Factors Affecting the Financial Performance Of
Commercial Banks Listed On the Nairobi Securities Exchange

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UNITED STATES INTERNATIONAL UNIVERSITY - AFRICA

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FACTORS AFFECTING THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS LISTED ON THE NAIROBI SECURITIES EXCHANGE

BY
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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Masters in Business Administration (MBA)

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SPRING 2016
STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: __________________________  Date: _______________________
Carelle Kaneza (ID: 632063)

This research project has been presented for examination with my approval as the appointed supervisor.

Signed: __________________________  Date: _______________________
Dr. George O. Achoki

Signed: __________________________  Date: _______________________
Dean, Chandaria School of Business

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The purpose of the study was to examine the factors affecting financial performance of commercial banks listed on the Nairobi Stock Exchange (NSE). The study sought to address the following research questions: How does Capital Adequacy affect the financial performance of commercial banks in Kenya? How does Asset Quality affect the financial performance of commercial banks in Kenya? and How does Management affect the financial performance of commercial banks in Kenya?

A descriptive research design was applied to a population of 10 commercial banks listed on the NSE. This design is appropriate when the researcher wishes to provide an accurate representation of situations and make inferences about the target population. This study targeted all the banks quoted on the NSE and used secondary data obtained from financial statements found on the websites of the relevant banks and the Central Bank of Kenya (CBK). This study used descriptive and inferential statistics to establish the relationship between the 3 independent variables and the dependent variables – Return on Assets (ROA) and Return on Equity (ROE). Regression and correlation analyses were used and based on the association between two (or more) variables. The Statistical Package for Social Sciences (SPSS) and Excel were the analysis tools used in this study.

The study found that Capital Adequacy, Asset Quality and Management each have different effects on the financial performance of commercial banks listed on NSE. The study found capital adequacy had a positive effect on both ROA and ROE. The findings showed a very weak and negative association between asset quality and ROA, however a strong and negative association was found between asset quality and ROE. Management efficiency had a positive effect or association with both ROA and ROE.

The study concluded that an increase in capital adequacy would result in a positive increase in both ROA and ROE of commercial banks. Similarly, an increase in management efficiency would lead to an increase in both ROA and ROE. However, asset quality affected the financial performance of banks negatively implying that an increase in the asset quality, in terms of non-performing loans, would lead to a decrease in both ROA and ROE of commercial banks.

The study makes the following recommendations: First, the government and the regulatory body, CBK, should encourage banks through effective policies to regularly raise their capital.
and provide the environment necessary for the banking sector as well as the economy to grow. Second, banks operating in Kenya must identify and reduce the effects of factors that can deteriorate asset quality because non-performing loans, unless well-managed, are a big threat to banks and the banking industry. Third, commercial banks should set up policies that guide decisions with the aim of maximizing returns and devise effective mechanisms to reduce or control operational expenses. Finally, this study suggests that future researchers examine the effects of all CAMEL factors – including Earnings and Liquidity – on the financial performance of commercial banks.
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DEDICATION

I dedicate this research project to my dearest mother, who is and will always be my role model. Thank you for the sacrifices you made so that I could get the best education. I appreciate you and God bless you.
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Problem

Commercial banks, mainly due to their intermediation function play a crucial role in the financial sector of any country in the world. In the past twenty years, the banking sector worldwide has undergone significant changes in its operating environment, especially in terms of its structure and financial performance (Athanasoglou, Brissimis, & Delis, 2008). Despite the increasing trend toward bank disintermediation, the effective mobilization of funds from depositors to investors or productive projects is still a prime requirement for a country’s economic development (Athanasoglou et al., 2008). Good financial performance of commercial banks, according to Ongore and Kusa (2013), contributes to a sound and profitable banking sector as well as a stronger financial system which is better able to endure negative shocks. Poor performance can lead to bank runs, bank crises and result in a major financial crisis.

Nimalathasan (2008) suggests that research and discussions on performance may positively impact financial performance leading to improved functions and activities of the firms, which may explain the increased research on bank performance from both scholars and industry specialists. Financial ratio analysis, benchmarking, and measuring performance against budgets are some of the tools which are widely used in measuring financial performance of financial institutions (Echeboka et al. 2014). Research on bank performance mainly considers return on assets (ROA), return on equity (ROE), and net interest margin (NIM) as the primary measures of profitability and focuses on various variables or determinants to explain differences in financial performance of banks (Flamini, McDonald & Schumacher, 2009).

Literature categorises these determinants into internal and external factors which influence bank performance. According to Athanasoglou et al. (2008), the internal determinants originate from a bank’s financial statements and are thus referred to as bank-specific determinants of profitability, whereas external determinants are factors that are not directly linked to bank management, but which reveal details of the economic and legal environment that affect the operation and performance of financial institutions.
Many variables have been determined for both classifications according to the purpose of each study.

This study highlighted the variables that constitute the CAMEL (Capital adequacy, Asset Quality, Management, Earnings, Liquidity) model as they too are associated with the financial performance of commercial banks, mainly focusing on Capital Adequacy, Asset Quality and Management. The CAMEL rating system is often used by regulatory bodies, such as the Central Bank of Kenya to evaluate the operations of banks (Ogilo, 2012) and details the 5 aforementioned factors related to banking operations (Nimalathasan, 2008). Recently, many researchers have shown interest in the determinants of bank performance and investigated the relationship between these factors and the profitability of banks (Nouaili, Abaoub & Ochi, 2015).

Seelanatha (2010) conducted a study on how bank efficiency and market structure affect the overall performance of banking firms in Sri Lanka, using net interest margin and return on asset as performance measures as well as Structure-Conduct-Performance (SCP) literature. The study findings reveal that traditional SCP hypothesis does not apply in the banking industry in Sri Lanka and that bank profitability does not depend on either market concentration or market power of individual firms but rather that the level of efficiency of the institutions is crucial for improved bank performance.

Jaber and Al-khawaldeh (2014) studied banks in Jordan to identify the determinants of profitability on commercial banks and examine the extent to which bank performance is influenced by internal and external factors. They find that internal factors in general have a significant impact, however capital adequacy, liquidity and size are found not to be significant. With regards to the external factors, inflation, Gross Domestic Product (GDP) and stock market capitalization to total assets have a significant impact on performance.

In Japan, Nasserinia, Ariff and Fan-Fah (2014) studied how some bank-specific characteristics and several market and macroeconomic factors impact the financial performance of banks. Results indicate that net interest margin (NIM) is an important performance variable and that negative relationships exist between credit risk, capital adequacy and NIM while a positive association is found between liquidity risk, asset quality, management efficiency and NIM. Bank concentration has a positive influence on banks in Japan but though the effects of income diversification and size are positive they
are not significant. The macro-economic factors, GDP growth and money supply have negative and significant relationships on performance however their effects are not as strong as those of bank-specific variables.

A study by Lipunga (2014) aimed to evaluate the determinants of profitability of listed commercial banks in developing countries, focusing on Malawi for the period 2009-2012. Return on Assets (ROA) and Earnings Yield (EY) were used as measures of profitability. The study applied correlation and multivariate regression analysis which revealed that bank size, liquidity and management efficiency have a statistically significant impact on ROA but this was not the case for capital adequacy. In terms of Earnings Yield however, bank size, capital adequacy and management efficiency had a significant influence on bank performance but not liquidity.

Echeboka et al. (2014) performed a study attempting to determine the effect of CAMEL elements on the profitability of Nigerian banks for the period 2001-2010. Ordinary Least Square (OLS) method using The Statistical Package for Social Sciences (SPSS) estimated the model for the study. The ratios of the CAMEL system are considered the independent variables while Return on Assets (ROA) is the profitability ratio used as the dependent variable. The results of the study based on the CAMEL model, revealed that only the liquidity of the banks under consideration had a significant impact on bank profitability whereas capital adequacy, asset quality, management efficiency and earnings did not. These findings are contradictory to those of the study by Uzhegova (2015) which indicated that all CAMEL components had a significant influence on bank profitability (ROE and ROA). Ongore and Kusa (2013), in their study, also found that capital adequacy, liquidity and asset quality were the most important determinants of a bank’s financial performance.

Ongore and Kusa (2013) used the CAMEL model to study the determinants of financial performance of commercial banks in Kenya. Linear multiple regression model and Generalized Least Square on panel data were used to estimate the data collected from financial statements of the commercial banks and the profitability ratios of ROA, ROE and NIM were used as measures of financial performance. The study found that capital adequacy and management efficiency both have a positive relationship with bank performance but asset quality and bank performance have a negative relationship. Liquidity was found to have no significant influence on bank performance.
The banking industry in Kenya has undergone significant growth in terms of deposits, assets, profitability and product offerings mainly due to automation of services and branch networks expansion both locally and regionally. This growth has attracted new entrants into the sector as well as increased competition among existing players (Muiruri & Ngari, 2014). According to the Central Bank of Kenya (CBK, 2015), the banking sector is made up of 43 commercial banks, 1 mortgage finance company, 12 microfinance banks, 8 representative offices of foreign banks, 86 foreign exchange bureaus, 14 money remittance providers and 3 credit reference bureaus. Performance of the banking industry has improved in 2015, evident from the size of total assets at Ksh. 3.60 trillion, gross loans of Ksh. 2.17 trillion and a deposit base of Ksh. 2.57 trillion (CBK, 2015).

1.2 Statement of the Problem

It is undeniable that the financial performance of banks has a huge influence on economic growth of a country (Ongore & Kusa, 2013) and this has sparked interest in bank performance as a research topic around the world, as evident from the studies in Sri Lanka, Jordan, Japan, Malawi and Nigeria that have been discussed. Even locally, a number of studies based on the performance of Kenyan banks have been undertaken. It is, however, necessary to note that each study is independent from the next and that their results will differ according to the context the country and other factors. Banks in different countries differ in terms of the macro-economic conditions and the financial systems in which they operate (Olweny & Shipho, 2011). This means that the determinants of bank performance found in a specific country may not be relevant in another country or may not apply in a similar way.

A study by Kiganda (2014) aimed at assessing the effect of macroeconomic factors on bank profitability in Kenya, specifically to determine, examine and evaluate the effects of economic growth, inflation and exchange rate on bank profitability in Kenya with Equity bank in focus. The study used Ordinary Least Square (OLS) to establish the relationship between macroeconomic factors and bank profitability and the results showed that real GDP, inflation and exchange rate do not have a significant impact on Equity bank profitability.

The study concluded that macroeconomic factors do not affect bank profitability in Kenya and that internal factors, mainly bank management, would significantly determine bank
profitability in Kenya. This study however did not directly investigate the influence of CAMEL factors on bank performance.

In another study, Olweny and Shipho (2011) studied the effects of bank-specific factors such as capital adequacy, asset quality, liquidity, operational cost efficiency and income diversification on the profitability of commercial banks in Kenya, as well as the effects of market structure factors; foreign ownership and market concentration on performance banks in Kenya. Using the multiple linear regressions method, their analysis revealed that all the bank specific factors had a statistically significant impact on profitability, while none of the market factors had a significant impact. This study focused on some bank specific factors and did not assess the impact of external factors on financial performance of banks.

A number of studies, such as those by Ogilo (2012), Uzhegova (2015), Ongore and Kusa (2013) and Echeboka et al. (2014), investigating the relationship between CAMEL components and the financial performance of commercial banks, have had contradicting conclusions. Some of these studies find that all components of the model have a significant influence on bank performance, whereas others find that only one component shows a strong relationship with performance or just a few CAMEL elements impact bank performance. For instance, Ogilo (2012) used the CAMEL approach to study how credit risk management affects the financial of commercial banks in Kenya. Using multiple regression analysis, the findings showed that CAMEL elements had a strong influence on bank performance. It was concluded that capital adequacy, asset quality, management efficiency and liquidity had weak relationships with financial performance represented by ROE, and that earnings was the only component with a strong relationship with the financial performance of commercial banks. These findings seem to contradict those of studies by Uzhegova (2015), Ongore and Kusa (2013) and Echeboka et al. (2014).

While the above studies provide valuable information on bank performance, some lack consensus on the influence on bank performance, others omit certain important factors.

To the best of the researcher’s knowledge, these studies have not highlighted the factors affecting the performance of commercial banks listed on the NSE, focusing on the elements of the CAMEL model – specifically Capital Adequacy, Asset Quality and Management, hence the research gap that the current study sought to fill (Kiganda, 2014, Olweny & Shipho, 2011, Ongore & Kusa, 2013, Ogilo, 2012, Uzhegova, 2015, Echeboka et al., 2014).
1.3 Purpose of the Study

The purpose of this study was to examine the factors affecting financial performance of commercial banks listed on the Nairobi Securities Exchange.

1.4 Research Questions

The following research questions were used for the study:

1.4.1 How does Capital Adequacy affect the financial performance of commercial banks in Kenya?

1.4.2 How does Asset Quality affect the financial performance of commercial banks in Kenya?

1.4.3 How does Management affect the financial performance of commercial banks in Kenya?

1.5. Significance of the Study

The study filled in the knowledge gap on some of the factors affecting financial performance of commercial banks listed on the Nairobi Securities Exchange. The findings will be beneficial to the banking industry as a whole and especially to the following key stakeholders in the sector:

1.5.1 Commercial Banks

To commercial banks in Kenya, the study identified various internal, external and CAMEL factors which affect the performance of banks. The study informs bank managers on how these factors individually influence bank performance. The banks can thus use this information to improve overall financial performance by focusing and monitoring these factors.

1.5.2 Investors

To investors in Kenya, the study provided insight on the variables that can help them forecast the profitability of financial institutions in the future by looking at trends. In the study, asset quality, management efficiency and capital adequacy are among the factors
examined and this information can be useful when deciding whether or not the industry is worth investing in.

1.5.3 Regulatory Bodies and the Government

To the government and regulatory bodies, the study can add value to bank supervision as it provides insight on the factors which are directly related to banking activities and which determine the financial soundness of banks in Kenya. The financial health of the banking industry directly influences the state of the country’s economy making it important to the government. This information can assist the regulator in confirming the banks’ compliance with regulations and guidelines and in forming strategies aimed at improving the sector’s performance and growth.

1.5.4 Researchers

To researchers and academia, the study contributed to the body of research on bank performance and addresses the existing knowledge gap on the effects of capital adequacy, asset quality and management efficiency on the financial performance of commercial banks listed on NSE. The study also provided information for use in future academic research on bank performance which is beneficial to researchers.

1.6 Scope of the Study

This study was carried out in Kenya, with a focus on the commercial banks listed on the NSE from 2010 to 2014, namely Barclays Bank, CFC Stanbic Holdings, Co-operative Bank of Kenya, Diamond Trust Bank Kenya, Equity Group Holdings, HF Group Limited, Kenya Commercial Bank, National Bank of Kenya, NIC Bank, Standard Chartered Bank.

The study was conducted from January 2016 to April 2016 using secondary data. The study was limited to the above-mentioned commercial banks in Kenya.
1.7 Definition of Terms

1.7.1 Capital Adequacy

Olalekan and Adeyinka (2013) define capital adequacy as the portion of a financial institution’s assets (loans and investments) which makes up its primary capital. This ratio is used to gauge the financial strength and stability of the financial institution.

1.7.2 Asset Quality

Asset quality of a commercial bank refers to its ability to recover outstanding loans and advances when they are due. It is the ratio of classified loans to total loans issued (Kabir & Dey, 2012).

1.7.3 Non-performing Loan

A non-performing loan is one which is in default or close to being in default. The borrower has not made interest payments according to the contract terms, usually 3 months, and has principal outstanding (Aziz, Ibrahim, & Isa, 2009).

1.7.4 Commercial Banks

According to the Central Bank of Kenya (2015), a commercial bank is one which undertakes banking business, i.e.: accepting money from the public and lending or investing money held.

1.7.5 Liquidity

Bank liquidity refers to its ability to meet all its contractual obligations as they fall due, mainly those of depositors (Ongore & Kusa, 2013).

1.7.6 Financial Ratios

Financial ratios are common measures of performance for organisations. They show the relationship between items found in financial statements of the organisation (Echeboka et al. 2014).
1.8 Chapter Summary

This first chapter provides a general overview of this study. The introduction highlights the background of the study with regards to previous studies conducted outside Kenya and locally on the factors affecting bank performance. The chapter also presented the problem statement, identified the existing knowledge gap on factors influencing bank performance, as well as the purpose of the study. The research questions are also outlined as well as the significance of the study, scope of the study and definition of terms.

The second chapter provides the literature review based on the research questions which focus on previous studies similar to this study as well as their findings and conclusions. Chapter three follows with the methodology that was used in this study, detailing the research design, population, sampling design, data collection methods, research procedures and data analysis methods. Chapter four presents the findings and results using graphs and tables. Chapter five concludes the study with a summary of the findings, discussions, conclusions and recommendations.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews existing literature related to the financial performance of commercial banks. The chapter is organized such that each of the research questions presented in the previous chapter is clearly addressed. Specifically, the chapter highlights literature review on the three CAMEL factors – capital adequacy, asset quality and management efficiency – that influence the financial performance of commercial banks.
2.2 The Effect of Capital Adequacy on Financial Performance of Commercial Banks

When analysing the determinants of banking performance, certain factors stand out. They are bank-specific and within the scope of banks to influence using policy and decisions. These factors will differ from bank to bank and thus are appropriate when conducting a comparative study of various commercial banks with regards to performance. They include Capital adequacy, Asset quality, Management efficiency, Earnings and Liquidity. The CAMEL rating system is widely used, especially by regulatory bodies in the evaluation and ranking of bank safety and soundness (Altan et al., 2014). It involves reviewing different areas of a bank based on various sources of information including financial statements, budgets, financing sources and others. CAMEL is an acronym for the five bank-specific factors named above which will be analysed in detail in relation to banking performance (Nimalathasan, 2008). According to Buerger (2011) the CAMEL rating is the most crucial number to a bank, in terms of regulation. She states that “all bank directors should have a firm understanding of the meaning of CAMELS ratings and the profound impact these ratings have on the bank.”

2.2.1 Capital Ratio
Capital is the amount of own funds that a bank has to fund its activities and can be used as a safeguard in case of unfavourable changes in the environment (Athanasoglou et al., 2008). Ongore and Kusa (2013) explain that enough capital is necessary for liquidity purposes as bank deposits can be susceptible to bank runs. Capital adequacy is thus, an indication of a bank’s capital strength in terms of insolvency risk. Capital adequacy ratio (CAR) is commonly expressed by the sum of Tier I Capital and Tier II Capital as a percentage of a bank’s risk weighted assets (Swarnapali, 2014). Capitalisation is another indicator of capital adequacy measured by the ratio of shareholders’ equity to total assets of a bank (Onuonga, 2014). This shows the extent to which a bank’s assets are financed by the owners’ funds (Obamuyi, 2013).

With regards to the relationship between capital adequacy and bank performance, generally banks with low capital ratio are considered more risky than those with higher capitalization, especially in the case of a financial crisis, and thus adverse implications for bank performance (Onuonga, 2014). According to Zhang and Dong (2011), wellcapitalized banks are safer, have greater creditworthiness and gain from reduced funding costs which all positively affect the performance of commercial banks. Nouaili et al. (2015) add that a
highly capitalized bank has a lesser need for debt financing thus reducing its cost of debt. Onuonga (2014) explain that banks with high capitalization are able to meet the regulator’s capital requirements and then issue the excess funds as loans. Rao and Lakew (2012) also write that banks with high capital ratio are assumed less risky because in a situation where asset quality is deteriorating and a bank does not have enough loan loss reserves to write off the bad loans, the bank can use its equity to write off the balance.

Many studies have revealed results that support the positive relationship between high capitalization and profitability of banks. Nouaili et al. (2015) in their study find a positive impact of capitalization on the interest margin of banks in Tunisia concluding that higher capital levels represent a positive signal to the market on the solvency of the banks. A study by Onuonga (2014) showed that capital adequacy or capital strength has a positive impact on the profitability of the top banks in Kenya in 2008 to 2013. Capital actually showed the largest impact on the changes in profits in this case, which agrees with the argument that highly capitalized banks can even endure general financial crisis and remain profitable. The author thus suggests that the top commercial banks in Kenya can earn higher profits by increasing capital.

Obamuyi (2013) also found a positive and significant relationship between profitability and capitalization of banks in Nigeria. He explains that banks with more capital can access funds cheaply; enhance their ability to assume risk and invest in better quality assets which proves favourable with regards to liquidity and lending and thus profitability of the banks. The positive relationship reflects the statements found in the expected bankruptcy costs hypothesis and the signaling hypothesis according to Obamuyi (2013). Studies by Athanasoglou et al. (2008), Flamini et al. (2009), Rao and Lakew (2012) and Sufian and Kamarudin (2012) also had similar results.

Some authors, on the other hand, revealed capital adequacy to have a negative impact on bank performance in their studies. For instance, the study on banks in Uganda by Frederick (2014) found such a negative relationship and explained that the banks may have been avoiding potentially risky but profitable undertakings in an approach deemed too prudent. This shows that capital regulatory requirement can have adverse implications on bank performance if not adjusted with increased investments. Studies by Zhang and Dong (2011) and Swarnapali (2014) also found capital to have a negative impact on bank profitability.
2.2.2 Earnings

Profit maximization is the main objective for most organisations, including commercial banks, and is often viewed as an indicator of sound performance. Nimalathasan (2008) explains that earnings are a reflection of a bank’s ability to continue conducting business in the present and future. Thus the earnings or profits element in the CAMEL rating system examines the quality of a bank’s profitability as well as the sustainability of profits and potential for future growth (Altan et al., 2014). A bank with high earnings is able to increase its own capital base, finance expansion ventures and pay attractive dividends to its shareholders as well as build the bank’s provisions or reserves. Profitable banks can absorb loan losses, reward shareholders and inspire public confidence which is essential for their continued success. Effective and efficient asset and liability management is important for banks to start enjoying good returns (Muhmad & Hashim, 2015).

Various profitability ratios can be used to measure a bank’s ability to earn profits from revenue and assets. Kabir & Dey (2012) in their research refer to net investment margin (NIM), return on assets (ROA), diversification ratio, net profit margin, earnings per share (EPS), return on capital employed (ROCE). NIM, ROA and ROE are the most commonly used ratios in measuring bank profitability in banking literature. Ratios are not affected by fluctuations in general price levels making them more appropriate to use than real values of profit when assessing bank profitability (Rao & Lakew, 2012). It is without much doubt that earnings have a significant influence on the financial performance of commercial banks which may explain the limited literature on the relationship between earnings and bank performance as compared to the other CAMEL elements. Nonetheless, the study by Muhmad and Hashim (2015) analysed earnings quality and found it to be significant and a contributing factor for better performance of banks in Malaysia. Nasserinia et al. (2014) find NIM to be the most important measure or proxy for performance over ROA and ROE.

It is thus natural to gather that earnings expressed by profitability ratios have a strong and significant relationship with bank performance as many studies employ these ratios when describing bank performance. For instance, Swarnapali (2014) used ROA to show the ability of a bank to generate profits from bank assets and ROE to show the return to shareholders on their equity. Sufian and Kamarudin (2012) used these same ratios to show performance of Bangladeshi banks, Frederick (2014) in his study in Uganda, Ongore and Kusa (2013) on banks in Kenya as well as others such as Trujillo-Ponce, (2012);
Davydenko (2011); Sehrish et al. (2011); Oladele et al. (2011); Goaied (2008); and Kosmidou (2008), according to Frederick (2014).

### 2.2.3 Market Power Theory

In the late 1980s, researchers took an interest to banks and studies on the performance of banks started with the application of two industrial organizations models: the Market Power and Efficiency Structure theories (Athanasoglou, Brissimis, & Delis, 2008). As such, studies focused on the relationship between market structure and bank profitability. The Portfolio theory, developed later, has also provided more insight to the study of bank profitability (Atemnkeng & Nzongang, 2006).

The Market Power theory proposes that the market structure of the industry has a significant impact on the performance of banks. Olweny and Shipho (2011) report that there are two approaches associated with the Market Power theory namely the Structure Conduct Performance (SCP) and the Relative Market Power (RMP) hypotheses.

The SCP hypothesis can be described as the relationship between market structure, firm conduct and firm performance. Baye (2010) explains that the structure of an industry may include technology, concentration, and market conditions while conduct refers to factors such as the pricing decisions, advertising decisions, and R&D decisions made by firms in a market and performance is the profits and social welfare generated. Athanasoglou et al. (2008) suggest that in this case, increased market power yields monopoly profits and Olweny and Shipho (2011) add that concentration in the banking market may lead to bank market power which can result in higher profits.

According to Berger (1995), barriers to entry into an industry influence a firm’s profitability in that higher costs of entry help existing firms maintain monopoly profits, as new entrants would shrink the profits. Market concentration, thus, reduces the cost of collusion between existing banks leading to higher profits. Olweny and Shipho (2011) report that banks in more concentrated markets can collude and charge higher loan rates while paying lower deposit rates and end up making abnormal profits, more than those banks operating in less concentrated markets, regardless of their efficiency.

The RMP hypothesis, on the other hand, states that bank profitability is influenced by market share and proposes that only large banks with differentiated products can control
prices and grow their profits. They are able to exercise market power and gain monopoly profits whereas firms with smaller market shares operate as if under perfect competition and cannot earn the same supernormal profits (Olweny & Shipho, 2011 and Berger, 1995).

The Structure Conduct Performance has been the most studied of the two Market Power hypotheses mainly testing the relationship between profitability and concentration measures. Earlier empirical works include Mason (1939) and Bain (1951) who observed that profits of firms operating in highly concentrated industries are significantly higher than that of firms in industries with lower concentration (Seelanatha, 2010). The study by Kaufman (1966) on the banking market in Iowa also found the concentration level of the market to be positively but not strongly related to bank performance. More recently Fu and Heffernan (2005) studied the market structure of the Chinese banking structure and observed results in favour of the RMP hypothesis. A study by Seelanatha (2010), however, found that the traditional SCP approach is not held in the banking industry in Sri Lanka and the banks performance does not depend on either market concentration or market power of individual banks but on efficiency.

2.2.4 Ownership Structure

Literature on ownership structure as a determinant for the financial performance of banks mainly compares privately owned banks and public banks. Nouaili et al. (2015) mention that most researchers find public banks to be “less powerful” than private banks, although Onuonga (2014) observes that researchers investigating the influence of government and private ownership on bank performance have presented contradicting results.

Dietrich and Wanzenried (2011) concurred that public banks in Switzerland do not perform as well as private banks. However, the global financial crisis may have changed this as government owned banks are viewed as safer and better managed than private institutions which could lead to better performance. Cornett, Guo, Khaksari & Tehranian (2009), in their study of the impact of state ownership on performance differences in privately-owned and state-owned banks, also found that government owned banks operated less profitably than private banks due to the fact that they give out riskier loans, which adds to their credit risk and bad solvency ratios. Larger differences in performance were noted in countries where the government was heavily involved and where political corruption existed in the banking system. Bonin, Hasan and Wachtel (2004), on the other hand, find no significant
negative connection of either government or private ownership on the financial performance of commercial banks.

Some researchers also observe a difference in performance of domestic and foreign commercial banks. In justification for the higher profitability enjoyed by foreign banks, Flamini et al. (2009) state that foreign banks in Sub-Saharan Africa mainly serve the service sector which leaves local banks to provide funds to riskier sectors such as agriculture and infrastructure. Also, foreign banks limit exposure to credit risk by offering loans usually for less than one year which may be favourable in terms of profitability.

According to Athanasoglou et al. (2008), in developing countries such as Kenya, foreign ownership has a positive and significant impact on financial performance of banks because they end up gaining in terms of improved technology, risk management expertise, new knowledge on corporate governance as well as competitive advantage. Flamini et al. (2009), however, in their study found foreign ownership not to have a significant impact on bank profits due to higher informational disadvantages which counter the positive effects of better technology and efficiency.

2.3 The Effect of Asset Quality on Financial Performance of Commercial Banks

2.3.1 Bank Loans

Commercial banks possess many types of assets, current or fixed, but the asset contributing to the largest share of a bank’s income is the bank loan (Ongore & Kusa, 2013). Echeboka et al. (2014) stress that the quality of a bank’s assets is influenced by the bank’s exposure to specific risks, the trends in non-performing loans and the financial health of bank borrowers. The quality of loans is then crucial to the success of banks as poor asset quality is said to be one of the main causes of bank failures.

Although banks are required to set up reserves for bad debts, banks are at high risk of incurring losses as a result of bad loans which makes non-performing loan (NPL) ratios the best proxies for asset quality. Altan et al. (2014) also assert the need for asset quality analysis is to determine the amount of non-performing assets as a percentage of the total assets. Asset quality of a commercial bank is thus mainly observed on the basis of the bank’s ability to recover its outstanding loans and advances in due time and this is shown by the percentage of bad debts to total gross loans issued (Kabir & Dey, 2014).
Quality of the loan portfolio has a direct impact on bank profitability, according to Ongore and Kusa (2013), and non-performing loans should be monitored and kept as low as possible using appropriate strategy and policies. Therefore the lower the percentage of NPL to total loans the better the bank’s financial performance. Many studies seem to agree with this generalization.

Muhman and Hashim (2015), for instance, find that as loan loss provisions decrease, bank performance increases and that an increase in assets financed by loans leads to an increase in bank profitability, thus concluding that asset quality has a significant association with performance of banks in Malaysia. Sangmi and Nazir (2010) find asset quality to have a significant impact on performance of banks in India and concluded that a low ratio of NPL to total loans is associated with a financially sound bank portfolio. Ongore and Kusa (2013) found the NPL ratio to have a strong negative relationship with bank profitability showing that poor asset quality was associated with poor commercial bank performance in Kenya. Kosmidou (2008) also concluded that poor asset quality has a negative effect on bank profitability as it pulls down interest income revenue and adds to provision cost.

Findings from Frederick’s (2014) study show that asset quality and credit risk has a significant negative impact on the profitability of commercial banks for the relevant period. It is concluded that poor quality of loans can result in higher loan loss provisions, thus reducing bank profits. Asset quality has a positive relationship with bank efficiency meaning that banks should keenly monitor their assets and employ credit risk management systems.

2.3.2 Credit Risk

Literature explains credit risk using the loan loss provision to total loans ratio. It is usually negatively related to profitability ratios. Nouaili et al. (2015) explain the theory of balanced markets which predicts that banks which manage their credit risk successfully are at an advantage because a strong relationship between risk and profitability exists. A higher ratio of loan loss provision to total asset may be an indicator of loans with poor quality or poor loan portfolio management which negatively impact profitability of a bank (Rao & Lakew, 2012). Thus banks are more likely to achieve high performance by maintaining or reducing credit exposure.

Monitoring credit risk policies regularly and setting strategies which predict future levels of risk can assist banks in maintaining a low risk index. Rao and Lakew (2012) emphasize
that major banking problems can be traced back to failure of financial institutions to identify impaired assets and set up reserves for writing off these assets.

Onuonga (2014) reports that some researchers use the ratio of loans to assets to measure credit risk. In this case, the higher the ratio, the higher the number of loans granted which increases chances of default or credit risk. It is explained that a bank’s lending rate is normally higher than its deposit rate and thus when more deposits are transformed into loans, larger interest margin and profits are expected. Banks will usually increase their margins on interest on loans in order to make up for the higher credit risk assumed, which in turn increases the NIM and bank profits (Onuonga, 2014). This shows a positive relationship between credit risk and bank performance. Flamini et al. (2009) also predict a positive association between credit risk and bank earnings, based on standard asset pricing arguments.

In their study on Ethiopian banks, Rao and Lakew (2012) find that there is a negative loan loss provision to total loans ratio and recommend that the commercial banks should increase efforts in credit risk management. Olweny and Shipho (2011) also find a strong and negative association between credit risk and bank performance, stating that banks which do not manage their credit loans are likely to be less profitable than those which monitor asset quality.

However, Flamini et al. (2009) find that credit risk has a positive and significant impact on profitability and conclude that risk-averse shareholders seek risk adjusted returns and larger earnings to compensate higher credit risk. Onuonga (2014), using the loans to assets ratio found a positive relationship with bank profitability, observing a 0.02% increase in profits when the ratio goes up by 1%, for banks in Kenya. Swarnapali (2014), on the other hand, conducted research on banks in Sri Lanka and found no statistically significant relationship between credit risk ratio and bank performance.

2.3.3 Inflation

Inflation can be measured by the consumer price index (CPI) growth rate and reflects the annual percentage change in the cost of purchasing a basket of goods and services for a given period, according to Kiganda (2014). Inflation may have direct effects on bank performance such as through an increase in the price of labour, and indirect effects such as changes in interest rates and asset prices (Sufian & Kamarudin, 2012).
The degree to which inflation can affect the performance of commercial banks depends on whether bank management can fully and correctly predict future fluctuations in inflation which according to Frederick (2014) and Flamini et al. (2009), allows banks to adjust interest rates in order to profit. Unexpected movements in inflation lead to a faster increase of bank costs than bank incomes due to banks’ slow reaction in adjusting interest rates, which thus has an adverse effect on bank performance (Rao & Lakew, 2012).

Many authors such as Rao and Lakew (2012), Frederick (2014), Flamini et al. (2009), Athanasoglou et al. (2008) as well as Dietrich and Wanzenried (2011) conducted studies on the effect of inflation on bank performance and found a positive and significant relationship. For this positive relationship, they offer the explanation that bank managers were able to forecast fully or not, future movements in inflation and thus to change interest rates accordingly to generate more revenue (Athanasoglou et al., 2008).

Other studies, however, such as those by Nouaili et al. (2015), Ongore and Kusa (2013), Sufian and Kamarudin (2012) as well as Naceur and Kandil (2009) reveal different results, that inflation has a negative impact on the bank returns. The rationale for this negative relationship as described in Nouaili et al. (2015) is that inflation can lead to a reduction in the demand for loans as it increases uncertainty for the future. Low demand for credit results in fewer loans issued and thus lower bank returns.

2.3.4 Business Cycles

The growth in Gross Domestic Product (GDP) is used in this case as the proxy for business cycles or economic development. It is one of the main macroeconomic indicators used to measure the health of a country’s economy, and it is a measure of the overall economic output in a country for a given period, usually a year (Rao & Lakew, 2012). GDP is used to monitor changes in bank profitability caused by changes in business cycles which are known to have an impact on supply and demand for loans and deposits (Obamuyi, 2013).

The variable is expected to affect performance of commercial banks positively. In a period with slow GDP growth and especially during recessions, the quality of loans worsens leading to increased defaults and reducing bank profits (Flamini et al., 2009). In such a cycle, demand for credit is low and lending tends to go down because such periods are associated with increased risk (Athanasoglou et al., 2008). Obamuyi (2013) explains that an increase in economic activities, on the other hand, indicates that customer demand for
loans may increase, and with improved lending activities, banks are able to increase their profits. So a higher GDP can be a sign of potentially profitable business opportunities from which a bank can generate more revenue.

Nouaili et al. (2015) agree that growth in GDP has a positive relationship with bank performance in their findings based on Tunisian banks and conclude that the banks took advantage of the changes made in the financial sector in Tunisia. Obamuyi (2013) finds a significant and positive effect of GDP on bank profitability in Nigeria. Dietrich and Wanzenried (2014) and Zhang and Dong (2011) also have similar findings. Kiganda (2014) in his study on Equity Bank in Kenya finds that economic growth has a positive effect on the bank’s profitability but statistically insignificant.

Sufian and Kamarudin (2012) surprisingly found a negative but significant relationship between economic growth and bank performance is negative and significant. He elaborates that although demand for financial services increases with a growing economy and as societies become wealthier, the high volatility in economic growth in Bangladesh for the relevant period of study could have caused the lower demand for financial services and increased loan defaults experienced. Ongore and Kusa (2013), however, reach the conclusion that GDP has an insignificant relationship with bank performance in Kenya. Flamini et al. (2009) and Rao and Lakew (2012) also had similar results in their studies.

Nouaili et al. (2015) explain that many studies relating macroeconomic factors and bank performance find a positive relationship as a period of strong growth leads to an increase in investment and consumption, resulting in more credits and thus improved bank profitability.

2.4 The Effect of Management Efficiency on Financial Performance of Commercial Banks

2.4.1 Bank Management

“Sound management is the most important pre-requisite for the strength and growth of any financial institution” (Nimalathasan, 2008). Management quality is described by Echeboka et al. (2014) as the ability for managers to determine and control the risks involved in a bank’s activities and to ensure compliance with regulation in the efficient implementation of banking activities. Management is usually responsible for making important decisions
in an organisation and is also responsible for setting the vision and objectives which focus a firm’s activities (Altan et al., 2014) and so it is with reason that management efficiency is considered by many to be a crucial element of the CAMEL rating system. Management competency which refers to managers with high integrity, professional competence and quality of service, according to Muhmad and Hashim (2015), can result in stable profit for commercial banks.

Management efficiency, although it is often expressed qualitatively, can be measured using financial ratios as proxy for factors such as efficient use of resources, income maximization, reduced operating costs (Sangmi & Nazir, 2010). Operating profit to total income (revenue) ratio is a popular ratio according to Mohiuddin (2014), which shows income generation by management as well as the ratio of operating expenses to total asset which is expected have a negative impact on bank profitability. Sufian and Kamarudin (2012) explain that the ratio can provide details about the non-interest expenses of a bank such as the amount of wages and salaries, cost of running branch and office facilities. Reduced expenses show an efficient management and tend to improve the profitability of commercial banks. Literature provides other ratios including credit to deposit ratio, asset utilization ratio, diversification ratio, earnings per employee ratio and expenditure per employee ratio (Echeboka et al., 2014).

Nasserinia, Ariff and Fan-Fah (2014) state that bad management increases the chances of a bank failing and the findings from various studies tend to concur. Ongore and Kusa (2013), in their study, concluded that management efficiency represented by operating profit to total income ratio has a significant impact on the performance of commercial banks. Nasserinia et al. (2014) studied commercial banks in Japan and results indicated that managerial efficiency in terms of operating expenses to total asset has a positive relationship with profitability ratios. They concluded that low bank returns can be a signal of poor management practices. Athanasoglou et al. (2008) found that operating expenses are negatively and strongly associated with profitability showing that management decisions on costs affect Greek bank performance. Frederick (2014) conducted a study on banks in Uganda and found operating expenses to have a negative impact on profitability showing that efficient cost management is crucial for better financial performance of banks. Obamuyi (2013) and Rao and Lakew (2012) had similar results whereas Muhmad and Hashim (2015), Echeboka et al. (2014) and Sufian and Kamarudin (2012) reported opposing results.
2.4.2 Efficiency Structure Theory

The Efficiency Structure theory asserts that bank performance is not determined by the market concentration but by bank efficiency. This theory is also made up of two distinct hypotheses, namely X-efficiency and Scale–efficiency (Olweny & Shipho, 2011).

According to the X-efficiency hypothesis, a bank which operates more efficiently than its competitors can be more profitable due to lower operational costs. Such firms tend to gain larger market shares and thus higher market concentration, however it is argued that concentration alone should not lead to increased profitability (Olweny & Shipho, 2011). Athanasoglou et al. (2008) argue that with other factors held constant, the impact of concentration on profitability should be negligible. Thoraneenitiyan (2010) discusses that banks with better management and practices will be better at controlling costs and earning profits, thus “moving the bank closer to the best-practice, lower bound cost curve.”

The Scale-efficiency hypothesis states that some banks achieve better scale of operation and thus lower costs resulting in higher profit and faster growth for the banks (Thoraneenitiyan, 2010). The scale approach focuses on economies of scale rather than efficiency gained through good management or production technology, according to Olweny & Shipho (2011), as larger firms can obtain lower unit cost and higher profits through economies of scale. Larger firms can then take advantage of greater market shares, and thus higher concentration and then increased profitability.

Seelanatha (2010) summarises that in the case of the Efficient Structure approach, the aggressive behavior of efficient firms in the market may lead to the creation of larger firms and a greater market share. Firms can maximize profits by maintaining their prices and firm sizes unchanged or by reducing prices and expanding the firm size.

According to Berger (1995), previous analysis of the Market Power theories did not consider the effects of the Efficient Structure and which motivated him to conduct a test based on all four hypotheses. His results showed evidence supporting only the Relative Market Power and X-efficiency hypotheses. Smirlock (1985) verified the Efficient Structure hypothesis in his study analysing over 2700 banks and found no relationship between market concentration and bank profitability, but detected a significant positive relationship between bank profitability and market share. Byeongyong and Weiss (2005) found in favour of the Efficient Structure theory concluding that regulators should put more emphasis on ways for firms to achieve efficiency rather than market power. Yu and Neus
(2005) found evidence supporting positive scale efficiency suggesting that firms can achieve better performance by taking advantage of economies of scale (Seelanatha. 2010). Kamau and Were (2013), in their study, present findings which indicate that superior performance in the Kenyan banking sector can be due to structure and collusive power and not efficiency hence supporting the SCP hypothesis. They reject the Xefficiency hypothesis and Scale-efficiency hypothesis.

Kamau and Were (2013) discuss policies that banks can adopt, which would be appropriate for the theories mentioned. Those which find in favor of the Market Power theory would advocate for policies that encourage mergers, in order to achieve larger market share and thus improved profitability while the proponents of Efficient Structure theory would support policies that can increase efficiency and productivity which may lead to greater profitability.

2.4.3 Portfolio Theory

In a study by Atemnkeng and Nzongang (2006), another more relevant approach is identified. The balanced Portfolio theory suggests that the contents of a bank portfolio, together with, its profit and the return to shareholders can be due to policy decisions. According to Ongore and Kusa (2013), these can be influenced by many factors including the rates of return on all assets in the portfolio, the risks involved with the financial assets as well as the size of the portfolio.

The implication here becomes that portfolio diversification and the desired portfolio composition of commercial banks can be as results of the decisions by the bank management. Atemnkeng and Nzongang (2006) assert that the assets and liabilities chosen by the management as well as the unit costs incurred to make each component of the assets will determine the firm’s ability to earn high profits.

Sinkey (1975) observed the characteristics of problem banks. He proposed that various factors, both financial and operational, could be useful in checking the financial health of a bank and diagnose its main problems. These factors included assets composition and others such as loan characteristics, capital adequacy, sources and uses of revenues, efficiency and profitability.

Hayden, Porath and von Westernhagen (2006) found opposing evidence in their study which assessed bank profitability and portfolio diversification across different industries,
broader economic sectors and geographical regions by examining individual bank loan portfolios of 983 German banks. The results indicate that there are no significant performance benefits associated with diversification as each type of diversification tends to reduce the banks’ returns. It is also found that the impact of diversification depends strongly on the risk level. Evidence showed that only for moderate risk levels and in the case of industrial diversification does diversification significantly improve banks’ returns.

According to Ongore and Kusa (2013), it can be deduced from the theories discussed, that commercial bank performance is influenced by both internal and external factors to. The Market Power theory mainly explains bank profitability as a function of external market factors whereas the Efficiency Structure theory and the Portfolio theory assert that the financial performance of banks is dependent on internal efficiencies and management decisions (Olweny & Shipho, 2011).

2.4.4 Cost of Operations

According to Frederick (2014), costs of operations are controllable expenses which can only have a positive impact on performance of commercial banks when they are managed well. Operating costs of a bank are usually expressed as a percentage of profits and are known to have a negative relationship with bank performance (Swarnapali, 2014), however improved management of these expenses can increase efficiency and lead to higher profits. This percentage is also widely known as a measure of efficiency in financial performance literature as well as from the efficiency theory (Onuonga, 2014). Thoraneenitiyan (2010) discusses that banks with better management and practices will be better at controlling costs and earning profits, thus “moving the bank closer to the best practice, lower bound cost curve.”

Flamini et al. (2009) explain that although the impact of operation costs on earnings may seem obvious, meaning that high expenses lead to reduced profits; this may not always be the case. The rationale for this is that higher costs may imply higher volume of banking activities and in turn higher revenues. In less competitive markets, where banks enjoy market power, costs can be passed on to customers and this would then create a positive correlation between overheads costs and profitability.

Obamuyi (2013), in his study, finds that operating expenses have a negative and significant impact on the profitability of banks in Nigeria and suggests that in order to improve performance, banks must actively and efficiently manage costs. Rao and Lakew (2012) also
observed similar results in their study on banks in Ethiopia suggesting that more efficient commercial banks reported higher profits than those with poor expense management in the period of study as well as the fact that a reduction in costs can boost bank profits. Some other studies, however, Naceur (2003) in Tunisia and Guru et al. (2002) in Malaysia found contradictory results concluding that expenses may have a positive impact on profits and suggesting that banks can transfer high operating costs to depositors and borrowers and also that expenditure on salaries and wages may be justified when higher profits are achieved (Onuonga, 2014).

2.5 Chapter Summary

This chapter has detailed the review of relevant literature relating to the financial performance of commercial banks. Three major issues have been discussed including capital adequacy, asset quality, management and how they relate to bank performance. Chapter three presents the methodology that was used in this study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the methodology that the researcher employed in this study. It also describes the research design, the population, sampling design, data collection methods, research procedures and data analysis methods that were used in this study.

3.2 Research Design

Research design is the strategy for a study and the plan by which the strategy will be implemented. Cooper and Schindler (2014) define it as the blueprint for fulfilling research objectives and answering research questions while Saunders, Lewis and Thornhill (2012) describe it as the framework for meeting research objectives and providing reasons for choice of data sources, collection method and analysis techniques.

In this study, the researcher used descriptive research survey design. Descriptive research involves collecting data that answers questions about the participants of the study. It is appropriate when the researcher wishes to provide an accurate representation of persons, events or situations, according to Saunders et al. (2012), and make inferences about the target population. This study design helps the researcher report situations as observed and produce statistical information which can be useful to various stakeholders in their decision making process.

3.3 Population and Sampling Design

3.3.1 Population

Cooper and Schindler (2014) write that population refers to the gathering of all elements about which the research wishes to make inferences. Saunders et al. (2012) explain that the population is the full set of cases or items from which an appropriate sample is taken to study. A population element, however, is the individual item on which measurement is taken, according to Cooper and Schindler (2014). For this study, the target population or those cases that contain the desired information consists of the 10 commercial banks listed on the Nairobi Securities Exchange from 2010 to 2014.
3.3.2 Sampling Design

3.3.2.1 Sampling Frame

According to Cooper and Schindler (2014), the sampling frame is a list of elements from which the sample will be collected and it is closely associated to the population. From the sampling frame the required number of subjects, respondents, elements and firms are selected in order to make a sample, so it is important that the sampling frame is unbiased, current and accurate (Saunders et al., 2012). This study surveyed all 10 banks listed on NSE which make up the sampling frame. This is the entire population of the study.

3.3.2.2 Sampling Technique

A sampling technique explains how cases are to be selected from the population, for observation. Saunders et al. (2012) note that there are two types of sampling techniques, probability sampling and non-probability sampling. Probability sampling, which includes random sampling and cluster sampling designs for example, is often preferred as it applies random selection in order for all cases in the population to have an equal probability or chance of being selected. Unlike, non-probability sampling such as purposive and convenience designs, probability sampling reduces sampling bias.

This study targeted all the banks quoted on the NSE during the relevant period and as they are only 10 banks, a census was done in order to provide a true measure of population. As a result no sampling technique was necessary because the research employed the entire population.

3.3.2.3 Sample Size

A sample is a group of cases consisting of a portion of the target population that the researcher carefully selects for analysis in order to determine facts about that population (Schindler & Cooper, 2014). The larger the population size, the smaller the percentage of the population required to get a representative sample, however Schindler and Cooper (2014) advise that the greater the desired precision of the estimate, the larger the sample should be. This study surveyed all the banks listed on the Nairobi Securities Exchange for the period of 2010 to 2014, in order to examine the factors affecting financial performance.
of commercial banks in Kenya. The sample of this study is therefore the 10 commercial banks listed on NSE.

Table 3.1: Sample Size Distribution Table

<table>
<thead>
<tr>
<th>Population</th>
<th>Sample</th>
<th>% Sampled</th>
</tr>
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<tr>
<td>10 banks</td>
<td>10 banks</td>
<td>100%</td>
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</table>

3.4 Data Collection Methods

The researcher used secondary data sources. Secondary data refers to data that was originally collected for another purpose but can be further analysed to provide different knowledge and new conclusions (Saunders et al., 2012). It may be obtained within an organisation or from sources outside the organisation. Secondary data for this study was obtained from financial statements and other records maintained by the banking regulator, Central Bank of Kenya (CBK) as well as from the websites of the relevant banks. Data relevant to measuring the required ratios for analysis was obtained from these reports for the period of 5 years from 2010 to 2014.

3.5 Research Procedures

Research procedures refer to the actions that the researcher took to collect the type of data identified as crucial for the study. The secondary data was collected from Central Bank of Kenya statistics and from the websites of the specific banks. These websites contained enough accurate secondary data – specifically for the dependent variables, Return on Assets (ROA) and Return on Equity (ROE) as well as data for the ratios of capital adequacy, asset quality and management efficiency – which were subjected to analysis.

3.6 Data Analysis Methods

The data analysis in this study involved the use of descriptive and inferential statistics in order to help the researcher establish the relationship between the 3 independent variables and the dependent variables (ROA and ROE) representing bank performance. The independent variables include Capital Adequacy Ratio expressed as % Total Capital to Risk-Weighted Assets, Asset Quality expressed as % Non-Performing Loans to Gross Loans, and Management Efficiency expressed as % Operating Profit to Total Income. The dependent variables include Return on Assets expressed as % Profit after Tax to Total Assets and Return on Equity expressed as % Profit after Tax to Shareholder’s Equity.
Descriptive statistics refer to methods of organizing and summarizing data, for this study frequencies and percentages as well as measures of central tendency (means) and dispersion (standard deviation) were used. Data was also organised into graphs and tables for easy reference and better communication.

Inferential statistics refer to methods of drawing conclusions from sample data about a population. For this study, regression and correlation analysis were used to determine both the nature and the strength of the relationship between two variables. Correlation analysis is usually used together with regression analysis to measure how well the regression line explains the variation of the dependent variable. The regression and correlation analyses were based on the association between two (or more) variables. SPSS and Excel were the analysis tools used in this study.

3.7 Chapter Summary

This chapter has presented the research methodology including the research design, population and sampling design, data collection methods and research procedures as well as data analysis methods. The chapter reveals that the researcher used a descriptive study design based on the research questions as well as descriptive and inferential statistics to analyse the data. The chapter also highlights the target population which includes all the banks listed on the Nairobi Securities Exchange from 2010 to 2014. The next chapter, Chapter 4, presents the results and findings of the study.

CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter provides an analysis, interpretation and discussion of the findings on the factors affecting financial performance of commercial banks listed on the NSE. It presents the descriptive information on the study variables namely; Return on Assets (ROA), Return on Equity (ROE), Capital Adequacy, Asset Quality and Management Efficiency as well as highlights the relationships between financial performance and the specified CAMEL factors.
4.2. General Information

The general information provides a summary of the financial performance of the banking sector on NSE and as well as the ratios of capital adequacy, asset quality and management efficiency.

4.2.1 Financial Performance

The financial performance of the banks was computed using the ratios of ROE and ROA.

4.2.1.1 Return on Assets (ROA)

**Figure 4.1: Return on Assets**

Figure 4.1 above depicts the mean return on assets achieved by the banks listed on NSE for the 5-year period from 2010 to 2014. The findings show that ROA was highest in the year 2010 with 3.28% while the lowest ROA achieved was 5 years later in the year 2014 at 3.06%. In 2011 and 2012, ROA was almost the same at 3.18%, followed by an increase of 0.03% in the year 2013 to a return of 3.22%. The return on assets for the banking industry has not fluctuated much in this 5-year period, remaining slightly above 3%.

4.2.1.2 Return on Equity (ROE)

The chart below shows the mean return on equity realized by the banking industry from 2010 to 2014. In 2010 the banks achieved 21.36% followed by an increase to 22.48% in 2011 and a 1.54% decline in 2012. In 2013 and 2014, ROE was 20.76% and 19% respectively. The findings thus show that ROE was highest in the year 2011 with 22.48%.
and lowest in 2014 at 19%. Figure 4.2 depicts a slight downward trend in terms of return on equity for the banking industry in the period under review.

**Figure 4.2: Return on Equity**

![Graph showing return on equity from 2010 to 2014.]

4.2.2 Capital Adequacy

Capital adequacy is defined as the portion of a financial institution’s assets (loans and investments) which makes up its primary capital. It is the minimum capital that a financial institution has to hold as required by the financial regulator (Olalekan & Adeyinka, 2013).

**Figure 4.3: Capital Adequacy**

![Graph showing capital adequacy from 2010 to 2014.]

30
Figure 4.3 shows the mean capital adequacy realized by the banks listed on NSE from 2010 to 2014. In 2010 the banks achieved 24.86%, followed by a decrease to 21.58% in 2011 and a 2.44% increase in 2012. In 2013, capital adequacy went down by 3.26% to 20.76% followed by a further decline in 2014 of 2.19%. The findings show that capital adequacy was highest in the year 2010 with 24.86% and lowest in 2014 at 18.57%.

Capital adequacy for the banking industry has shifted often in this 5-year period.

4.2.3 Asset Quality

Asset quality of a commercial bank is observed on the basis of the bank’s ability to recover its outstanding loans and advances in due time and this is shown by the percentage of bad debts or non-performing loans to total gross loans issued (Kabir & Dey, 2014).
Figure 4.4 above illustrates the asset quality in terms of mean non-performing loans to gross loans of the banking industry for the period of 2010 to 2014. In 2010, the ratio was 4.37% and decreased to 3.21% in 2011. The ratio of non-performing loans to gross loans increased between 2011 and 2014, with 3.21% in 2011, 3.73% in 2012, 4.77% in 2013 and finally 5.06% in 2014. The findings show that asset quality was best in 2011 with a low ratio of 3.21% and poorest in 2014 with the highest ratio of 5.06%. The chart above indicates an increasing trend in terms of non-performing loans to gross loans ratio meaning the asset quality of commercial banks has been deteriorating in the period under review.

4.2.4 Management Efficiency

An efficient management refers to managers with high integrity, professional competence and quality of service, according to Muhmad and Hashim (2015), which can result in stable profit for commercial banks. Operating profit to total income (revenue) ratio is a popular ratio for management efficiency (Mohiuddin, 2014).

Figure 4.5: Management Efficiency
Figure 4.5 illustrates the trend in management efficiency of the banking industry for the period of 2010 to 2014. In 2010 the banks achieved 83.65%, followed by a slight decrease to 81.50% in 2011. A major decrease of 10.53% was experienced in 2012 with 70.93%, however, the ratio of operating income to total income shot back up to 79.17% in 2013. Management efficiency achieved in 2014 was 77.13%. The findings show that management efficiency was highest in the year 2010 with 83.65% and lowest in 2012 at 70.93%. Management efficiency has not been stable for the banking industry in the 5-year period, with sharp movements in 2012 and 2013.

4.2.5 Descriptive Statistics

Table 4.1: Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>5</td>
<td>3.06%</td>
<td>3.28%</td>
<td>3.18%</td>
<td>0.08%</td>
</tr>
<tr>
<td>ROE</td>
<td>5</td>
<td>19.00%</td>
<td>22.48%</td>
<td>20.91%</td>
<td>1.26%</td>
</tr>
<tr>
<td>CA</td>
<td>5</td>
<td>18.57%</td>
<td>24.86%</td>
<td>21.96%</td>
<td>2.54%</td>
</tr>
<tr>
<td>AQ</td>
<td>5</td>
<td>3.21%</td>
<td>5.06%</td>
<td>4.23%</td>
<td>0.76%</td>
</tr>
<tr>
<td>ME</td>
<td>5</td>
<td>70.93%</td>
<td>83.65%</td>
<td>78.48%</td>
<td>4.88%</td>
</tr>
</tbody>
</table>

Table 4.1 above provides a summary of the descriptive statistics for the dependent and independent variables. It represents the variables of the 10 commercial banks listed on the NSE for the period of 2010 to 2014. The findings show that return on assets (ROA) had an overall mean value of 3.18% and a standard deviation of 0.08% for the relevant period. The highest ROA achieved was 3.28% and the lowest 3.06%. The overall mean in terms of return on equity (ROE) was 20.91% with a standard deviation of 1.26%. Capital adequacy (CA) had a mean of 21.96% and a standard deviation 2.54%; asset quality (AQ) had a mean of 4.23% and a standard deviation of 0.76% while management efficiency (ME) had a mean value of 78.48% and a standard deviation of 4.88%.

4.3 Effect of Capital Adequacy on Financial Performance of Commercial Banks

4.3.1 Correlation Analysis

The data collected was analysed and used to generate the Pearson correlation coefficient which tests whether an association between the relevant variables exists or not. The strength of the association is measured based on the Pearson’s correlation scale where a value in the...
Table 4.2: Capital Adequacy and Financial Performance Correlations

<table>
<thead>
<tr>
<th></th>
<th>Return on Assets</th>
<th>Return on Equity</th>
<th>Capital Adequacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Assets</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>.662</td>
<td>.795</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>.224</td>
<td>.108</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return on Equity</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.662</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.224</td>
<td>.581</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Capital Adequacy</td>
<td>Pearson Correlation</td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.795</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.108</td>
<td>.581</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>.304</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 4.2 illustrates the correlation analysis conducted to determine whether there is an association or relationship between capital adequacy and financial performance of commercial banks. According to the findings, there is a positive association between capital adequacy which is the independent variable and return on assets with a correlation coefficient of 0.795. This is an indication of a strong positive association, based on the intervals discussed. With a correlation coefficient of 0.581, a fair and positive association exists between capital adequacy and return on equity.

The associations between capital adequacy and return on assets and return on equity were considered not significant as the p-values of 0.108 and 0.304, respectively, were above the significance level (0.05) at 95% confidence level.

4.3.2 Regression Analysis

The effect of capital adequacy on the financial performance of commercial banks listed on NSE was evaluated through a regression analysis. The results provide a Regression Model Summary which gives the coefficient of determination showing the extent to which the independent variables influence the dependent variable; an Analysis of Variance (ANOVA) which determines the reliability of the model developed in explaining the relationship; and
finally the Regression Coefficient which explains the extent to which the independent variables influence the dependent variable.

4.3.2.1 The Effect of Capital Adequacy on ROA

Table 4.3: Regression Model Summary – Capital Adequacy and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.795a</td>
<td>.631</td>
<td>.508</td>
<td>.0564449</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Capital Adequacy

The R Square value of 0.631, in Table 4.3, shows that capital adequacy explains 63.1% of the banking industry’s return on assets. This is also means that some other factors which were not studied in the current research model explain 36.9% of return on assets of the commercial banks.

Table 4.4: ANOVA – Capital Adequacy and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>.016</td>
<td>1</td>
<td>.016</td>
<td>5.136</td>
<td>.108b</td>
</tr>
<tr>
<td>Residual</td>
<td>.010</td>
<td>3</td>
<td>.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.026</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Assets
b. Predictors: (Constant), Capital Adequacy

Table 4.4 presents the F statistic which is used to test the significance of the association between capital adequacy and return on assets. The F value is 5.136. The probability of obtaining a value greater than or equal to 5.136 is more than 0.05 evident by the significance value of 0.108 which is more than 0.05. Thus the effect of capital adequacy on return on assets is not significant at the 95% level of confidence.

Table 4.5: Regression Coefficients – Capital Adequacy and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2.630</td>
<td>.246</td>
<td></td>
<td>.002</td>
</tr>
<tr>
<td>Capital Adequacy</td>
<td>.025</td>
<td>.011</td>
<td>.795</td>
<td>2.266</td>
</tr>
</tbody>
</table>
a. Dependent Variable: Return on Assets

Based on the results in Table 4.5, the regression model generated is:

\[
\text{ROA} = 2.630 + 0.025 \text{Capital Adequacy ratio} + \varepsilon
\]

The model shows that keeping capital adequacy constant, financial performance in terms of ROA will be 2.630. The findings further show that capital adequacy is positively related to ROA as its coefficient is positive. A unit increase in capital adequacy would lead to a 0.025 increase in ROA of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.108 which is more than 0.05, the critical value at 5% level.

4.3.2.2 The Effect of Capital Adequacy on ROE

Table 4.6: Regression Model Summary – Capital Adequacy and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.581a</td>
<td>.338</td>
<td>.117</td>
<td>1.1826779</td>
</tr>
</tbody>
</table>

The R Square value of 0.338, in Table 4.6, shows that capital adequacy explains 33.8% of the banking industry’s return on equity. This implies that some other factors which were not studied in the current research model explain 66.2% of return on assets of the commercial banks.

Table 4.7: ANOVA – Capital Adequacy and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>2.143</td>
<td>1</td>
<td>2.143</td>
<td>1.532</td>
<td>.304b</td>
</tr>
<tr>
<td>Residual</td>
<td>4.196</td>
<td>3</td>
<td>1.399</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6.339</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The F value is 1.532. The significance value of 0.304 is more than 0.05, meaning that the probability of obtaining a value greater than or equal to 1.532 is more than 0.05. Thus the effect of capital adequacy on return on equity is not significant at the 95% level of confidence.
Based on the results in Table 4.8, the regression model generated is:

\[ \text{ROE} = 14.571 + 0.289 \text{Capital Adequacy ratio} + \varepsilon \]

The model shows that keeping capital adequacy constant, financial performance in terms of ROE will be 14.571. The findings further show that capital adequacy is positively related to ROE as the coefficient is positive. A unit increase in capital adequacy would lead to a 0.289 increase in ROE of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.304 which is more than 0.05, the critical value at 5% level.

### 4.4 Effect of Asset Quality on Financial Performance of Commercial Banks

#### 4.4.1 Correlation Analysis

The data collected was analysed and used to generate the Pearson correlation coefficient testing whether an association between asset quality and financial performance exists or not.

**Table 4.9: Asset Quality and Financial Performance Correlations**

<table>
<thead>
<tr>
<th></th>
<th>Return on Assets</th>
<th>Return on Equity</th>
<th>Asset Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Assets</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>.662</td>
<td>.224</td>
</tr>
<tr>
<td>N</td>
<td>.5</td>
<td>.5</td>
<td>.5</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>.662</td>
<td>.224</td>
</tr>
<tr>
<td>N</td>
<td>.5</td>
<td>.5</td>
<td>.5</td>
</tr>
<tr>
<td>Asset Quality</td>
<td>Pearson Correlation Sig. (2-tailed)</td>
<td>-.262</td>
<td>-.845</td>
</tr>
<tr>
<td></td>
<td>.670</td>
<td>.072</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 4.9 illustrates the correlation analysis conducted to determine whether there is an association or relationship between asset quality and financial performance of commercial banks. According to the findings, there is a negative association between asset quality – which is the independent variable – and return on assets with a correlation coefficient of 0.262. This is an indication of no correlation based on the intervals discussed. With regards to asset quality and return on equity, however, a strong and negative association exists as the correlation coefficient is -0.845.

The associations between asset quality and return on assets and return on equity were considered not significant as the p-values of 0.670 and 0.072, respectively, were above the significance level (0.05) at 95% confidence level.

### 4.4.2 Regression Analysis

#### 4.4.2.1 The Effect of Asset Quality on ROA

**Table 4.10: Regression Model Summary – Asset Quality and ROA**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.262&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.069</td>
<td>-.241</td>
<td>.0896920</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), Asset Quality

The R Square value of 0.069, in Table 4.10, shows that asset quality explains 6.9% of the banking industry’s return on assets. This implies that some other factors which were not studied in the current research model explain 93.1% of return on assets of the commercial banks.

**Table 4.11: ANOVA – Asset Quality and ROA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>.002</td>
<td>1</td>
<td>.002</td>
<td>.222</td>
<td>.670&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Residual</td>
<td>.024</td>
<td>3</td>
<td>.008</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.026</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: Return on Assets  
<sup>b</sup> Predictors: (Constant), Asset Quality

Table 4.11 presents the F statistic which is used to test the significance of the association between asset quality and return on assets. The F value is 0.222. The significance value of
0.670 is more than 0.05, meaning that the probability of obtaining a value greater than or equal to 0.222 is more than 0.05. Thus the effect of asset quality on return on assets is not significant at the 95% level of confidence.

**Table 4.12: Regression Coefficients – Asset Quality and ROA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>3.302</td>
<td>.254</td>
<td>13.013</td>
</tr>
<tr>
<td></td>
<td>Asset Quality</td>
<td>-.028</td>
<td>.059</td>
<td>-.262</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Assets

Based on the results in Table 4.12, the regression model generated is:

\[ \text{ROA} = 3.302 - 0.028 \text{ Asset quality ratio} + \varepsilon \]

The model shows that holding asset quality constant, financial performance in terms of ROA will be 3.302. The findings further confirm that asset quality is negatively related to ROA as the coefficient is negative. A unit increase in asset quality ratio would lead to a 0.028 decrease in ROA of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.670 which is more than 0.05, the critical value at 5% level.

**4.4.2.2 The Effect of Asset Quality on ROE**

**Table 4.13: Regression Model Summary – Asset Quality and ROE**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.845*</td>
<td>.714</td>
<td>.619</td>
<td>.7773739</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Asset Quality

The R Square value of 0.714, in Table 4.13, shows that asset quality explains 71.4% of the banking industry’s return on equity. This means that some other factors which were not studied in the current research model explain only 28.6% of return on equity of the commercial banks.
Table 4.14: ANOVA – Asset Quality and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>4.526</td>
<td>1</td>
<td>4.526</td>
<td>7.489</td>
<td>.072</td>
</tr>
<tr>
<td>Residual</td>
<td>1.813</td>
<td>3</td>
<td>.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6.339</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Equity
b. Predictors: (Constant), Asset Quality

Table 4.14 shows the F statistic which is used to test the significance of the association between asset quality and return on equity. The F value is 7.489. The significance value of 0.072 is more than 0.05 meaning that the probability of obtaining a value greater than or equal to 7.489 is more than 0.05. Thus the effect of asset quality on return on equity is not significant at the 95% level of confidence.

Table 4.15: Regression Coefficients – Asset Quality and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>26.851</td>
<td>2.199</td>
<td>12.209</td>
<td>.001</td>
</tr>
<tr>
<td>Asset Quality</td>
<td>-1.406</td>
<td>.514</td>
<td>-.845</td>
<td>-2.737</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Equity

Based on the results in Table 4.15, the regression model generated is:

ROE = 26.851 – 1.406 Asset quality ratio + ε

The model shows that keeping asset quality constant, financial performance in terms of ROE will be 26.851. The findings further show that asset quality is negatively related to ROE as the coefficient is negative. A unit increase in asset quality ratio would thus result in a 1.406 decrease in ROE of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.072 which is more than 0.05, the critical value at 5% level.
4.5 Effect of Management Efficiency on Financial Performance of Commercial Banks

4.5.1 Correlation Analysis
The data collected was analysed and used to generate the Pearson correlation coefficient testing whether an association between management efficiency and financial performance exists or not.

Table 4.16: Management Efficiency and Financial Performance Correlations

<table>
<thead>
<tr>
<th></th>
<th>Return on Assets</th>
<th>Return on Equity</th>
<th>Management Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on Assets</td>
<td>Pearson Correlation</td>
<td>.662</td>
<td>.224</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.5</td>
<td>.5</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Return on Equity</td>
<td>Pearson Correlation</td>
<td>.662</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.224</td>
<td>.5</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Management Efficiency</td>
<td>Pearson Correlation</td>
<td>.450</td>
<td>.379</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.447</td>
<td>.529</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 4.16 illustrates the correlation analysis conducted to determine whether there is an association or relationship between management efficiency and financial performance of commercial banks. According to the findings, there is a positive association between management efficiency – which is the independent variable – and return on assets with a correlation coefficient of 0.450. This is an indication of a weak positive correlation based on the intervals discussed. With regards to management efficiency and return on equity a positive but weak association also exists with a correlation coefficient is 0.379.

The associations between management efficiency and return on assets and return on equity were considered not significant as the p-values of 0.447 and 0.529, respectively, were above the significance level (0.05) at 95% confidence level.
4.5.2 Regression Analysis

4.5.2.1 The Effect of Management Efficiency on ROA

Table 4.17: Regression Model Summary – Management Efficiency and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.450&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.202</td>
<td>-.063</td>
<td>.0830090</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), Management Efficiency

The R Square value of 0.202, in Table 4.17, shows that management efficiency explains 20.2% of the variability in the banking industry’s return on assets. This also means that some other factors which were not studied in the current research model explain 79.8% of return on assets of the commercial banks.

Table 4.18: ANOVA – Management Efficiency and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.005</td>
<td>1</td>
<td>.005</td>
<td>.762</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.021</td>
<td>3</td>
<td>.007</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.026</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: Return on Assets
<sup>b</sup> Predictors: (Constant), Management Efficiency

Table 4.18 presents the F statistic which is used to test the significance of the association between management efficiency and return on assets. The F value is 0.762. The significance value of 0.447 is more than 0.05 meaning that the probability of obtaining a value greater than or equal to 0.762 is more than 0.05. Thus the effect of management efficiency on return on assets is not significant at the 95% level of confidence.

Table 4.19: Regression Coefficients – Management Efficiency and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.601</td>
<td>.669</td>
<td>3.889</td>
</tr>
<tr>
<td></td>
<td>Management Efficiency</td>
<td>.007</td>
<td>.009</td>
<td>.450</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Assets

Based on the results in Table 4.19, the regression model generated is:

ROA = 2.601 + 0.007 Management Efficiency ratio + ε
The model shows that keeping management efficiency constant, financial performance in terms of ROA will be 2.601. The findings further show that management efficiency is positively related to ROA as the coefficient is positive. A unit increase in management efficiency would result to a 0.007 increase in ROA of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.447 which is more than 0.05, the critical value at 5% level.

4.5.2.2 The Effect of Management Efficiency on ROE

Table 4.20: Regression Model Summary – Management Efficiency and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.379a</td>
<td>.144</td>
<td>-.141</td>
<td>1.3449531</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Management Efficiency

The R Square value of 0.144, in Table 4.20, shows that management efficiency explains 14.4% of the variability in the banking industry’s return on equity. This means that some other factors which were not studied in the current research model explain 85.6% of return on equity of the commercial banks.

Table 4.21: ANOVA – Management Efficiency and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.912</td>
<td>1</td>
<td>.912</td>
<td>.504</td>
<td>.529b</td>
</tr>
<tr>
<td>Regression</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residual</td>
<td>5.427</td>
<td>3</td>
<td>1.809</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>6.339</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Equity
b. Predictors: (Constant), Management Efficiency

Table 4.21 presents the F statistic which is used to test the significance of the association between management efficiency and return on equity. The F value is 0.504. The significance value of 0.529 is more than 0.05 meaning that the probability of obtaining a value greater than or equal to 0.504 is more than 0.05. Thus the effect of management efficiency on return on equity is not significant at the 95% level of confidence.

Table 4.22: Regression Coefficients – Management Efficiency and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

43
Based on the results in Table 4.22, the regression model generated is:

$$\text{ROE} = 13.224 + 0.098 \text{ Management Efficiency ratio} + \varepsilon$$

The model shows that keeping management efficiency constant, financial performance in terms of ROE will be 13.224. The findings further show that management efficiency is positively related to ROE as the coefficient is positive. A unit increase in management efficiency would result to a 0.098 increase in ROE of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.529 which is more than 0.05, the critical value at 5% level.

4.6 Joint Effects of Capital Adequacy, Management Efficiency and Asset Quality on Financial Performance of Commercial Banks

4.6.1 Joint Effects of Capital Adequacy, Management Efficiency and Asset Quality on ROA

Table 4.23: Regression Model Summary - ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.904$^a$</td>
<td>.817</td>
<td>.268</td>
<td>.06889</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Management Efficiency, Capital Adequacy, Asset Quality

The R Square value of 0.817, in Table 4.23, shows that the three independent variables, capital adequacy, asset quality and management efficiency, explain 81.7% of variation in the banking industry’s return on asset. This thus implies that some other factors which were not studied in the current research model explain 18.3% of return on assets of the commercial banks.

Table 4.24: ANOVA – Independent Variables and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.021</td>
<td>3</td>
<td>.007</td>
<td>1.487</td>
<td>.528$^b$</td>
</tr>
</tbody>
</table>
Table 4.24 presents the F statistic which is used to test the significance of the association between the independent variables and return on assets. The F value is 1.487. The significance value of 0.528 is more than 0.05 meaning that the probability of obtaining a value greater than or equal to 1.487 is more than 0.05. Thus the effect of the independent variables on return on assets is not significant at the 95% level of confidence.

Table 4.25: Regression Coefficients – Independent Variables and ROA

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.015</td>
<td>.709</td>
<td>2.844</td>
</tr>
<tr>
<td></td>
<td>Capital Adequacy</td>
<td>.027</td>
<td>.016</td>
<td>1.708</td>
</tr>
<tr>
<td></td>
<td>Asset Quality</td>
<td>.013</td>
<td>.052</td>
<td>.249</td>
</tr>
<tr>
<td></td>
<td>Management Efficiency</td>
<td>.007</td>
<td>.007</td>
<td>.955</td>
</tr>
</tbody>
</table>

Based on the results in Table 4.25, the regression model generated is:

\[
\text{ROA} = 2.015 + 0.027 \text{ Capital Adequacy} + 0.013 \text{ Asset Quality ratio} + 0.007 \text{ Management Efficiency ratio} + \varepsilon
\]

The model shows that keeping the three independent variables constant, financial performance in terms of ROA will be 2.015. The findings further show that capital adequacy is positively related to ROA as the coefficient is positive. Holding all the other variables constant, a unit increase in capital adequacy would result in a 0.027 increase in ROA of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.337 which is more than 0.05, the critical value at 5% level.

With regards to asset quality, the model shows a positive relationship to ROA evident from the positive regression coefficient of 0.013. This means that holding all the other variables constant, a unit increase in asset quality ratio would lead to a 0.013 increase in ROA of the
banks listed on the NSE. The relationship was found to be not significant at the 95% confidence level, as the p-value of 0.845 is more than 0.05.

The model in Table 4.25 also indicates a positive relationship between management efficiency and ROA due to the positive regression coefficient of 0.007. Holding other variables constant, a unit increase in the ratio of management efficiency would lead to a 0.007 increase in ROA on commercial banks. This relationship was not significant as shown by the p-value of 0.515 which is more than 0.05, the critical value at 5% level.

4.6.2 Joint Effects of Capital Adequacy, Management Efficiency and Asset Quality on ROE

Table 4.26: Regression Model Summary - ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.958a</td>
<td>.917</td>
<td>.670</td>
<td>.72319</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Management Efficiency, Capital Adequacy, Asset Quality

The R Square value of 0.917, in Table 4.26, shows that the three independent variables, capital adequacy, asset quality and management efficiency, explain 91.7% of variation in the banking industry’s return on equity. This thus means that some other factors which were not studied in the current research model explain 8.3% of return on equity of the commercial banks.

Table 4.27: ANOVA – Independent Variables and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>5.816</td>
<td>3</td>
<td>1.939</td>
<td>3.707</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.523</td>
<td>1</td>
<td>.523</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>6.339</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Return on Equity

b. Predictors: (Constant), Management Efficiency, Capital Adequacy, Asset Quality

Table 4.27 presents the F statistic which is used to test the significance of the association between the independent variables and return on equity. The F value is 3.707. The significance value of 0.361 is more than 0.05 meaning that the probability of obtaining a
value greater than or equal to 3.707 is more than 0.05. Thus the effect of the independent variables on return on equity is not significant at the 95% level of confidence.

Table 4.28: Regression Coefficients – Independent Variables and ROE

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>15.984</td>
<td>7.441</td>
<td>2.148</td>
</tr>
<tr>
<td></td>
<td>Capital Adequacy</td>
<td>.096</td>
<td>.163</td>
<td>.194</td>
</tr>
<tr>
<td></td>
<td>Asset Quality</td>
<td>-1.281</td>
<td>.547</td>
<td>-.770</td>
</tr>
<tr>
<td></td>
<td>Management Efficiency</td>
<td>.105</td>
<td>.074</td>
<td>.406</td>
</tr>
</tbody>
</table>

Based on the results in Table 4.28, the regression model generated is:

ROE = 15.984 + 0.096 Capital Adequacy – 1.281 Asset Quality ratio + 0.105 Management Efficiency ratio + ε

The model shows that keeping the three independent variables constant, financial performance in terms of ROE will be 15.984. The findings further show that capital adequacy is positively related to ROE as the coefficient is positive. Holding all the other variables constant, a unit increase in capital adequacy would result in a 0.096 increase in ROE of the banking industry. This relationship, however, was not significant as shown by the p-value of 0.661 which is more than 0.05, the critical value at 5% level.

With regards to asset quality, the model shows an inverse relationship with ROE evident from the negative regression coefficient of -1.281. This means that holding all the other variables constant, a unit increase in asset quality ratio would lead to a 1.281 decrease in ROE of the banks listed on the NSE. The relationship was found to be not significant at the 95% confidence level, as the p-value of 0.257 is more than 0.05.

The model in Table 4.28 indicates a positive relationship between management efficiency and ROE due to the positive regression coefficient of 0.105. Holding other variables constant, a unit increase in the ratio of management efficiency would lead to a 0.105
increase in ROE of commercial banks. This relationship was not significant as shown by the p-value of 0.393 which is more than 0.05, the critical value at 5% level.

4.7 Chapter Summary

This chapter presented the findings and results of the study. The chapter employed the use of line graphs and tables to illustrate the results that were derived from the study. Section 4.1 introduced the chapter while Section 4.2 presented general information found on the dependent variables – ROA and ROE – as well as the independent variables – capital adequacy, asset quality, and management efficiency. Section 4.3 presented the findings on the first research question: How does Capital Adequacy affect the financial performance of commercial banks in Kenya? Section 4.4 presented the findings on the second research question: How does Asset Quality affect the financial performance of commercial banks in Kenya? Section 4.5 presented the findings on the third research question: How does Management Efficiency affect the financial performance of commercial banks in Kenya?

Finally, Section 4.6 presented the findings on the joint effect of the three independent variables on financial performance of commercial banks in Kenya. Chapter five provides a summary of the study. It presents discussions of the findings, conclusions and recommendations.

CHAPTER FIVE

5.0 DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Chapter five, the final chapter, provides a summary of the study and discussions of the major findings. The chapter also draws conclusions and relevant recommendations based on the research questions.

5.2 Summary of the Study

The purpose of this study was to examine the factors affecting financial performance of commercial banks listed on the Nairobi Securities Exchange. The study was guided by the following three research questions: How does Capital Adequacy affect the financial

The study used a descriptive research design to examine the performance of banks in Kenya. The target population of this study consisted of the 10 commercial banks listed on the Nairobi Securities Exchange from 2010 to 2014. The study researched the entire population, which includes all 10 banks listed on NSE. The researcher believed that these banks would provide sufficient data to study the association between the given variables. The researcher used secondary data sources when collecting data. Secondary data was available on all ten commercial banks for a period of five years from 2010 to 2014, yielding 50 observations on the financial performance of banks proxied by Return on Assets (ROA) and Return on Equity (ROE). The analysis of the quantitative data collected was done using descriptive and inferential statistics utilizing the SPSS version 23.

Descriptive statistics that were drawn included: percentages, means, standard deviation, minimums and maximums. In order to examine the effect of independent factors on bank performance, correlation and regression analyses were utilised, with ROA and ROE as dependent variables and capital adequacy, asset quality and management efficiency as the independent or predictor variables.

The study found that over the five year period reviewed, capital adequacy ratio of the banking industry was not constant but kept fluctuating. The banks achieved their highest ratio of 24.86% in 2010 and their lowest in 2014 at 18.57%. From the correlation analysis and the regression analysis, the study found that capital adequacy had a positive effect or association with both ROA and ROE. The effect of capital adequacy on financial performance both in terms of ROA and ROE was found to be not significant at the 95% level of confidence.

With regards to asset quality, the study found that the ratio kept changing over the five year period from 2010 to 2013. The findings show that asset quality was best in 2011 with a low ratio of 3.21% and poorest in 2014 with the highest ratio of 5.06%. The correlation analysis indicates a very weak and negative association between asset quality and ROA however a strong and negative association was found between asset quality and ROE. The regression analysis further confirms the inverse association between asset quality ratio and financial
performance of banks. The effect of asset quality on financial performance both in terms of ROA and ROE was found to be not significant at the 95% level of confidence.

The study found that over the five year period reviewed, management efficiency ratio of the banking industry kept fluctuating. The banks achieved their highest ratio in 2010 with 83.65% and their lowest in 2014 at 70.93%. From the correlation analysis and the regression analysis, the study found that management efficiency had a positive effect or association with both ROA and ROE. The effect of management efficiency on financial performance both in terms of ROA and ROE was found to be not significant at the 95% level of confidence.

5.3 Discussions

This part of the chapter discusses the findings of the study with respect to previous findings and existing literature on the issue area.

5.3.1 The Effect of Capital Adequacy on Financial Performance of Commercial Banks

The study found that over the five year period reviewed, capital adequacy ratio of the banking industry was not constant but kept fluctuating. Ongore and Kusa (2013) explain that adequate capital is important for liquidity purposes because bank deposits are fragile and prone to bank runs. Capital adequacy is thus, an indication of a bank’s capital strength in terms of insolvency risk. Onuonga (2014) reports that banks with high capitalization are able to meet the regulator’s capital requirements after which they can issue the excess funds as loans. Rao and Lakew (2012) also write that banks with high capital ratio are assumed less risky because in a situation where asset quality is deteriorating and a bank does not have enough loan loss reserves to write off the bad loans, the bank can use its equity to write off the balance.

From the correlation analysis and the regression analysis, the study found that capital adequacy had a positive effect or association with both ROA and ROE. The findings agree with the study of Nouaili et al. (2015) which finds a positive impact of capitalization on bank performance in Tunisia concluding that higher capital levels represent a positive signal to the market on the solvency of the banks. According to Zhang and Dong (2011)
well-capitalized banks are safe, have greater creditworthiness and gain from reduced funding costs. These all positively affect the performance of commercial banks.

These findings also agree with those of Onuonga (2014), which revealed that capital adequacy or capital strength has a positive impact on the profitability of the top banks in Kenya in 2008 to 2013. In his study, capital showed the largest impact on the variations in profits, confirming a view that highly capitalized banks can even endure general financial crisis and remain profitable and suggesting that the top commercial banks in Kenya could earn higher profits by increasing capital. However the results of this study are in contradiction with those of Frederick (2014), Zhang and Dong (2011) and Swarnapali (2014) which all found capital to have a negative impact on bank profitability.

A bank with high earnings is able to increase its own capital base, finance expansion ventures and pay attractive dividends to its shareholders as well as build the bank’s provisions or reserves. Profitable banks can absorb loan losses, reward shareholders and inspire public confidence which is essential for their continued success. Effective and efficient asset and liability management is important for banks to start enjoying good returns (Muhmad & Hashim, 2015).

Olweny and Shipho (2011) and Berger (1995) discuss the Relative Market Portfolio hypothesis, which states that bank profitability is influenced by market share and proposes that only large banks with differentiated products can control prices and grow their profits. These banks are able to exercise market power and gain monopoly profits whereas firms with smaller market shares operate as if under perfect competition and cannot earn the same supernormal profits.

5.3.2 The Effect of Asset Quality on Financial Performance of Commercial Banks

The study found that the ratio of asset quality (total non-performing loans to gross loans) kept changing over the five year period from 2010 to 2013. The findings show that asset quality was best in 2011 with a low ratio of 3.21% and poorest in 2014 with the highest ratio of 5.06%. Altan et al. (2014) explain that the purpose of asset quality analysis is to determine the amount of non-performing assets as a percentage of the total assets. The quality of a loan portfolio has a direct impact on bank profitability, according to Ongore and Kusa (2013), and non-performing loans should be monitored and kept as low as
possible using appropriate strategy and policies. Therefore the lower the percentage of NPL to total loans the better the bank’s financial performance.

The correlation analysis indicates a very weak and negative association between asset quality and ROA, however a strong and negative association was found between asset quality and ROE. The regression analysis further confirms the inverse relationship between asset quality ratio and financial performance of banks. Ongore and Kusa (2013) found the NPL ratio to have a strong negative relationship with bank profitability, showing that poor asset quality was associated with poor commercial bank performance in Kenya. Kosmidou (2008) also concluded that poor asset quality has a negative effect on bank profitability as it pulls down interest income revenue and adds to provision cost. Fredrick (2014) concluded that poor quality of loans can result in higher loan loss provisions, thus reducing bank profits. Asset quality has a positive relationship with bank efficiency meaning that banks should closely monitor their assets and use credit risk management systems.

In contrast with this study’s findings, Flamini et al. (2009) find that credit risk has a positive and significant impact on profitability and conclude that risk-averse shareholders seek risk adjusted returns and larger earnings to compensate higher credit risk. Onuonga (2014) also found a positive relationship, using the loans to assets ratio with bank profitability in Kenya. Nouaili et al. (2015) explain the theory of balanced markets which predicts that banks which manage their credit risk successfully are at an advantage because a strong relationship between risk and profitability exists. A higher ratio of loan loss provision to total asset may be an indicator of loans with poor quality or poor loan portfolio management which negatively impact profitability of a bank (Rao & Lakew, 2012). Thus banks are more likely to achieve high performance by maintaining or reducing credit exposure.

5.3.3 The Effect of Management Efficiency on Financial Performance of Commercial Banks

The study found that over the five year period reviewed, management efficiency ratio of the banking industry kept fluctuating. The banks achieved their highest ratio in 2010 with 83.65% and their lowest in 2014 at 70.93%. Management efficiency, although it is often expressed qualitatively, can be measured using financial ratios as proxy. Operating profit to total income (revenue) ratio is a popular ratio according to Mohiuddin (2014), which shows management income generation and is expected to have a positive impact on bank
profitability. Nasserinia, Ariff and Fan-Fah (2014) suggest that bad management increases the chances of a bank failing.

Atemnkeng and Nzongang (2006) argue that the extent of diversification and the desired contents of a bank portfolio can be as results of the decisions by the bank management. They assert that the assets and liabilities chosen by the management as well as the unit costs incurred to make each component of the assets will determine the firm’s ability to earn high profits.

From the correlation analysis and the regression analysis, this study found that management efficiency had a positive effect or association with both ROA and ROE. These findings are consistent with the findings of Ongore and Kusa (2013), who in their study, concluded that management efficiency represented by operating profit to total income ratio has a significant impact on the performance of commercial banks. Nasserinia et al. (2014) studied commercial banks in Japan and concluded that low bank returns can be a signal of poor management practices. However, Kamau and Were (2013), in their study, present findings which indicate that superior performance in the Kenyan banking sector can be due to structure and collusive power and not efficiency and thus find in favour of the Structure Conduct Performance (SCP) hypothesis and not the Efficiency Structure Theory.

Thoraneenitiyan (2010) discusses that banks with better management and practices will be better at controlling costs and earning profits, thus “moving the bank closer to the bestpractice, lower bound cost curve.” Rao and Lakew (2012) also observed similar results in their study on banks in Ethiopia suggesting that more efficient commercial banks reported higher profits than those with poor expense management in the period of study as well as the fact that a reduction in costs can boost bank profits.

5.4 Conclusions

The study makes the following conclusions with regard to the three research questions that guided the study.
5.4.1 The Effect of Capital Adequacy on Financial Performance of Commercial Banks

The study concludes that capital adequacy has a positive effect on the financial performance of commercial banks listed on the Nairobi Securities Exchange. The study revealed that an increase in capital adequacy would result in a positive increase in both ROA and ROE of commercial banks. The effect of capital adequacy on financial performance both in terms of ROA and ROE was found to be not significant at the 95% level of confidence.

Commercial banks need to maintain high capitalization not only to be able to meet the regulator’s capital requirements but also because high capital ratio can positively affect the performance of banks. Higher capital levels are associated with high solvency and lower risk levels. Well capitalized banks also profit from reduced funding costs which also positively affects the performance of commercial banks.

5.4.2 The Effect of Asset Quality on Financial Performance of Commercial Banks

The study concludes that asset quality has a negative effect on the financial performance of commercial banks listed on NSE. The study indicates that an increase in the asset quality ratio would lead to a decrease in both ROA and ROE of commercial banks. The effect of asset quality on financial performance both in terms of ROA and ROE was found to be not significant at the 95% level of confidence.

It is important that banks maintain low levels of non-performing loans as they contribute to poor quality of loans which can result in higher loan loss provisions, thus having adverse effects on bank performance. Commercial banks are more likely to achieve high performance by managing or reducing their credit risk and thus should closely monitor their assets and use effective credit risk management systems.

5.4.3 The Effect of Management Efficiency on Financial Performance of Commercial Banks

The study concludes that management efficiency has a positive effect on the financial performance of commercial banks listed on the Nairobi Securities Exchange. The study revealed that an increase in management efficiency ratio would result in a positive increase in both ROA and ROE of commercial banks. The effect of capital adequacy on financial
performance both in terms of ROA and ROE was found to be not significant at the 95% level of confidence.

Management is responsible for making important decisions in an organisation and financial institutions require sound management in order to grow. Effective and efficient management—whether in terms of income generation, portfolio diversification or cost reduction—are thus crucial for banks as can contribute to increased bank profits.

5.5 Recommendations

5.5.1 Recommendations for Improvement

5.5.1.1 The Effect of Capital Adequacy on Financial Performance of Commercial Banks

The study established a positive and non-significant effect of capital adequacy on bank performance. As these results have important implications for the survival and growth of banks, commercial banks in Kenya should implement effective internal policies that can potentially improve their capital adequacy ratio. Investors are recommended to consider capital ratio when determining the risk levels and the extent of solvency of a bank. When making investment decisions, capital adequacy ratio can be used to predict future performance of commercial banks in terms of Return on Assets and Return on Equity. The government and the regulatory body, CBK, must encourage banks through effective policies to regularly raise their capital and provide the environment necessary for the banking sector as well as the economy to grow.

5.5.1.2 The Effect of Asset Quality on Financial Performance of Commercial Banks

The study found that asset quality—in terms of total non-performing loans to gross loans—has a negative and non-significant effect on the financial performance of commercial banks in Kenya. This study recommends that banks operating in Kenya must identify and reduce the effects of factors that can deteriorate asset quality because non-performing loans, unless well-managed, are a big threat to banks and the banking industry. In order to reduce their credit exposure, commercial banks must also take preventative measures by doing thorough research into loan applicants’ credit, financial health and profitability. The government and regulatory bodies in Kenya must formulate or revise and implement policies on effective credit risk management in order to improve asset quality. Investors can use asset quality to
predict the future financial performance of banks as well as to decide which banks to invest in.

5.5.1.3 The Effect of Management Efficiency on Financial Performance of Commercial Banks

This study found that management efficiency has a positive and non-significant effect on the financial performance of banks in Kenya. Commercial banks should identify and invest in the factors such as new technology that add to a bank’s operating income as this has positive implications on the bank’s profitability. Portfolio diversification and portfolio composition of commercial banks is influenced by bank management and thus it is recommended that banks set up policies that guide these decisions with the aim of maximizing returns.

This study also recommends that commercial banks devise effective mechanisms to reduce or control operational expenses. Investors can use information about bank management as a signal about the future performance of commercial banks. The government of Kenya and the regulatory body are recommended to devise policies and regulations that guide the operations of commercial banks as well as strategies to enforce these regulations in order to achieve a robust and transparent decision-making process and boost the soundness of the banking system.

5.5.2 Recommendations for Future Research

This study was limited to ten commercial banks listed on the Nairobi Securities Exchange and thus the researcher suggests that further studies should be conducted on the factors affecting the financial performance of all commercial banks in Kenya. This study was also limited to only three factors of the CAMEL model, namely capital adequacy, asset quality and management efficiency. This study therefore suggests further studies on the effect of all CAMEL factors – including earnings and liquidity – on the financial performance of commercial banks. Future studies on a similar topic may also gain from using both qualitative and quantitative research approaches as the views of bank stakeholders can provide additional information not necessarily covered by the bank financial reports.
REFERENCES


APPENDIX A

DATA COLLECTION SHEET

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<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>Mean</th>
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<tbody>
<tr>
<td><strong>RETURN ON ASSETS</strong> = PAT/Total Assets</td>
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<tr>
<td>Profit After Tax</td>
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<td>Total Assets</td>
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<td><strong>RETURN ON EQUITY</strong> = PAT/Shareholder's Equity</td>
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<td>Profit after Tax</td>
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<td>Shareholder's Equity</td>
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<td><strong>CAPITAL ADEQUACY</strong> = (Tier 1 + Tier 2 capital)/Riskweighted Assets</td>
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<td>Tier 1 + Tier 2 Capital</td>
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<td>Risk-weighted Assets</td>
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<tr>
<td><strong>ASSET QUALITY</strong> = NonPerforming Loans/Gross loans</td>
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<tr>
<td>Non-performing Loans</td>
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<td>Gross Loans</td>
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<tr>
<td><strong>MANAGEMENT EFFICIENCY</strong> = Operating income/ Total Income</td>
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<td>Operating Income</td>
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<td>Total Income (Interest and Noninterest)</td>
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