EFFECT OF BANK SIZE AND FINANCIAL RISK EXPOSURE ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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MARCH, 2018

DECLARATION

I declare that this thesis is my original work and has not been presented in any other university or institution of higher learning for award of any diploma or degree.

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ABBREVIATIONS AND ACRONYMS

ALM	Assets and Liability Management
BCBS	Basel Committee on Banking Supervision
BLUE	Best Linear Unbiased Efficient
CAMEL	Capital adequacy, Asset quality, Management efficiency, Earnings performance, and Liquidity
CBK	Central Bank of Kenya
CPI	Consumer Price Index
CR	Concentration Ratio
DMUs	Decision Making Units
EIU	Economic Intelligence Unit
FE	Fixed Effects
GDP	Gross Domestic Product
GLS	Generalised Least Square
HHI	Hirschman- Herfindall Index
IAS	International Accounting Standard
IASB	International Accounting Standard Board
IFRS	International Financial Reporting Standard
IMF	International Monetary Fund
IPI	Industrial Production Index
KBA	Kenya Bankers Association
MP	Market Power
NIM	Net Interest Margin

PG	Prudential Guidelines
PMS	Performance Management System
POP	Persistence of Profit
PWC	Pricewaterhousecoopers
RE	Random Effects
RMPH	Relative Market Power Hypothesis
ROA	Return on Assets
SCP	Structure-Conduct-Performance
SSA	Sub-Saharan Africa
VIF	Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Bank size: refers to the classification of banks by CBK according to weighted composite index comprising of assets, deposits, bank shareholding, number of deposit accounts and loan accounts to tiers one, two and three.

Bank characteristics: these are the internal factors that affect the performance of commercial banks.

Basel III: refers to a comprehensive set of reform measures, developed by the Basel Committee on Banking Supervision, to strengthen the regulation, supervision and risk management of the banking sector.

Commercial Bank – refers to a company which carries on, or proposes to carry on, banking business by providing financial services in Kenya and is licensed and regulated by the Central Bank of Kenya as mandated under the Banking Act.

Financial Performance: refers to the accomplishment of a bank's targets or goals over a specified period of time, expressed in terms of overall profits and losses during that time.

Financial risk exposure: refers to the risk that involves financial loss to firms. Financial risk generally arises due to instability and losses in the financial market caused by movements in stock prices, currencies, interest rates and more e.g. market risk, liquidity risk, and credit risk.

Hirschman- Herfindall Index: is the sum of the squared market shares of all banks in the market/or sample.

Interest rate spread: is the interest rate charged by banks on loans to private sector customers minus the interest rate paid by commercial or similar banks for demand, time, or savings deposits.

Macroeconomic variables: these are variables that affect the banking industry and are unchanged over a certain period of time e.g. Kenya Gross Domestic Product Growth Rate.

Prudential Guidelines – are regulations to be adhered to by financial institutions in order to maintain a stable and efficient banking and financial system in Kenya.

Weighted Composite Index – measures the variation in the value of a composite number defined as the aggregate of assets, deposits, bank shareholding, and number of deposit accounts and loan accounts to classify banks into three peer groups by CBK.

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ABSTRACT

The study sought to establish the effect of bank size and financial risk exposure on financial performance of commercial banks in Kenya. The specific objectives of the study were: to determine the effect of bank size on financial performance of commercial banks in Kenya; to establish the effect of financial risk exposure on financial performance of commercial banks in Kenya; to determine the moderating effect of macroeconomic variable on bank size and financial performance of Commercial Banks in Kenya; and to determine the moderating effect of macroeconomic variable on financial risk exposure and financial performance of Commercial Banks in Kenya. Studies on bank size and financial risk exposure have presented mixed results and they have not been conclusive on how they affect financial performance. Despite the empirical evidence cited demonstrating that it is possible to conduct a meaningful analysis of financial performance, the major conclusion is that most models focus on a single variable instead of a set of variables. The study factored in bank size and financial risk exposure variables and it was done in the Kenyan context so as to determine the effect of bank size and financial risk exposure on financial performance of banks in Kenya. The descriptive research design and a positivist approach were adopted. The Berger and Hannan approach was used establish the relationship between bank size, financial risk exposure and the moderating effect of macroeconomic variable on the financial performance of commercial banks in Kenya. All the 43 commercial banks were used during the study. Secondary data was obtained from Kenya Bankers Association and Central Bank of Kenya's comprehensive archive of financial data for the 43 commercial banks for the period 2009 to 2015. Various diagnostic tests were carried out to and the study data structure was panel hence Stata was employed to determine the relationship between the variables. Under financial performance, average return on assets in Kenya is consistent with average return on assets in Sub-Saharan Africa implying that Commercial Banks' return on assets in Kenya is about average of Sub-Saharan Africa. The results indicate that bank size plays a major role in impacting on the financial performance of commercial banks in Kenya. The results also imply that the main source of financial performance in the Kenyan banking industry is as a result of structure or collusive power. Under financial risk exposure, market risk has minimal effect on financial performance of commercial banks in Kenya. This means that the overall market movement in the financial market has minimal impact on the financial performance in the banking industry. The Kenya GDP growth rate shows a minimal effect on the relationship between bank size and financial risk exposure on the financial performance of commercial banks in Kenya. In conclusion, banks need to grow bank sizes where they enjoy both economies of scale and scope. Treasury should design policies that will increase the capital size, liquidity requirements and deposit insurance premiums; this may assist in enlarging the size of banks to a level where they are fairly equal with none having relative market power to drive the market. Areas of further research may include and not limited to considering other variables besides the financial risk exposure and bank size in determining their effect on the financial performance of commercial banks in Kenya. The research may as well be done in the East African or African context. The further studies should seek to leverage on mixed research approaches that utilize both quantitative and qualitative research.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

The financial performance analysis of commercial banks has been of great interest to academic research since the Great Depression Intern in the 1940's. In the last two decades, studies have shown that commercial banks in Sub-Saharan Africa (SSA) are more profitable than the rest of the world with an average Return on Assets of 2 percent (Flamini, Valentina, McDonald, & Liliana, 2009). One of the major reasons behind high return in the region is the investment in risky ventures. The other possible reason for the high profitability in commercial banking business in SSA is the existence of a huge gap between the demand for bank service and the supply thereof. That means, in SSA the number of banks are few compared to the demand for the services; as a result, there is less competition and banks charge high interest rates. This is especially true in East Africa where the few government owned banks take the lion's share of the market.

In Kenya, the banking industry has experienced major transformations over the past decades of deregulation and the globalization of financial markets. Consequently, as a rational response to the financial sector liberalization, the banking system seems to have become a more concentrated sector. The performance of banks has become a major concern for economics and policy makers due to the fact that the role of banks remains central in financing economic activities (Arif, Khan & Iqbal, 2013). Banks are the major source of debt financing for business and non-business enterprises in Kenya. Therefore,

the stability of the banking industry is of paramount importance to the financial system as it plays an imperative role in the operation of an economy.

Over the last few years, the banking industry in Kenya has continued to grow in assets, deposits, profitability and products offering. The growth has been mainly underpinned by; an industry wide branch network expansion strategy both in Kenya and in the East African community region; and automation of a large number of services and a move towards emphasis on the complex customer needs rather than traditional 'off-the-shelf' banking products (PWC Kenya, 2010). Players in this sector have experienced increased competition over the last few years resulting from increased innovations among the players and new entrants into the market.

The financial risk exposure has become an important tool from which banks try to achieve legitimacy in the eyes of the public and regulators. This triggering effect has given stakeholders in the Kenyan banking industry cause not only to consider the returns made in the sector, but also critically examine frameworks used to manage risks in the sector and safeguard their interests. This is because the failures faced by the industry in recent years have been blurred largely on the weaknesses of financial risk management practices of the financial institutions (Wallison, 2009). The greatest impact of the crisis has been on the banking industry where some banks which were higher to performing well suddenly announce large losses with some of them going burst.

On the other hand, the performance of banks can be affected by internal and external factors (Aburime, 2005; Sufian, 2011). The internal factors are individual bank characteristics which affect the bank's performance. These factors are basically influenced by the internal decisions of management and board. The external factors are sector wide or country wide factors which are beyond the control of the company and they affect the profitability of banks. The factors describe industry-structure factors that affect bank profits which are not the direct result of managerial decisions. Economic theory suggests that market structure affects firm performance since larger institutions could provide services at lower cost until diseconomies of scale set in. Literature has shown that the relationship between the bank size and profitability can be positive or negative (Staikouras & Wood, 2004; Athanasoglou *et al.,* 2008; Dietrich & Wanzenried, 2010; Naceur, 2003).

1.1.1 Overview of selected variables affecting financial performance of commercial banks in Kenya

The following is an overview of selected variables affecting financial performance of commercial banks in Kenya:

1.1.1.1 Bank Size

The size of a bank can be an important driver of the variation of efficiency across banks (Isik & Hassan, 2002). In order to operate optimally by obtaining scope and scale, banks must possess a certain degree of size. In the Kenyan contest, the bank size in the study is the market share index which is the composite of total net assets, customer deposits, capital & reserves, number of loan accounts and number of deposit accounts (CBK, 2013). The Kenyan commercial banks are classified into three peer groups using a weighted

composite index that comprises of net assets that are proportionate of 0.33, total deposits that are proportionate of 0.33, total bank shareholding that are proportionate of 0.33, total number of deposit accounts that are proportionate of 0.005 and total number of loan accounts that are proportionate of 0.005.

A bank with a weighted composite index of 5 percent and above is classified as a large bank, a medium bank has a weighted composite index of between 1 percent and 5 percent while a small bank has a weighted composite index of less than 1 percent. For the period ended 31st December 2013, there were 6 large banks which accounted for 52.39% of the market share, 15 medium banks with a market share of 37.95% and 22 small banks with a market share of 9.66% as shown in Table 1.1. Banks change positions within their respective peer positions every year and the movement is mainly occasioned by levels of customer deposits as banks deploys various strategies for deposits mobilization (CBK, 2013).

	Weighted Market Size	**No. of Institutions**	**Total Net Assets**	**Customer Deposits**	**Capital & Reserves**
Large	52.39%	6	1,388,641	972,066	239,484
Medium	37.95%	15	1,057,612	759,173	151,542
Small	9.66%	22	257,141	204,422	41,152
Total*	**100.0%**	**43**	**2,703,394**	**1,935,661**	**432,178**

Table 1.1: Banks Market Share Analysis (Ksh.M)
Source: CBK (2013)

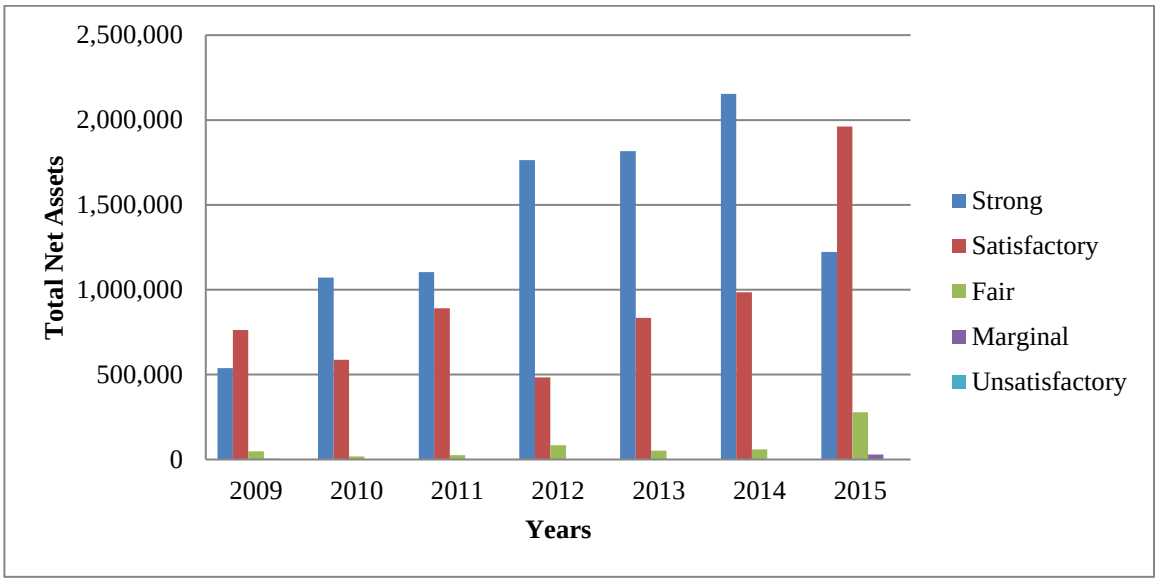

Figure 1.1 Bank Ratings Vs Total Net Assets
Source: Author, (2018)

The figure 1.1 highlights the rating of banks based on their total net assets between 2009 and 2015. The results indicate a significant improvement in the rating up to the year 2014 where the rating was strong, despite the effect of global financial crisis and the sluggish recovery in the Eurozone. There is a drop on the asset rating in the year 2015 from strong to satisfactory and this may have been attributed by two non-systemic banks, Dubai Bank Limited and Imperial Bank Limited, being placed under receivership by the Central Bank of Kenya in the second and third quarters of 2015. This prompted CBK to issue temporary moratorium on licensing of new commercial banks to allow existing banks to review their business models and consolidate their operations while CBK strengthens its supervisory regimes.

1.1.1.2 Financial Risk Exposures

Financial risk exposure is the financial loss to firms. This arises due to instability and losses in the financial market caused by movements in stock prices, currencies, interest rates and more, (Fostel & Geanakoplos, 2009). Financial risk exposures include market risk, credit risk and liquidity risk. Market risk relates to interest rates, exchange rates, stock prices and commodity prices; while credit risk is the loss caused when a debtor or the counterparty in an agreement fails to make a payment; and Liquidity risk is an inability to efficiently buy or sell an asset (Lopez, 2002).

Commercial banks in Kenya are faced with critical challenges of finding new and better ways to increase top-line revenues, maintaining necessary capital ratios, improving margins, strengthening balance sheets and enhancing efficiencies within the organization (Taylor, 2009). The banks therefore employ financial risk management practices whose objective is not to prohibit or prevent risk taking activity, but to ensure that the risks are consciously taken with full knowledge, clear purpose and understanding so that it can be measured and mitigated. Financial institutions are exposed to a variety of risks among them; interest rate risk, foreign exchange risk, political risk, market risk, liquidity risk, operational risk and credit risk (Yusuf, 2003; Cooperman, Gardener & Mills, 2000).

In some instances, commercial banks and other financial institutions have approved decisions that are not vetted; there have been cases of loan defaults and non-performing loans, massive extension of credit and directed lending. Policies to minimize on the negative effects have focused on mergers in banks and non-banking financial institutions,

better banking practices but stringent lending, review of laws to be in line with the global standards, well capitalized banks which are expected to be profitable, liquid banks that are able to meet the demands of their depositors, and maintenance of required cash levels with the central bank which means less cash is available for lending (CBK, 2013). This has led to reduced interest income for the commercial banks and other financial institutions and by extension reduction in profits (De Young, Robert, Peng, & Yan, 2013).

1.1.1.3 Macroeconomic Variable

The macroeconomic variable of Kenya is summarised by the discussion of economic growth, unemployment rate, and inflation rate, (Hall & Mac, 2006). According to Menike (2006), research indicates that several macro-economic factors would affect performance of a firm, since they do not operate in a vacuum. Hence there is a need to narrow the list of possible factors considering their relevance to emerging stock markets. Many studies find a close linkage between financial deepening, productivity and economic growth. It is for example estimated that policies that would raise the GDP ratio by 10% would increase the long-term per capita growth rate by 0.2–0.4% points (Easterly & Levine, 1997; Ndulu & O'Connell, 2008). According to Levine (1997), there are five functions of the financial system through which it enhances economic growth. These are: reducing risk; allocating resources; monitoring managers and exerting corporate controls; mobilizing savings; and facilitating exchange of goods and services.

The global economy underwent a recession in 2009 due to a deepening of the effects arising from the global financial crisis. World real Gross Domestic Product (GDP)

recorded a growth of negative 0.8 percent in 2009 compared to 3.0 percent in 2008. This was due to a decline in demand, investment and a contraction in world trade from 3.0 percent in 2008 to negative 12.5 per cent in 2009. The Sub Saharan African real GDP growth dropped from 5.6 percent in 2008 to 1.6 per cent in 2009 due to subdued demand and low prices of primary agricultural exports in the global market. The Kenyan economy posted a real GDP growth of 2.6 percent in 2009 compared to a revised growth of 1.6 percent in 2008 (CBK, 2009).

Also, the world output is estimated to have grown by 3.0 percent in 2013, underpinned by strengthening growth momentum in most advanced economies especially in the second half of the year. The emerging market and developing economies continued to account for the bulk of global growth. However, the region's growth slowed to 4.7 percent in 2013 from 5.0 percent in 2012 largely on account of reduced external demand. In Sub-Saharan Africa, economic activity remained robust, with GDP growth stabilizing at 4.9 percent in 2013, supported by strong domestic demand associated with investment in infrastructure and household consumption. The Kenyan economy grew by 4.7 percent in 2013 compared with 4.6 percent in 2012 and 4.4 percent in 2011 (CBK, 2013).

According to CBK (2016), in 2015 the global economic activity remained weak and uneven, expanding by 3.1 percent compared to 3.4 percent in 2014. Growth in 2015 was weighed down by developments in the emerging markets and developing economies. In particular, GDP growth in emerging market and developing economies declined by 0.6 percentage points to 4.0 percent in 2015, while modest recovery was recorded in advanced

economies. The major challenges remain divergent monetary policy among the major central banks, concerns about the Chinese economy and large declines in oil prices which may contribute to increased volatility in global financial markets. In addition, the risk of geopolitical tensions and potential spill-over into the real economy remains a concern. The economic growth within East African Community remains strong despite a slight decline in output from 5.9% in 2014 to 5.8% in 2015. The slowdown was mainly associated with political instability in Burundi and uncertainties associated with general elections in Tanzania and Uganda during the review period. Kenya's economic performance remained robust despite headwinds from global economic environment. The Gross Domestic Product (GDP) expanded by 5.6% in 2015 which was a slight improvement compared to a 5.3% growth in 2014.

1.1.1.4 Financial performance of commercial banks

Over the last two decades, financial sector reforms, technological advancement and globalization have led to significant transformation of the banking industry in Kenya. The banking industry has experienced unprecedented growth coupled with impressive performance over the same period (Kamau & Were, 2013). The industry has remained largely profitable in spite of the economy performing poorly in some years and facing adverse effects of the global financial crisis in 2008 (CBK, 2013). The global financial crisis 2008 originated from the United States due to lack of control of its financial downturn and transmitted to all financial institutions in other economies (Khoon & Mah-Hui, 2010).

The Kenyan Banking industry recorded improved performance in the fiscal year 2012/13 with total assets being 15 percent higher in June 2013 as compared to June 2012. The major components of the balance sheet were loans and advances, government securities and placements, which accounted for 55.7 percent, 22.4 percent and 6.2 percent of total assets, respectively. The Bank's operations in the year to June 2013 resulted in a net surplus of Ksh.3,652 million compared with Ksh.18,356 million deficits in the year to June 2012 (CBK, 2013). Profits grew by close to 400% in a span of 13 years moving from Ksh.18.8 billion to Ksh.89.2 billion in 2011, making the banking industry the most profitable sector in the economy. In terms of profit share to gross domestic product (GDP), profits before tax increased their share from 0.3% of GDP in 2000 to 3% of GDP in 2011. Horizontal expansion led to bank branch networks increasing from 670 in 1997 to 1,161 in 2011. Additionally, the asset and deposits base equally grew over the years hitting the Kenya shilling trillion marks, standing at 67% and 49% of GDP respectively as at the end of 2011 (CBK, 2012).

A commonly used measure of bank performance is the level of bank profits (Ceylan, Emre & Asl, 2008). Bank profitability can be measured by the return on a bank's assets (ROA), a ratio of a bank's profits to its total assets. This is based on the income statements of commercial banks report profits before and after taxes. Another measure of bank performance is the ratio of pre-tax profits to equity (ROE) rather than total assets since banks with higher equity ratio should also have a higher return on assets (Ceylan, Emre & Asl, 2008).

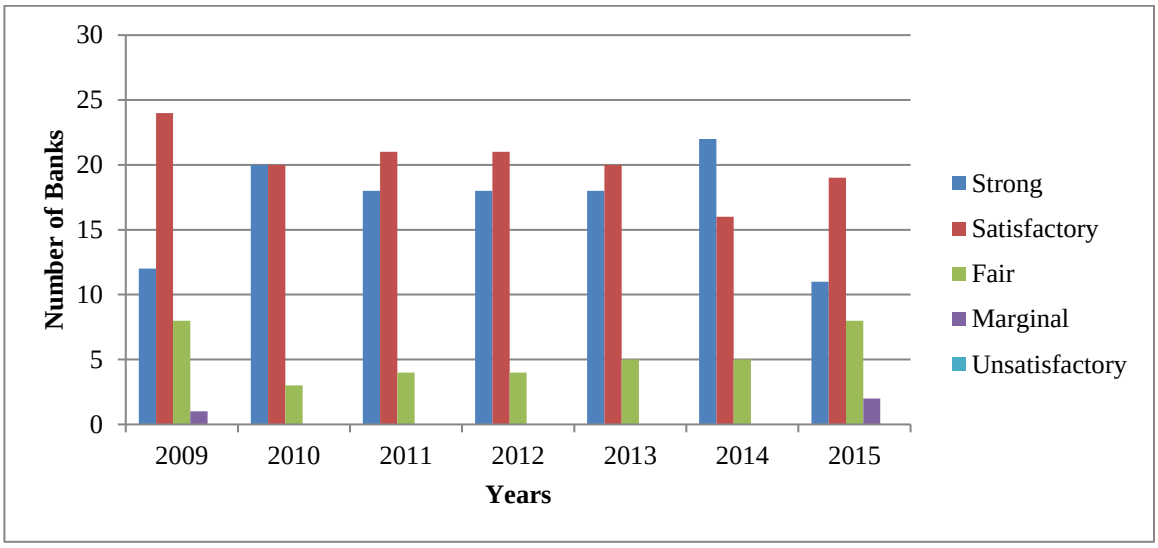

Figure 1.2: Bank Performance Ratings 2009-2015
Source: Author, (2018)

Figure 1.2 shows the inconsistency in the bank performance ratings between 2009 and 2015 in the Kenya. Despite the sector being stable and resilient as evidenced by the growth in the balance sheet, most banks posted satisfactory results. In 2014, more than half of the banks posted strong performance while in 2015 there was a drop to around a quarter of the banks having strong performance, and less than 20 banks had satisfactory results. This was partly due to slowdown in growth in China and the sluggish recovery in the Eurozone. The global financial markets were also volatile in most of 2015 following uncertainty in respect of the timing of the increase in U.S. interest rates, and the easing of monetary policy in the Eurozone (CBK, 2016). Overall, the impact of the adverse global developments on Kenya was minimal due to the diversification of its economy and a stable financial sector. Two banks were placed in receivership in 2015 due to their unique circumstances.

1.1.5 Banking industry in Kenya

The banking industry in Kenya is governed by: The Banking Act (Cap 488, the Central Bank Act, and the Prudential Guidelines issued by the Central Bank of Kenya (CBK). According to the Central Bank Act, one of its primary roles is to foster liquidity, solvency and proper functioning stable financial system. This legislated function implies a stable and efficient financial system that underpins intermediation process for economic growth and development (Kamau, 2011).

Kenya has a well-developed financial system for a country of its income level (Beck & Fuchs, 2004). Kenya's level of financial development is not too far off from the predicted level in a global cross-country model (Allen *et al.,* 2012). Christensen, (2010) classifies Kenya as a frontier market economy whose financial market is advanced, but not to the same extent as emerging markets e.g. South Africa, given that its GDP ratio was about 34% compared to an average of 63% for emerging market economies in 2008-2010 although these indicators have improved over time. It is therefore unlikely the size of the Kenya's financial sector is beyond the threshold to negatively impact on economic growth. Griffith-Jones and Karwowski, (2013) also show that credit expansion in Kenya has been relatively modest in the last decade (at 19% over 2000-2010) compared to other selected SSA countries (for example Angola 154.5%, Malawi 215.6%, Mali 286.7%, Nigeria 173.0%, Sudan 505.6%, Tanzania 274.4% and Uganda 152.8%).

Commercial banks dominate the financial sector in Kenya by the banking industry having an asset base of over Ksh. 1.3 trillion, hence, the banking industry plays a vital role in

intermediation process between savers and investors (Kamau, 2011). In a country where the financial sector is dominated by commercial banks any failure in the sector has an immense implication on the economic growth of the country (Oloo, 2011). This is due to the fact that any bankruptcy that could happen in the sector has a contagion effect that can lead to bank runs, crises and bring overall financial crisis and economic tribulations. Despite the good overall financial performance of banks in Kenya, there are a couple of banks declaring losses (Ongore & Kusa, 2013).

In overall, Kenya' financial sector has remained stable and resilient at the backdrop of macroeconomic stability. However, the sector faced liquidity risks coupled with skewed distribution and corporate governance issues that resulted in two banks, i.e. Dubai Bank Ltd and Imperial Bank Ltd, being placed under receivership in 2015; and a third bank (Chase Bank Ltd) in the first half of 2016, for the first time in over a decade. One of the banks was undergoing liquidation process, while another one was reopened. The sector also recorded increased credit risks, Non-Performing Loans (NPLs) rising faster than historical trends and credit to private sector slowdown to about 14% of GDP (CBK, 2016).

The banking industry was resilient in the first half of 2016 to October. The average commercial banks liquidity increased to 43.6% in October from 40.5 percent in April 2016, while the capital adequacy ratio rose to 19.1% from 18.8%. The quick and successful reopening of Chase Bank Ltd in April 2016 enhanced confidence in the sector. Also, the Banking (Amendment) Act, 2016, which caps commercial banks' lending rates and also sets the minimum rates on deposits, came into force on 14th September 2016. The

prices of the banking industry listed stocks registered significant declines after enactment of the law. However, the downward trend in the prices of the stocks had since stabilised. The average commercial banks' lending rates declined from 18% in April 2016 to 13.6% in October 2016 partly reflecting the easing monetary policy, and implementation on the Banking (Amendment) Act, 2016. The average interest rate spread between lending and deposit rate declined from 11% to 5.8% as at October 2016 (CBK, 2016).

1.2 Statement of the Problem

Owing to the importance of the banking industry performance in influencing the macroeconomic stability, a number of country specific studies on the banking industry have been undertaken, for example, Kamau (2011); Ncube (2009); Aikaeli, (2008); Ikhide (2008); and Adongo *et-al.,* (2005). However, these studies presented mixed results and they were not conclusive on how bank size affects performance.

Various changes in the commercial banking industry such as bank restructuring, privatization and bank prudential regulations by CBK have been done to improve the performance in the commercial banking industry (Deloitte Kenya, 2012). Past studies (Fiordelisi *et.al.,* 2010; Berger & DeYoung, 1997; Ikhide, 2009; Turati, 2003; Hussein, 2000; Blocher, 2009; Kiweu & Ndulu, 2012) were concerned with financial performance. Studies on financial performance, such as Heremans, (2007), Al-Tamimi & Hassan (2010), Aburime (2005), Demirguc-Kunt and Huizinga (2000) and Goddard *et al.,* (2004) used linear models to estimate the impact of various factors that may be important in explaining performance. Despite the empirical evidence cited demonstrating that it is possible to conduct a meaningful analysis of financial performance (Bikker & Bos, 2005),

the major conclusion is that all models focus on a single variable instead of a set of variables as theory prescribes.

Some of the previous studies shows contradicting findings on the relationship between bank characteristics and financial performance of banks. For example, Isik and Hassan (2002) and Isik, Omran and Hassan (2016) showed that average financial performance decrease with increase in bank size. In contrast, Berger and Mester (2003) and Isik and Topuz (2016) noted a slight increase in financial performance with bank size which may have been induced by competitive pressures; they concluded that as banks grew larger, they were equally able to control costs but it became harder to create revenue efficiently. The study by Kraft *et al.,* (2002) revealed that financial performance did not vary much across bank size.

From the foregoing literature, the study factored in bank size and financial risk exposure variables. Also, the study was done in Kenyan context since most studies have been done in the African context and the developing economies so as to determine the effect of bank size and financial risk exposure on financial performance of commercial banks in Kenya in attempt to fill the existing gap of knowledge body.

1.3 General Objective

The general objective of the study was to determine the effect of bank size and financial risk exposure on financial performance of Commercial Banks in Kenya.

1.3.1 Specific Objectives

Specifically, the study sought to achieve the following specific objectives:

i. To determine the effect of bank size on financial performance of Commercial Banks in Kenya.
ii. To establish the effect of financial risk exposure on financial performance of Commercial Banks in Kenya.
iii. To determine the moderating effect of macroeconomic variable on bank size and financial performance of Commercial Banks in Kenya.
iv. To determine the moderating effect of macroeconomic variable on financial risk exposure and financial performance of Commercial Banks in Kenya.

1.4. Research Hypotheses

The study was guided by the following null hypotheses:

H_{01}: Bank size does not have a significant effect on financial performance of Commercial Banks in Kenya.

H_{02}: Financial risk exposure does not have a significant effect on financial performance of Commercial Banks in Kenya.

H_{03}: Macroeconomic variable does not have significant effect on bank size and financial performance of Commercial Banks in Kenya.

H_{04}: Macroeconomic variable does not have significant effect on financial risk exposure and financial performance of Commercial Banks in Kenya.

1.5 Significance of the Study

The study is of importance to:

The Government of Kenya especially the Treasury by assessing the loopholes that prompt the high costs in the banking industry and produce good quality investigations. Also, the study will guide the regulatory body in coming up with measures and tools to review the regulatory framework that is fair to the banks and the public at large.

The Banking Industry Management to evaluate their performance tools and develop a model of maximizing profits and subsequently apply the appropriate measures in the industry. The study findings can help banks in evaluating the importance of maximizing the internal mechanisms that is the bank characteristics, in relation to their performance in terms of bolstering profitability. In the end, the stakeholders will benefit from the study by increased earnings due to improved performance.

Commercial banks in Africa will learn from this Kenyan study and understand the measures that they can replicate in their businesses in order to improve on their financial performance. The study findings inform them on which bank characteristics have better link to financial performance and hence save on the costs of conducting cost benefit research in their institutions.

Lastly to the researcher and academia in this area as it contributes to a wider knowledge on financial performance in commercial banking in Kenya. The study is value-added to the existing body of knowledge as it recommends ways for improvement of financial performance by leveraging on the bank characteristics. Nevertheless, this study serves as a stepping stone for future research on financial performance of commercial banks.

1.6 Scope of the study

The study determined the effect of bank size and financial risk exposure on financial performance of Commercial Banks in Kenya for a seven-year period, that is, from year 2009 to 2015. The study period was informed by the global financial crisis of 2007/2009 whose effects spilled over to the country up to early 2013. This was the period of monetary union that led to radical changes in the Kenyan commercial banking system increasing banks' pressure towards operating more efficiently. The researcher focused on banks because they play a vital role in the economic resource allocation of countries (Ongore, 2011). Specifically, the study collected data about bank size, financial risk exposures and macroeconomic variable so as to establish their effect on the financial performance in Kenya. The data source was secondary data from the CBK and KBA archives on commercial banks' financial statements.

1.7 Organisation of the study

This study was organized in the following manner: Chapter two reviewed the theoretical literature and the empirical literature, summarized the findings from the literature and identified the knowledge gap that was to be filled and the conceptual framework; Chapter three discussed the research methodology and the data that was used in the study. Chapter

four discussed the research findings while chapter five entitled research summary, conclusions and recommendations based on the findings.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter initially captured the theories informing the study before presenting empirical review in the form of various relevant studies which ultimately captured research gaps upon which the research problem was anchored. Lastly, the chapter presents a conceptualization of the linkage between the study variables in the form a conceptual framework.

2.2 Theoretical Review

This section reviews the interplay between bank size, financial risk exposure, and the moderating effect of macroeconomic variable. Further, the section presents theories on the variables with key lessons on how cost ought to be controlled and the measures to arrest the inefficiency and forge a way forward for the management of cost within the industry.

2.2.1 Market Power and the Efficiency Structure Theories

Studies on the performance of banks started in the late 1980s/early 1990s with the application of two industrial organization models: The Market Power (MP) and the Efficiency Structure (ES) theories (Athanasoglou, Panayiotis & Delis, 2006). The relationship between market structure and performance has been treated within the framework of Structure-Conduct-Performance (SCP) paradigm. The original SCP interprets performance as a result of the exogenous structure of the market which influences banks' conduct. The SCP paradigm assumes that a higher bank concentration allows a higher degree of cooperation between them. These banks might set higher prices

and consequently gain substantial profits (Sathye, 2005; Samad, 2008; Maudos & Fernandez de Guevara, 2007; Al-Muharrami & Mathews, 2009). Several papers have looked at the correlations of efficiency measures and exogenous factors, including Mester (1993), Mester (1996), Mester (1997), and Berger and Mester (1997) shows that estimates of bank cost efficiency can be biased if bank heterogeneity is ignored. Bikker and Bos (2005) mentioned on the issue of whether certain differences in the economic environment belong in the definition of the frontier. The balance portfolio theory has also added greater insight in to the study of bank profitability (Nzongang & Atemnkeng, 2006). Applied in banking, the MP hypothesis posits that performance of a bank is influenced by the market structure of the industry. There are two distinct approaches within the MP theory; the Structure-Conduct-Performance and the Relative Market Power Hypothesis (RMP).

According to SCP approach, the level of concentration in the banking market gives rise to potential market power by banks, which may raise their profitability. Banks in more concentrated markets are most likely to make 'abnormal profits' by their ability to lower deposit rates and charge higher loan rates as a result of collusive (explicit or tacit) or monopolistic reasons, than firms operating in less concentrated markets irrespective of their efficiency (Tregenna, 2009). Unlike the SCP, the RMP hypothesis posits that bank profitability is influenced by market share. It assumes that only large banks with differentiated products can influence prices and increase profits. They are also able to exercise market power and earn non-competitive profits. In the study, the bank size is a component of net assets, customer deposits and total number of loan accounts; which were of interest to the researcher as outlined in the conceptual framework.

The study was underpinned by the Market Power and Efficiency Structure theories because of the Structure-Conduct-Performance paradigm on the relationship between market structure and financial performance. Also, the choice of using structural approach as opposed to non-structural was based on the fact that the problems in the banking industry in Kenya seem to emanate from structural rigidities (Beck & Fuchs, 2004). The bank size, financial risk exposure and the moderating effect of macroeconomic variable formed the market structure and the performance was the financial performance of commercial banks in Kenya. The use of structural measures such as the weighted composite index ensured that the shortcoming of non-structural approach was taken care of by taking into account the size of the banks and the number of banks as proxy of the market structure.

2.2.2 The Modern Portfolio Theory

The modern portfolio theory was founded by Markowitz, (1952) in which he described how to consolidate resources into productively enhanced portfolios by showing that investors neglected to account for the high correlation among investments returns correctly. It was Markowitz's, (1968) view that a portfolio's risk could be decreased and the normal rate of return expanded when resources with different value movements were consolidated. The theory permits investors to assess both the expected dangers and returns, as estimated statistically, for their venture portfolios. In managing their portfolio, the investors try to maximize the overall portfolio return for a given portfolio (Elton, Gruber, Brown & Goetzmann, 2009). Most studies on the problem of bank diversification

and performance have been discussed in many papers. Majority of the studies highlight the positive effect of diversification on the performance and on the decrease of risks. Acharya, Saunders, and Hasan (2002) argue that diversification, based on traditional portfolio theory wisdom, leads to greater safety for financial institutions. Chatti, Kablan, and Yousfi (2010) analysed the performance and the choice of portfolio in banks and the results showed that corporate and investment activity increases significantly return on assets. However, retail and commercial activity improves the results and performance of these banks. The study was underpinned by the Modern Portfolio Theory because of the bank size, financial risk exposure and the macroeconomic variables used determine their effect on the financial performance of commercial banks in Kenya.

2.2.3 Institutional Theory

Institutional theory deals with factors which could help to identify performance of firms according to the environment of an organization and reaction to it. According to institutional theory, there are internal and external institutional factors which help to develop an understanding about an organizational phenomenon or behaviour (Hussain & Hoque, 2002). In summary, it could be stated that institutional theory is used to explain why changes may have occurred to an organization – to its processes, behavior and systems (Fowler & Hunt, 2009; Greiling, 2005). Performance Management System (PMS) could be stated as that institutional factor that helps to identify the environment and reaction of organization and its reflection on performance measurement system.

Several studies informed by institutional theory show that the financial controls devised to discipline resource utilization in public-sector organizations (for example, external financing limits) are little used further down the organizational hierarchy (Ansari and Euske, 1987; Pettersen, 1995) or assume the relatively symbolic role of legitimating the organization to funding bodies (Brunsson, 1989; Czarniawska-Joerges and Jacobsson, 1989). When more coercive pressures from funding bodies for improving financial performance are in play, however, management of the focal organization can be expected to pursue the implementation of financial measures throughout the organizational hierarchy relatively forcefully.

An example is the contrast between the relatively lukewarm interest in reliance on financial controls among managers in the U.K.'s National Health Service in response to the resource management initiatives in the 1980s (Pollitt *et.al.*, 2004) and the non-discretionary imposition of financial performance measures following the implementation of market-based control systems in the 1990s (Ballantine *et al.*, 1998). The latter development has been interpreted as an attempt to force clinicians to change (Broadbent *et al.*, 1991), and can thus be said to mark enhanced institutional pressures for compliance with the rationalized efficiency myth embodied in these reforms. The study was underpinned by the Institutional Theory because of the financial performance variable in the study.

2.3 Empirical Literature Review

2.3.1 Financial Performance in the banking industry

Studies have shown that bank performance can be affected by internal and external factors (Athanasoglou *et al.,* 2005; Al-Tamimi & Hassan, 2010; Aburime, 2005). Moreover, the magnitude of the effect can be influenced by the decision of the management. The management decision, in turn, is affected by the interests of the owners which is determined by their investment preferences and risk appetite (Ongore, 2011). Concerning the relationship between ownership identity and bank performance, different scholars came up with varying results. For instance, according to Claessens *et.al.,* (1998), domestic banks' performance is superior compared to their foreign counterparts in developed countries.

Most of the current financial performance literature describes the objective of financial organisations as that of earning acceptable returns and minimising risks taken to earn a return (Hempel *et al*, 1996). Chien and Danw (2004) showed in their study that most previous studies concerning performance evaluation focus merely on operational efficiency and operational effectiveness, which might directly influence the survival of a company. By using innovative two-stage data envelopment analysis model in their study, the empirical result of the study is that a company with better efficiency does not always mean that it has better effectiveness. Elizabeth and Ellot (2004) indicated that all financial performance measure as interest margin, return on assets, and capital adequacy are positively correlated with customer service quality. Score Mazher (2003) discussed the development and performance of domestic and foreign banks in Arab gulf countries, and

showed that local and foreign banks in these countries have performed well over the past several years. Moreover, he adds that banks in these economies are well capitalised and banking industry is well developed with intense competition among banks. Generally, the concept of efficiency can be regarded as the relationship between outputs of a system and the corresponding inputs used in their production.

Kasimodou, (2006) in his study when testing the banks effectiveness of UK using the bank size as a key factor categorized UK banks to two types, large and small, according to assets volume. The results of the study concluded that small banks showed higher performance in comparison to large ones. Further, the size of a bank was proved to have an effect on profitability besides other factors such as liquidity. According to the same scholar, the opposite is true in developing countries. Micco, *et al.,* (2007) in Wen (2010) also support the above argument in that in developing countries the performance of foreign banks is better compared with the other types of ownership in developing countries. However, Detragiache *et.al.,* (2006) presented a different view about the foreign bank performance in relation to financial sector development, financial deepening and credit creation in developing countries. They found that the performances of foreign banks compared to their domestic owned banks are inferior in developing countries.

However, there are scholars who argue that domestic banks perform better than foreign banks. For instance (Cadet, 2008) stated that foreign banks are not always more efficient than domestic banks in developing countries, and even in a country with low income level. Yildirim and Philippatos in Chen and Lia (2009) also support the above view that foreign

owned banks performed not better, even less than the domestic banks in relation to developing countries especially in Latin America. The study conducted in Turkey by Tufan, *et al.,* (2008) also found that domestic banks perform better than their foreign counterparts. There are also other scholars who argue that the performance of domestic and foreign banks varies from region to region. Claessens *et al.,* (1998), for example, stated that foreign banks perform better in developing countries compared to when they are in developed countries. Thus, they concluded that domestic banks perform better in developed countries than when they are in developing countries. They further assert that an increase in the share of foreign banks leads to a lower profitability of domestic banks in developing countries.

Studies such as Katib (2004) and Samaad (2008) included measures of concentration and market power in their models. The market power variable is taken as a proxy of efficiency implicitly. These studies have been criticized for not including an exclusive measure of efficiency. The seminal work of Berger and Hannan (1993) introduced explicit measures of efficiency in the test of Structure-Conduct-Performance. More recent studies (Chortareas, *et al.,* 2009; Seelanatha, 2010; Prasad and Radhe, 2011) have followed the Berger and Hannan (1993) methodology by explicitly including the efficiency measures in their estimations. Most of the reviewed studies are based on developed countries especially the USA and Europe, a couple of studies focusing on developing countries (Naceur, 2003; Flamini, *et al.,* 2009; Sufian and Chong, 2008) have also used more or less the same variables to study the determinants of financial performance. While previous studies mostly focused either on cost efficiency (Kwan and Eisenbeis 1997, Berger and

De Young 1997, Williams 2004, Altunbas, *et al*., 2007) or profit efficiency (Berger and Bonaccorsi, 2006), it is posited that each of these measures can have different link with capital levels.

Sufia and Kamarudin, (2012) identified bank specific characteristics and macroeconomic determinants of profitability in Bangladesh's banking industry over the years. The results revealed that macroeconomic determinants significantly influenced profitability. The relationship between economic growth and bank performance was negative and significant while the coefficient of inflation was significant and positive. Rao and Lakew, (2012) explored the key determinants of profitability of commercial banks in Ethiopia using panel data set of banks. The external factors were related to the industry and the macroeconomic scenarios within which the banks operate. The result of the study indicated that external factors had a statistically insignificant effect. Jasmine, (2011) investigated the profitability determinants of commercial banks in Malaysia after 2008 financial crisis. It was found that base lending rate was a significant variable while inflation rate was insignificant in determining the profitability of commercial banks in Malaysia.

Cicea and Hincu, (2009) states that commercial banks represent the core of the credit for any national economy, in turn, the credit is the engine that put in motion the financial flows that determine growth and economic development of a nation. As a result, any efficiency in the activities of commercial banks has special implications on the entire economy. A commonly used measure of financial performance is the level of bank profits

(Ceylan, EMre & Asl, 2008). Bank profitability can be measured by the return on a bank's assets (ROA), a ratio of a bank's profits to its total assets. The income statements of commercial banks report profits before and after taxes. Another good measure on bank performance is the ration of pre-tax profits to equity (ROE) rather than total assets since banks with higher equity ratio should also have a higher return on assets.

2.3.2 Bank Size and Structure

According to Naceur and Omran, (2011), the impact of the size on financial performance is widely discussed between researchers. Economic theory suggests that market structure affects firm performance since larger institutions could provide services at lower cost until diseconomies of scale set in. Literature has shown that the relationship between size and profitability can be positive or negative (Staikouras & Wood, 2004; Athanasoglou *et al.*, 2008; Dientrich, 2010). From the 2008 financial crisis, solvability ratios have strongly increased on the requirement of the investors, but whereas equities contribute to absorb abnormal losses of banks, does strengthening of their solvency ratios provide incentives in the risk taking of liquidity? The Basel III committee underlines the necessity of setting up new liquidity ratios requirements.

De Young *et al.,* (2004) posit that deregulation and technological change have transformed the U.S. banking industry into two primary size-based groups. The first group consists of large banking institutions while the second group is made up of small banks. Small banks are a primary source of financing for small business firms, which are an important engine of the economic growth. Controlling for market concentration and a

variety of other factors that might influence yields, Carter and McNulty, (2005) find an inverse relationship between bank size and the net return on small business lending, suggesting that smaller banks are better at making these types of loans. Berger *et. al.,* (2005) found out small banks have superior ability to allocate capital to risky borrowers unlike the large banks that are less willing to lend to firms on which they have limited information.

Neceur, (2003) using a sample of ten Tunisian banks from 1980 to 2000 and a panel linear regression model, reported a strong positive impact of capitalization of ROA. There are a number of studies which examine bank performance using CAMEL (Capital adequacy, Asset quality, Management efficiency, Earnings performance, and Liquidity) framework. The capital adequacy ratio is a key measure to determine the health of banks and financial institutions. Capital adequacy refers to the sufficiency of the amount of equity to absorb any shocks that the bank may experience (Kosmidou, 2009). Rahman *et al.,* (2004) and Elyor, (2009) noted that interest expenses divided to total loans can be measured as the bank management quality.

Ability to support the present and future operations of a bank depends on quality of its earnings and profitability profile (*Share et. al.,* 2011). In addition to the studies that focus on bank market power and profitability, Hannan & Prager, (2009) investigate whether the profitability of small community banks is affected by the presence of large multimarket financial institutions. The study finds that the presence of multimarket financial

institutions often lowers the profitability of community banks, but Hannan and Prager argue that this effect is only apparent in rural markets.

Some firms may have large market shares simply because their costs are lower than those of their competitors. A number of other studies cast doubt on this relationship. There is also theoretical criticism of the relationship originally put forward by Demsetz (1973) and more recently by Berger (1995) that larger market shares may be the result of better efficiency and lower costs. The basic argument is that if higher profits are derived from greater efficiency, then adverse welfare costs, which this relationship predicts as the result of higher prices, do not arise. This framework is primarily an empirical approach, which is often applied without direct reference to theoretical models of competition.

Bhatti and Hussain, (2010) examined the relationship between market structure and performance in the banking industry using data from Pakistani commercial banks. Using regression analysis, they found a positive relationship between concentration ratio and profitability while market share which is used for efficient structure hypothesis yielded a negative relationship with profitability. In light of these result, they concluded that there is a positive relationship between profitability and concentration.

Studies on the relationship between the structure elements of the banking industry and its impact on performance have not been conclusive. Many factors influence the direction of conclusions on such a relationship. This relationship presumes that measures of banking market structure, including measures of market concentration, are good indicators of the

intensity of competition that occurs (Scherer & Ross, 1990). The intensity of competition influences the price for financial services, which are, in turn, assumed to determine firms' performance. Beck *et al.,* (2006) pointed out that there are contrasting theoretical views concerning the impact of concentration on the fragility of the banking industry. Boyd and De Nicolo, (2005) argued that market power in banking boosts profits ignoring the potential impact of bank's market power and advocates for concentration fragility.

Fayman, (2009) found out that there are some notable differences between factors that affect the performance of large and small banks. For example, large banks rely on non-interest related sources of profitability, while small banks are more significantly impacted by levels of default risk. In contrast, Karray and Chichti, (2013) do not classify banks in to categories but include size as explanatory variable in their model for profit variability. According to Berger *et al.*, (2005), large banks are less willing to lend to firms on which they have limited information. On the other hand, Stever, (2007) argues that small banks are riskier because of their limited ability to diversify. It is further reported that small banks have fewer opportunities to diversify, which forces them to pick borrowers whose assets have relatively low credit risk or to make loans that are banked by more collateral.

Murthy, (2008) had bank size as one of the important factors that influence profitability for gulf banks. The size of the total assets was found with a significant effect on banks profitability. Some banks appeared to have high profitability relative to other banks according to some clusters created by the researcher. Spathes, (2002) tested the financial markets through a study conducted to investigate Greek banks, his study focused on the

banks asset size effect. The study aimed at investigating the effectiveness of large and small Greek banks through investigating ROE as profitability measure and its relationship with some factors classification such as assets volume, liquidity and risk. The results proved that large banks are more efficient than small ones; the small banks are characterized by high capital yield (ROE) while large banks are characterized by high asset yield (ROA).

Most empirical evidence lends support to the view that concentration increases banking industry fragility. The analysis of De Nicolo *et.al.,* (2004), which is based on data for some 100 banks over the period 1993-2000 and z-scores as proxy for riskiness, suggests that more concentrated banking industry is more fragile. Hannan and Prager, (2009) estimated profit models for small banks operating in only one U.S. market, distinguishing between rural and urban banking markets. The authors found that the effect of size differs across both markets. According to Yeager, (2004), the extent of competition affects the price affects the price that consumers pay for the industry services, which determines the level of profits and performance for the industry.

2.3.3 Financial Risk Exposure and Performance

Financial risk exposure is an unplanned event with financial consequences resulting in loss or reduced earnings. It is the uncertainty prevailing in the market when neither banks nor the regulator has control over the situation. According to Tapiero (2004), financial risk exposure refers to the practice of creating economic value in a firm by using financial instruments to manage exposure to risk, particularly credit risk and market risk. Similar

to general risk management, financial risk management requires identifying its sources, measuring it, and plans to address them (Conti & Mauri, 2008). Financial risk is often defined as the unexpected variability or volatility of returns and thus includes credit risks, liquidity risks and market risks (Holton, 2004). Therefore, financial risk management practices are those activities and procedures that are employed by managers in an effort of safeguarding an organization from credit risks, liquidity risks and market risks. Financial risk management practices fall into three major categories; credit risk practices, liquidity risk management practice and market risks (Kithinji, 2010).

As risk is directly proportionate to return, the more risk a bank takes, it can expect to make more money. However, greater risk also increases the danger that the bank may incur huge losses and be forced out of business. Today, a bank must run its operations with two goals in mind: to generate profit and to stay in business (Marrison, 2005). Banks therefore try to ensure that their risk taking is informed and prudent thus maintaining a trade-off between risk and return in the business of risk management. Risk management in the banking industry is a key issue linked to financial system stability. Unsound risk management practices governing bank lending often plays a central role in financial turmoil, most notably seen during the Asian financial crisis of 1997-1998 (Periansamy, 2008). Fostel and Geanakoplos, (2009) stress the role of investor optimism in encouraging risk taking. Other researchers like: Diamond and Rajan, (2009), Fahri and Tirole, (2009), and Chari and Kehoe, (2009) stress moral hazard consequences of bailouts and other credit market interventions.

There are few conceptual studies on risk identification of organizations (Kromschroder & Luck, (1998); Luck, (1998); Tchankova, 2002; Barton, *et al.,* (2002). Risk identification is the first stage of risk management, (Tchankova, 2002), and a very important step in risk management. Effective risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are in place, Al-Tamimi and Al-Mazrooei, (2007). Risk monitoring can be used to make sure that risk management practices are in line and proper risk monitoring also helps bank management to discover mistakes at early stage.

According to Tafri *et al.,* (2009) interest rate risk has a negative and weak significant impact on financial performance. Thus, it is quite necessary for banks to shield their profitability from the shocks of interest rate risk (Ponniah *et al.,* 2014). The results of the study conducted by Ruziqa, (2013) indicated that liquidity risk has a positive significant impact on profitability while Shen *et al*., (2009) concluded with a negative association between liquidity risk and profitability. Qin and Dickson, (2012) found out that credit risk negatively affects the profitability of the banking institutions. Hence, nonperforming assets are problematic for commercial banks as they primarily depend on interest payments for income.

As economic conditions worsen during stagnation and recession periods, the riskiness of intermediation tends to rise. Banks are vulnerable to adverse selection and moral hazard behavior of their borrowers. These are forms of information asymmetries, and asymmetric information and agency costs have been shown to be typically high during business cycle

troughs (Vennet, 2005). Furthermore, an economic slowdown is likely to have a negative effect on bank profits because typically low interest rates in a recession contribute to the erosion of banks' interest margins. The theoretical impact of exchange rate fluctuations on bank risk depends on the interplay between currency moves and a bank's foreign exchange exposure. Since the financial crisis, there has been renewed interest in documenting the balance-sheet positions of financial institutions (Jermann & Yue, 2012).

Domestic currency depreciation can be expected to hurt banks whose foreign exchange liabilities substantially exceed their assets denominated in foreign currencies. However, Lindgren *et al.,* (1996) identify the effect of exchange rate levels on the performance of banks' borrowers as its primary impact on bank profitability, i.e., they attach greater importance to the connection between exchange rate and credit risk than to currency risk as such. Excessive exchange rate volatility impairs economic and financial stability in a country and was found to have played a significant role in inducing banking crises in many countries (Lindgren *et al.*, 1996). Hansen (2009) conducted a study on the strategic foreign exchange risk management practice by Danish medium-sized non-financial, not-listed companies that are involved in international activities.

2.3.4 Macroeconomic variable and Performance

According to Talavera *et.al.*, (2006), the economic environment is a systematic risk component that affects every participant in the economy. The state of the economy is measured by macroeconomic aggregates, which include the gross domestic product (GDP), employment level, industrial capacity utilization, inflation, money supply and

changes in the exchange rate. Kenya National Bureau of Statistics in their data released in 2016 shows increase in Kenya's GDP from 5.3% in 2014 to 5.6% in 2015 was driven by the construction sector that grew by 13.6% in 2015 compared to 13.1% in 2014, the financial and insurance sector that grew by 8.7% in 2015 from 8.3% in 2014 and the agricultural sector that reported a 5.6% growth in 2015 compared to the sector's growth of 3.5% in 2014.

Also, external borrowing for productive investment, creates macroeconomics stability (Amaoko-Adu, 2002), increases domestic savings, improves welfare and enhances growth (Karagol, 2002; Cecchetti & Zampolli, 2011), but when external debt accumulates; repayment and debt-service costs depress domestic investment. Further, debt obligations lead to crowding-out effect that dries capital that should have been invested in the economy (Karagol, 2002). Debt to GDP ratio is used to measure the ability of a country to pay back its debt by comparing what it produces to what it owes to other states. There is no ideal debt to GDP ratio; however, a country is considered stable when it is in a position to comfortably serve its foreign debt without harming its economic growth. Foreign lenders seem to shy away from those states with higher debt to GDP ratio, unless certain moderating conditions are introduced (Rogoff *et.al.,* 2009).

Some scholars have argued that the overall effect of globalization is positive for developing countries whether by trans-border or international integration (Meagher, 2003; Otenyo, 2004; Schneider, 2003). The ratio of extra-regional trade to GDP in Africa is twice that of Latin America and nearly four times that of Europe (Schneider, 2003). The

global community is pushing toward a rapid and sustainable development, thus pressing Africa nations even more toward openness and globalization. Due to this push, Africa nations are relatively open and globalized. Schneider (2003) argued that globalization is not a new phenomenon in Africa: Africa began to be integrated into the global economy in the sixteenth century, and this integration has continued, although unevenly, since that time. Furthermore, African countries are also linked directly to their former colonial powers, who often are their largest trading partners.

There is little disputing that the developments in the world economy in the mid-to-late 1970s and the early 1980s have had profound impacts on the Sub-Saharan economic prospects. The abandonment of the Bretton Woods system, including fixed exchange rates, the two oil shocks of the 1970s and the interest rate hike of the early 1980s all undermined the profitability of private firms in the real economy (IMF, 2002). Mkandawire, (2005) argues that IMF-led adjustment in Africa put the continent on a slow growth path, a view broadly supported by economic studies of the broader impact of such programmes (Barro and Lee, 2002; Vreeland, 2003). According to Otenyo (2004), data shows that since 1996, following the emergence of rapid globalization, East African city governments have become increasingly positive, leading to the conclusion that globalization can even positively reform how nations govern themselves.

2.4 Summary and Gaps of Literature Review

The table below highlights the summary and gaps of literature review:

Author(s)	Objective	Findings	Research Gap
Kamau, 2011	What drives banking sector performance in Kenya?	The source of superior performance in the Kenyan banking sector is structure/collusive power and not efficiency hence supporting SCP hypothesis. The efficiency hypothesis (ESH) is rejected as technical and scale efficiency are found to be insignificant.	Whereas the relationship between market structure and performance of the banking industry has been studied extensively in developed economies, few studies have been undertaken in this area in the least developed countries, Kenya included.
Hughes, *et al.,* 2000	Efficient Risk-Taking and Regulatory Covenant Enforcement in a Deregulated Banking Industry	The production decisions affect bank risk as well as the discount rate applied to evaluating the present value of costs and profit streams.	The production decisions increase expected profit and the discount rate applied to that profit; hence, this may not increase the bank's market value.
Ikhide, 2009	Measuring the Operational Efficiency of Commercial Banks in Namibia.	The results indicate that substantial economies of scale exist in commercial banking in Namibia. This will tend to suggest that commercial banks in Namibia can increase their efficiency by increasing their current scale of operation.	The current level of input combination does not make for maximum efficiency as sufficient scope exists for a more efficient combination of inputs.
Ncube, 2009	Efficiency of banking sector in South Africa	Cost efficiency was found to have significantly improved over time, whilst the change in profit efficiency levels was not significant. The small banks recorded higher average profit efficiency levels than the big banks, but these differences were found to be statistically	Bank performance is still predominantly measured using accounting methods; therefore, there is a need to use other approaches in measuring bank efficiencies.

		insignificant.	
Kiyota, 2009	Efficiency of Commercial Banks in Sub-Saharan Africa: A Comparative Analysis of Domestic and Foreign Banks	Foreign banks tend to outperform better than domestic banks for the profit efficiency and that foreign bank entry appears to have an impact on improving performance of domestic banks. In terms of efficiency by the bank size, the data provides that the smaller the bank, the higher profit efficiency will be in all three types of banks.	An extension can be done to include trade and institutional variables such as trade openness, political stability and government effectiveness.
Spindler *et al.,* (1990)	The Performance of Internationally Active Banks and Securities Firms Based on Conventional Competitiveness Measures.	The study found out that in terms of size, U.S. banks fell consistently throughout the period, especially against their Japanese competitors. The same approximate pattern emerged with respect to revenue growth.	The study focussed on US banks and their competitors in Japan only.
Goddard, Phil and John (2004)	Dynamics of Growth and Profitability in Banking.	Although the relevant micro theory identifies SCP relationships applicable when markets are in equilibrium, there was no certainty that a profit figure observed at any point in time represents an equilibrium value.	Empirical tests of the POP hypothesis in banking are few in number; however, recent studies have presented extensive evidence of POP in U.S. banking.
Grigorian, David A. and Vlad Manole. (2006).	Determinants of Commercial Bank Performance in Transition: An Application of Data Envelopment Analysis.	The results provide a useful lesson about the effect of private share ownership on bank efficiency.	Privatization of banks, beyond those involving a transfer of controlling share to foreign owners, does not result in statistically significant improvements in efficiency.
Li, Shaomin,	The Impact of Order and Mode	Large firms have more resources to invest in	Financial services' profitability and market

Yigang Pan and David K. Tse. (1999).	of Market Entry on Profitability and Market Share.	innovation, pursue more aggressive expansion strategies, and perform better; in addition, large firms benefit from economies of scale, scope, and learning.	share performance are determined by a number of different factors and the size of firms has long been of interest to business researchers.
Frieder, Larry A. (1991).	Determinants of Bank Acquisition Premiums: Issues and Evidence.	Both the internal factors of returns on equity (ROE) of the target organization and the external factor of the market growth rate of the target's state (as measured by deposit growth and projected population growth) were significant positive determinants of a bank's capacity for expansion and growth.	Financial services company's profitability can be measured by using either return on assets (ROA), ROE, the ratio of operating earnings to assets, or the net interest spread to assets.
Berger, Allen N., Astrid A. Dick, Lawrence G. Goldberg and Lawrence J. White. (2007).	Competition from Large, Multimarket Firms and the Performance of Small, Single-Market Firms: Evidence from the Banking Industry.	Under the efficiency hypothesis, technological progress in the 1990s significantly improved the performance of large, multimarket banks relative to small, single-market banks; therefore, a greater presence of large, multimarket banks exerted more competitive pressure and had more deleterious effects on the performance of small, single-market banks in their markets in the second period, 1991-2000, than in the first period, 1982-90.	The relevant research on bank size and performance in the U.S. includes studies of cost and revenue performance, as well as the abilities of banks of different sizes to provide retail services in which both large and small banks compete, such as loans to small businesses and deposits.
Kiweu & Ndulu, 2012	Income Diversification in the Banking Sector and Earnings Volatility: Evidence from Kenyan	Bigger banks were more diversified than small banks and tend to have higher returns. The findings also revealed that lending rates were significantly correlated with net interest income.	The benefits of the evolution of non-interest income do not seem to fully offset the increase in risk that come with fee-based income.

	Commercial Banks		

Table 2.1 Summary of gaps of Literature Review
Source: Author (2018)

Lastly, there have been minimal studies analyzing the effect of bank size and financial risk exposure on financial performance of commercial banks in Kenya. Most studies focused on a single variable affecting financial performance. Accordingly, this research filled in this gap in the literature by establishing the effect of bank size, financial risk exposure and the moderating effect of macroeconomic variable on the financial performance of commercial banks in Kenya by constructing a broader set of variables accounting for each of these concepts. More specifically, the study shed light by determining the effect of bank size and financial risk exposure on financial performance in the Kenyan context. Unlike the previous studies, the sample included contemporaneous commercial banking data from 2009 to 2015. The data covered the period of monetary union that led to radical changes in the Kenyan commercial banking system increasing banks' pressure towards operating more efficiently.

2.5 Conceptual Framework

This study focused on assessing functional relationship between the bank size, financial risk exposure and resultant financial performance and it was guided by the Market Power and the Efficiency Structure Theories which has been treated within the framework of Structure-Conduct-Performance paradigm. The independent variables were bank size the financial risk exposure. The dependent variable was the financial performance while the moderating variable was the macroeconomic variable.

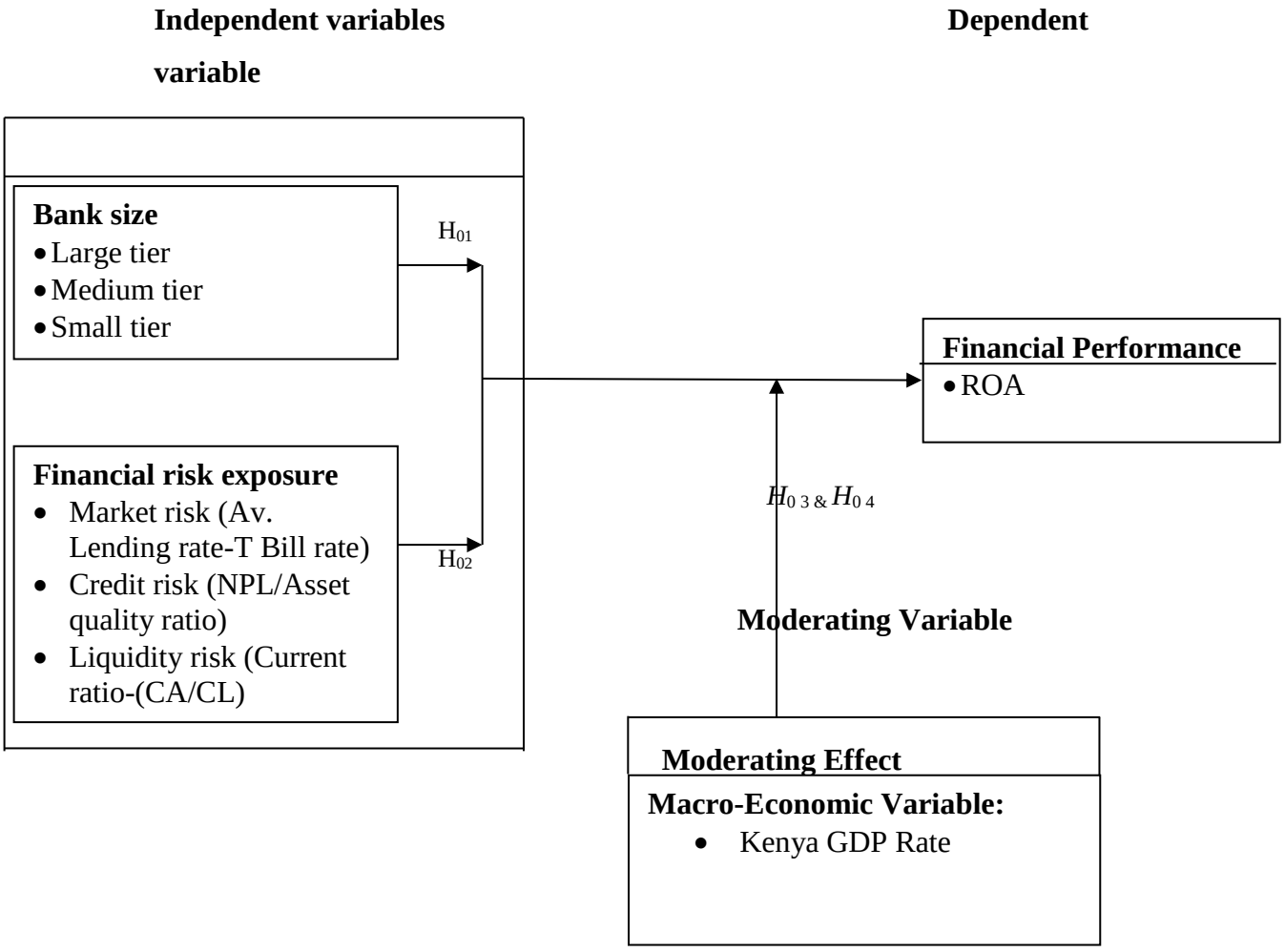

Figure 2.1 Conceptual Framework

Source: Author (2018)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research philosophy, research design, empirical model, target population and sampling design, data sources, data collection instruments, data tests, analysis and presentation, and ethical presentation.

3.2 Research Philosophy

This research adopted a positivist approach because of the use of quantitative tools and techniques that emphasize measuring and counting (Saunders, *et.al.,* 2009). Livesey (2006) believes that the scientific study of society should be confined to collecting information about phenomena that can be objectively observed and classified. Also, the research used hypotheses in designing the findings which was be taken from past studies. The researcher used statistical data; positivists believe it is possible to classify the social world in an objective way. Using these classifications, it is then possible to count sets of observable social facts and so produce statistics. Positivists claim that there is a single, objective reality that can be observed and measured without bias using standardised instruments (Cohen & Crabtree, 2006).

3.3 Research Design

The study adopted descriptive research design intended to establish the effect of bank size, financial risk exposure, and the moderating effect of macroeconomic variable on financial performance of commercial banks in Kenya which were of interest to the researcher data (Creswell, 2007). The research was conducted to provide a better understanding of the effect of bank size on financial performance of commercial banks in in Kenya. The

process and ultimate result was pegged on data obtained from archives of KBA and CBK's financial.

Descriptive research design was adopted since the major emphasis was to gain ideas and insights on the causal – effect relationship between bank size, financial risk exposure, and the moderating effect of macroeconomic variable on the financial performance of banks (Bordens & Abboth, 2002). Using statistical analysis tools, the researcher carried out panel econometric analysis mainly pooled regressions since the study was dealing with panel data (McManus, 2011). Correlation matrix on all variables aided in analyzing the statistical interaction of the variables hence capable of concluding the correlation among them.

Based on the standard errors and the estimated model coefficients the study tested hypothesis to ascertain as to whether coefficients were statistically significant or not (Bordens & Abboth, 2002). Based on the descriptive research design the study came up with an empirical model that could objectively forecast into future financial performance of commercial banks as influenced by the bank size, financial risk exposure, and the moderating effect of macro-economic profile in addition to the present financial performance.

3.4 Empirical model

3.4.1 Model specification

Based on the model specified by the Berger and Hannan (1993), the study developed a model studying the relationship between the bank size, financial risk exposure, macroeconomic variable, and financial performance. In order to determine the relationship, the following model was estimated:

$$\pi_{it} = \alpha_0 + \alpha_1 NA_{it} + \alpha_2 LA_{it} + \alpha_3 CD_{it} + \alpha_4 MR_{it} + \alpha_5 CR_{it} + \alpha_6 LR_{it} + \alpha_7 DG_{it} + \varepsilon_{it} \quad \ldots\ldots(1)$$

In order to test the moderation effect of macroeconomic variable (DG) on bank size and financial risk exposure on financial performance of Commercial Banks in Kenya, interaction variable between macroeconomic variable (DG) and bank size indicators (NA, LA, CD) is generated and the moderation model is estimated with the following multiple panel regression equations which are added to the model as indicated in equations (2) to equation (4);

$$\pi_{it} = \alpha_0 + \alpha_1 NA_{it} + \alpha_2 MR_{it} + \alpha_3 CR_{it} + \alpha_4 LR_{it} + \alpha_5 DG_{it} + \alpha_6 NA_{it}.DG_{it} + \alpha_7 MR_{it}.DG_{it} + \alpha_8 CR_{it}.DG_{it} + \alpha_9 LR_{it}.DG_{it} + \varepsilon_{it} \quad \ldots\ldots(2)$$

$$\pi_{it} = \alpha_0 + \alpha_1 LA_{it} + \alpha_2 MR_{it} + \alpha_3 CR_{it} + \alpha_4 LR_{it} + \alpha_5 DG_{it} + \alpha_6 LA_{it}.DG_{it} + \alpha_7 MR_{it}.DG_{it} + \alpha_8 CR_{it}.DG_{it} + \alpha_9 LR_{it}.DG_{it} + \varepsilon_{it} \quad \ldots\ldots(3)$$

$$\pi_{it} = \alpha_0 + \alpha_1 CD_{it} + \alpha_2 MR_{it} + \alpha_3 CR_{it} + \alpha_4 LR_{it} + \alpha_5 DG_{it} + \alpha_6 CD_{it}.DG_{it} + \alpha_7 MR_{it}.DG_{it} + \alpha_8 CR_{it}.DG_{it} + \alpha_9 LR_{it}.DG_{it} + \varepsilon_{it} \quad \ldots\ldots(4)$$

Where: Equation 2 is model 1 in which bank size is measured by net assets of the bank Equation 3 is model 2 in which bank size is measured by number of loan accounts

Equation 4 is model 3 in which bank size is measured by amounts of customer deposits

π – Financial performance

α_0 – Intercept

α_1- α_9 – Coefficient parameters

NA – Net assets (bank size)

LA – Loan accounts (bank size)

CD – Customer deposits (bank size)

MR - Market risk

CR – Credit risk

LR – Liquidity risk

DG – Kenya GDP growth rate

ε_{it} – Error term where *i* is cross sectional and *t* time identifier

Note that i = 1, 2, 3…43 since the researcher was analysing 43 commercial banks while t = 1, 2, …, 7 since the analysis captured seven years. Therefore, the total observations were: NT = 301.

3.4.2 Operationalization and Measurement of Variables

The section presents a brief description of the variables and how they were measured to enable the researcher undertake econometric analysis.

Variable	Type	Indicator	Measurement	Hypothesized Direction
Financial performance	Dependent	Profitability	• ROA	Positive/Negative
Bank size	Independent	Large Tier, Medium Tier and Small Tier	• Market share based on net assets • Market share based on no. of loan accounts • Market share based on deposits	Positive/Negative
Financial risks exposures	Independent	Market risks	Difference between average lending rates and 91-T Bill interest rates	Positive/Negative
		Credit risks	Ratio of non-performing loans to total loans and advances (asset quality ratio)	
		Liquidity risks	Current ratio – the ratio of current asset to current liabilities	
Macroeconomic variable	Moderating	Kenya GDP Growth Rate	Real Kenya GDP growth rate	Positive/Negative

Table 3.1: Operationalization and Measurement of Variables
Source: Author (2018)

3.5 Target Population

The target population in this study was all the 43 commercial banks in Kenya. A census study was conducted because the entire population was taken as sample (McLennan, 1999). The choice of the population was informed by the availability of data on the key variables hence the consideration of the 43 commercial banks in the Kenyan banking industry. Sampling did not apply to the study since a census study was undertaken.

3.6 Sampling Techniques

Since the population was small, census was adopted for this study (McLennan, 1999).

3.7 Data Sources

The study used secondary data. The secondary data was obtained from KBA's comprehensive archive of the 43 commercial banks and from CBK, Banking Division for the period of study 2009 to 2015. The period was informed by the global financial crisis of 2007/2009 whose effects spilled over to the country up to early 2013. The data from KBA was on profitability, while data from CBK was on bank size, financial risk exposure and the macroeconomic variables from 2009 to 2015. The 43 commercial banks comprised of 26 locally-private owned commercial banks, 14 commercial banks were foreign owned, and 3 local public owned commercial banks.

3.8 Data Collection Instruments

The study used secondary panel data from secondary sources, that is, data not directly compiled by the researcher obtained from the published results of the banks and central bank industry supervision reports. According to Frees (2004), panel data refers to data that is obtained by studying a group of individuals repeated for a period of time and is also commonly referred to as longitudinal data in natural sciences and pooled cross-sectional time series data in social sciences. The data extracted from the financial statements of commercial banks were from the income statements, statement of financial position and this related for bank-level information such as net assets, number of loans accounts, deposits, market risk, liquidity risk and credit risk. Information on Kenya's real GDP growth rate was obtained from various statistical bulletins for the period 2009-2015. Document reviews were used to collect the financial data for the period 2009-2015.

3.9 Diagnostic Tests

Diagnostics tests were used to addresses the various forms of bias that may occur in research aiming to evaluate the accuracy of diagnostic tests (Feinstein, 2002). The study carried out various diagnostic tests to investigate whether the assumptions of linear regression analysis were satisfied by running statistical and econometric tests. The statistical tests involved t-test and F-tests. The test was necessary in determining the statistical significance of individual parameters and joint significance with the aid of the relevant distribution tables. The econometric tests included; autocorrelation, multicollinearity, heteroscedasticity, unit root test, and the normality test (Gujarati, 2003). Also, the analysis endowed regression analysis with both a spatial and temporal dimension. Therefore, to ensure the validity and reliability of the estimated model parameters, the study applied the Hausman test in choosing on whether to run the fixed effects or the random effects model.

3.9.1.1 Autocorrelation Test

Autocorrelation or serial correlation refers to the case in which the error term in one-time period is correlated with the error term in any other time period (Walter, 2009). The study employed the Durbin-Watson test. This test was based on the null hypothesis of no serial correlation. The model also assumed that the covariance between the error terms over time is zero, that is, it assumed that the error terms are uncorrelated with one another (Feinstein, 2002). If the errors were correlated with one another, then they were said to be auto correlated or serially correlated. Autocorrelation when present causes the coefficient estimates to be inefficient though still unbiased. To test for this problem, the Durbin

Watson test was used (Walter, 2009). No serial correlation is consistent with a d-statistic close to 2. When d=2, the correlation coefficient is zero and there is no evidence of autocorrelation with the error term. If d<2(d>2), there is evidence of positive (negative) autocorrelation. There is perfect positive (negative) autocorrelation when d=0 (d=4).

3.9.1.2 Normality Test

A normality test is used to determine whether sample data has been drawn from a normally distributed population (Guajarati, 2007). Normality is invoked to obtain the exact distribution of tests for individual effects, and Blanchard and M´aty´as (1996) examined the consequences of non-normal error components for the performance of such tests. A normal distribution is not skewed and is defined to have a coefficient of kurtosis of 3.0. A normal distribution has a coefficient of excess kurtosis of zero it is symmetric and said to be mesokurtic. It is symmetric about its mean, while a skewed distribution will not be, but will have one tail longer than another. As noted by Baltagi (2005), in economic panel data modelling it can be important to adjust for departures of error components from normality. To test for normality, the Jarque-Bera test (JB) was applied. This test was based on residuals of the least squares regression model.

3.9.1.3 Multicollinearity

This is a state of very high inter-correlations or inter-associations among the independent variables. It is therefore a type of disturbance in the data, and if present in the data the statistical inferences made about the data may not be reliable (Guajarati, 2007). When the explanatory variables are very highly correlated with each other, then there is the problem

of Multicollinearity which would make some individual variables not to be significant (Menard, 2002). This arises when explanatory variables are very closely related as a consequence of the difficulty in observing the individual contribution of each variable to the overall fit of the regression. It causes the regression to become very sensitive to small changes so that adding or removing an explanatory variable leads to large changes in the coefficient values or significance of other variables. To test for multicollinearity, the correlation matrix was generated and analyzed to check for significant correlation values above 1.0 and beyond -1.0.

3.9.1.4 Heteroscedasticity

This is when the error terms do not have constant variance; the variance of e_i is not a constant s^2 or the variance of e_i is greater for some observations than for others. Measurement error, sub-population differences and model misspecification can cause heteroscedasticity (Baltagi, 2005). To avoid the problem of heteroscedasticity of the disturbance term in the analysis, the weighted Generalized Least Square (GLS) was employed to establish the relationship. The GLS assigns weight to each observation and it's capable of producing estimators that are Best, Linear, Unbiased and Efficient (BLUE) (Gujarati, 2007).

3.9.1.5 Hausman Test

Hausman test can be used to differentiate between fixed effects model and random effects model in panel data (Pesaran, 2004). In this case, Random effects (RE) is preferred under the null hypothesis due to higher efficiency, while under the alternative hypothesis, Fixed

effects (FE) is at least consistent and thus preferred (Gujarati, 2007). In this case since the sample size is equal to the population size which is the 43 commercial banks, implying that specific set of firms is being used, then fixed effects model appears more prudent to the researcher. However, the researcher was cautious that the use of the random effects model assumes exogeneity of all regressors with the random individual effects. Contrary to this, the fixed model allows for endogeneity of all the regressors with the case of individual effects (Baltagi, 2005). Therefore, to ensure the validity and reliability of the estimated model parameters, the study sought to apply the Hausman test in choosing on whether to run the fixed effects or the random effects model.

Hausman statistic:

$$H = (b_1 - b_o)'(\mathrm{Var}(b_o) - \mathrm{Var}(b_1)^{\dagger}(b_1 - b_o)$$

Where † denotes the Moore–Penrose pseudo inverse. Under the null hypothesis, this statistic has asymptotically the chi-squared distribution with the number of degrees of freedom equal to the rank of matrix $\mathrm{Var}(b_0) - \mathrm{Var}(b_1)$. If the null hypothesis is rejected, it means that b_1 is inconsistent. This test can be used to check for the endogeneity of a variable (by comparing instrumental variable (IV) estimates to ordinary least squares (OLS) estimates). It can also be used to check the validity of extra instruments by comparing IV estimates using a full set of instruments *Z* to IV estimates that use a proper subset of *Z*. Note that in order for the test to work in the latter case, we must be certain of the validity of the subset of *Z* and that subset must have enough instruments to identify

the parameters of the equation. Hausman also showed that the covariance between an efficient estimator and the difference of an efficient and inefficient estimator is zero.

The researcher ran both the one-way error component model and the two-way error component model. It was expected that each bank had unobservable individual bank's specific effects that impact on commercial banks' performance (Baltagi, Matyas & Sevestre, 2008). In addition, it was expected that there exists unobservable time effect that is individual bank's invariant but time–specific over the time period with regard to efficiency in cost management (Walter, 2009). Therefore, for the researcher to account for individual effects and the time–specific affects both the one–way and the two- way error components models were inevitable.

3.10 Data Analysis and Presentation

Data analysis involved analysis to establish which variables should be examined and which relationships should be explored from the data (Mutai, 2000). The researcher carried out data cleaning and coding of the collected data to make inferences through a series of operations involving editing to eliminate repetitions and inconsistencies, classification on the basis of response homogeneity and subsequent tabulation for the purpose of inter-relating the variables under study (Lockyer, 2004).

Descriptive and inferential statistics were used to analyse the quantitative data. The statistics were generated with aid of computer software, Stata. Mean, variance, standard deviation, minimum and maximum were used to describe the data. The expected output from the study had different years to give different pictures of financial performance. The

study adopted panel data analysis technique because the analysis allowed the researcher to study the dynamics of change with short time series (Gujarati, 2003). Multiple linear regression analysis was run on the variables to establish the relationship between independent and dependent variables. The analyzed data was presented in form of tables.

3.11 Ethical Considerations

Research ethics were observed throughout the research process. These considerations set a system of principles which critically changed previous considerations about choices and actions to be followed during the research (Johnstone, 2009). For purposes of this study, several ethical considerations were noteworthy. For instance, the researcher made initial contact with the Director, Research and Policy at KBA and the Director, Banking Division at CBK prior to the data collection. The aim was to get consent from the directors and arrange dates for data collection to be done. This eliminated any case of surprise entry into their departments/divisions without prior notice clarifying on the intention of the visit. The researcher ensured confidentiality of the information given by the respondents. This was done by using the information without revealing the specific names or firms where the data was collected.

CHAPTER FOUR

EMPIRICAL RESULTS, INTERPRETATION AND DISCUSSIONS

4.1 Introduction

This chapter covers data analysis, presentation and interpretation. The study presents research findings of the study on the effect of bank size and financial risk exposure on financial performance of commercial banks in Kenya. The data was collected from secondary sources and it was extracted from the annual bank supervision reports published by Central Bank of Kenya and the Kenya Bankers Association' archives.

4.2 Data Analysis and Interpretation

The following is the data analysis and interpretation:

Variables	Min	Max	Mean	Variance	Std. Dev.	Skewness	Kurtosis
ROA	-261.290	23.199	2.464	386.780	19.667	-14.974	187.586
Bank size (assets)	0.040	14.000	3.859	9.953	3.155	2.008	1.026
Bank size (loan acc)	0.010	37.400	2.630	34.741	5.894	4.407	21.843
Bank size (deposits)	0.010	14.100	2.905	9.682	3.112	2.830	6.853
Credit risk	0.010	76.760	9.351	113.820	10.669	3.075	13.972
Liquidity risk	3.310	107.700	44.629	357.945	18.919	1.808	4.937
Market risk	1.740	11.580	8.532	11.831	3.440	-1.866	2.672
Kenya GDP Growth Rate	3.300	8.400	5.810	3.906	1.976	0.690	2.480

Table 4.1 Descriptive statistics
Source: Research Data (2018)

Based on 4.1, the results show ROA has a minimum of -261.29 and a maximum of 23.199 of the extent to which the variable deviates from its main value. 19.667 is the extent to which ROA deviates from the mean value of 2.464. Compared to other countries financial

performances as expressed by the mean score of 2.464 for ROA, the results imply that Kenya's financial performance is average. This is consistent with the findings of Flamini *et al.,* (2009) who states that the average ROA in Sub-Saharan Africa (SSA) is about 2% thus the average ROA of Kenyan banks is about average of the SSA.

Also, the market share of banks (bank size) is positive and this implies that market share plays a significant role in impacting on the financial performance of Kenyan commercial banks. This finding is in support of both the Structure Conduct Performance (SCP) and Relative Market Power (RMP) hypothesis. Banks in high concentration markets are able to earn higher profits while banks with relative high market power in terms of net asset share earn higher profits through the high interest margins (Kamau & Were, 2013). The bank size (net assets), bank size (loan accounts) and bank size (customer deposits) had a mean of 3.859, 2.630 and 2.905 respectively. This implies that the Kenyan banking industry market is highly concentrated and this has highly influenced financial performance. The study supports the RMP and SCP hypothesis that market power enjoyed by individual banks and collusive power enjoyed by large banks have a significant influence on financial performance in Kenya.

The bank size (loan accounts) has a maximum of 37.4 of the extent to which it deviates from its main value of 5.894. 5.894 is the extent to which bank size (loan accounts) deviates from the mean value of 2.630. This shows that banks have a high loan book that may lead to high non-performing loans thereby negatively impacting on their financial performance. This also indicates that most banks' source of income is interest earned on

bank loans. It also implies that most of the banks' products and services are tailor made to suite their clientele who are interested in loans. It also indicates that most people open bank accounts with the intention of applying for loan facilities from the banking industry.

Under the bank size variable, the net assets have the highest minimum of 0.040 and the lowest maximum of 14.0 as compared to the loan account and customer deposits. This could imply that most banks are highly liquid and have few assets owned by them. This is risky because when a bank is bankrupt, they lack assets as a backup to their financial crisis. On the other hand, this may imply that banks are able to settle obligations with immediacy (Drehmann & Nikolaou, 2013). Efficient liquidity management requires maintaining sufficient cash reserves on hand while also investing as many funds as possible to maximise earnings. The results also imply that banks do not need to be worried about the maturity transformation if they have assets that can be sold without bearing any loss. Whereas, banks having assets that are going to be matured in a shorter period may have a less need to keep the liquid assets (Ahmed *et.al.*, 2015).

The bank size (loans) mean is 2.630 and the bank size (customer deposits) is 2.905. This could imply that banks use customer deposits to lend; customer deposits are one of the cheapest sources of fund due to the high margin between deposit and lending rate that banks utilise to generate income (Ongore & Kusa, 2013). This also implies that Kenyan banks target domestic resources mainly customer deposits for their banking business. It also implies that banks keep more than the statutory liquidity requirement. It also implies

that besides bank customers investing in fixed deposits, they at the same time apply for loan facilities from the same banks.

Liquidity risk has the highest standard deviation measure of dispersion from its main value of 18.919 as compared to the credit risk and market risk. Also, liquidity risk has the highest maximum of 107.700 of the extent to which it deviates from its main value of 18.919. In addition, 18.919 is the extent to which liquidity risk deviates from the mean value of 44.629. Liquidity risk has a variance of 357.945 indicating the deviation from its value of 18.919. This implies that banks are unable to easily liquidate or offset a particular position at or near the last traded market price due to inadequate market depth or market disruptions prompting them to engage in interbank lending to meet their daily transactions (Mohan, 2003). The liquidity risk may arise due to liquidity mismatch which is measured in terms of liquidity gap (Plochan, 2007).

There is a possibility of the risk arising due to recessionary economic conditions, causing less resource generation thereby increasing the demand of depositors. This may cause the failure of a given bank or even the entire banking system due to contagion effect (Brunnermeier & Yogo, 2009). The results may also imply that there is a breakdown or delay in cash flows from borrowers or early termination of the projects (Diamond & Rajan, 2005). Also, disruptions in financial markets as well as entry and exit of major market makers or large institutional investors can affect liquidity because funding is no longer readily available and if it is available, it is expensive (BCBS, 2009). Available liquidity at any point is also a function of the size of trades a bank transacts at relative to

the market (Marrison, 2005). As banks strive to transform their short-term deposits into long-term assets, they are always going to be at risk. The banks should therefore have a good understanding of the market in order to be able to measure and manage the risk exposure to them. They should also create mismatches between asset and liability maturity; to ensure that the mismatches keep enough funds flowing; the banks should both increase assets and meet obligations when customers ask for their money.

The credit risk has a minimum of 0.010 and a maximum of 76.76 of the extent to which it deviates from its main value. 10.669 is the extent to which credit risk deviates from the mean value of 9.351. This indicates the potential of a bank borrower failing to meet their obligations in accordance to agreed terms. Credit risk is most likely caused by loans, acceptances, interbank transactions, trade financing, foreign exchange transactions, financial futures, swaps, bonds, credit cards, equities, options and in the extension of commitments and guarantees, and settlement transactions. Factors like unsteady income by bank customers, low credit score, employment type, collateral assets, and others determine the credit risk associated with the borrower (Sharma, 2003). Credit risk is also as a result of macro forces affecting the economy or specific markets or even specific individuals.

Market risk has the lowest standard deviation measure of dispersion from its main value of 3.440 as compared to the credit risk and liquidity risk. The market risk has a minimum of 1.74 and a maximum of 11.58 of the extent to which it deviates from its main value. 3.440 is the extent to which market risk deviates from the mean value of 8.532. This

implies that few banks are at risk of losses due to changes in equity prices, credit spreads, foreign exchange rates, commodity prices, interest rates and other indicators whose values are set in the market. This is because the market risk is prevalent amongst banks that are into investment banking since they are active in the capital markets (Kumar *et al.,* 2005). In Kenya, thirty-nine commercial banks have investment in the capital market.

In table 4.1, ROA and market risk are negatively skewed with values of -14.974, -2.979, and -1.866 respectively. The bank size (assets, loan accounts, and deposits), credit risk, liquidity risk, and Kenya GDP growth rate growth rate are positively skewed. The results show a non-normal distribution for all the variables. This implies that the variables are non-normally distributed. A distribution is leptokurtic when the kurtosis value is a large positive. The ROA, bank size (loan accounts), and credit risk are suffering from leptokurtic. ROA, bank size (loan accounts), credit risk, bank size (assets), bank size (deposits), and liquidity risk have fat tails because their kurtosis is greater than 3.0. A distribution is platykurtic when the kurtosis is negative. Market risk, and Kenya GDP growth rate have narrow tails because their kurtosis is less than 3.0; this implies that they have negative kurtosis hence narrow tails.

Variables	ROA	market share (assets)	market share (acc)	market share (deposits)	Credit risk	Liquidity risk	Market risk	KGR
ROA	1.000							
market share (assets)	0.123	1.000						
market share (acc)	0.075	0.688	1.000					
market share (deposits)	0.121	0.993	0.668	1.000				
Credit risk	-0.084	-0.123	-0.045	-0.112	1.000			
Liquidity risk	-0.031	-0.220	-0.147	-0.222	-0.105	1.000		
Market risk	-0.002	-0.001	-0.001	0.002	0.052	0.032	1.000	
KGR	0.045	0.002	0.003	0.002	-0.286	-0.064	0.174	1.000

Table 4.2 Correlational matrix
Source: Research Data (2018)

Based on table 4.2, the results are supposed to give spearman correlation coefficient which is to range from -1 to +1, where 1 is total positive correlation, 0 is no correlation, and −1 is total negative correlation. If the results are less than 0.5, it implies weak correlation. If the results are greater than 0.8, it implies a strong correlation. For variables to be correlated, one variable has to be dropped to avoid multicollinearity problem. The results indicate market share (deposits) is highly correlated with a value of 0.993, hence the variable has to be dropped from the model.

4.3 Unit root / stationarity

Variables	P statistic	Z statistic	L* statistic	Pm statistic
ROA	134.5443 (0.0000)	-24.6485 (0.0000)	-55.8276 (0.0000)	96.8343 (0.0000)
Market share (assets)	579.67640 (0.0000)	-10.5987 (0.0000)	-10.7449 (0.0000)	37.92609 (0.0000)
Market share (accounts)	829.5219 (0.0000)	-16.5216 (0.0000)	-40.8520 (0.0000)	55.7405 (0.0000)
Market share (deposits)	2835.6394 (0.0000)	-3.6746 (0.0024)	-9.0535 (0.0000)	15.9873 (0.0000)
Credit risk	1486.7443 (0.0000)	-25.7942 (0.0000)	-61.8436 (0.0000)	107.0936 (0.0000)
Liquidity risk	845.6654 (0.0000)	-17.8750 (0.0000)	-33.7342 (0.0000)	58.0544 (0.0000)
Market risk	63.7548 (0.0397)	-0.8959 (0.0224)	-0.8531 (0.0315)	-2.0041 (0.0681)
Kenya GDP Growth Rate	499.3790 (0.0000)	-19.8308 (0.0000)	-20.8931 (0.0000)	33.9523 (0.0000)

Table 4.3 Unit root / stationarity test results
Source: Research Data (2018)

A unit root test tests whether a time series variable is non-stationary and possesses a unit root. The null hypothesis is generally defined as the presence of a unit root and the alternative hypothesis is stationarity, trend stationarity or explosive root depending on the test used. If the order is different, it leads to inconsistent results or spurious regression problem. If a variable is regressed on order 0, it means that the variable is stationary at the level or the variable has no unit root. If a variable is integrated at order 1, it means that the variable is not stationary at that level. In other words, it has no unit root. It should be differenced once to make it stationary at one level. In panel data, unit root test applied on ordinary cannot apply, in this case, Fischer-Type unit root test was applied. The Fisher-type test uses p-values from unit root tests for each cross-section. The rule is; if the p-

value is less than 0.5, then you conclude that your panels do not suffer non-stationarity. From table 4.3, all the variables have a value of less than 0.5, implying the panels don't suffer non-stationarity.

4.4 Test for heteroscedasticity

Models	**ROA as Dependent variable**	
	LR chi2	Prob > chi2
Model 1	839.01	0.0000
Model 2	758.41	0.0000
Model 3	809.56	0.0000

Table 4.4 Test for heteroscedasticity results
Source: Research Data (2018)

The table 4.4 has 3 models:

Model 1 – bank size measured by net assets of the bank

Model 2 – bank size measured by number of loan accounts

Model 3 – bank size measured by amount of customer deposits

Test for heteroscedasticity measures whether the variance across the observations are constant. Heteroscedasticity test is carried out after running the model. The rule is; check the probability of the Chi. If P is less than 5% then the panels are homoscedastic. This implies that there is no serial correlation in the panel. In table 4.4, P is 0.000 across the panel implying that the panel is homoscedastic. The results show that there is no serial correlation in the panel.

4.5 Hausman test

Models	**ROA as Dependent variable**	
	Chi Square statistics	Probability
Model 1 (net assets)	8.45	0.1332
Model 2 (loans)	30.85	0.0000
Model 3 (deposits)	9.87	0.0791

Table 4.5 Hausman test results
Source: Research Data (2018)

Hausman test evaluates the consistency of an estimator when compared to an alternative, less efficient, estimator which is already known to be consistent. The test can be used to check for the endogeneity of a variable. Hausman test is used to differentiate between fixed effects model and random effects model in panel data. In this case, Random effects (RE) is preferred under the null hypothesis due to higher efficiency, on the other hand, the Fixed effects (FE) is at least consistent and thus preferred. It also has a chi distribution. The general rule for conclusion is that if the respective p-value of the chi is greater than 5%, accept the random effects model except for model 2 where we consider bank size as measured by loans in which the fixed effects model is preferred over the random effects model. From table 4.5, all the probability values for the respective chi square statistics for the ROA are greater than 5 percent except for model 2 and thus we adopt the random effects models for model 1 and model 3 while for model 2 we adopt the fixed effects model.

4.6 Hypothesis Testing

In the hypothesis testing three methods are generally applicable. First is the test statistic method, the second one is the confidence interval method while the third one is the p – value method. In this study, the p-value method was applied since the regression results tends to generate the p-values of the respective t-statistic for each variable. In testing the hypothesis five steps were followed. These were as follows:

Step One: Stating of the null hypothesis

Step Two: Finding the respective p-value for the respective statistic of the variable.

Step Three: Stating the significance level

Step Four: Comparing the p-value to the significance level.

Step Five: Making the conclusion on failing to reject or to rejecting the null hypothesis.

The rule for p-value method of hypotheses testing is the p-value being less than 0.05 or 5% indicating that one can reject the null hypothesis at 5 percent significance level or fail to reject the null hypothesis at 5 percent significance level.

Variables	The null hypothesis	Computed p-value	Theoretical p-value	Comparing p-value	Remark
Bank size (net assets)	**H_{01}** bank size (net assets) does not affect ROA	0.036	$\alpha = 0.05$	P <0.05	Reject **H_{01}**
Credit risk	**H_{02}** Credit risk does not affect ROA	0.001	$\alpha = 0.05$	P >0.05	Reject **H_{02}**
Liquidity risk	**H_{02}** Liquidity risk does not affect ROA	0.009	$\alpha = 0.05$	P <0.05	Reject **H_{02}**
Market risk	**H_{02}** Market risk does not affect ROA	0.018	$\alpha = 0.05$	P >0.05	Reject **H_{02}**
Kenya GDP growth rate	**H_{03}** Kenya GDP growth rate does not affect ROA	0.855	$\alpha = 0.05$	P >0.05	Fail to reject **H_{03}**

Table 4.6.1 Hypothesis testing with bank size (net assets)
Source: Research Data (2018)

Under hypothesis 1, the bank size (net assets) has a p-value of 0.036 which is less than 5%. This implies that the null hypothesis is rejected because the bank size (net assets) has significant effect on the financial performance of commercial banks in Kenya. This is inconsistent with the findings of Kamau & Were (2013). Also, the credit risk and market risk have p-values of 0.001 and 0.018 respectively which are less than 5%. This implies that the null hypothesis is rejected accepted meaning they have a significant effect on the financial performance of commercial banks in Kenya. The liquidity risk has a p-value of 0.009 which is less than 5%; implying that the null hypothesis is rejected because liquidity risk has significant effect on the financial performance of commercial banks in Kenya. Under hypothesis on the Kenya growth rate in model 1, has a p-value of 0.855 which is greater than 5% hence the null hypothesis is accepted. This implies that the Kenya growth rate does not significantly moderate the relationship between bank size and financial risk

exposure on the financial performance of commercial banks in Kenya. This relationship supports that Kenya GDP growth rate is neutral towards financial performance (Flamini *et al.,* 2009).

Variables	The null hypothesis	Computed p-value	Theoretical p-value	Comparing p-value	Remark
Bank size (no. of loan accounts)	**H_{01}** Bank size (no. of loan accounts) does not affect ROA	0.230	$\alpha = 0.05$	$P < 0.05$	Fail to reject **H_{01}**
Credit risk	**H_{02}** Credit risk does not affect ROA	0.010	$\alpha = 0.05$	$P < 0.05$	Reject **H_{02}**
Liquidity risk	**H_{02}** Liquidity risk does not affect ROA	0.166	$\alpha = 0.05$	$P < 0.05$	Fail to reject **H_{02}**
Market risk	**H_{02}** Market risk does not affect ROA	0.072	$\alpha = 0.05$	$P < 0.05$	Fail to reject **H_{02}**
Kenya GDP growth rate	**H_{03}** Kenya GDP growth rate does not affect ROA	0.327	$\alpha = 0.05$	$P < 0.05$	Fail to reject **H_{03}**

Table 4.6.2 Hypothesis testing with bank size (number of loan accounts)
Source: Research Data (2018)

Under hypothesis on bank size the p-value is 0.230 which is more than 5%. This implies that the null hypothesis is not rejected because the bank size has no significant effect on the financial performance of commercial banks in Kenya. The credit risk has p-value of 0.010 which are less than 5% implying that the null hypothesis and hence credit risk has a significant effect on the financial performance of commercial banks in Kenya while liquidity risk has a p-value of 0.166 respectively which is more than 5% and hence does not have a significant effect on the financial performance of commercial banks in Kenya. The market risk has a p-value of 0.072 which is more than 5%; implying that the null

hypothesis is accepted because market risk has no significant effect on the financial performance of commercial banks in Kenya. This is inconsistent with the findings of Rao & Lakew (2012), Ramadan *et al.,* (2011) and Ongore & Kusa (2013). The Kenya GDP growth rate has a p-value of 0.327 which is greater than 5% hence the null hypothesis is accepted. This implies that the Kenya GDP growth rate does not significantly moderate the relationship between bank size and financial risk exposure on the financial performance of commercial banks in Kenya. This relationship supports that Kenya GDP growth rate is neutral towards financial performance (Flamini *et al.,* 2009).

Variables	**The null hypothesis**	**Computed p-value**	**Theoretical p-value**	**Comparing p-value**	**Remark**
Bank size (amount of customer deposits)	**H_{01}** Bank size (amount of customer deposits) does not affect ROA	0.030	$\alpha = 0.05$	$P < 0.05$	Reject **H_{01}**
Credit risk	**H_{02}** Credit risk does not affect ROA	0.001	$\alpha = 0.05$	$P > 0.05$	Reject **H_{02}**
Liquidity risk	**H_{02}** Liquidity risk does not affect ROA	0.003	$\alpha = 0.05$	$P < 0.05$	Reject **H_{02}**
Market risk	**H_{02}** Market risk does not affect ROA	0.010	$\alpha = 0.05$	$P < 0.05$	Reject **H_{02}**
Kenya GDP growth rate	**H_{03}** Kenya GDP growth rate does not affect ROA	0.680	$\alpha = 0.05$	$P < 0.05$	Fail to reject **H_{03}**

Table 4.6.3 Hypothesis testing with bank size (amount of customer deposits)
Source: Research Data (2018)

Under hypothesis on the bank measured by the amount of customer deposits has a p-value of 0.030 which is less than 5%. This implies that the null hypothesis is rejected because the bank size measured by the amount of customer deposits has significant effect on the

financial performance of commercial banks in Kenya. This is inconsistent with the findings of Kamau & Were (2013). Under the hypothesis, credit risk and market risk have p-values of 0.001 and 0.010 respectively which are less than 5%. This implies that the null hypothesis is rejected meaning they do have significant effect on the financial performance of commercial banks in Kenya.

The liquidity risk has a p-value of 0.003 which is less than 5%; implying that the null hypothesis is rejected because liquidity risk has significant effect on the financial performance of commercial banks in Kenya. This is inconsistent with the findings of Rao & Lakew (2012), Ramadan *et al.*, (2011) and Ongore & Kusa (2013). Under hypothesis on the Kenya GDP growth rate, the p-value is 0.680 and is greater than 5% hence the null hypothesis is accepted. This implies that the Kenya GDP growth rate does not significantly moderate the relationship between bank size and financial risk exposure on the financial performance of commercial banks in Kenya. This relationship supports that Kenya GDP growth rate is neutral towards financial performance (Flamini *et al.*, 2009).

4.7. Summary of Hypothesis Testing

Below is a summary of the hypothesis testing:

Hypotheses Testing Summary for ROA		
Model 1		
Objectives	**H_0**	**Decision at 5 percent level**
To determine effect of bank size on financial performance of commercial banks in Kenya	Bank size does not have a significant effect on financial performance of commercial banks in Kenya	Reject H_0
To establish the effect of financial risk exposure on financial performance of commercial banks in Kenya	Financial risk exposure does not have a significant effect on financial performance of commercial banks in Kenya	Reject H_0 for Credit risk. Reject H_0 for Liquidity risk Reject H_0 for market risk
To determine the moderating effect of macroeconomic variable on the relationship among bank size, financial risk exposure and performance of commercial banks in Kenya	Macroeconomic variable does not have a significant effect on the relationship bank size, financial risk exposure and performance of commercial banks in Kenya	Fail to reject H_0
Model 2		
Objectives	**H_0**	**Decision at 5 percent level**
To determine effect of bank size on financial performance of commercial banks in Kenya	Bank size does not have a significant effect on financial performance of commercial banks in Kenya	Reject H_0
To establish the effect of financial risk exposure on financial performance of commercial banks in Kenya	Financial risk exposure does not have a significant effect on financial performance of commercial banks in Kenya	Reject H_0 for Credit risk Fail to reject H_0 for Liquidity risk Fail to reject H_0 for market risk

To determine the moderating effect of macroeconomic variable on the relationship among bank size, financial risk exposure and performance of commercial banks in Kenya	Macroeconomic variable does not have a significant effect on the relationship bank size, financial risk exposure and performance of commercial banks in Kenya.	Reject H_0
Model 3		
Objectives	**H_0**	**Decision at 5 percent level**
To determine effect of bank size on financial performance of commercial banks in Kenya	Bank size does not have a significant effect on financial performance of commercial banks in Kenya	Reject H_0
To establish the effect of financial risk exposure on financial performance of commercial banks in Kenya	Financial risk exposure does not have a significant effect on financial performance of commercial banks in Kenya	Reject H_0 for Credit risk Reject H_0 for Liquidity risk Reject H_0 for market risk
To determine the moderating effect of macroeconomic variable on the relationship among bank size, financial risk exposure and performance of commercial banks in Kenya	Macroeconomic variable does not have a significant effect on the relationship bank size, financial risk exposure and performance of commercial banks in Kenya	Fail to reject H_0

Table 4.7.1 Hypotheses testing summary for ROA
Source: Research Data (2018)

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings of the study and makes conclusions upon which recommendations are drawn. Suggestions for further study are also captured as a way of filling the gaps identified in the study.

5.2 Summary of the study findings

The study strived to establish the effect of bank size and financial risk exposure on financial performance of commercial banks in Kenya. In order to achieve this, the following research hypotheses guided the study: Bank size does not have a significant effect on financial performance of commercial banks in Kenya; Financial risk exposure does not have significant effect on financial performance of commercial Banks in Kenya; and Macroeconomic variable does not significantly moderate the relationship between bank size, financial risk exposure and financial performance of commercial banks in Kenya.

The study adopted a positivist approach by use of quantitative tools and techniques to make conclusions. The descriptive research design was adopted because the major emphasis was to gain ideas and insights on the casual-effect relationship between commercial banks' characteristics, the moderating effect of macroeconomic variable and financial performance of commercial banks in Kenya. A census study was done on all the

43 commercial banks in Kenya. Two commercial banks were placed under receivership (Dubai Bank Ltd and Imperial Bank Ltd in 2015) during the period under study, hence, they were omitted from the study in the year 2015. Secondary data on commercial banks' financials was collected from CBK and KBA archives on each of the 43 commercial banks from the year 2009 to 2015. Document reviews were used to collect the required data on bank size, financial risk exposure, macroeconomic variable and the financial performance. Stata was used to analyse the data.

Objective one sought to determine the effect of bank size on financial performance of Commercial Banks in Kenya by analyzing the structural performance relationship existing in the banking industry using the Structure-Conduct-Performance literature. Bank size was measured by the market share based on net assets, loan accounts and deposits. The results indicate that bank size (i.e. assets, loan accounts, and deposits) is positive; this implies that bank size plays a major role in impacting on the financial performance of commercial banks in Kenya. The results also imply that the main source of financial performance in the Kenyan banking industry is as a result of structure or collusive power and not efficiency (Beck & Fuchs, 2004). The findings support the Structure-Conduct-Performance and the Relative Market Power hypothesis enjoyed by the small tier, medium tier and large tier banks as evidenced in Kenya where the bank sizes (net assets) significantly affect the financial performance of commercial banks in Kenya (Kamau & Were, 2013).

On the other hand, following the introduction of the interest rate cap in August 2016, the interest margins are lower and this has resulted in slower credit growth. Consequently, the industry' valuations have gone down significantly with industry' performance declining from 1.9x as at end of 2014 to 0.8x as at end of January 2017. According to CBK report, as at end of March 2016, the total net assets grew by 5.9% from Ksh.3.4trillion in March 2015 to Ksh.3.6 trillion in March 2016, and this was mainly attributed to increased loans and advances of Ksh.170.6 billion and investment in government securities of Ksh.48.2billion. The increased investment in government securities was as a result of large banks investing surplus liquidity in risk free instruments (CBK, 2016). In addition, the capital levels increased by 5.1% from Ksh.530.1 billion in March 2015 to Ksh.557.1 billion in March 2016. The core capital increased by 6.3% from Ksh.447 billion to Ksh.475 billion. Despite the increased capital levels, the capital ratios decreased marginally by 0.2% while the total capital to total risk weighted assets marginally decreased by 0.4%.

In addition, the findings indicate that net assets affect ROA by 0.001. The p-value of 0.001 is less than 5% implying that the net assets have significant effect on the financial performance of commercial banks in Kenya. Also, the results indicate that average ROA in Kenya is low and this means that it is important to grow bank sizes where they enjoy both economies of scale and scope. This evidence supports and is in line with the Structure-Conduct-Performance theory which states that structure and efficiency play a role in determining performance. Currently, only twenty-one commercial banks have met the Ksh.5billion core capital requirement by CBK as stipulated in the Banking Act. To meet this requirement, the banking industry has experienced mergers and acquisitions and

the latest one saw Diamond Trust Bank Kenya Ltd acquiring Habib Bank Ltd in August 2017. The National Treasury has been pushing for increased capitalization of banks by proposing twice the minimum core capital to be increased from the current Ksh.1 billion to Ksh.5 billion. This has necessitated consolidation through mergers and acquisitions. In 2016, Mwalimu National Sacco acquired the stake in Equatorial Commercial Bank Ltd and rebranded to Spire Bank Ltd. Also, in 2016, K-Rep Bank Ltd rebranded to Sidian Bank Ltd in a restructuring process that costed the bank Ksh.500 million (CBK, 2016). Consequently, Bank M Tanzania acquired 51% stake in Oriental Commercial Bank Ltd that saw the bank rebrand to M Oriental Bank Ltd. The Chase Bank in Receivership is expected to be acquired and there a proposal of consolidating all state-owned banks (National bank of Kenya Ltd, Consolidated Commercial Bank Ltd and Development Bank of Kenya Ltd) in the near future. In July 2017, Diamond Trust Bank Kenya Ltd acquired Habib Bank Ltd. The expectation from consolidation in the banking industry is for banks to be more competitive and offer favourable products to their clients.

Under bank size (loan accounts), the results indicate a high loan book that may lead to increased non-performing loans thereby negatively impacting on the financial performance of commercial banks in Kenya. As at March 2016, the banking sector's gross loans and advances increased from Ksh.2.0 trillion in March 2015 to Ksh.2.2 trillion in March 2016 translating to an increase of 20%. The increment in the loan book was contributed by increased demand for credit from all the economic sectors (CBK, 2016). Policy directions by Treasury such as increasing capital size, liquidity requirements, and deposit insurance premiums may aid in enlarging the size of all banks to a level where they are fairly equal

with none having relative market power to drive process in the market, thereby ensuring an ideal environment for competitive pricing and operational efficiency.

Objective two was to establish the effect of financial risk exposure on financial performance of Commercial Banks in Kenya. Financial risk exposure has been considered to have impact on the financial performance of commercial banks in Kenya. The financial risk exposure was measured by the market risk, credit risk and liquidity risk. There are mixed regression results in Model 1, Model 2 and Model 3. Kasman *et al.*, (2011) in their study found the negative and significant effect of credit risk and market risk on bank performance. Under ROA in Model 1, 2 and 3, the regression analysis results indicate that market risk has minimal effect on financial performance of commercial banks in Kenya. This means that the overall market movement in the financial market has minimal impact on the financial performance in the banking industry. This is somehow true because during the global financial crisis in 2007/2009, there was minimal impact on the financial performance of commercial banks in Kenya because banks had positive results/growth (CBK, 2013).

The findings also indicate that liquidity risk has affects ROA as the p-value is less than 5% except in the case where bank size is measured by the number of loan accounts implying that liquidity risk has significant effect on the financial performance of commercial banks in Kenya. This further implies that financial risk exposure can have minimal or major effect on the financial performance of banks in Kenya depending on the risk policies that are in place. The market risk is the most preferred by banks to liquidity

risk and credit risk because it has the lowest standard deviation measure of dispersion. This implies that few banks in Kenya are at a risk of losses due to the changes in equity, credit, etc. However, more emphasis should be on the liquidity risk because it significantly impacts on the performance of banks irrespective of the bank size (Tier 1, 2 or 3). Treasury and CBK should review the risk policies often to guide in mitigation of risk in the industry; the same applies to all commercial banks irrespective of the tier. According to CBK, (2016), as at end of Q1 of 2016, the banking sector's average liquid assets were at 39.9% which was the same as it was in Q1 of 2015.

However, in Models 1, 2 and 3, the regression results for credit risk and liquidity risk are varied. The results indicate that both credit risk and liquidity risk can have minimal effect as well as significant effect on the financial performance of banks. This means that financial performance is not about the banks keeping high liquid assets, issuing loans, engaging in foreign exchange transactions or trade financing; it is about net assets quality and others. It also doesn't mean that liquidity and credit status have no effect at all; it implies that the banks' financial performance is less affected by the liquidity and credit risks. Kenyan banks are known to grow their loan accounts at tremendous rates. Between 2011 and 2015, the banking industry' loan book grew by 16%. Risk management is now emerging as a key priority area for the industry after the interest capping rate law came into force in August 2016. Banks are taking conservative approach to conducting their business because asset allocation is shifting in favor of less risky assets like cash and government securities. As at September 2016, the government securities contributed 24% of the industry' balance sheet compared to an 18% average between 2011 and 2015. The

impact of the interest cap has led to loan books grow at a much slower pace than in the past. Banks have experienced declined growth in earnings per share in the first quarter of 2017, with a slight compression in net margins, and this has adversely affected the profitability of banks.

The Banking Amendment Act, 2016 came into force in August 2016 capping the maximum interest rate chargeable by banks at 4% above the prevailing base rate set by CBK. The capping is causing a great risk because most banks are shying away from issuing personal loans and lending to small and medium sized enterprises making credit inaccessible to borrowers because the banks prefer investing in government securities. There is increased liquidity in the economy where some banks are no longer accepting fixed deposits as a form of investment. This may lead to contraction of the economy as businesses and individuals find it hard to access credit and this will affect the country' productivity in the long run. Banks are merging their operations to the extend to staff being retrenched due to redundancy and also to cut costs.

In 2016, the banking industry as a whole remained liquid and the short-term liquidity challenges faced by small and some medium banks was a sign of skewed distribution of liquidity. Most depositors migrated their deposits to selected medium-sized banks and large-sized banks while most large banks rationed lines of credit affecting mainly banks in small peer group and some in the medium peer group. Despite the migration, CBK provided liquidity support to the banking sector to mitigate these challenges. In addition, the recent development in the banking sector in terms of interest rate caps is expected to

constrain the access to finance for SME's in the coming years and already in 2016, the interest rates declined tremendously. As a result of non-compliance CBK placed two banks under receivership in 2015 (i.e. Dubai Bank Ltd and Imperial Bank Ltd) and one more in 2016 (i.e. Chase Bank Ltd). In 2017, the CBK lifted the moratorium on licensing new banks and seen has led to two foreign entities being licensed i.e. Dubai Islamic Bank Ltd and Mayfair Bank Ltd.

During the global financial crisis of 2008/2009, the delayed recognition of credit losses on loans was identified as weakness in the existing accounting standard for banks. This prompted the International Accounting Standards Board (IASB) to issue International Financial Reporting Standard (IFRS) 9 Financial Instrument that replaces International Accounting Standards (IAS) 39 and it will come into effect from January 2018. The new standard requires entities to account for expected credit losses from when financial instruments are first recognized and to recognize full lifetime expected losses on a timelier basis. The standard is viewed as a positive move that will see banks increase their level of provisioning and this will increase shareholders' confidence in the operations of the banks.

Lastly, objective three and four determined the moderating effect of macroeconomic variable on the relationship between bank size, financial risk exposure and financial performance of Commercial Banks in Kenya. The macroeconomic variable was measured by Kenya GDP growth rate. The results of the Kenya GDP growth rate in models 1, 2, and 3 shows a minimal effect on the relationship between bank size and financial risk

exposure on the financial performance of commercial banks in Kenya. This is inconsistent with the findings of Rao & Lakew (2012), Ramadan *et al.*, (2011) and Ongore & Kusa (2013). The relationship between bank size and financial risk exposure on financial performance is mixed because it is negatively related to ROA. This relationship supports that Kenya GDP growth rate is neutral towards financial performance (Flamini *et al.*, 2009).

The Kenyan economy continues to register macroeconomic stability with low and stable interest rates and competitive exchange rate to support exports. The short-term interests have remained fairly stable and low oscillating around the Central Bank Rate (10%), reflecting sufficient liquidity in the market. Kenya's external position has so far strengthened supported by a narrower current account deficit. The current account deficit narrowed to 6.18% of GDP in March 2017, supported by improved export earnings and diaspora remittances. The government' prudent economic policies have helped the National Treasury anchor the conditions for strong and stable growth. According to the Economic Intelligence Unit (EIU), investment in infrastructure, strong household consumption, closer integration with East Africa Community and recovery in tourism numbers led to the increase in the country' GDP from 5.6% in 2015 to 5.8% in 2016.

The EIU expects the country' GDP growth to decline to 5.5% in 2017 largely due to a slowdown in investments as the country heads towards the general elections. Reduced lending to the private sector, the result of the enactment of the Banking (Amendment) Act that caps lending rates, will also contribute to a decline in GDP. On the other hand, IMF's

report indicates that Kenya's economy has continued to perform well. The real GDP growth increased in 2016, inflation remain within the target range, and the current account deficit has narrowed. The overall macroeconomic outlook is overall positive, including robust growth and reduced external imbalances. However, interest rate controls are likely to reduce access to credit, weighing on growth. They also complicate monetary policy and adversely affect banking sector profitability, especially for small banks. Although the adverse effects of the controls are manageable in the near term, if maintained, they could potentially pose a risk to financial stability. Therefore, it is essential to remove these controls, while taking steps to prevent predatory lending and increase competition and transparency of the banking sector.

5.3 Conclusion

Under financial performance, average ROA in Kenya is consistent with average ROA in Sub-Saharan Africa (SSA) implying that Commercial Banks' ROA in Kenya is about average of SSA. The bank size (i.e. assets, loan accounts, and deposits) is positive implying that bank size plays a major role in impacting on the financial performance of commercial banks in Kenya; this finding supports the Structure Conduct Performance and the Relative Market Power hypothesis. Under bank size (loan accounts), the results indicate a high loan book that may lead to increased non-performing loans thereby negatively impacting on the financial performance of commercial banks in Kenya.

Objective one sought to determine the effect of bank size on financial performance of Commercial Banks in Kenya by analyzing the structural performance relationship existing in the banking industry using the Structure-Conduct-Performance literature. Bank size was measured by the bank size based on net assets, loan accounts and deposits. The results indicate that bank size is positive; this implies that bank size plays a major role in impacting on the financial performance of commercial banks in Kenya. The results also imply that the main source of financial performance in the Kenyan banking industry is as a result of structure or collusive power and not efficiency.

Objective two was to establish the effect of financial risk exposure on financial performance of Commercial Banks in Kenya. The financial risk exposure was measured by the market risk, credit risk and liquidity risk. There are mixed regression results in Model 1, Model 2 and Model 3. In Model 1, 2 and 3, the regression analysis results indicate that market risk has minimal effect on financial performance of commercial banks in Kenya. This means that the overall market movement in the financial market has minimal impact on the financial performance in the banking industry. This is somehow true because during the global financial crisis in 2007/2009, there was minimal impact on the financial performance of commercial banks in Kenya because banks had positive results/growth. This further implies that financial risk exposure can have minimal or major effect on the financial performance of banks in Kenya depending on the risk policies that are in place.

Objectives three and four determined the moderating effect of macroeconomic variable on the relationship between bank size, financial risk exposure and financial performance of Commercial Banks in Kenya. The macroeconomic variable was measured by Kenya GDP growth rate. The results of the Kenya GDP growth rate in models 1, 2, and 3 shows a minimal effect on the relationship between bank size and financial risk exposure on the financial performance of commercial banks in Kenya. The relationship between bank size and financial risk exposure on financial performance is mixed because it is negatively related to ROA.

5.4 Contribution of the study to the existing body of knowledge

This study makes several contributions to the existing body of knowledge. The study finds that bank size and financial risk exposure have significant impact on the financial performance of commercial banks in Kenya. Also, the review of the theoretical and empirical literature made in the study and contributes to past reviews made by past scholars on the financial performance of commercial banks in Kenya. The descriptive statistics can be integrated with other econometric models to determine the effect of bank size and financial risk exposure on financial performance of commercial banks in Kenya. Finally, the scope, limitations and findings of this study presents room for conduct of more empirical researches within the S-C-P framework.

5.5 Recommendations for policy

From the study findings and conclusions, the study makes several recommendations:

Objective one sought to determine the effect of bank size on financial performance of Commercial Banks in Kenya: Policy directions should be made by Treasury or Central Bank of Kenya such as increasing capital size, liquidity requirements, and deposit insurance premiums may aid in enlarging the size of all banks to a level where they are fairly equal with none having relative market power to drive process in the market, thereby ensuring an ideal environment for competitive pricing and operational efficiency. So far only twenty-one banks have complied with the capital requirement as stipulated in the Banking Act. Central Bank of Kenya, Bank Supervision should ensure the remaining banks comply so as to minimize cases of non-compliance that may lead to banks being put under receivership or statutory management. CBK should also encourage mergers and acquisitions so as to have few banks offering quality services and the shareholders earning a better return on their investments. This can be achieved by CBK emphasizing commercial banks to comply with the Basel III requirements and the Prudential Guidelines.

Objective two was to establish the effect of financial risk exposure on financial performance of Commercial Banks in Kenya: The Central Bank of Kenya in conjunction with Treasury should review the risk policies with emphasis on the liquidity risk so as to guide the mitigation of risk in the banking industry. Generally, this will aid in fostering the liquidity, solvency and proper functioning of a stable banking industry in Kenya. This will also minimize cases of banks being put under receivership or statutory management

due to noncompliance e.g. the case Dubai Bank Ltd. The interest cap is posing a great risk to Kenya' financial stability and this will slow the country's target of being the regional leader in financial inclusion. The National Treasury, KBA and CBK are currently undertaking a comprehensive assessment of the impact of the interest rate capping law on credit expansion to the private sector which has slowed down and on the economic growth. Banks should be innovative and source for other avenues of revenue creation because the government is unlikely to repeal the rate cap.

Objective three and four determined the moderating effect of macroeconomic variable on the relationship between bank size, financial risk exposure and financial performance of Commercial Banks in Kenya: The stability of banking industry in Kenya is supported by the stability of the macroeconomic environment. The Treasury and CBK should revise macroeconomic policies that will stabilize the economy to ensure a resilient environment for banking industry to operate in e.g. coming up with prudent economic policies that will help reduce public debt, strengthen banking industry supervision to ensure the banking industry is well capitalized, among others. The government should consider reviewing the interest controls so as to encourage capital flows and new security incidents. Other avenues to be reviewed by the National Treasury is the inflation rate especially the domestic fuel prices and the balance of payments by encouraging exports and capital flow from the diaspora.

5.6 Recommendation for further research

The study strived to establish the effect of bank size and financial risk exposure on financial performance of commercial banks in Kenya. In regard to the findings and scope of the study, the following recommendations for further study are made and they may include and not limited to:

One, analyzing the effects of bank size on financial performance by utilizing the primary data. This is because the interview process represents an opportunity for the researcher to cross examine the interviewee and ensure on the validity of the information provided by checking vital non-communication cues that are provided by the interviewee.

Two, under the financial risk exposure, other variables besides the market risk, liquidity risk and credit risk can be considered in determining their effect on the financial performance of commercial banks in Kenya.

Three, the Kenya GDP variable was only considered as the macroeconomic variable. In further research, other macroeconomic variables can be considered in determining their effect on the financial performance of commercial banks in Kenya.

Therefore, further studies on this topic should seek to leverage on mixed research approaches that utilize both quantitative and qualitative research studies. The research may as well be done in the East African or African context in determining the performance of commercial banks in Kenya.

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APPENDICES

APPENDIX I: RESEARCH AUTHORISATION LETTER

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 8710901 Ext. 57530

Our Ref: D86/CTY/PT/25221/2011

DATE: 10th February, 2016

Director General,
National Commission for Science, Technology
and Innovation
P.O. Box 30623-00100
NAIROBI

Dear Sir/Madam,

RE: RESEARCH AUTHORIZATION FOR NELLY M. KONYA– REG. NO. D86/CTY/25221/2011

I write to introduce Ms. Nelly M. Konya who is a Postgraduate Student of this University. She is registered for Ph.D degree programme in the Department of Accounting and Finance.

Ms. Konya intends to conduct research for a Ph.D Proposal entitled, **"Bank Characteristics and Financial Performance of Commercial Banks in Kenya".**

Any assistance given will be highly appreciated.

Yours faithfully,

MRS. LUCY N. MBAABU
FOR: DEAN, GRADUATE SCHOOL

EO/rwm

APPENDIX II: LETTER OF INTRODUCTION

Nelly Mating'i Konya
Kenyatta University
P.O. Box 43844 – 00200
Nairobi

The Director
……Bank

RE: LETTER OF INTRODUCTION

My name is Nelly Mating'i Konya. I am a postgraduate student at Kenyatta University, Business School. I intend to conduct a study on the "**effect of bank size and financial risk exposure of financial performance of commercial banks in Kenya".** I kindly request for data on bank size and financial risk exposure in regard to commercial banks in Kenya for the period 2009 to 2015.

The requested information is purely for academic purpose and will be treated with strict confidentiality.

Thank you for your cooperation.

Yours faithfully,
Nelly M. Konya

APPENDIX III – DATA

Data

Bank	Year	ROA	Net Assets	Loans	Deposits	Real GDP Growth	Market Risk	Credit Risk	Liquidity Risk
Equity	2009	5.66	7.13	8.30	6.54	3.30	7.43	22.76	48.25
Equity	2010	6.95	9.09	35.60	7.70	8.40	10.76	4.90	23.43
Equity	2011	6.84	8.80	37.40	8.30	6.10	6.32	2.36	26.37
Equity	2012	7.40	9.30	37.30	8.20	4.60	6.89	2.22	38.92
Equity	2013	7.70	8.80	27.10	8.20	5.70	8.38	4.20	28.80
Equity	2014	7.26	8.70	29.67	8.70	5.30	7.58	7.29	33.15
Equity	2015	6.56	9.44	25.34	9.80	5.70	5.22	4.19	30.13
KCB	2009	3.57	12.74	13.38	13.71	3.30	7.43	45.90	33.32
KCB	2010	5.17	13.30	21.00	13.20	8.40	10.76	8.14	33.42
KCB	2011	4.98	14.00	13.30	14.10	6.10	6.32	5.03	30.26
KCB	2012	5.20	13.10	10.60	13.10	4.60	6.89	5.43	35.12
KCB	2013	5.50	12.00	6.70	12.30	5.70	8.38	6.56	33.11
KCB	2014	5.93	12.69	8.17	11.80	5.30	7.58	14.21	33.05
KCB	2015	5.01	14.10	10.95	13.40	5.70	5.22	7.87	32.99
SCB	2009	5.39	9.15	7.86	8.63	3.30	7.43	6.96	68.94
SCB	2010	5.37	8.02	1.60	8.10	8.40	10.76	1.29	51.31
SCB	2011	5.03	8.10	1.70	8.20	6.10	6.32	0.70	27.25
SCB	2012	5.90	8.40	1.80	8.20	4.60	6.89	1.49	35.39
SCB	2013	6.00	8.20	1.60	8.00	5.70	8.38	2.35	37.57
SCB	2014	6.42	7.19	0.76	7.00	5.30	7.58	2.56	44.09
SCB	2015	3.83	7.00	0.63	6.70	5.70	5.22	1.68	39.12
BBK	2009	5.30	12.20	12.96	12.51	3.30	7.43	14.85	39.88
BBK	2010	6.24	10.30	15.00	10.00	8.40	10.76	7.06	49.11
BBK	2011	7.18	8.30	12.90	8.30	6.10	6.32	5.27	36.26
BBK	2012	7.00	7.90	13.00	8.10	4.60	6.89	3.51	41.27
BBK	2013	5.80	7.70	9.20	7.80	5.70	8.38	2.95	37.71
BBK	2014	5.44	7.27	4.83	7.10	5.30	7.58	6.73	40.85
BBK	2015	5.01	6.94	4.34	6.90	5.70	5.22	5.10	41.04
Co-op	2009	3.26	8.17	8.63	9.10	3.30	7.43	35.25	25.41
Co-op	2010	3.61	8.95	8.60	10.00	8.40	10.76	4.24	38.21
Co-op	2011	3.68	8.30	12.50	9.60	6.10	6.32	3.62	26.17
Co-op	2012	4.80	8.60	12.40	9.50	4.60	6.89	4.36	34.34
Co-op	2013	4.70	8.50	11.20	8.20	5.70	8.38	3.87	32.47
Co-op	2014	4.43	8.91	9.06	8.80	5.30	7.58	10.27	31.32
Co-op	2015	4.14	9.83	8.22	9.70	5.70	5.22	5.27	32.50
CfC Stanbic	2009	1.35	7.19	6.23	5.55	3.30	7.43	4.87	45.21
CfC Stanbic	2010	1.96	5.31	1.70	5.90	8.40	10.76	2.52	20.91
CfC Stanbic	2011	2.23	6.90	1.80	5.00	6.10	6.32	1.32	28.16
CfC Stanbic	2012	3.50	5.70	1.50	4.40	4.60	6.89	1.56	36.07
CfC Stanbic	2013	4.10	6.30	1.10	4.90	5.70	8.38	2.54	36.44
CfC Stanbic	2014	4.31	4.92	0.40	5.40	5.30	7.58	2.56	33.36
CfC Stanbic	2015	3.56	4.92	0.39	5.40	5.70	5.22	2.10	30.99
I&M	2009	3.94	3.25	3.41	3.46	3.30	7.43	8.14	52.45
I&M	2010	4.80	3.70	0.30	3.70	8.40	10.76	2.37	22.55

Bank	Year	ROA	Net Assets	Loans	Deposits	Real GDP Growth	Market Risk	Credit Risk	Liquidity Risk
I&M	2011	5.80	3.80	0.30	3.80	6.10	6.32	1.44	29.99
I&M	2012	5.20	3.90	0.30	3.80	4.60	6.89	0.88	30.78
I&M	2013	5.50	4.10	0.30	3.80	5.70	8.38	0.95	22.18
I&M	2014	5.64	4.10	0.29	4.30	5.30	7.58	2.76	31.59
I&M	2015	5.66	4.37	0.29	4.20	5.70	5.22	1.68	27.42
DTB	2009	3.44	3.48	4.25	3.61	3.30	7.43	1.33	40.86
DTB	2010	4.90	3.50	0.70	3.60	8.40	10.76	1.31	32.01
DTB	2011	4.19	3.80	0.70	4.00	6.10	6.32	1.07	32.74
DTB	2012	4.90	4.10	0.60	4.20	4.60	6.89	1.33	35.36
DTB	2013	4.90	4.20	0.40	4.40	5.70	8.38	1.27	31.00
DTB	2014	4.47	4.63	2.05	4.40	5.30	7.58	1.26	34.39
DTB	2015	3.69	5.32	1.89	5.50	5.70	5.22	1.25	33.10
NIC	2009	3.30	3.30	4.31	3.68	3.30	7.43	9.95	33.34
NIC	2010	4.41	3.30	0.90	3.70	8.40	10.76	3.23	25.43
NIC	2011	4.57	3.60	0.90	4.20	6.10	6.32	3.03	19.36
NIC	2012	4.20	4.40	1.20	4.50	4.60	6.89	2.97	33.16
NIC	2013	4.60	4.20	0.80	4.40	5.70	8.38	3.87	28.53
NIC	2014	4.44	4.24	0.28	4.30	5.30	7.58	4.61	27.96
NIC	2015	3.99	4.50	0.26	4.50	5.70	5.22	3.54	26.89
Citi	2009	5.92	3.80	2.97	3.30	3.30	7.43	5.30	62.39
Citi	2010	4.64	3.70	0.10	3.10	8.40	10.76	0.61	60.29
Citi	2011	6.43	3.70	0.10	3.10	6.10	6.32	0.49	45.07
Citi	2012	10.40	3.00	0.00	2.60	4.60	6.89	0.60	61.48
Citi	2013	7.00	2.60	0.00	2.30	5.70	8.38	0.57	66.47
Citi	2014	5.22	2.76	0.02	2.50	5.30	7.58	1.51	59.14
Citi	2015	6.33	2.84	0.01	2.50	5.70	5.22	0.76	58.49
CBA	2009	3.00	4.26	4.17	4.40	3.30	7.43	10.86	73.72
CBA	2010	4.24	3.80	0.50	4.30	8.40	10.76	5.14	36.69
CBA	2011	3.58	4.10	0.60	4.50	6.10	6.32	4.68	45.78
CBA	2012	4.00	4.30	4.20	4.70	4.60	6.89	3.67	52.73
CBA	2013	3.60	4.60	29.00	4.70	5.70	8.38	3.24	64.25
CBA	2014	2.57	5.12	32.88	5.50	5.30	7.58	5.52	54.63
CBA	2015	3.14	5.58	37.33	5.70	5.70	5.22	4.45	50.82
Bank of Baroda	2009	3.24	1.62	1.26	1.85	3.30	7.43	15.78	105.75
Bank of Baroda	2010	5.65	1.90	0.10	2.10	8.40	10.76	3.32	66.14
Bank of Baroda	2011	4.57	1.80	0.10	2.00	6.10	6.32	2.96	35.27
Bank of Baroda	2012	3.60	2.00	0.10	2.20	4.60	6.89	2.23	57.32
Bank of Baroda	2013	4.80	1.90	0.10	2.20	5.70	8.38	2.18	62.25
Bank of Baroda	2014	4.35	1.99	0.15	1.90	5.30	7.58	5.29	65.35
Bank of Baroda	2015	3.65	2.04	0.13	2.00	5.70	5.22	3.20	57.27
Imperial	2009	5.09	1.13	1.34	1.22	3.30	7.43	9.58	37.98
Imperial	2010	6.43	1.20	0.50	1.10	8.40	10.76	4.36	42.78
Imperial	2011	6.37	1.30	0.50	1.30	6.10	6.32	4.29	39.93
Imperial	2012	5.50	1.50	0.50	1.60	4.60	6.89	3.95	45.17
Imperial	2013	5.80	1.60	0.30	1.80	5.70	8.38	5.15	39.27
Imperial	2014	4.75	1.76	0.18	1.80	5.30	7.58	5.47	41.03
Imperial	2015	0.00	0.00	0.00	0.00	5.70	5.22	4.64	41.64

Bank	Year	ROA	Net Assets	Loans	Deposits	Real GDP Growth	Market Risk	Credit Risk	Liquidity Risk
chase	2009	2.42	0.96	0.93	1.01	3.30	7.43	0.14	20.85
chase	2010	2.45	1.30	0.30	1.40	8.40	10.76	2.38	42.80
chase	2011	2.33	1.80	0.40	1.70	6.10	6.32	1.72	39.85
chase	2012	2.70	2.10	0.60	2.10	4.60	6.89	1.56	29.75
chase	2013	2.90	2.80	0.80	2.70	5.70	8.38	2.51	28.11
chase	2014	3.08	2.98	0.19	3.30	5.30	7.58	1.66	32.27
chase	2015	0.00	0.00	0.00	0.00	5.70	5.22	1.97	34.56
prime	2009	2.33	1.75	1.47	1.91	3.30	7.43	12.99	44.66
prime	2010	2.37	1.90	0.10	2.10	8.40	10.76	3.56	23.80
prime	2011	3.07	1.70	0.10	1.90	6.10	6.32	3.54	42.20
prime	2012	2.70	1.90	0.10	2.10	4.60	6.89	2.70	50.57
prime	2013	3.80	1.80	0.10	2.10	5.70	8.38	1.82	45.71
prime	2014	4.18	1.72	0.08	1.70	5.30	7.58	4.92	41.39
prime	2015	3.99	1.82	0.07	1.90	5.70	5.22	3.31	40.73
NBK	2009	4.13	3.80	1.82	4.17	3.30	7.43	52.86	3.31
NBK	2010	4.49	3.60	2.50	3.90	8.40	10.76	4.21	50.05
NBK	2011	3.56	3.40	2.80	3.80	6.10	6.32	3.99	59.79
NBK	2012	1.70	2.90	3.00	3.20	4.60	6.89	7.33	59.26
NBK	2013	1.90	3.40	2.50	4.00	5.70	8.38	10.08	55.89
NBK	2014	1.90	3.60	2.01	3.80	5.30	7.58	15.69	45.66
NBK	2015	-1.34	3.42	2.01	3.60	5.70	5.22	8.26	54.13
Family	2009	2.50	0.98	1.06	1.04	3.30	7.43	18.56	37.94
Family	2010	2.48	1.20	4.70	1.30	8.40	10.76	8.15	42.52
Family	2011	2.01	1.30	5.70	1.40	6.10	6.32	9.44	24.90
Family	2012	2.70	1.30	5.20	1.40	4.60	6.89	12.38	32.81
Family	2013	4.00	1.60	3.20	1.80	5.70	8.38	6.90	32.48
Family	2014	4.24	2.06	5.41	1.90	5.30	7.58	11.09	34.13
Family	2015	3.55	2.36	5.18	2.30	5.70	5.22	9.59	33.37
Bank of India	2009	3.91	1.14	0.75	1.29	3.30	7.43	8.24	83.58
Bank of India	2010	5.04	1.20	0.00	1.30	8.40	10.76	2.17	80.81
Bank of India	2011	4.18	1.20	0.00	1.20	6.10	6.32	2.31	74.91
Bank of India	2012	2.40	1.10	0.00	1.10	4.60	6.89	1.56	66.88
Bank of India	2013	4.10	1.10	0.00	1.20	5.70	8.38	1.00	75.86
Bank of India	2014	3.74	1.11	0.06	1.10	5.30	7.58	3.06	76.41
Bank of India	2015	3.49	1.16	0.05	1.20	5.70	5.22	2.02	74.97
Bank of Africa	2009	1.53	1.25	1.26	1.23	3.30	7.43	0.90	31.85
Bank of Africa	2010	1.81	1.60	0.40	1.60	8.40	10.76	1.71	43.33
Bank of Africa	2011	1.43	1.90	0.50	1.60	6.10	6.32	1.65	41.12
Bank of Africa	2012	1.30	2.10	0.60	2.10	4.60	6.89	2.13	36.26
Bank of Africa	2013	2.00	1.90	0.50	1.90	5.70	8.38	3.87	37.81
Bank of Africa	2014	0.33	1.77	0.20	1.90	5.30	7.58	2.05	38.07
Bank of Africa	2015	-2.07	1.81	0.24	2.00	5.70	5.22	2.28	39.32
Victoria	2009	4.22	0.38	0.44	0.40	3.30	7.43	10.45	41.74
Victoria	2010	5.00	0.40	0.00	0.40	8.40	10.76	0.00	33.64
Victoria	2011	4.31	0.40	0.00	0.40	6.10	6.32	0.00	39.82
Victoria	2012	4.80	0.40	0.00	0.40	4.60	6.89	0.00	43.42
Victoria	2013	4.30	0.50	0.00	0.50	5.70	8.38	0.00	32.08

Bank	Year	ROA	Net Assets	Loans	Deposits	Real GDP Growth	Market Risk	Credit Risk	Liquidity Risk
Victoria	2014	3.68	0.54	0.01	0.50	5.30	7.58	2.09	38.14
Victoria	2015	3.38	0.59	0.01	0.60	5.70	5.22	0.42	37.42
ABC	2009	2.82	0.65	0.55	0.72	3.30	7.43	8.03	27.89
ABC	2010	4.67	0.60	0.10	0.70	8.40	10.76	4.28	44.18
ABC	2011	4.12	0.60	0.70	0.10	6.10	6.32	2.86	36.52
ABC	2012	2.90	0.80	0.10	0.90	4.60	6.89	3.34	44.05
ABC	2013	2.90	0.70	0.10	0.80	5.70	8.38	4.32	38.84
ABC	2014	1.49	0.63	0.11	0.70	5.30	7.58	4.57	38.30
ABC	2015	1.61	0.59	0.09	0.60	5.70	5.22	3.87	40.38
Sidian	2009	-3.76	0.53	0.67	0.44	3.30	7.43	16.63	104.78
Sidian	2010	1.44	0.50	0.70	0.40	8.40	10.76	17.63	25.66
Sidian	2011	2.75	0.50	3.00	0.40	6.10	6.32	10.67	23.76
Sidian	2012	3.20	0.40	2.30	0.40	4.60	6.89	10.87	23.59
Sidian	2013	4.20	0.50	1.50	0.50	5.70	8.38	4.98	30.37
Sidian	2014	4.61	0.51	1.20	0.50	5.30	7.58	12.16	41.63
Sidian	2015	2.72	0.60	0.71	0.50	5.70	5.22	11.26	29.00
Habib Bank Ltd	2009	4.16	0.54	0.17	0.35	3.30	7.43	3.71	85.74
Habib Bank Ltd	2010	4.34	0.50	0.00	0.30	8.40	10.76	2.34	83.05
Habib Bank Ltd	2011	4.62	0.40	0.00	0.30	6.10	6.32	1.70	75.51
Habib Bank Ltd	2012	6.50	0.40	0.00	0.30	4.60	6.89	9.07	63.55
Habib Bank Ltd	2013	6.20	0.40	0.00	0.30	5.70	8.38	7.79	64.35
Habib Bank Ltd	2014	5.63	0.40	0.01	0.30	5.30	7.58	4.92	74.44
Habib Bank Ltd	2015	4.74	0.36	0.01	0.30	5.70	5.22	5.16	72.18
Habib Bank AG	2009	3.85	0.34	0.30	0.58	3.30	7.43	7.18	83.74
Habib Bank AG	2010	3.05	0.30	0.00	0.50	8.40	10.76	3.33	77.32
Habib Bank AG	2011	2.91	0.30	0.00	0.40	6.10	6.32	2.73	73.13
Habib Bank AG	2012	4.20	0.30	0.00	0.50	4.60	6.89	2.81	84.13
Habib Bank AG	2013	4.30	0.30	0.00	0.40	5.70	8.38	2.07	82.45
Habib Bank AG	2014	5.29	0.32	0.02	0.40	5.30	7.58	3.62	80.15
Habib Bank AG	2015	3.53	0.39	0.02	0.40	5.70	5.22	2.91	79.44
Gulf African	2009	3.85	0.57	0.69	0.64	3.30	7.43	17.90	52.70
Gulf African	2010	3.05	0.60	0.10	0.70	8.40	10.76	2.26	95.89
Gulf African	2011	2.91	0.60	0.20	0.70	6.10	6.32	6.33	40.76
Gulf African	2012	4.20	0.60	0.30	0.70	4.60	6.89	3.31	28.29
Gulf African	2013	4.30	0.60	0.10	0.70	5.70	8.38	5.72	33.94
Gulf African	2014	5.29	0.64	0.21	0.60	5.30	7.58	7.10	50.32
Gulf African	2015	3.53	0.72	0.20	0.70	5.70	5.22	4.94	49.84
Fina	2009	0.18	0.91	0.82	0.99	3.30	7.43	13.91	15.69
Fina	2010	1.07	0.80	0.30	0.90	8.40	10.76	8.77	41.34
Fina	2011	2.12	0.70	0.10	0.80	6.10	6.32	5.84	43.25
Fina	2012	2.00	0.70	0.10	0.80	4.60	6.89	3.60	39.38
Fina	2013	1.60	0.95	0.00	1.00	5.70	8.38	2.42	53.44
Fina	2014	2.08	1.07	0.06	1.00	5.30	7.58	6.91	38.62
Fina	2015	1.86	0.97	0.05	0.80	5.70	5.22	5.51	43.21
Guardian	2009	0.83	0.50	0.57	0.57	3.30	7.43	33.40	32.23
Guardian	2010	1.39	0.50	0.00	0.60	8.40	10.76	16.23	36.51
Guardian	2011	1.92	0.40	0.00	0.50	6.10	6.32	6.35	31.06

Bank	Year	ROA	Net Assets	Loans	Deposits	Real GDP Growth	Market Risk	Credit Risk	Liquidity Risk
Guardian	2012	1.90	0.50	0.00	0.60	4.60	6.89	5.97	40.21
Guardian	2013	3.00	0.50	0.00	0.60	5.70	8.38	5.52	34.14
Guardian	2014	2.59	0.45	0.03	0.50	5.30	7.58	13.49	34.83
Guardian	2015	2.25	0.43	0.03	0.40	5.70	5.22	9.51	35.35
Giro	2009	2.63	0.51	0.51	0.59	3.30	7.43	24.92	27.65
Giro	2010	6.20	0.60	0.10	0.70	8.40	10.76	3.98	57.06
Giro	2011	2.79	0.60	0.10	0.70	6.10	6.32	2.19	25.56
Giro	2012	1.70	0.50	0.10	0.60	4.60	6.89	2.92	53.15
Giro	2013	2.80	0.50	0.10	0.60	5.70	8.38	5.35	49.79
Giro	2014	3.13	0.49	0.03	0.50	5.30	7.58	7.87	42.64
Giro	2015	3.03	0.49	0.02	0.50	5.70	5.22	4.46	45.64
Fidelity	2009	0.94	0.41	0.46	0.49	3.30	7.43	24.80	17.07
Fidelity	2010	4.59	0.50	0.10	0.60	8.40	10.76	9.03	46.23
Fidelity	2011	2.79	0.50	0.10	0.60	6.10	6.32	3.93	38.33
Fidelity	2012	0.90	0.50	0.10	0.60	4.60	6.89	9.84	42.54
Fidelity	2013	2.50	0.50	0.10	0.60	5.70	8.38	7.80	32.60
Fidelity	2014	1.80	0.48	0.03	0.50	5.30	7.58	11.08	35.35
Fidelity	2015	-1.84	0.39	0.03	0.40	5.70	5.22	8.34	39.01
Development Bank	2009	2.27	0.60	0.66	0.24	3.30	7.43	39.63	56.45
Development Bank	2010	2.22	0.60	0.10	0.30	8.40	10.76	12.38	51.66
Development Bank	2011	1.37	0.60	0.00	0.30	6.10	6.32	16.86	51.66
Development Bank	2012	0.80	0.60	0.00	0.40	4.60	6.89	13.67	50.16
Development Bank	2013	1.80	0.60	0.00	0.40	5.70	8.38	11.50	48.06
Development Bank	2014	1.88	0.48	0.01	0.50	5.30	7.58	18.81	51.60
Development Bank	2015	1.05	0.46	0.01	0.50	5.70	5.22	14.64	50.63
Trans-National	2009	2.36	0.25	0.23	0.18	3.30	7.43	13.96	64.01
Trans-National	2010	3.33	0.30	0.10	0.20	8.40	10.76	20.85	73.27
Trans-National	2011	4.05	0.40	0.20	0.40	6.10	6.32	8.88	66.50
Trans-National	2012	3.70	0.40	0.20	0.40	4.60	6.89	9.90	58.39
Trans-National	2013	2.30	0.40	0.90	0.40	5.70	8.38	13.15	50.69
Trans-National	2014	1.86	0.34	0.16	0.30	5.30	7.58	13.35	62.57
Trans-National	2015	2.39	0.33	0.16	0.30	5.70	5.22	13.23	62.28
First Community	2009	-3.42	0.33	0.32	0.36	3.30	7.43	18.39	53.56
First Community	2010	-2.50	0.40	0.10	0.50	8.40	10.76	7.32	41.81
First Community	2011	1.28	0.40	0.10	0.50	6.10	6.32	12.67	45.05
First Community	2012	2.90	0.40	0.10	0.50	4.60	6.89	13.85	43.70
First Community	2013	1.80	0.40	0.10	0.50	5.70	8.38	6.87	31.64
First Community	2014	0.67	0.45	0.37	0.50	5.30	7.58	11.82	43.15
First Community	2015	0.07	0.40	0.36	0.40	5.70	5.22	10.51	41.07
Oriental	2009	0.97	0.23	0.21	0.20	3.30	7.43	76.76	20.91
Oriental	2010	4.01	0.30	0.00	0.30	8.40	10.76	11.18	40.36
Oriental	2011	3.83	0.20	0.00	0.20	6.10	6.32	11.13	44.03
Oriental	2012	1.80	0.30	0.00	0.30	4.60	6.89	10.27	43.67
Oriental	2013	2.50	0.30	0.00	0.30	5.70	8.38	8.27	43.58
Oriental	2014	1.07	0.28	0.02	0.20	5.30	7.58	23.52	38.51
Oriental	2015	0.49	0.30	0.01	0.30	5.70	5.22	12.87	42.03
Equatorial	2009	1.69	0.33	0.38	0.35	3.30	7.43	7.73	52.77

Bank	Year	ROA	Net Assets	Loans	Deposits	Real GDP Growth	Market Risk	Credit Risk	Liquidity Risk
Equatorial	2010	-0.32	0.60	0.30	0.60	8.40	10.76	19.42	31.42
Equatorial	2011	0.55	0.60	0.20	0.70	6.10	6.32	6.80	40.65
Equatorial	2012	-4.60	0.60	0.20	0.80	4.60	6.89	7.00	34.80
Equatorial	2013	1.00	0.58	0.20	0.70	5.70	8.38	11.26	33.61
Equatorial	2014	-2.78	0.45	0.07	0.50	5.30	7.58	10.44	38.65
Equatorial	2015	-4.53	0.40	0.06	0.40	5.70	5.22	10.98	35.83
Paramount Universal	2009	1.23	0.23	0.19	0.25	3.30	7.43	3.66	34.41
Paramount Universal	2010	6.35	0.30	0.10	0.30	8.40	10.76	16.52	62.15
Paramount Universal	2011	2.39	0.20	0.10	0.20	6.10	6.32	12.52	59.54
Paramount Universal	2012	1.20	0.30	0.10	0.40	4.60	6.89	9.49	66.73
Paramount Universal	2013	1.20	0.30	0.00	0.30	5.70	8.38	8.30	63.84
Paramount Universal	2014	1.32	0.31	0.02	0.30	5.30	7.58	10.10	57.33
Paramount Universal	2015	1.60	0.30	0.02	0.30	5.70	5.22	11.39	61.92
Jamii Bora	2009	-1.26	0.04	0.03	0.02	3.30	7.43	36.28	36.45
Jamii Bora	2010	-4.85	0.10	2.00	0.00	8.40	10.76	29.44	21.91
Jamii Bora	2011	-1.79	0.10	0.70	0.00	6.10	6.32	40.60	107.70
Jamii Bora	2012	1.50	0.10	0.60	0.10	4.60	6.89	10.16	64.27
Jamii Bora	2013	1.30	0.30	0.60	0.20	5.70	8.38	3.70	34.96
Jamii Bora	2014	0.73	0.47	0.25	0.40	5.30	7.58	24.04	53.06
Jamii Bora	2015	0.22	0.50	0.35	0.50	5.70	5.22	21.59	56.38
Middle East	2009	1.37	0.23	0.22	0.19	3.30	7.43	17.72	77.04
Middle East	2010	5.11	0.20	0.00	0.20	8.40	10.76	1.34	10.14
Middle East	2011	1.99	0.20	0.00	0.20	6.10	6.32	1.99	46.92
Middle East	2012	0.80	0.30	0.00	0.20	4.60	6.89	1.63	49.66
Middle East	2013	1.40	0.20	0.00	0.20	5.70	8.38	16.21	37.10
Middle East	2014	1.28	0.20	0.01	0.20	5.30	7.58	7.78	44.17
Middle East	2015	0.75	0.19	0.01	0.20	5.70	5.22	5.79	37.60
Credit Bank	2009	2.15	0.27	0.26	0.28	3.30	7.43	17.72	77.04
Credit Bank	2010	0.74	0.30	0.00	0.30	8.40	10.76	16.87	32.27
Credit Bank	2011	0.95	0.30	0.10	0.30	6.10	6.32	9.95	44.93
Credit Bank	2012	1.30	0.30	0.10	0.30	4.60	6.89	8.63	52.00
Credit Bank	2013	1.00	0.30	0.10	0.30	5.70	8.38	7.45	41.18
Credit Bank	2014	-1.02	0.27	0.05	0.30	5.30	7.58	12.12	49.48
Credit Bank	2015	-1.74	0.28	5.00	0.30	5.70	5.22	11.00	43.97
Dubai Bank	2009	0.41	0.12	0.16	0.10	3.30	7.43	18.98	39.06
Dubai Bank	2010	0.18	0.10	0.00	0.10	8.40	10.76	24.95	26.37
Dubai Bank	2011	0.90	0.10	0.00	0.10	6.10	6.32	19.06	32.95
Dubai Bank	2012	-1.20	0.10	0.00	0.10	4.60	6.89	26.55	34.07
Dubai Bank	2013	0.50	0.10	0.00	0.10	5.70	8.38	38.91	24.94
Dubai Bank	2014	0.21	0.10	0.02	0.10	5.30	7.58	25.69	31.48
Dubai Bank	2015	0.00	0.00	0.00	0.00	5.70	5.22	27.03	29.96
Consolidated	2009	1.54	0.51	0.54	0.49	3.30	7.43	55.59	37.79
Consolidated	2010	2.46	0.60	0.60	0.60	8.40	10.76	10.98	33.29

Bank	Year	ROA	Net Assets	Loans	Deposits	Real GDP Growth	Market Risk	Credit Risk	Liquidity Risk
Consolidated	2011	1.61	0.80	0.70	0.80	6.10	6.32	8.29	33.16
Consolidated	2012	1.00	0.80	0.60	0.80	4.60	6.89	10.81	39.41
Consolidated	2013	-0.80	0.60	0.30	0.60	5.70	8.38	11.68	26.56
Consolidated	2014	-1.82	0.41	0.17	0.50	5.30	7.58	19.47	34.04
Consolidated	2015	0.35	0.37	0.14	0.40	5.70	5.22	12.25	33.29
UBA Kenya	2009	17.47	0.09	0.00	0.02	3.30	7.43	3.71	56.32
UBA Kenya	2010	-5.85	0.10	0.00	0.10	8.40	10.76	0.00	43.55
UBA Kenya	2011	-5.72	0.20	0.00	0.10	6.10	6.32	4.02	93.58
UBA Kenya	2012	-13.60	0.10	0.00	0.10	4.60	6.89	8.47	105.36
UBA Kenya	2013	-7.50	0.10	0.00	0.10	5.70	8.38	1.55	93.72
UBA Kenya	2014	-6.97	0.18	0.02	0.10	5.30	7.58	3.55	78.51
UBA Kenya	2015	-3.91	0.20	0.02	0.20	5.70	5.22	3.52	82.94
Ecobank	2009	-7.13	1.03	0.89	1.08	3.30	7.43	37.13	25.07
Ecobank	2010	0.70	1.60	0.30	1.30	8.40	10.76	16.53	64.42
Ecobank	2011	0.45	1.30	1.90	1.30	6.10	6.32	7.55	41.86
Ecobank	2012	-4.80	1.40	1.70	1.30	4.60	6.89	4.52	41.79
Ecobank	2013	-3.30	1.40	0.40	1.30	5.70	8.38	7.20	41.76
Ecobank	2014	-1.09	1.46	0.19	1.40	5.30	7.58	14.59	42.98
Ecobank	2015	0.18	1.42	0.11	1.50	5.70	5.22	10.08	46.56
Housing Finance	2009	1.83	1.35	2.01	1.22	3.30	7.43	33.78	25.04
Housing Finance	2010	1.91	1.70	0.30	1.30	8.40	10.76	5.85	35.23
Housing Finance	2011	3.10	1.60	0.20	1.30	6.10	6.32	5.20	20.17
Housing Finance	2012	2.20	1.70	0.20	1.30	4.60	6.89	6.79	24.12
Housing Finance	2013	2.60	1.70	0.20	1.40	5.70	8.38	8.40	21.63
Housing Finance	2014	2.12	1.56	0.24	1.90	5.30	7.58	12.00	25.24
Housing Finance	2015	2.52	1.76	0.21	2.00	5.70	5.22	7.65	25.28

(Source: Author 2018)

APPENDIX IV – COMMERCIAL BANKS IN KENYA

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

(Source: KBA 2013)

APPENDIX V – APPROVAL OF RESEARCH PROPOSAL

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 57530

Internal Memo

FROM: Dean, Graduate School

DATE: 10th February, 2016

TO: Nelly M. Konya
C/o Accounting and Finance Dept.
Kenyatta University

REF: D86/CTY/PT/25221/2011

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

This is to inform you that Graduate School Board at its meeting of 27th January, 2016 approved your Research Proposal for the Ph.D. Degree Entitled, **"Bank Characteristics and Financial Performance of Commercial Banks in Kenya"**.

You may now proceed with your Data Collection, subject to clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking Forms per semester. The form has been developed to replace the Progress Report Forms. The Supervision Tracking Forms are available at the University's Website under Graduate School webpage downloads.

By copy of this letter, the registrar (Academic) is hereby requested to grant you Substantive registration for your Ph.D studies.

Thank you.

EDWIN OBUNG'U
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Accounting and Finance Department.

Registrar Academic – Att: J. Likam

Supervisors:

1. Dr. Ambrose Jagongo
   Department of Accounting and Finance
   Kenyatta University

2. Dr. George Kosimbei
   Department of Economic Theory
   Kenyatta University

EO/rwm

APPENDIX VI – RESEARCH AUTHORIZATION

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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NAIROBI-KENYA

Ref: No. **NACOSTI/P/16/77884/11270**

Date: **13th May, 2016**

Nelly Matingi Konya
Kenyatta University
P.O. Box 43844-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Bank characteristics and financial performance of Commercial Banks in Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **12th May, 2017.**

You are advised to report to **the Chief Executive Officers of the selected Banks, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Chief Executive Officers
Selected Banks

The County Commissioner
Nairobi County.

COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, NBI
TEL: 241689

The County Director of Education
Nairobi County.

COUNTY DIRECTOR OF EDUCATION
NAIROBI
MINISTRY OF EDUCATION
P. O. Box 74629, NAIROBI