shocks that the bank may experience (Kosmidou, 2009). The capital structure of banks is highly regulated. This is because capital plays a crucial role in reducing the number of bank failures and losses to depositors when a bank fails as highly leveraged firms are likely to take excessive risk in order to maximize shareholder value at the expense of finance providers (Kamau, 2009).

Although there is general agreement that statutory capital requirements are necessary to reduce moral hazard, the debate is on how much capital is enough. Regulators would like to have higher minimum requirements to reduce cases of bank failures, whilst bankers in contrast argue that it is expensive and difficult to obtain additional equity and higher requirements restrict their competitiveness (Koch, 1995). Beckmann (2007) argue that high capital leads to low profits since banks with a high capital ratio are risk-averse, they ignore potential [risky] investment opportunities and, as a result, investors demand a lower return on their capital in exchange for lower risk.

However Gavila et al (2009) argues that, although capital is expensive in terms of expected return, highly capitalized banks face lower cost of bankruptcy, lower need for external funding especially in emerging economies where external borrowing is difficult. Thus well capitalized banks should be profitable than lowly capitalized banks.

Heffernan & Fu (2010) looked at how well different types of Chinese banks had performed between 1999 and 2006, and tested for the factors influencing performance. It also evaluates four measures of performance to identify which one, if any, was superior. The independent variables included the standard financial ratios, those which reflected more recent reforms and macroeconomic variables. The results suggested that Economic Value Added (EVA) and the Net Interest Margin (NIM) did better than the more conventional measures of profitability, namely Return On Average Equity (ROAE) and Return On Average Assets (ROAA). Some macroeconomic variables and financial ratios were significant with the expected signs. Though the type of bank was influential, bank size was not. Neither the percentage of foreign ownership nor bank listings had a discernible effect.

Neceur (2003) using a sample of 10 Tunisian banks from 1980 to 2000 and a panel linear regression model, reported a strong positive impact of capitalization to ROA. Sufian and Chong (2008) also reported the same results after examining the impact of capital to the performance of banks in Philippines from 1990 to 2005.

Credit risk is one of the factors that affect the health 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 the health and profitability of bank borrowers (Baral, 2005). Aburime (2008) asserts that the profitability of a bank depends on its ability to foresee, avoid and monitor risks, possibly to cover losses brought about by risks arisen. Hence, in making decisions

on the allocation of resources to asset deals, a bank must take into account the level of risk to the assets.

Poor asset quality and low levels of liquidity are the two major causes of bank failures. Poor asset quality led to many bank failures in Kenya in the early 1980s. During that period 37 banks collapsed following the banking crises of 1986-1989, 1993-1994 and 1998 (Mwega, 2009). According to Waweru and Kalani (2009) many of the financial institutions that collapse in 1986 failed due to non-performing loans (NPLs) and that most of the larger bank-failures, involved extensive insider lending, often to politicians. The CBK measures asset quality by the ratio of net non-performing loans to gross loans. However Koch (1995) argues that a good measure of credit risk or asset quality is the ratio of loan loss reserve to gross loans because it captures the expectation of management with regard to the performance of loans. Hempel et al (1994) observed that banks with high loan growth often assume more risk as credit analysis and review procedures are less rigorous, however returns are high in such loans indicating a risk and return trade-off.

Kosmidou (2008) applied a linear regression model on 23 Greece commercial banks data for 1990 to 2002, using ROA and the ratio of loan loss reserve to gross loans to proxy profitability and asset quality respectively. The results showed a negative significant impact of asset quality to bank profitability. This was in line with the theory that increased exposure to credit risk is normally associated with decreased firm profitability.

Indicating that banks would improve profitability by improving screening and monitoring of credit risk.

Another important decision that the managers of commercial banks take refers to the liquidity management and specifically to the measurement of their needs related to the process of deposits and loans. The importance of liquidity goes beyond the individual bank as a liquidity shortfall at an individual bank can have systemic repercussions (CBK, 2009). It is argued that when banks hold high liquidity, they do so at the opportunity cost of some investment, which could generate high returns (Kamau, 2009). The trade-offs that generally exist between return and liquidity risk are demonstrated by observing that a shift from short term securities to long term securities or loans raises a bank's return but also increases its liquidity risks and the inverse is true. Thus a high liquidity ratio indicates a less risky and less profitable bank (Hempel et al, 1994). Thus management is faced with the dilemma of liquidity and profitability.

Myers and Rajan (1998) emphasized the adverse effect of increased liquidity for financial Institutions stating that, "although more liquid assets increase the ability to raise cash on short-notice, they also reduce management's ability to commit credibly to an investment strategy that protects investors" which, finally, can result in reduction of the firm's capacity to raise external finance" in some cases (Uzhegova, 2010).

Poor expenses management is the main contributors to poor profitability (Sufian and Chong 2008). In the literature on bank performance, operational expense efficiency is

usually used to assess managerial efficiency in banks. Mathuva (2009) observed that the CIR of local banks is high when compared to other countries and thus there is need for local banks to reduce their operational costs to be competitive globally. Beck and Fuchs (2004) examined the various factors that contribute to high interests spread in Kenyan banks. Overheads were found to be one of the most important components of the high interests rate spreads. An analysis of the overheads showed that they were driven by staff wage costs which were comparatively higher than other banks in the SSA countries.

Although the relationship between expenditure and profits appears straightforward implying that higher expenses mean lower profits and the opposite, this may not always be the case. The reason is that higher amounts of expenses may be associated with higher volume of banking activities and therefore higher revenues. In relatively uncompetitive markets where banks enjoy market power, costs are passed on to customers; hence there would be a positive correlation between overheads costs and profitability (Flamini et al, 2009). Neceur (2003) found a positive and significant impact of overheads costs to profitability indicating that such cost are passed on to depositors and lenders in terms of lower deposits rates/ or higher lending rates.

Financial institutions in recent years have increasingly been generating income from “off-balance sheet” business and fee income. Albertazzi and Gambacorta (2006) as cited by Uzhegova (2010) noted that the decline in interest margins, has forced banks to explore alternative sources of revenues, leading to diversification into trading activities, other services and non-traditional financial operations. The concept of revenue diversifications follows the concept of portfolio theory which states that individuals can reduce firm-

specific risk by diversifying their portfolios. However there is a long history of debates about the benefits and costs of diversification in banking literature. The proponents of activity diversification or product mix argue that diversification provides a stable and less volatile income, economies of scope and scale, and the ability to leverage managerial efficiency across products (Choi and Kotrozo, 2006). Chiorazzo et al (2008) noted that as a result of activity diversification, the economies of scale and scope caused through the joint production of financial activities leads to increase in the efficiency of banking organizations. They further argued that product mix reduces total risks because income from non-interest activities is not correlated or at least perfectly correlated with income from fee based activities and as such diversification should stabilize operating income and give rise to a more stable stream of profits (Uzhegova, 2010).

The opposite argument to activity diversification is that it leads to increased agency costs, increased organizational complexity, and the potential for riskier behavior by bank managers. Kotrozo and Choi (2006) mentioned that activity diversification results in more complex organizations which “makes it more difficult for top management to monitor the behavior of the other divisions/branches. They further argued that the benefits of economies of scale/scope exist only to a point. The costs associated with a firm’s increased complexity may overshadow the benefits of diversification. As such, the benefits of diversification and performance would resemble an inverted-U in which there would be an optimal level of diversification beyond which benefits would begin to decline and may ultimately become negative.

Using annual bank level data of all Philippines commercial banks Sufian and Chong (2008) found a positive relationship between total non-interest income divided by total assets, a proxy for income diversification and bank profitability. Uzhegova (2010) using a HH index of interest income, commissions, fee income, trading income, non-interest income and other operating income found empirical support of the idea that banks involved in diversification activities expect some benefits. While Kotrozo and Choi 2006, using a similar index found that activity diversification tends to reduce performance compared to banks more focused in their activities.

Claessens and Jansen (2000) as cited by Kamau (2009) argued that foreign banks usually bring with them better know-how and technical capacity, which then spills over to the rest of the banking system. They impose competitive pressure on domestic banks, thus increasing efficiency of financial intermediation and they provide more stability to the financial system because they are able to draw on liquidity resources from their parents banks and provide access to international markets. Beck and Fuchs (2004) argued that foreign-owned banks are more profitable than their domestic counterparts in developing countries and less profitable than domestic banks in industrial countries, perhaps due to benefits derived from tax breaks, technological efficiencies and other preferential treatments. However domestic banks are likely to gain from information advantage they have about the local market compared to foreign banks.

However the counter argument is that unrestricted entry of foreign banks may result in their assuming a dominant position by driving out less efficient or less resourceful

domestic banks because more depositors may have faith in big international banks than in small domestic banks. They cream-skim the local market by serving only the higher end of the market, they lack commitment and bring unhealthy competition, and they are responsible for capital flight from less developed countries in times of external crisis (Bhattacharya,1994).

The market power theory, as it was discussed under bank performance theories, posits that the more concentrated the market, the less the degree of competition (Tregenna, 2009). According to Nzongang and Atemnkeng (2006) high degrees of market share concentration are inextricably associated with high levels of profits at the detriment of efficiency and effectiveness of the financial system to due decreased competition. Secondly, since commercial banks are the primary suppliers of funds to business firm, the availability of bank credit at affordable rates is of crucial importance for the level of investments of the firms, and consequently, for the health of the economy. In situation of increased concentration, the possibility of rising costs of credits is reflected by a reduction of the demand for bank loans and the level of business investments. The effect multiplies many folds in as much as bank management capitalizes on the market share concentration factor.

However there is a long held view that market power is necessary to ensure stability in banking. Banks that are profitable and well-capitalized are best positioned to withstand shocks to their balance sheet. Hence banks with market power, and the resulting profits, are considered to be more stable Northcott (2004). Large banks with market power have

typically been viewed as having incentives that minimize their risk-taking behavior and improve the quality of their assets (the screening theories). Keeley (1990) as cited by Northcott (2004) argues that the rise in bank failures in the United States during the 1980s was due in part to an increase in competition in the banking industry. Flamini et al (2009) noted that if high returns are the consequence of market power, this implies some degree of inefficiency in the provision of financial services. In this case it should prompt policymakers to introduce measures to lower risk, remove bank entry barriers if they exist, as well as other obstacles to competition, and reexamine regulatory costs. But bank profits are also an important source for equity. If bank profits are reinvested, this should lead to safer banks, and, consequently high profits could promote financial stability.

Tregenna (2009) using a sample of USA commercial banks and savings institutions from 1995 to 2005 and a linear regression panel model, found robust evidence that concentration increases profitability in USA banks and then concluded that the high profitability of banks in the USA before the 2007/2008 financial crisis was not earned through efficient processes, but through market power and the profits were not reinvested to strengthen the capital base of the financial institutions. Nzongang and Atemnkeng (2000) examined the effects of concentration to the profitability of Cameroonian commercial banks from 1987 to 1999. Unlike Tregenna (2009), who used the concentration ratio of the 3 largest banks in the USA to model market concentration, Nzongang and Atemnkeng (2000) used the Herfindahl-Hirschman index to measure market concentration in Cameroon. The results indicate that market concentration power is of paramount importance in the determination of bank profitability.

Olweny & Shipho (2011) studied the effects of banking sectoral factors on the profitability of commercial banks in Kenya. The first objective of this study was to determine and evaluate the effects of bank-specific factors; Capital adequacy, Asset quality, liquidity, operational cost efficiency and income diversification on the profitability of commercial banks in Kenya. The second objective was to determine and evaluate the effects of market structure factors; foreign ownership and market concentration, on the profitability of commercial banks in Kenya. This study adopted an explanatory approach by using panel data research design to fulfill the above objectives. Annual financial statements of 38 Kenyan commercial banks from 2002 to 2008 were obtained from the CBK and Banking Survey 2009. The data was analyzed using multiple linear regressions method. The analysis showed that all the bank specific factors had a statistically significant impact on profitability, while none of the market factors had a significant impact.

## **2.5 Summary and Research Gap**

The review of literature has revealed that bank financial performance can be influenced by bank-specific factors and external factors. Bank-specific factors are those factors within the direct control of managers and can be best explained by the CAMEL framework, while external factors include industry-specific and macroeconomic factors. The review of literature also revealed that the multiple linear regressions method is the most used in modelling the relationship between bank financial performance and its factors.. Finally, it is clear from the reviewed literature that few local studies have been dedicated on this particular area of bank performance and that studies that have attempted to do so have tended to study each factor of performance to the exclusion of other factors.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the research methodology. It contains the research design, population, sample, data collection and data analysis.

#### **3.2 Research Design**

This study adopted an explanatory design. Creswell (2003) noted that the purpose of an explanatory design is to explain quantitative results. Since the present study aimed to explain the factors that affect performance of commercial banks, an explanatory design was deemed the most appropriate for the study.

#### **3.3 Population**

The population of this study comprised of all licensed commercial banks in Kenya between the period of 2001 and 2010. As at 31 December 2011, there were 43 registered commercial banks comprising of 14 large banks and, 29 small and medium banks (Appendix 1). A census of the commercial banks in Kenya was carried out.

#### **3.4 Data Collection**

The study employed secondary data. The data was collected from the Central Bank of Kenya and Banking Survey 2011. The Banking Survey is an annual publication that publishes annual financial statement of all banks in Kenya covering a period 10 years, while the Central Bank of Kenya publishes annually, major financial indicators of the sector.

### 3.5 Data Analysis

The collected data was analyzed using descriptive statistics, correlations, multiple linear regression analysis and inferential statistics. Mean values were used to analyze the general trends of the data from 2001 to 2010 based on the census (43 banks). Correlation matrix was used to examine the relationship between the dependent variable and explanatory variables. Two performance models were therefore tested:

$$\begin{aligned} \text{ROA} = & \alpha + \beta_1 \text{ CA} + \beta_2 \text{ AQ} + \beta_3 \text{ LIQ} + \beta_4 \text{ OCE} + \beta_5 \text{ SIZE} + \beta_6 \text{ TL/TA} + \beta_7 \text{ GDP} + \beta_8 \\ & \text{AIR} + \beta_9 \text{ ER} + e \quad \dots\dots\dots (1) \end{aligned}$$

$$\begin{aligned} \text{ROE} = & \alpha + \beta_1 \text{ CA} + \beta_2 \text{ AQ} + \beta_3 \text{ LIQ} + \beta_4 \text{ OCE} + \beta_5 \text{ SIZE} + \beta_6 \text{ TL/TA} + \beta_7 \text{ GDP} + \beta_8 \\ & \text{AIR} + \beta_9 \text{ ER} + e \quad \dots\dots\dots (2) \end{aligned}$$

Where:  $\alpha$  - Regression constant,  $\beta_1$  - Coefficient of the predictor (CA) and  $e$  – error term

The table below presents the measurements that were used to operationalize the study variables before the application of the linear multiple regression analysis.

**Table 3.1: Operationalization of Variables**

<b>Variables</b>	<b>Measures</b>	<b>Symbol</b>
Financial Performance	Income/Equity	ROE
	Income/Assets	ROA
Capital Adequacy	Total equity/total assets	CA
Asset Quality	Non-performing loans/gross loans. Higher ratio indicates poor quality.	AQ
Liquidity	Current assets/Total deposits	LIQ
Operational Cost Efficiency	Operating costs/net operating income. Higher ratio indicates inefficiency.	OCE
Size	Logarithm of total assets	SIZE
Risk	Total liabilities/Total Assets.	TL/TA
Gross Domestic Product	GDP growth rate	GDP
Annual inflation rate	The rate of inflation	AIR
Exchange rate	The rate of foreign exchange to the dollar	ER

**Source: Author (2012)**

A multiple linear regression model and t-statistic was used to determine the relative importance of each independent variable in influencing performance. The t-statistic was used to test the hypotheses at a maximum of 5% significance level. The multiple linear regressions model is shown on the equation below. This model was run using SPSS version 20.

## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.2 Introduction

This chapter presents the results of the study. Data was analysed for a period of ten years and the descriptive results are shown in section 4.2. The correlation analysis and regression analysis results are presented in section 4.3. Section 4.4 presents the discussion of findings.

#### 4.2 Descriptive Analysis Results

Table 4.1 shows the descriptive statistics results for the variables used in the study. The results are shown in terms of minimum, maximum, mean, and standard deviation.

**Table 4.1: Descriptive Statistics on Dependent and Independent Variables**

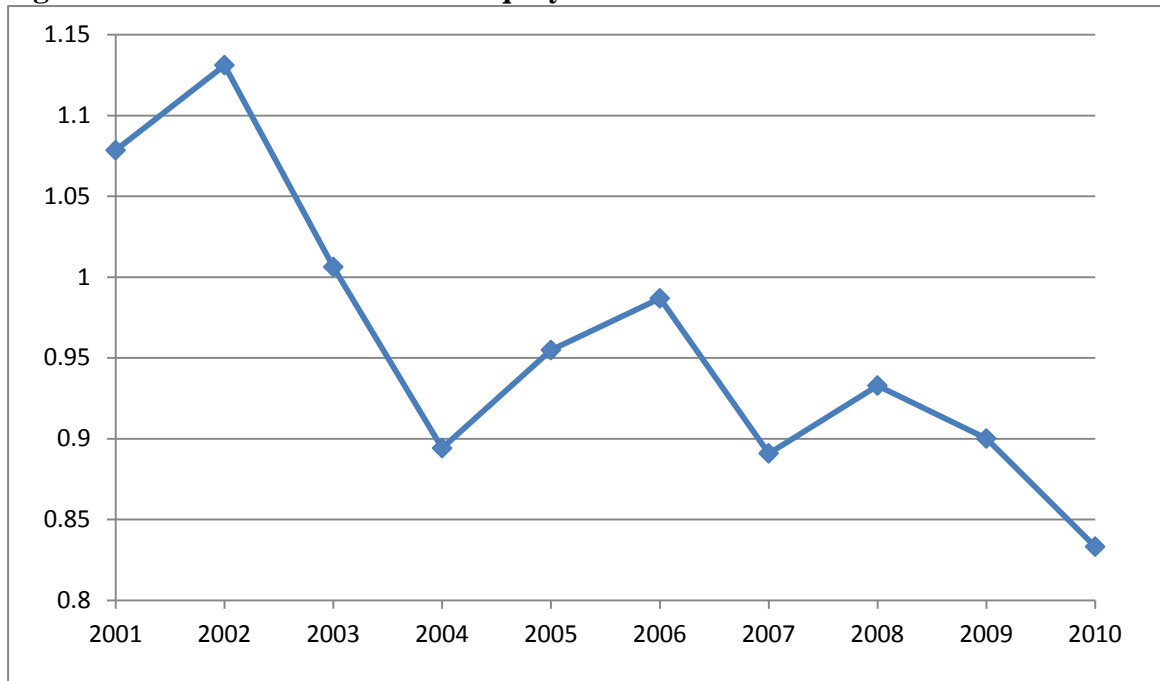
	Minimum	Maximum	Mean	Std. Deviation
Return on Equity	.83	1.13	.9609	.09175
Return on Assets	.11	.15	.1280	.01107
Capital Adequacy	.12	.15	.1336	.01015
Asset Quality	.05	.33	.1675	.10201
Liquidity	.33	.52	.4289	.05865
Operating Cost Efficiency	.54	.65	.5888	.03058
Size	12.86	14.38	13.52	.52982
Risk	.85	.89	.8696	.01239
GDP	.30	6.90	4.13	2.2183
Annual Inflation Rate	2.00	26.20	10.31	6.6965
Exchange Rate	67.32	79.23	75.315	4.3333

**Source: Research Findings**

Table 4.1 reveals that ROE ranged from 0.83 to 1.13 with a mean of 0.96 and a standard deviation of 0.09. From Figure 4.1 below, it can be observed that the ROE generally fell

over the period of study from 2001 – 2010. Thus the performance of banks in terms of ROE has been declining over the years.

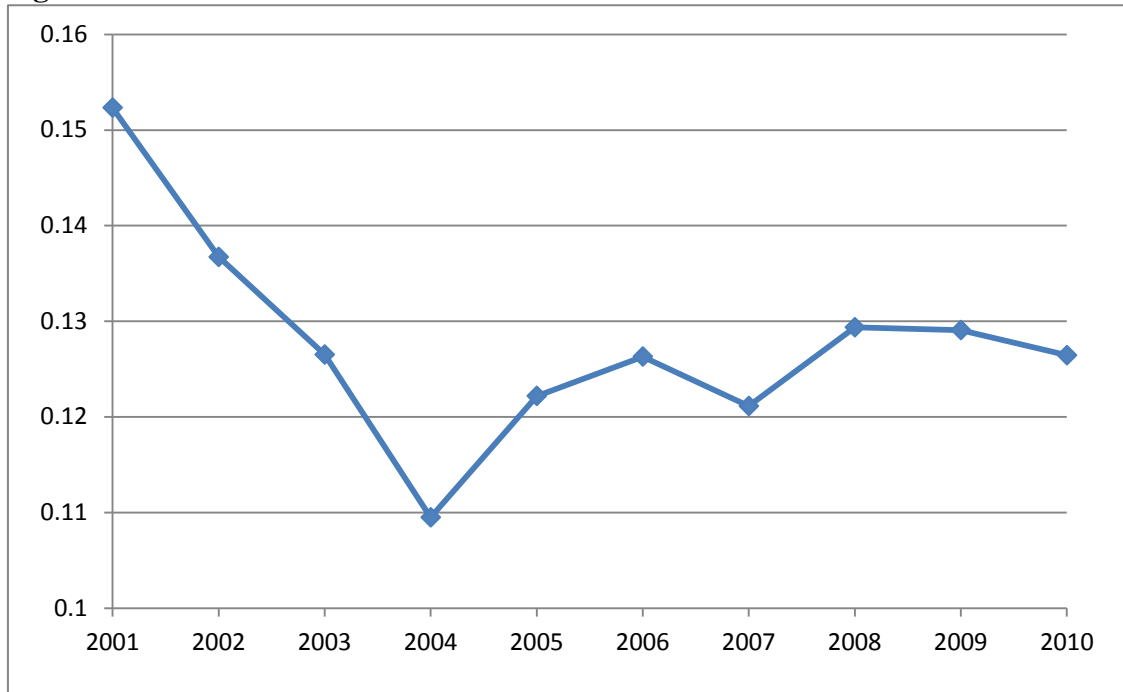
**Figure 4.1: Trend of Return on Equity of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 shows that return on assets (ROA) ranged from 0.11 to 0.15 with a mean of 0.12 and a standard deviation of 0.01. As can be observed from Figure 4.2 below, there was a general fall in return on assets from 2001 – 2010. This means that performance of banks in terms of ROA has been declining over the years.

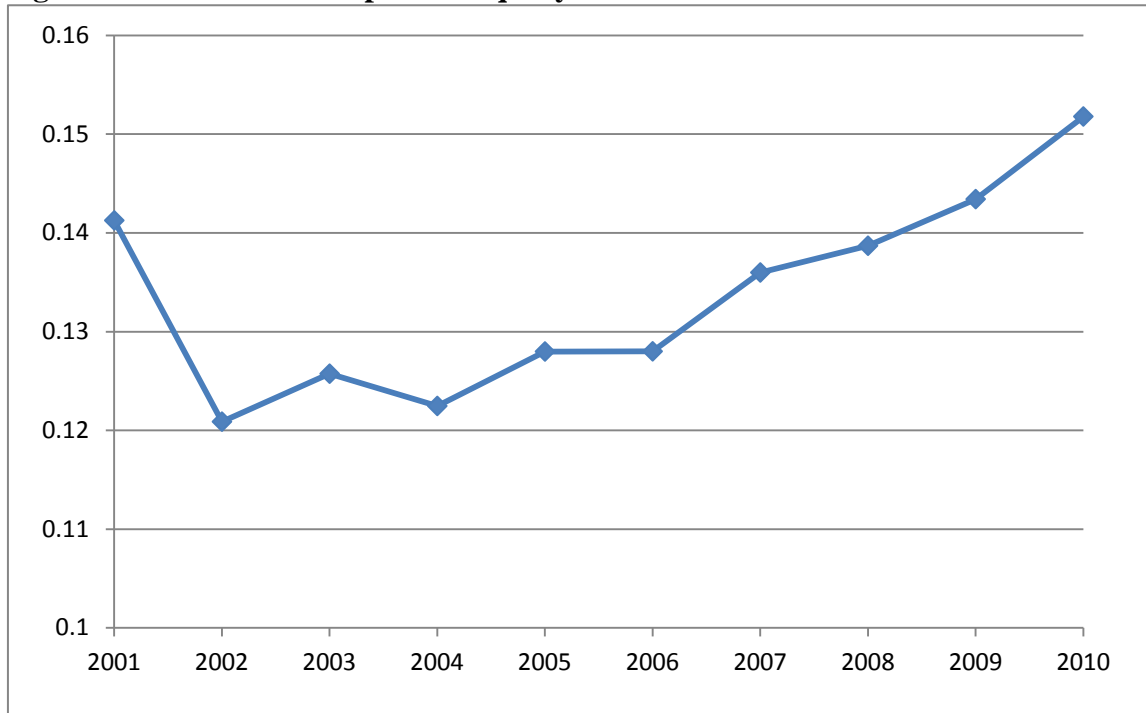
**Figure 4.2: Trend of Return on Assets of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 shows that capital adequacy ratios (measured as total equity divided by total assets) ranged from 0.12 to 0.15 with a mean of 0.13 and a standard deviation of 0.01. Figure 4.3 shows the trend analysis of capital adequacy of banks and the results show that it has been improving over the years. The improvement in this ratio can be attributed to the strict guidelines provided by the Central Bank of Kenya and the Basel requirements.

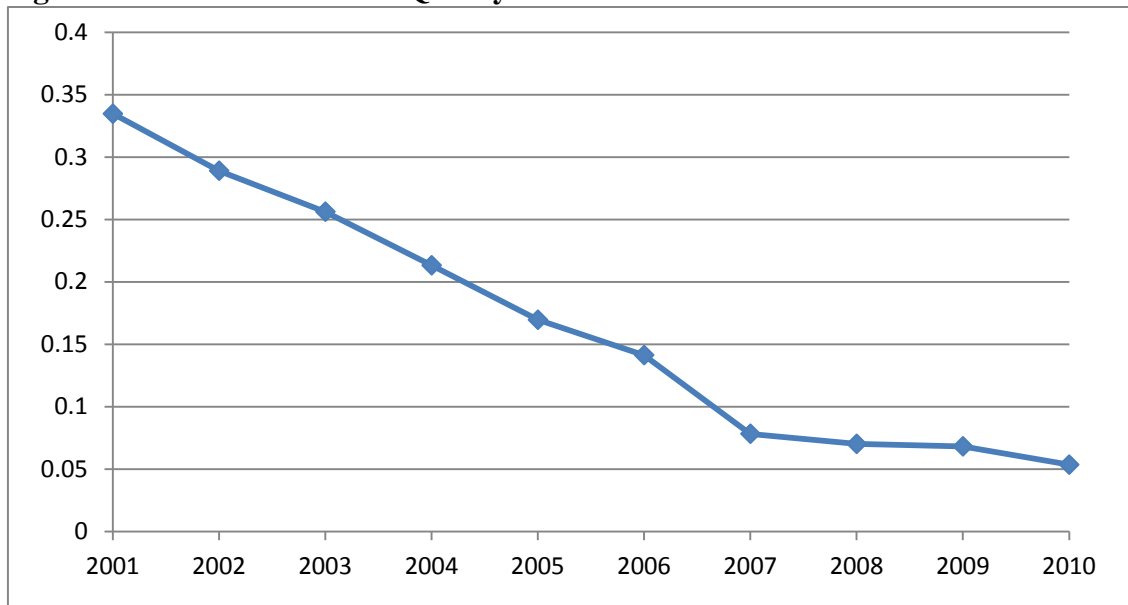
**Figure 4.3: Trend of Capital Adequacy of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 also shows that asset quality (measured as the ratio of non-performing loans to gross loans) ranged from 0.05 to 0.33 with a mean of 0.16 and a standard deviation of 0.10. Figure 4.4 shows the trend analysis of the asset quality. As shown, the asset quality has improved over the years as the ratio has been declining meaning that non-performing loans have been reducing as the gross loans have grown over the years.

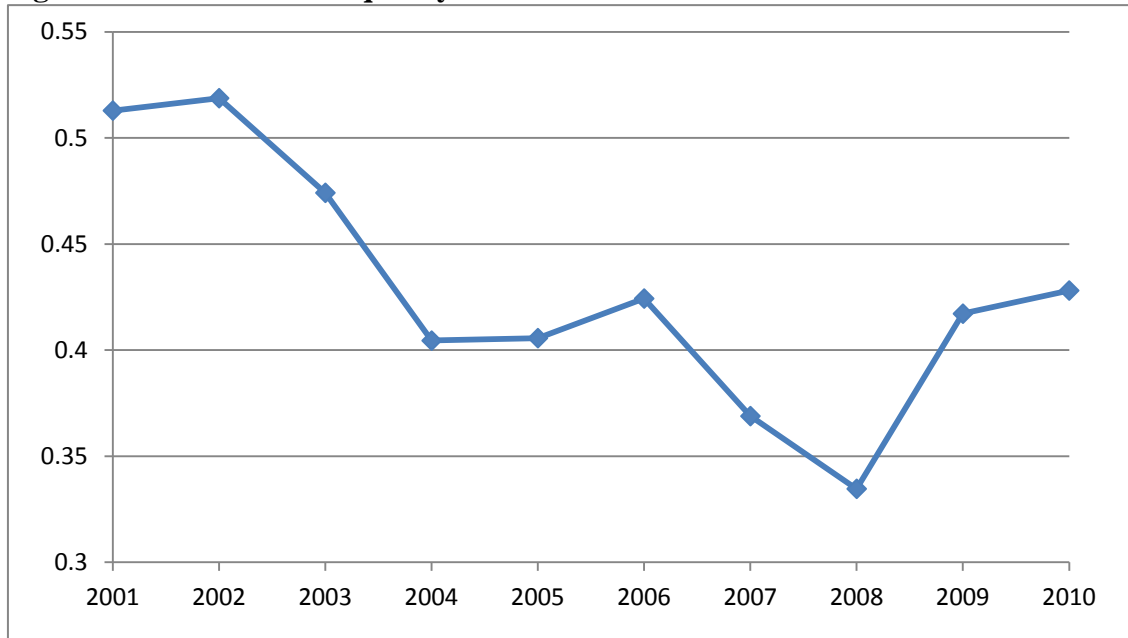
**Figure 4.4: Trend of Asset Quality of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 shows that liquidity (measured as the ratio of current assets to total deposits) ranged from 0.33 to 0.52 with a mean of 0.42 and a standard deviation of 0.05. Figure 4.5 shows the trend of liquidity over the years and as it can be observed, this ratio has also been declining. Since this measure was intended to gauge how quickly banks can respond to demands for cash from their depositors, it means that banks have become less liquid over the years. This could mean that banks may not be able to promptly settle their obligations with depositors.

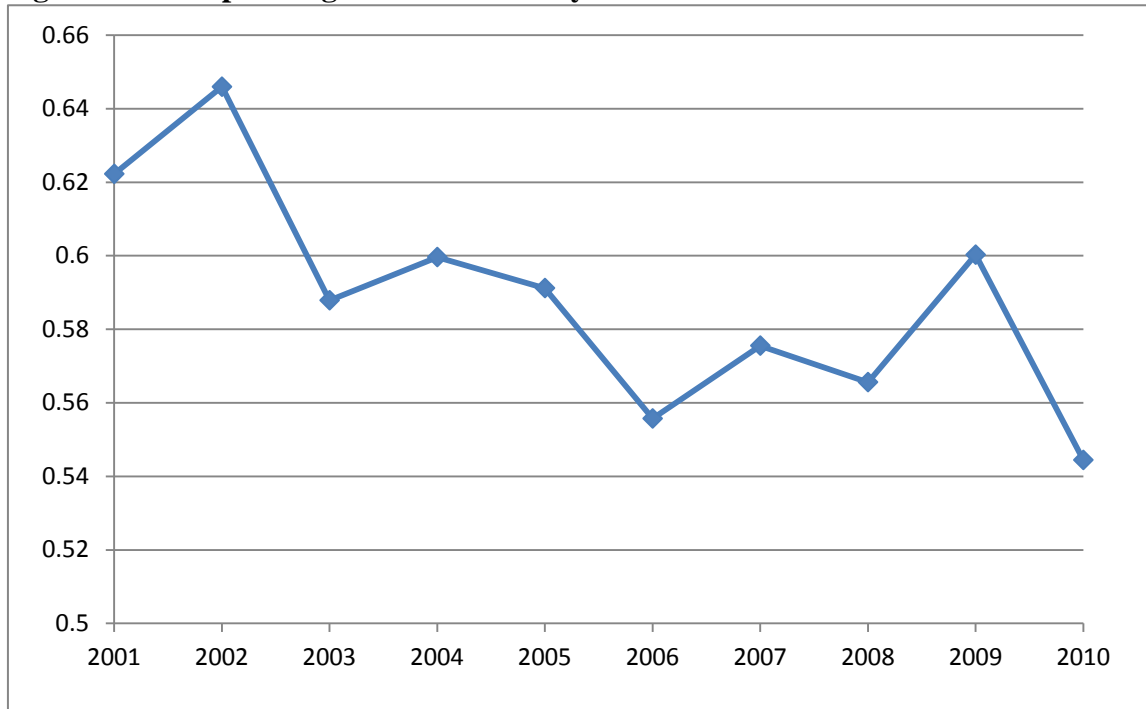
**Figure 4.5: Trend of Liquidity of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 further shows that Operating Cost Efficiency (measured as the ratio of operating costs to net operating income) ranged from 0.54 to 0.65 with a mean of 0.58 and a standard deviation of 0.03. The trend of operating cost efficiency is also shown in Figure 4.6. As shown, there was a general decline in this ratio. Since lower ratios mean better efficiency, this means that banks have improved their efficiency over the years.

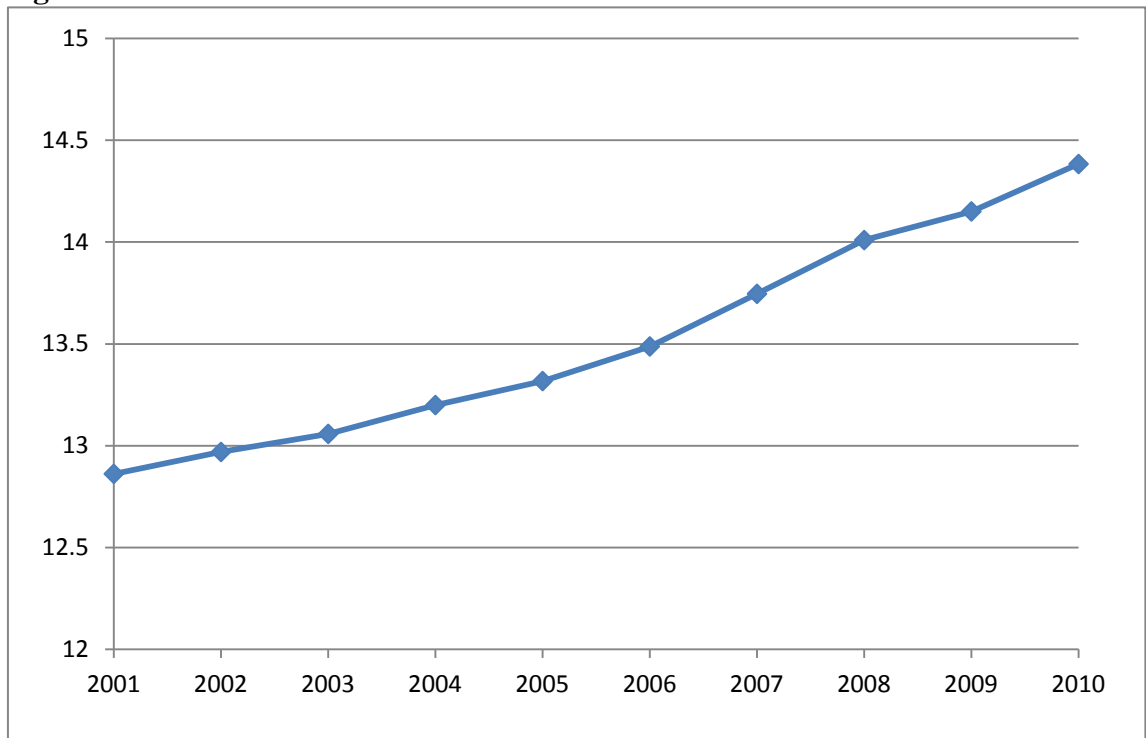
**Figure 4.6: Operating Cost of Efficiency of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 also shows that size (measured as the natural logarithm of total assets) ranged from 12.86 to 14.38 with a mean of 13.52 and a standard deviation of 0.52. Figure 4.7 shows the trend of bank size over the period. The results show that there was a general rise in bank size over the period of study. Size of banks rose steadily over the period of analysis.

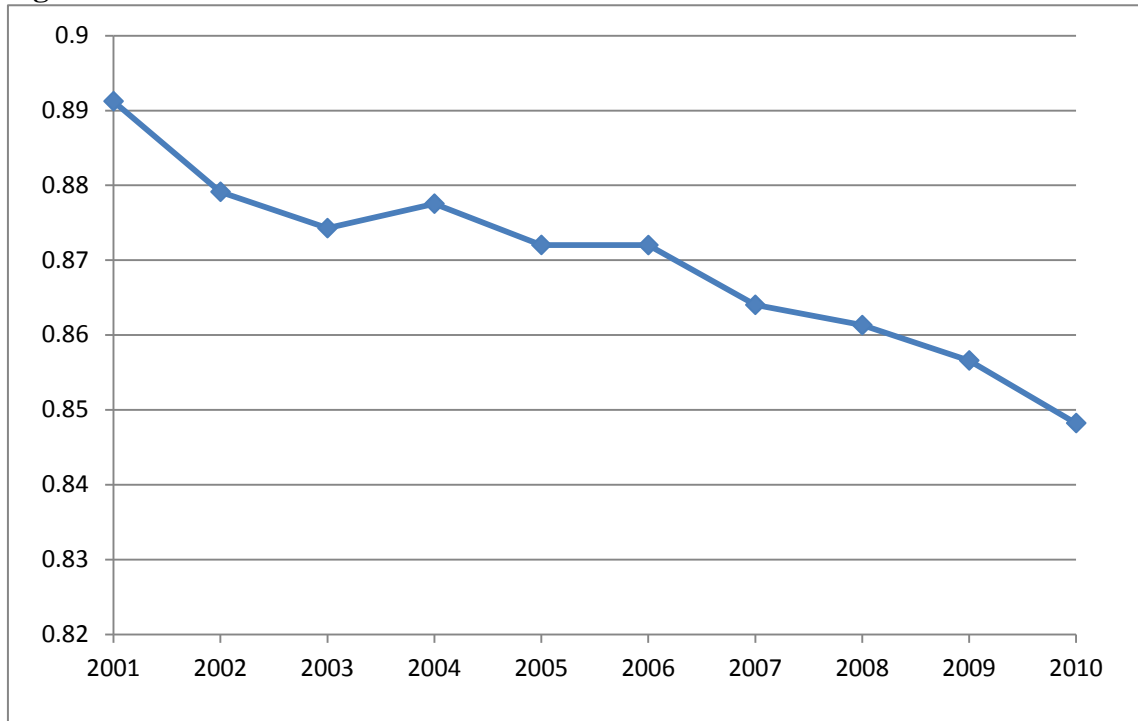
**Figure 4.7: Trend of Size of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 shows that risk (measured as total liabilities divided by the total assets) ranged from 0.85 to 0.89 with a mean of 0.86 and a standard deviation of 0.01. The results in Figure 4.8 show the trend of risk of commercial banks over the period of analysis. As the results show, there was a general decline in risk of commercial banks. This can be attributed to better management of the banks.

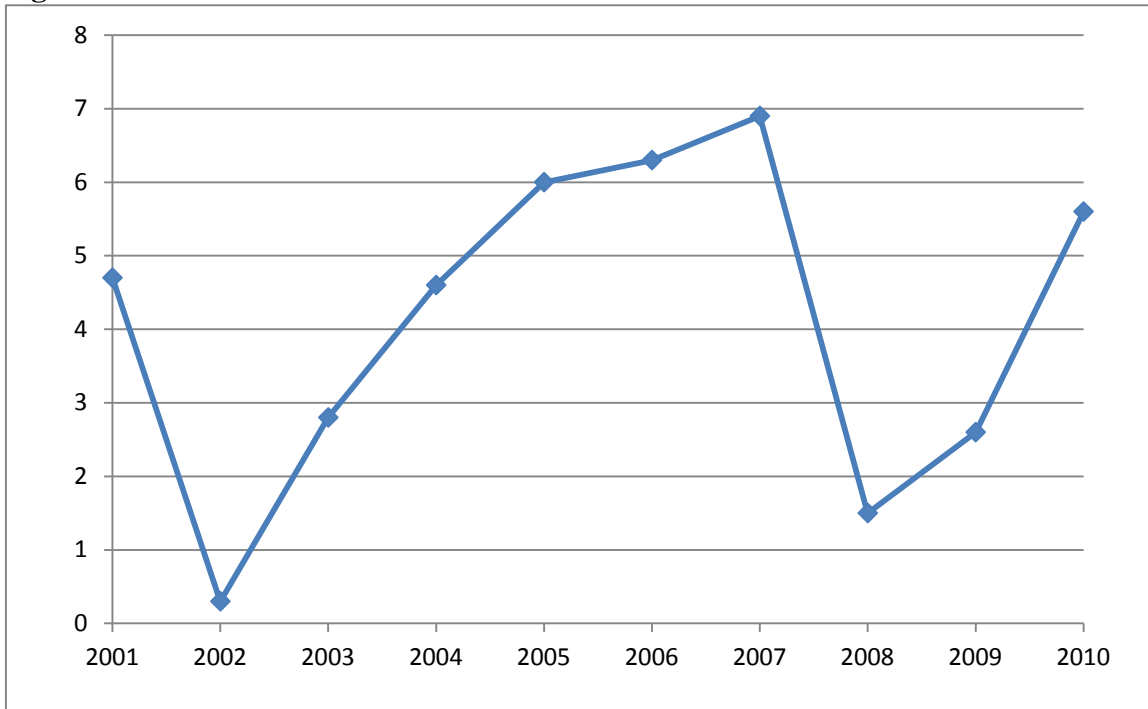
**Figure 4.8: Trend of Risk of Commercial Banks 2001 – 2010**



**Source: Research Findings**

Table 4.1 further shows that GDP rate ranged from 0.30 to 6.90 with a mean of 4.13 and a standard deviation of 2.21. Figure 4.9 shows the trend of growth rate over the period. As shown, there was a general rise in GDP growth rate over the period of analysis. Thus, the economy has been improving over the period under study.

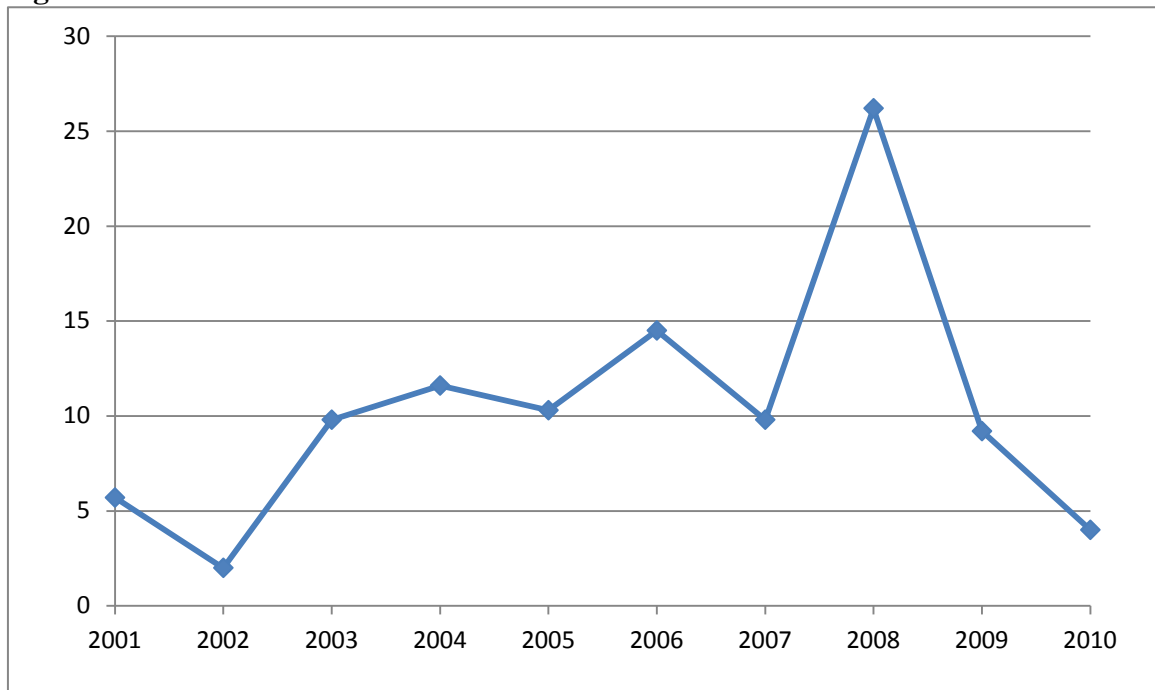
**Figure 4.9: Trend of GDP Growth Rate 2001 – 2010**



**Source: Research Findings**

Table 4.1 shows that inflation rate ranged from 2 to 26.2 with a mean of 10.31 and a standard deviation of 6.69. From Figure 10, it can be observed that there was a general rise in inflation.

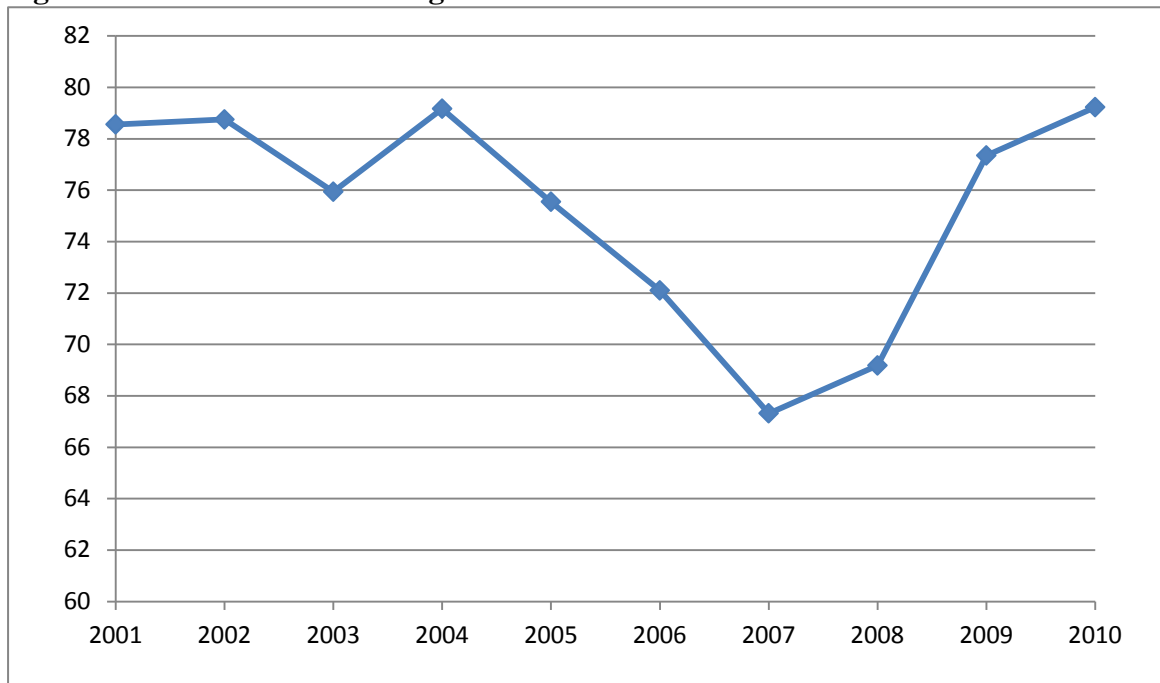
**Figure 4.10: Trend of Annual Inflation Rate 2001 – 2010**



**Source: Research Findings**

Table 4.1 also shows that exchange rate (dollar to shilling) ranged from 67.32 to 79.23 with a mean of 75.31 and a standard deviation of 4.33. Figure 4.11 also shows the trend of exchange rate over the period of analysis.

**Figure 4.11: Trend of Exchange Rate 2001 – 2010**



**Source: Research Findings**

As shown, over the period of analysis, there was a general fall in exchange rates suggesting that the shilling grew stronger over the period of analysis.

### **4.3 Correlation and Regression Results**

Table 4.2 shows the results of correlation analysis. The correlation analysis was done for all the independent variables in the study. These were capital adequacy, asset quality, liquidity, operating cost efficiency, size, risk, GDP, inflation rate, and exchange rate. This analysis was carried out in order to determine whether there were serial correlations between these variables. As serial correlations are a problem when performing regression analysis, this preliminary test was carried out first. The results show that there was a very high and significant correlation between asset quality and liquidity ( $R = .812$ ), asset

quality and size ( $R = -.947$ ) and asset quality and risk ( $R = .926$ ). Size was also highly and significantly correlated with risk ( $R = .960$ ). There is therefore serial autocorrelations between some of the variables and asset quality is therefore dropped from the regression model since it is highly correlated to three of the variables in the study.

**Table 4.2: Correlation Matrix of Independent Variables**

		CA	AQ	LIQ	OCE	Size	Risk	GDP	AIR	ER
CA	Pearson Correlation	1	-.546	-.220	-.449	.731*	-.600	.200	-.015	-.023
	Sig. (2-tailed)		.102	.541	.192	.016	.066	.579	.967	.950
AQ	Pearson Correlation		1	.812**	.754*	-.947**	.926**	-.258	-.414	.487
	Sig. (2-tailed)			.004	.012	.000	.000	.471	.234	.153
LIQ	Pearson Correlation			1	.658*	-.646*	.598	-.276	-.752*	.680*
	Sig. (2-tailed)				.039	.044	.068	.441	.012	.030
OCE	Pearson Correlation				1	-.695*	.687*	-.523	-.460	.462
	Sig. (2-tailed)					.026	.028	.121	.181	.179
Size	Pearson Correlation					1	-.960**	.131	.276	-.273
	Sig. (2-tailed)						.000	.718	.440	.446
Risk	Pearson Correlation						1	-.089	-.188	.237
	Sig. (2-tailed)							.806	.603	.510
GDP	Pearson Correlation							1	-.084	-.234
	Sig. (2-tailed)								.818	.515
AIR	Pearson Correlation								1	-.661*
	Sig. (2-tailed)									.037
ER	Pearson Correlation									1
	Sig. (2-tailed)									

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

**Source: Research Findings**

Table 4.3 shows the regression results for the determinants of bank performance as modelled by two models – ROE and ROA. Significance of the relationships is shown in parentheses.

**Table 4.3: Determinants of Financial Performance of Banks in Kenya**

	Return on Equity	Return on Assets
Constant	-1.192	-0.248
Capital Adequacy	-1.727 (.778)	.777 (.393)
Liquidity	1.947 (.468)	.262 (.422)
Operating Cost Efficiency	1.175 (.772)	.193 (.690)
Size	.048 (.894)	.004 (.918)
Risk	.926 (.959)	.065 (.975)
GDP	.002 (.790)	.001 (.890)
Inflation	.007 (.754)	.001 (.664)
Exchange rate	-0.009 (.424)	-0.001 (.402)
R	.976	.978
R <sup>2</sup>	.953	.956
F	2.536 (.452)	2.735 (.438)

**Source: Research Findings**

The study found that the independent variables had a very high correlation with ROE and ROA (R = 0.976 and 0.978 respectively). The results also show that the variables accounted for 95.3% of the variance in ROE (R<sup>2</sup> = 0.953) and 95.6% of the variance in ROA (R<sup>2</sup> = 0.956). ANOVA results show that the F statistics were insignificant at 5% level. This means that none of the performance models was fit to explain the relationships.

As the results show, capital adequacy and exchange rate had negative effects on ROE ( $\beta$  = - 1.727 and - 0.009 respectively) but these effects were not significant at 5% level. The

rest of the variables (liquidity, operating cost efficiency, size, risk, GDP, and inflation) had positive effects on ROE but none of these effects were significant at 5% level.

The results also show that exchange rate had a negative effect on ROA ( $\beta = - 0.001$ ) but this relationship was not significant at 5% level. Further, capital adequacy, liquidity, operating cost efficiency, size, risk, GDP and inflation rate had positive effects on ROA. These effects were however not significant at 5% level.

#### **4.4 Interpretation of Findings**

The study found that capital adequacy had a negative effect on ROE. This means that lower capital adequacy ratios led to higher ROE. On the other hand, the results showed that capital adequacy had a positive influence on ROA suggesting that higher capital adequacy ratios translated to higher ROA. Since both effects were insignificant, it can be concluded that bank financial performance is not influenced by capital adequacy.

Liquidity had a positive impact on both ROA and ROE. These results suggest that higher liquidity led to better firm performance. But these results were not significant hence lead to the conclusion that bank financial performance is not influenced by liquidity.

Operating cost efficiency had a positive effect on ROE as well as on ROA. The results suggest that higher OCE led to better firm performance. The effects were however not significant hence lead to the conclusion that bank financial performance is not influenced by OCE.

Size was found to be positively correlated with both ROA and ROE. This suggests that larger banks performed better than smaller banks. The results were not significant hence lead to the conclusion that bank financial performance is not influenced by size.

The study also found that risk had a positive effect on both ROA and ROE. The results mean that higher bank risk lead to higher bank performance. These results were however insignificant hence lead to the conclusion that bank financial performance is not influenced by risk levels.

The effect of macroeconomic factors on bank financial performance was also tested. GDP and inflation had positive effects on both ROE and ROA. The results mean that higher GDP growth as well as higher inflation rates leads to better bank performance. These results were not significant and therefore indicate that bank financial performance is not influenced by either GDP or inflation rate.

The study also found that exchange rate had a negative effect on both ROE and ROA. The results mean that lower exchange rates (stronger shilling) lead to better bank performance. These results were insignificant and therefore mean that bank financial performance is not influenced by exchange rates.

This study did not find any statistically significant effects of the factors studied on the performance of banks. This is a sharp contrast with the findings of Olweny and Shipho

(2011) who found that bank specific factors (capital adequacy, asset quality, liquidity, and operational cost efficiency) significantly influenced bank profitability.

These results can be attributed to the way the data analysis was carried out in this study. While the previous study used individual data from each of the banks (cross-sectional approach), the present study used aggregate data for all the banks for each year (a longitudinal approach). Secondly, this study covered a period beginning 2001 – 2010 (a ten year period) while the previous study covered 2002 to 2008 (7 year period).

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary of the study in section 5.2, conclusion in 5.3, recommendations in 5.4, limitations of the study in 5.5, and suggestions for further research in 5.6.

#### **5.2 Summary**

This study was designed to examine the determinants of financial performance of commercial banks in Kenya. In order to achieve this, the research was designed as an explanatory study. The population was all the 43 commercial banks by December 2011. All the banks were used in the study. A ten year secondary data from 2001 to 2010 was collected from Banking Survey and the Central Bank of Kenya. Descriptive analysis, correlation analysis and regression analysis were used to perform the data analysis. Significance was tested at 5% level.

The study found that there was a general fall in both ROA and ROE over the sample period. Over the same period, capital adequacy, total assets (size), GDP, and inflation rose while asset quality, liquidity, operating cost efficiency, risk, and exchange rates fell. The regression results showed that capital adequacy and exchange rates were negatively correlated with ROE while liquidity, operating cost efficiency, size, risk, GDP, and inflation had a positive influence on ROE. Overall, the independent variables accounted for 95.3% of the variance in ROE.

Further, the results revealed that exchange rate was negatively related with ROA while capital adequacy, liquidity, operating cost efficiency, size, risk, GDP, and inflation had positive effects on ROA. It was noted that the independent variables accounted for 95.6% of the variance in ROA. However, none of these effects were significant at 5% level of confidence. None of the models was also significant at 5% . .

### **5.3 Conclusion**

The study concludes that none of the determinants tested in this study had a significant influence on the financial performance of commercial banks in Kenya. As the study found out, though most of the variables had a positive effect on performance as measured by ROA and ROE, none of the effects were statistically significant at 5% level of confidence. Further, even though the variables studied accounted for more than 95% of the variance in bank performance, they were not significant influencers of bank performance in Kenya.

### **5.4 Recommendations for Policy**

The study recommends that there is need for commercial banks to improve their performance in terms of their ROEs and ROAs. There has been a general decline in performance on these two specific ratios and it is clear that the overall performance has been sliding down.

The study also recommends that banks should improve on their liquidity more so the ability of the banks to promptly repay the depositors. As the results show, this ability has

been steadily declining over the years and it is important that the banks maintain a certain minimum for this.

### **5.5 Limitations of the Study**

This study focuses on commercial banks. The results are therefore applicable only to commercial banks and any attempt to generalise findings to other firms outside this scope should be approached with care.

Secondly, the study focused on determinants of financial performance of banks as a concept. The interpretation of these results should therefore be limited to the concept and by extension to the model used in the study.

Lastly, this study is country specific to Kenya. The study therefore suffers from the limitation of country specific studies. The results are therefore applicable only to Kenya and any attempt to generalise findings to other countries should be approached with care.

### **5.6 Suggestions for Further Research**

This study can be replicated in other industries to establish what the determinants of firm performance are. Thus studies can be done in other sectors of the economy such as manufacturing sector to determine the firm specific factors that influence their performance.

There is also need to carry out the same study in the banking industry in Kenya but by employing a different model and approach in order to test the determinants of bank financial performance. This is because the variables in this study failed to influence bank performance.

The study also suggests that another study be done in the banking industry covering a longer period of time in order to establish trends and determine what factors influence bank performance.

## REFERENCES

- Abu Bakar, N. & Tahir, I. M. (2009). Applying Multiple Linear Regression and Neural Network to Predict Bank Performance. *International Business Research*. [Online]. Vol.2 No.4 . Available from: [www.ccsenet.org/journal.html](http://www.ccsenet.org/journal.html)
- Aburime, U. (2008). *Determinants of Bank Profitability: Company-Level Evidence from Nigeria*. [Online]. October 2008. Available from: <http://ssrn.com/abstract=1106825>.
- Aburime, U. (2008, May 31). *Determinants of bank profitability: company level evidence from Nigeria*. Retrieved from Social Science Research Network: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=%201106825](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=%201106825)
- Al-Tamini, H. (2010). Factors influencing performance of the UAE Islamic and conventional national banks. *Global Journal of Business Research*, 4 (2), 1-9.
- Athanasoglou, P., Brissimis, S. & Delis, M. (2006). Bank-Specific, Industry-Specific and Macroeconomic Determinants of Bank Profitability. *Journal of International Financial Markets, Institutions and Money*. [Online] 121-136. Available from: <http://ssrn.com/abstract=1106825>.
- Baltagi, B.H. (2005). *Econometric Analysis of Panel Data*. John Wiley & Sons Publish. Chichester. Central Bank of Kenya (2009).
- Baral, K. J. (2005). Health Check-up of Commercial Banks in the Framework of CAMEL: A Case Study of Joint Venture Banks in Nepal. *The Journal of Nepalese Business Studies*. [Online] Vol II No.1. Available from: <http://www.nepjol.info/index.php/JNBS/article/viewFile/55/483>

- Beck, T. & Fuchs, M. (2004). *Structural Issues in the Kenyan Financial System: Improving Competition and Access*. W/P 3363. [Online]. Available from: <http://siteresources.worldbank.org>.
- Berger, A. (1995). The Profit-Structure Relationship in Banking-Test of Market Power and Efficient-Structure Hypothesis. *The Journal of Money, Credit and Banking*. [Online] 27 (2). Available from: <http://www.jstor.org/stable/2077876>.
- Bobáková, V. (2003). *Raising the Profitability of Commercial Banks*. XI 4/2003. [Online]. Available from: [www.nbs.sk/img/documents/biatec/bia0403/2125.pdf](http://www.nbs.sk/img/documents/biatec/bia0403/2125.pdf).
- Choi, S. & Kotrozo, J. (2006). *Diversification, Bank Risk and Performance: A Cross-country Comparison*. [Online]. Available from: <http://ssrn.com/abstract=1013430>.
- Clair, R. S. (2004). *Macroeconomic determinants of banking financial performance and resilience in Singapore*. Monetary Authority of Singapore (MAS) Staff paper No 38, 1-34.
- Cooper, D. C., & Schindler, P. S. (2009). *Business Research Methods*. 9th edn. Tata McGraw-Hill. New Delhi
- Demirgüç-Kunt, A., & Huizinga, H. (1999). *Determinants of commercial bank interest margins and profitability: some international evidence*. World Bank Policy Research Working Paper No. 1900.
- Dougherty, C. (2007). *Introduction to Economics*. 3rd edn. Oxford University Press Inc. New York.
- Elyor, S. (2009). *Factors Affecting the Performance of Foreign Banks in Malaysia*. A Thesis Submitted in Partial Fulfillment of the Requirements of University Utara

- Malaysia for the Degree of Master of Science (Banking). [Online]. Available from: [www.ep3.uum.edu.my/1760/1/Saidov\\_Elyor\\_Ilhomovich.pdf](http://www.ep3.uum.edu.my/1760/1/Saidov_Elyor_Ilhomovich.pdf)
- Flamini, V., McDonald, C. & Schumacher, L. (2009). *The Determinants of Commercial Bank Profitability in Sub-Saharan Africa*. WP/09/15. [Online]. Available from: [www.imf.org/external/pubs/ft/wp/2009/wp0915.pdf](http://www.imf.org/external/pubs/ft/wp/2009/wp0915.pdf).
- Gavila, S. & Santabarbara, D. (2009). *What Explains the low Profitability in Chinese Banks*. W/P30. [Online]. Available from: <http://ssrn.com/abstract=1413123>
- Ghazali, M. (2008). *The Bank-Specific and Macroeconomic Determinants of Islamic Bank Profitability: Some International Evidence*. [Online] Available from: <http://dspace.fsktm.um.edu.my/bitstream/1812/752/1/abstract.pdf>
- Guranti, D. N. (2007). *Basic Econometrics*. McGraw-hill. New York
- Heffernan, S. (2005). *Modern Banking*. John Wiley & Sons. London
- Heffernan, S., & Fu, X. (2010). Determinants of financial performance in Chinese banking. *Applied Financial Economics* , 20 (20), 1585-1600.
- Hempel, G. H., Simonson, D. G. & Coleman, A.B. (1994). *Bank Management*. 4th edn. John Wiley & Sons. New York
- Kamau, A.W. (2009). Efficiency in the Banking Sector: An Empirical Investigation of Commercial Banks in Kenya. *Unpublished PhD Thesis*, University of Nairobi
- Kennedy, P. (1998). *A guide to Econometrics*. 4th edn. Blackwell. Malden
- King, G.R. & Levine, R. (1993). Finance and Growth: Schupeter Might be Right. *The Quarterly Journal of Economics*. [Online]. 108 (3). pp. 717-737. Available from: [www.jstor.org](http://www.jstor.org)

- Koch, T.W. (1995). *Bank Management*. 3rd edn. The Dryden Press. London Mathuva, D.
- (2009). Capital Adequacy, Cost Income Ratio and the Performance of Commercial Banks: The Kenyan Scenario. *International journal of Applied Economics and Finance*. [Online]. ISSN 199-0886. Available from: <http://www.ScienceAlert.com>.
- Kosmidou, K. (2008). The determinants of banks „profits in Greece during the period of EU Financial integration. *Journal of Managerial Finance*. [Online] 34 (3). Available from: <http://www.emeraldinsight.com>.
- Mwania, B. (2009). An investigation on the relationship between information technology conceptualisation and bank performance. *Unpublished MBA Project*, University of Nairobi.
- Mwega, F.M. (2009). *Global Financial Crisis: Kenya: Discussion series*. Paper 7. [Online]. May 2009. Available at [www.odi.org.uk/resources/download/3312.pdf](http://www.odi.org.uk/resources/download/3312.pdf).
- Naceur, S. (2003). *The Determinants of the Tunisian Banking Industry Profitability: Panel Evidence*. [Online]. Available from: [www.mafhoum.com/press6/174E11.pdf](http://www.mafhoum.com/press6/174E11.pdf)
- Ndungu, C. (2003). Determinants of commercial banks profitability in Kenya: The case of Kenyan quoted banks . *Unpublished MBA Project*, University of Nairobi.
- Ngugi, N., Amanja D. & Maana L. (2006). *Capital Market, Financial Deepening and Economic growth in Kenya*. [Online]. Available from: [http://www.csae.ox.ac.uk/conferences/2009-EDiA\\_papers/513-Isaya.pdf](http://www.csae.ox.ac.uk/conferences/2009-EDiA_papers/513-Isaya.pdf)
- Ngugi, R. (2001). *An empirical analysis of interest rate spread in Kenya* [Online]. Available at <http://www.aercafrica.org/documents/rp106.pdf>.

- Njihia, J. (2005). Determinants of bank profitability: the case of commercial banks in Kenya . *Unpublished MBA Project*, University of Nairobi.
- Northcott, C. (2004). *Competition in Banking: Review of Literature*. WP 2004-24. [Online]. Available from: <http://www.bankofcanada.ca/en/res/wp/2004/wp04-24.pdf>
- Nzongang, T. & Atemnkeng, J. (2006). *Market Structure and Profitability Performance in the Banking Industry of CFA countries: the Case of Commercial Banks in Cameroon* [Online]. Available from: [http://www.jsd-africa.com/Jsda/Summer\\_2006/PDF](http://www.jsd-africa.com/Jsda/Summer_2006/PDF)
- Okpara, G. C. (2009). *A Synthesis of the Critical Factors Affecting performance of the Nigerian Banking System*. *European Journal of Economics and Administrative sciences*. [Online] Issue 17 ISSN 1450-2887. Available from: <http://www.eurojournals.com>.
- Okutoyi, P. (1988). The relationship between the use of strategic marketing and bank performance in Kenya. *Unpublished MBA Project*, University of Nairobi.
- Olugbenga, S. & Olankunle, A. (1998). *Bank Performance and Supervision in Nigeria: Analysing the Transition to Deregulated Economy*. RP 71. [Online]. Available from: <http://hdl-bnc.idrc.ca/dspace/bitstream/10625/22919/1/113309.pdf>
- Sufian, F. & Chong, R. R. (2008). Determinants of Bank Profitability in a Developing Economy: Empirical Evidence from Philippines. *Asian Academy of Management Journal of Accounting and Finance* [Online] 4(2) p.91-112. Available from: <http://www.usm.my/journal/aamjaf/vol%204-2-2008/4-2-5.pdf>.

- Tregenna, F. (2009), The fat years: the structure and profitability of the US banking Sector in the pre-crisis period. *Cambridge Journal of Economics* [online] 33(10) p. 609-63. Available from: [www.oxfordjournals.org/cgi/content/abstract/33/4/609](http://www.oxfordjournals.org/cgi/content/abstract/33/4/609).
- Uzhegova, O. (2010). *The Relative Importance of Bank-specific Factors for Bank Profitability in Developing Economies/P* 2010/02. [Online]. Available from: <http://ssrn.com/abstract=1595751>.
- Waweru, N. and Kalani, V. (2009). Commercial Banking Crises in Kenya: Causes and Remedies. *African Journal of accounting Economics, Finance and Banking Research*. [Online] 4 (4). Available from, [http://globip.com/pdf\\_pages/african-vol4-article2.pdf](http://globip.com/pdf_pages/african-vol4-article2.pdf).
- Wong, J., Fong, T., Wong, E., & Choi, K. (2007). *Determinants of the performance of banks in Hong Kong*. Hong Kong Monetary Authority Working Paper 06/2007.

## APPENDICES

### Appendix 1: List of Commercial Banks in Kenya

<u>Name of Bank</u>	<u>Name of Bank</u>
1 African Banking Corporation Ltd.	26 Habib Bank AG Zurich
2 Bank of Africa Kenya Ltd	27 Habib Bank Limited
3 Bank of Baroda (K) Ltd.	28 Housing Finance Co Ltd
4 Bank of India	29 I & M Bank Ltd.
5 Barclays Bank Ltd	30 Imperial Bank Ltd.
6 CFC Stanbic Holdings Ltd	31 Kenya Commercial Bank Ltd
7 Chase Bank	32 K-Rep Bank
8 Citibank N.A Kenya	33 Middle East Bank Kenya
9 City Finance Bank (Jamii Bora)	34 National Bank of Kenya Ltd
10 Commercial Bank of Africa Ltd.	35 NIC Bank Ltd
11 Consolidated Bank	36 Oriental Commercial Bank Limited
12 Credit Bank	37 Paramount Bank
13 Development Bank	38 Prime Bank
14 Diamond Trust Bank Kenya Ltd	39 Standard Chartered Bank Ltd
15 Dubai Bank	40 The Co-operative Bank of Kenya Ltd
16 Ecobank	41 Trans National Bank Limited
17 Equatorial Commercial Bank	42 UBA Kenya Bank Limited
18 Equity Bank Ltd	43 Victoria Commercial Bank
19 Family Bank	
20 Fidelity Bank	
21 Fina Bank Ltd	
22 First community Bank Limited	
23 Giro commercial	
24 Guardian Bank	
25 Gulf African Bank	

Source: Central Bank of Kenya website ( [www.centralbank.go.ke](http://www.centralbank.go.ke) )

## Appendix 2: Data Analysis Output from SPSS

### Summary Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Return on equity	10	.83	1.13	.9609	.09175
Return on assets	10	.11	.15	.1280	.01107
Capital adequacy	10	.12	.15	.1336	.01015
Asset quality	10	.05	.33	.1675	.10201
Liquidity	10	.33	.52	.4289	.05865
Operating cost efficiency	10	.54	.65	.5888	.03058
Size	10	12.86	14.38	13.5182	.52982
Risk	10	.85	.89	.8696	.01239
GDP	10	.30	6.90	4.1300	2.21813
AIR	10	2.00	26.20	10.3100	6.69651
ER	10	67.32	79.23	75.3150	4.33332
Valid N (listwise)	10				

### Correlation Matrix for the Independent Variables

		Capital adequacy	Asset quality	Liquidity	Operating cost efficiency	Size	Risk	GDP	AIR	ER
Capital adequacy	Pearson Correlation	1	-.546	-.220	-.449	.731*	-.600	.200	-.015	-.023
	Sig. (2-tailed)		.102	.541	.192	.016	.066	.579	.967	.950
	N	10	10	10	10	10	10	10	10	10
Asset quality	Pearson Correlation	-.546	1	.812**	.754*	.947**	.926**	.258	.414	.487
	Sig. (2-tailed)	.102		.004	.012	.000	.000	.471	.234	.153
	N	10	10	10	10	10	10	10	10	10
Liquidity	Pearson Correlation	-.220	.812**	1	.658*	.646*	.598	.276	.752*	.680*
	Sig. (2-tailed)	.541	.004		.039	.044	.068	.441	.012	.030
	N	10	10	10	10	10	10	10	10	10
Operating cost efficiency	Pearson Correlation	-.449	.754*	.658*	1	.695*	.687*	.523	.460	.462
	Sig. (2-tailed)	.192	.012	.039		.026	.028	.121	.181	.179
	N	10	10	10	10	10	10	10	10	10
Size	Pearson Correlation	.731*	-.947**	-.646*	-.695*	1	.960**	.131	.276	.273
	Sig. (2-tailed)	.016	.000	.044	.026		.000	.718	.440	.446
	N	10	10	10	10	10	10	10	10	10
Risk	Pearson Correlation	-.600	.926**	.598	.687*	.960**	1	.089	.188	.237
	Sig. (2-tailed)	.066	.000	.068	.028	.000		.806	.603	.510
	N	10	10	10	10	10	10	10	10	10
GDP	Pearson Correlation	.200	-.258	-.276	-.523	.131	-.089	1	-.084	-.234
	Sig. (2-tailed)	.579	.471	.441	.121	.718	.806		.818	.515
	N	10	10	10	10	10	10	10	10	10
AIR	Pearson Correlation	-.015	-.414	-.752*	-.460	.276	-.188	.084	1	.661*
	Sig. (2-tailed)	.967	.234	.012	.181	.440	.603	.818		.037
	N	10	10	10	10	10	10	10	10	10
ER	Pearson Correlation	-.023	.487	.680*	.462	-.273	.237	.234	.661*	1
	Sig. (2-tailed)	.950	.153	.030	.179	.446	.510	.515	.037	
	N	10	10	10	10	10	10	10	10	10

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Model summary for determinants of ROE

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.976 <sup>a</sup>	.953	.577	.05965

a. Predictors: (Constant), ER, Capital adequacy, GDP, Risk, AIR, Operating cost efficiency, Liquidity, Size

### ANOVA for ROE model

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.072	8	.009	2.536	.452 <sup>b</sup>
Residual	.004	1	.004		
Total	.076	9			

a. Dependent Variable: Return on equity

b. Predictors: (Constant), ER, Capital adequacy, GDP, Risk, AIR, Operating cost efficiency, Liquidity, Size

### Coefficients for the ROE model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.192	13.479		-.088	.944
Capital adequacy	-1.727	4.740	-.191	-.364	.778
Liquidity	1.947	1.762	1.245	1.105	.468
Operating cost efficiency	1.175	3.137	.392	.375	.772
1 Size	.048	.286	.277	.168	.894
Risk	.926	14.401	.125	.064	.959
GDP	.002	.037	.043	.048	.970
AIR	.007	.017	.513	.407	.754
ER	-.009	.007	-.425	-1.274	.424

a. Dependent Variable: Return on equity

### Excluded variable in the ROE model

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
					Tolerance	
1	Asset quality	-1822.075 <sup>b</sup>	.	.	-1.000	1.415E-008

a. Dependent Variable: Return on equity

b. Predictors in the Model: (Constant), ER, Capital adequacy, GDP, Risk, AIR, Operating cost efficiency, Liquidity, Size

### Regression analysis summary for ROA model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.978 <sup>a</sup>	.956	.607	.00694

a. Predictors: (Constant), ER, Capital adequacy, GDP, Risk, AIR, Operating cost efficiency, Liquidity, Size

### ANOVA for ROA model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.001	8	.000	2.735	.438 <sup>b</sup>
	Residual	.000	1	.000		
	Total	.001	9			

a. Dependent Variable: Return on assets

b. Predictors: (Constant), ER, Capital adequacy, GDP, Risk, AIR, Operating cost efficiency, Liquidity, Size

### Coefficients for ROA model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	-.248	1.568		-.158	.900
	Capital adequacy	.777	.552	.713	1.410	.393
	Liquidity	.262	.205	1.391	1.280	.422
	Operating cost efficiency	.193	.365	.534	.529	.690
	Size	.004	.033	.207	.130	.918
	Risk	.065	1.676	.073	.039	.975
	GDP	.001	.004	.151	.175	.890
	AIR	.001	.002	.709	.583	.664
	ER	-.001	.001	-.440	-1.368	.402

a. Dependent Variable: Return on assets

### Excluded variables in the ROA model

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics	
					Tolerance	
1	Asset quality	-1757.584 <sup>b</sup>	.	.	-1.000	1.415E-008

a. Dependent Variable: Return on assets

b. Predictors in the Model: (Constant), ER, Capital adequacy, GDP, Risk, AIR, Operating cost efficiency, Liquidity, Size