THE EFFECTS OF SELECTED MACROECONOMIC VARIABLES ON THE FINANCIAL PERFORMANCE OF THE BANKING INDUSTRY IN KENYA

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DECLARATION

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

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This research project has been submitted for examination with my approval as the candidate's University supervisor.

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DEDICATION

For my Dad and mentor, Mr. Francis Karanja.

To my Mum and guardian angel, Lucy Karanja.

To my siblings whose support is always unwavering.

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LIST OF ABBREVIATIONS

CBK- Central Bank of Kenya

EMH- Efficient Market Hypothesis

GDP-Gross Domestic Product

KNBS- Kenya National Bureau of Statistics

Ksh- Kenya Shilling

MPT- Modern Portfolio Theory

ROA- Return on Asset

NIM- Net Interest Margin

USD- United States Dollar

QTM- Quantity Theory of Money

ABSTRACT

The macroeconomic variables affect the financial performance of any organization that seeks to make profit and maximize its shareholders wealth. Globally, no organization can claim to operate in a vacuum and regardless of its nature it will be affected by either internal or external variables or both. It is therefore paramount for the stakeholders to understand how these factors affect their performance to mitigate against any adverse effect that may arise from them. Macroeconomic variables are a strong determinant of the bank's financial performance. With the number of banks increasing over the years and the competition for customers increases, an analysis of how macroeconomic variables influence bank's financial performance is important. Investors strongly believe that macro-economic variables largely influence volatility of financial performance. This study sought to determine the effect of selected macro-economic variables on financial performance of banking industry in Kenya. The population for the study was all the 42 commercial banks operating in Kenya. The independent variables for the study were interest rates as measured by CBK lending rate, economic growth as measured by GDP, exchange rates as measured by KSH/USD and inflation rate as measured by the CPI. Financial performance was the dependent variable and was measured by Return on Assets (ROA). Secondary data was collected for a period of 10 years (January 2007 to December 2016) on a quarterly basis. The study employed a descriptive case study research design and a multiple linear regression model was used to analyze the relationship between the variables. Statistical package for social sciences version 21 was used for data analysis purposes. The results of the study produced R-square value of 0.346 which means that about 34.6 percent of the variation in financial performance of the banking industry in Kenya can be explained by the four selected independent variables while 65.4 percent in the variation of financial performance was associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with financial performance (R=0.589). ANOVA results show that the F statistic was significant at 5% level with a p=0.000. Therefore, the model was fit to explain the relationship between the selected variables. The results further revealed that none of the selected independent variables (interest rates, economic growth, exchange rates and inflation rates) were individually statistically significant in explaining financial performance of the banking industry in Kenya. This study recommended that adequate measures should be put into place to improve and grow financial performance of banking industry in Kenya.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The role of banking industry cannot be underestimated. The banking industry plays a highly significant role in the economic life of every modern country. Baba and Nasieku (2016) argue that the banking sector is a vital financial intermediary because it offers a broad range of services such as bringing together savers and borrowers in a well-organized structure and facilitating money transfer which fuels economic development. Chimkono (2017) asserts that banks screen borrowers and monitor activities related to financial system. Banks can only play this vital function in the economy when they make sufficient incomes to cater for the costs involved in their operations. This therefore implies the necessity for them to be profitable. Financial performance of the banking sector also impacts on the economic growth of a nation as the great reward offered to the Bank's shareholders motivates more investments and this in turn stirs economic activities in the country. The stability of the banking sector is the basis of the modern macroeconomic policy and at the same time a prerequisite for the strong economic growth which ensures macroeconomic stability and enables strong financial institutions. As such, it is imperative to analyze the factors that determine this financial performance so that banks can mitigate on any negative influence of such factors on their profitability.

The financial performance determinants in banks continues to attract the interest of financial market, academic research and bank regulators (Nzuve, 2016). Studies conducted in the last two decades revealed that the Sub-Saharan Africa (SSA) banks generate higher profits than the rest of the world with a 2% Return on Assets (ROA) (Flamini et al., 2009). These huge profits in the SSA banks may be attributed to massive gaps in the market forces that is demand and supply in

the sector. Until recently, the number of tier one banks in Kenya, which boast of the market's lion's share were very few, giving them an upper hand in the control of one variable, the interest rates which were sky-rocketing. The banking industry performance can be affected by both internal (bank specific) and external factors (macroeconomic variables). External factors are variables that are out of a company's control and affect the banks' financial performance which is vital for all stakeholders such as managers, government, regulators, depositors, creditors, debtors and investors.

The current operating environment for the banking sector in Kenya triggered this study. For the banks to take mitigating measures after the pegging of interest rates to the CBR and also with the economy in a cyclical slowdown due to the current political environment there is a need for the grasping of how a selected macro-economic variables could affect banks' financial performance. Profitable banking sector can withstand negative shocks and ensure that the financial system is stable (Athanasoglou et al. 2005). Many previous studies have sought to analyze bank-specific factors and their influence on the banking sector performance (Chantapong, 2005; Heng et al., 2011 and Olweny & Shipho, 2011). This creates a need to study macro-economic variables and the role they play in the overall financial performance of our banks.

Several theories have been applied in the study of banks' performance. The Market Portfolio theory asserts an investor will opt for low risk portfolio given a desired level of expected return as he will review risk in terms of how it will affect the returns of his portfolio. Similarly, the Efficient Market Hypothesis supposes that all the players in the market have all the facts and information in regard to the macroeconomic environment available to them. In the Quantity Theory of Money, Henry Thornton came up with an assumption that more money will result to more inflation, therefore, drawing a positive correlation between the levels of market liquidity

and inflation. The Classical theory of interest which basically has its proposition founded on the equilibrium theory asserts that supply and demand forces determine interest rate. According to Caplan (2000) the equilibrium rate of interest will be determined at a point where demand and supply for capital is the same.

In conclusion, bank performance is affected to a significant extent by external factors. (Athanasoglou et al. 2005) affirms that macroeconomic variables are the major external factors that impacts on a bank's performance.

1.1.1 Macroeconomic Variables

Ongeri (2014) defines macroeconomics as an economic branch that focuses on the performance, behavior, structure of the whole economy. The macroeconomic factors include real Gross Domestic Product (GDP), the rate of unemployment, interest rate, inflation rate and exchange rate. These variables which are keenly monitored by various stakeholders, that is, the government, business people as well as consumers are key indicators of economic performance and may affect the stability of the banking system.

GDP affects the domestic demand for national outputs. Ongeri (2014) posits that the growth in GDP positively affects the profitability of the bank because this sector is sensitive to the economic growth of any country. A positive relationship exists between the growth of the real GDP and bank profitability due to increase in demand for loans (Athanasoglou et al., 2005).

Interest is a major income stream for the banks as they make money from the spread, which is the difference between the percentage they levy on borrowers and the one they pay their deposit account holders. Baba and Nasieku (2016) define interest rate as the amount of money received by the lender, or excess of the actual money paid by the borrowers. According to Ongeri (2014),

a decrease in interest rates forces investors to look for an investment with higher returns while an increase in interest attracts investors and people willing to save money (Angelopulos & Mourdoukoutas, 2001).

Interest rate caps affects the industry's efficiency as it fails to factor in all others contributors to a particular spread chosen by a bank. Moreover, pegging the interest rates to the CBR has the downside of how efficient and effective is the economy's monetary policies in assessing its state. Capping the interest rates may also result to a rigid financial system and this may lead to a cropping up of shadow banking as well as massive shy-locking as the majority of the people in the Kenyan market are of a perceived low credit rating and as such most banks will shy away from lending to them (Cytonn Investment, 2017).

Financial performance is also affected by inflation. Inflation is a substantial and persistent increase in prices over an extended period. It is the state at which money decrease in value. Chimkono (2017) asserts that a continuous rise in the general price over a long period is the most common feature in many economies. Omondi (2014) observes that high inflation rates are caused by increase in money supply in the economy compared to the rate of economic growth. Inflation hurt the banking sector in that it can make their equity capital exceeds their investments and fixed assets. Previous studies (Ongeri, 2014 and Baba & Nasieku, 2016) have shown that inflation affects bank profitability positively because they get higher revenues from circulation. Some authors asserted that the direction of the relationship between inflation and bank financial performance is not clear (Vong & Chan, 2009).

Exchange rates links the local and international markets for financial assets, goods and services. Chimkono (2017) defines exchange rate as the price of a unit of foreign currency in terms of

domestic currency. The fluctuation of exchange rate affects actual variation and the expected changes in the future price. The ways in which the fluctuation of the exchange rate affect the domestic prices can be explained by using three channels: domestic prices of imported consumer goods, the production cost of goods produced locally and prices of domestic goods in foreign currency (Nzuve, 2016). Exchange rate fluctuation negatively affects the profitability of the commercial banks. The movement of the exchange rate in Kenya has been variable with periods of rapid depreciation of the domestic currency which adversely affects the economy (Lagat & Nyandema, 2016).

1.1.2 Financial Performance

Financial performance is an important aspect given the significant role the banks play in the economy. Al-Matari, Al-Swidi and Fadzil (2014) define financial performance as the ability to leverage operational and investment decisions and strategies to achieve a business financial stability. It is the measure of a bank's achievement of its financial goals guided by financial benchmarks and objectives. It shows the extent at which financial objectives are being accomplished. As outlined by Baba and Nasieku (2016) financial performance show how a company uses assets to generate revenues and thus it gives direction to the stakeholder in their decision making. Nzuve (2016) asserts that the health of the bank industry largely depends on their financial performance which is used to indicate the strengths and weaknesses of individual banks. Moreover, the government and regulatory agencies are interested on how banks perform for the regulation purposes.

Financial performance can be measured using a number of ratios, for instance, return on Assets (ROA) and Net interest Margin (NIM). ROA is a measure that shows the ability of the bank to

utilize the available assets to generate profits (Milinović, 2014). ROA is calculated by dividing operating profit by total asset ratio which is used for calculating earnings from all company's financial resources.

On the other hand, NIM measures the spread of the interest paid out to the bank's lenders, for instance, liability accounts, and the interest income that the banks generates in relation to the value of their assets. The NIM variable can be expressed as the net interest income divided by total earnings assets (Gul et al., 2011).

1.1.3 Macroeconomic Variables and Financial Performance

Macroeconomic variables are a strong determinant of the bank's financial performance. With the number of banks increasing over the years and the competition for customers increases, an analysis of how macroeconomic variables influence bank's financial performance is important. Investors strongly believe that macro-economic variables largely influence volatility of financial performance. Macroeconomic variables have both positive and negative correlation on the financial performance of the aviation industry. Several studies have shown that macroeconomic variables affect financial performance. For instance, Chimkono (2017) reported that higher GDP growth increases bank profitability. Ongeri (2014) and Baba and Nasieku (2016) have shown that inflation affects bank profitability positively because they get higher revenues from circulation. However, there is no consensus on the relationship between inflation level and banks profitability among researchers (Vong & Chan, 2009; Lagat & Nyandema, 2016). Furthermore, interest rates have a significant impact on equity returns since they determine the cost of borrowing. Similarly, Lagat and Nyandema (2016) assert that exchange rate fluctuation negatively affects banks performance.

There are several existing theories that have found out macroeconomic variables affect financial performance of organizations. The Market Portfolio theory asserts that the evaluation of the risk should focus on how the investment affects the overall risk and return of a portfolio. As such, an investor will prefer low risk portfolio given a desired level of expected return. Similarly, the Efficient Market Hypothesis presumes that the actors in the economy have all the critical information regarding the changes in the macroeconomic environment. The Classical theory of interest basically has its proposition founded on the general equilibrium theory which holds that the forces of supply and demand determine the rate of interest. The point where demand equals supply is therefore seen to be the equilibrium rate of interest. In the Quantity Theory of Money, Henry Thornton came up with an assumption that more money equals more inflation.

1.1.4 Banking Industry in Kenya

The Central Bank of Kenya (CBK), Companies Act and Banking Act regulates and governs the banking industry in Kenya. The CBK is an essential component in the proper functioning of the financial system and the solvency of the currency. It regulates the Banking sector by the formulation of monetary policy to achieve and maintain stability. Currently, Kenyan banking sector is composed of 52 institutions including 43 commercial banks, eight deposit-taking micro finance institutions, and one mortgage finance company. Out of the 43 commercial banks, 40 are privately owned banks while the other three are almost wholly owned by the government of Kenya. Of the 40 privately owned banks, 26 are owned locally while 14 are foreign-owned. Out of the 26 banks which are owned locally, 25 are commercial banks and one a mortgage financier. For the foreign-owned institutions, 10 are local banks, forex bureaus, credit reference bureaus, and money remittance providers which are privately owned (CBK, 2015).

The Kenyan banking sector is dominated by Pan-African groups (Equity and KCB bank) multinational banks (Barclay, Standard Chartered). Over the last five years, Kenyan banks have realized tremendous growth through expansion both domestically and internationally. The banking sector has experienced considerable growth since independence reflecting the country's growth towards economic prosperity. According to CBK (2015), the Kenyan banking industry is considered the fastest growing and largest in East Africa, and thus it is the regional financial leader. The banking industry in Kenya has also been automated to better meet the growing complex needs of their customers and overcome challenges due to globalization.

Kenyan banks are grouped into three categories based on weighted composite index of their net assets, deposit accounts, the number of loans, customer deposits, capital, and reserves. A large bank has a weighted composite index of 5% and above. Those with a weighted composite index of between 1% and 5% are classified as medium bank while banks with weighted composite index of less than 1% are small banks (CBK, 2015).

According to data published in the CBK (2016) Supervision Report, the banking sector's asset base grew by 5.8 percent from Kshs.3.5 trillion in 2015 to Kshs.3.7 trillion in 2016. The enactment of the Banking (Amendment) Act that capped interest rates which was effected in August, 2016 is expected to impact on the profitability of the overall banking sector as the banks lowered interest charged on loans to 14%, only 4% above CBR while paying interest on deposits at a minimum of 70% of the CBR. As such net interest margins are expected to be compressed by the increased cost of funding and the suppressed yield on assets. This is in turn will reduce profitability in the sector moving forward. With the political temperatures in the country heating up the entire 2017, the shilling has depreciated against other common foreign currencies with a current depreciation rate 4% against the dollar.

1.2 Research Problem

The macroeconomic variables affects the financial performance of any organization that seeks to make profit and maximize it's shareholders wealth. Globally, no organization can claim to operate in a vacuum and regardless of its nature it will be affected by either internal or external variables or both. It is therefore paramount for the stakeholders to understand how these factors affect their performance to mitigate against any adverse effect that may arise from them.

Factors around the operating environment of organizations inclusive of gross domestic product, interest rate, exchange rate and inflation influence the overall profitability of the banks. Levine (1996) found out that economic growth is affected by intermediation in financial sector and its efficiency. The shifting of interest rates either due to market forces or new regulations also impact favourably or unfavourably on the monetary performance of the banking sector. For long run survival, it is very critical for a bank to identify issues increasing or decreasing bank's returns thus enabling its long term survival and this increases initiative by increasing its profitability by managing the controlling determinants (Athanasoglou et al. 2005).

Given the significant role of the banking industry in the economic development, researchers have conducted several studies on the effect of macroeconomic variables on banks financial performance. However, the studies are inconclusive with mixed results. Some researchers have found a significant effect while others have established an insignificant influence. Some researchers have found macroeconomic variables hurt bank performance while others have found a positive correlation. For instance, a study conducted by Lagat and Nyandema (2016) found a weak relationship between exchange rate fluctuations and financial performance of banks in Kenya. Exchange rate fluctuation negatively affects return on assets and thus it negatively

impact bank financial performance. Inconsistent with these results Baba and Nasieku (2016) found that interest rates, exchange rate, and unemployment rate have a significant relationship with financial performance on banks. Other studies have shown controversial relationship exists between macroeconomic variables and financial performance (Vong & Chan, 2009).

Furthermore, most studies have been done in other countries, and thus there is limited knowledge on the effect of macroeconomic variables on profitability of Kenyan banks. The effects of macroeconomic factors on the banking industry depends on a country as the operating environment will vary from one nation to another as a result of differences in policies, laws and demographic variation. Previous studies done locally on this subject fall short of consensus. Ongore (2013) concluded that bank profitability is affected by insignificant macroeconomic factors. In his study, he used regression analysis to analyze data and drew a conclusion that inflation rates negatively affected commercial banks' performance. Another study carried out by Wamucii (2010) established that banks performance improved with the increase in inflation. In his research, Kipngetich (2011) found a positive correlation between the rate of interest and financial performance.

As such, in addition to previous studies not fully establishing the effects of macroeconomic variables on financial performance of the banking sector in Kenya, these studies were conducted before the capping of interest rates with a relatively stable operating environment as they were done beyond an election period and this study will therefore attempt to fill these gaps by answering the question: what is the effects of selected macroeconomic variables on the financial performance of the banking industry in Kenya?

1.3 Research Objective

To determine the effects of the selected macroeconomic variables on the financial performance of the banking industry in Kenya

1.4 Value of the Study

The study findings will build on to existing theories as it will reaffirm or negate their findings as to how these selected macroeconomic variables affect organization's profitability. The study would also be of benefit to several bank stakeholders. For instance, the study results will provide bank managers of the commercial banks of Kenya with information to guide their management decisions following changes in the selected macroeconomic variables for a strong banking industry. The findings will equip managers with the necessary knowledge to making the right decisions and implementing the appropriate strategies to protect the financial performance of their organization. Moreover, the findings will inform the government the formulation of policies and regulation for a strong and resilient banking industry in Kenya. Apart from stakeholders, the study findings will provide academicians and researchers with materials for their reference and show the areas of future research to bridge the gaps in knowledge.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter will review the literature on the association between macroeconomic variables and financial performance of banking sector. It will be organized into four sections. The first part will focus on the main theories relating to the determinants of financial performance and how they inform the current study. The second part will discuss the determinants that are theoretically expected to influence financial performance of banks. The third section will review empirical studies related to determinants of banks profitability conducted not only in Kenya but other parts of the world. The last section will provide a summary of the chapter to highlight the gaps in knowledge emanating from reviewed literature.

2.2 Theoretical Review

Several theories on macroeconomic factors and financial performance were examined and their views provided guidance during the study.

2.2.1 Market Portfolio Theory

The theory was pioneered by Harry Markowitz and published in 1952. His major insight in this theory is that the evaluation of the risk of an investment should focus on how investment will affect the overall risk and return of a portfolio. As such, an investor prefers a portfolio with a risk to achieve the desired level of expected return. The MPT assumes that investors are risk-averse, therefore preferring less risky portfolios as opposed to riskier ones. Consequently, investors take more risk only if the expected level of reward is great.

In this regard, with changes in the macroeconomic environment, banks will be cautious in their operations. For instance, a capping of the interest rates will prompt the banks to review their lending strategies and will as a result only lend to the segment of the market considered low risk. GDP growth will lead the banks to want to tap into the newly discovered market of an increasing middle-class group that will be seeking to borrow to better their livelihoods.

2.2.2 Efficient Market Hypothesis

The Efficient Market Hypothesis (EMH) partly developed by Professor Eugene Fama in the 1960s states that the current market prices reflect and incorporates all the relevant information and they should only change as a result of new information or changes in discount rates. Fama (1970) highlighted three levels of EMH: the strong, the semi-strong and weak. The theory presumes that the actors in the economy have all the critical information regarding the changes in the macroeconomic environment. According to (Fama, 1981; Chen et al., 1986 and Mayasami and Sims, 2002), a stock prices change is determined by macroeconomic variables such as the rate of exchange, inflation and money supply.

Therefore, the bank's target market is viewed to be in possession of all the pertinent information in the banking industry and will react to take advantage of any information that is in their favour. In this regard, with pegged interest rates, there is an expected influx of borrowers rushing to take up new credit facilities with the banks to benefit from the low interest rates as compared to previous rates. This will mean that the banks are lending at lesser margins in comparison to the past and therefore less return will be realized.

The stimulated borrowing as a result of lower interest rates will also lead to more money injected in the economy, pushing inflation levels up. The Monetary Policy Committee will therefore find

the need to come in and intervene to protect the economy from adverse effects of ballooning liquidity.

2.2.3 The Classical Theory of Interest

This theory propounded Marshall and Fisher is also referred to as demand and supply theory. Further modifications to this theory were done by Pigou, Cassel, Knight and Taussig. It is referred to as real theory of interest as it explains the determination of interest by doing an analysis of real factors such as savings and investment. The fundamental principle of this theory is that the economy is self-regulating. This theory basically has its proposition founded on the general equilibrium theory which holds that intersection of the supply and demand for capital determines the rate of interest. According to Caplan (2000) the equilibrium rate of interest will be determined at a point which demand for capital and its supply are the same. Capital demand will be prompted by the investment needs and this will be supplied from savings in the economy. As such, (Fredman, 1991) noted that the two factors that determine the rate of interest are savings and investment.

The theory asserts that higher rates of interest will induce people to save more. An increase in this saving will lead to increased expenditures through reduced interest rate and consequently the economy will be brought back to the natural level of real GDP. Interest rates flexibility will ensure that the money market and by extension the market for loanable funds is maintained at equilibrium at all time.

2.2.4 Quantity Theory of Money

The quantity theory of money has its origin in the 16th century when the inflation increased following gold and silver inflows. As a consequence of this, Economist Henry Thornton in 1802

came up with an assumption that more money equals more inflation. The QTM claim that there is a direct relationship between the quantity of money in an economy and market prices. According to this theory therefore, doubling the amount of money in the economy would have the resultant effect of doubling the prices levels and this would lead to inflation.

Pegging of the interest rate to the CBR lowering of interest rates charged by the banks of money loaned out to their customers. This will mean that borrowing will become appealing to a majority of the market and therefore massive uptake of credit facilities by the population. This will cause excess liquidity in the economy, which in turn will push inflation levels up. Higher inflation levels will consequently cause exchange rates to rise as the local currency loses value against foreign currencies.

2.3 Macroeconomic Variables and Financial Performance

There are various determinants of financial performance of banks. Macroeconomic variables significantly affect the financial performance because they shape the operating environment as discussed below.

2.3.1 GDP

GDP is one of the financial performance determinants in almost all sectors. Growth in GDP is positively associated with economic development which means that more people has achieved a high standard of living and thus they can take part in banking activities which mean more business and improved financial performance for banks due to their significant intermediary role in money exchange.

2.3.2 Inflation

Inflation negatively affects economic growth by decreasing the GDP. Whether inflation affects financial performance positively or negatively depends on the ability of a bank to anticipate it. When a country anticipates inflation, banks adjust the rate of interest to ensure that revenues generated are higher than the cost of operation. Banks that do not anticipate an inflation fails to make proper adjustment and as a result the cost of operations increases at a higher rate than revenue generated. Boyd, Levine and Smith, (2001) reported a negative relationship between inflation and bank profitability. However Ameer (2015) asserts that most studies have found a positive impact of inflation on financial performance.

2.3.3 Interest Rate

Interest rate indirectly affects financial performance of banks through impacting economy. According to Khan and Sattar (2014) interest rate affects financial performance either positively or negatively depending on its movement. A decrease in interest rate to the depositors and an increase in spread discourage savings. Increase in interest rate to the depositor adversely affects the investment. Banking sector is the most sensitive to changes in interest rate as compared to other sectors because the largest proportion of banks' revenue comes from the differences in the interest rate that banks charge and pays to depositors.

Apart from macroeconomic variables bank specific and industry specific factors affects financial performance. Bank-specific variables are internal factors which can be controlled by the management such as those that originate from bank account (Owoputi, Kayode & Adeyefa, 2014). These factors are described by the CAMEL (capital adequacy, asset quality,

management, earnings, and liquidity) model which indicates the attributes for the bank financial analysis. The industry-specific factors are beyond the management but within the banking sector.

2.3.4 Bank Specific Factors

Bank specific factors also have an effect on their financial performance as reviewed hereunder.

Capital adequacy ratio (CAR) determines the ability of the banks to overcome situations that may threatens profits. According to Kamande (2017) the level of capital adequacy directly affects bank financial performance by determining its ability to expand to risky areas. The higher the CAR, the lower the risk and the higher the profitability due to ability to absorb losses and minimize risk exposure. However, over reliance on the CAR might reduce bank profitability by reducing the need for deposits and other cheaper sources of capital. Banks therefore need to ensure they maintain a quality portfolio of these assets as it determines their profitability. Loss associated with delinquent loans is the highest risk facing banking sector (Dang, 2011).

Asset quality shows a bank's asset risk situation and financial strength. It performs a crucial role in assessing the current situation of a bank and its future viability. Poor asset quality impairs bank profitability through decreasing the income of interest and increasing the provisioning cost.

Management efficiency influence financial performance and can be determined through organizational discipline, and quality of staff. It can be cited from various financial ratios for instance loan growth rate, earnings growth rate and total asset growth (Kapaya & Raphael, 2016). It can also be determined by the ration of operating expense to income which shows the degree of inefficiency. A higher increase in the operating expense than total income indicates that the management is inefficient.

The viability in the future of a bank depends on its ability to earn adequate returns by using its assets. The ability of a bank to earn enables it to increase funds, expand capital and improve its competitive position. The earning capability can be represented by net interest rate margin which shows the difference between the cost of interest bank's borrowed capital and bank income of interest received on loans and securities (Owoputi, Kayode & Adeyefa, 2014**)**.

Bank failures has been associated with insufficient liquidity. Holding liquid assets can help a bank to generate higher returns. Murerwa (2015) asserts that there is a positive correlation between the adequate level of bank liquidity and financial performance. Liquid asset protect banks against deposits that might require on demand payment and thus bank liquidity minimizes risk. However, liquid assets reduce the amount of funds for lending which in turn reduces bank profitability indicating a negative relationship liquidity and financial performance.

Bank size determines the extent to which a firm is affected by legal and financial factors. The size of the bank is also closely linked with the capital adequacy because large banks raise less expensive capital and thus generate huge profits. Bank size has a positive correlation with the return on assets indicating that large banks can achieve economies of scales that reduce operational cost and hence help banks to improve their financial performance. Magweva and Marime (2016) link bank size to capital rations claiming that they are positively related to each other suggesting that as the size increases profitability rises.

Credit risks are the exposure faced by banks when customers fail to honor the debt obligations at maturity or due date. Banks are highly exposed to credit risk because the main purpose of bank existence is to gran credit facilities (Kapaya & Raphael, 2016). Thus adequate management of credit is critical for the growth and survival of banks and failure to manage it may lead to

financial distress. Magweva and Marime (2016) posit that credit risk significantly influences the return on assets of the banks by affecting the interest income they generate. Credit risk negatively affects the financial performance of banks both in short and long run by reducing profits and increasing non-performing loans.

2.3.5 Industry Specific Factors

The bank performance is also affected by industry specific factors. The relationship between the financial performance of banks and ownership exists due to spillover effects from the higher financial performance of institutions that are privately owned compare to the government owned firms whose aim is not always to maximize profits. The publicly owned banks are more vulnerable to solvency threatening losses due to lower profits as compared to privately owned banks (Owoputi, Kayode & Adeyefa, 2014).

Market structures provide a basis for analyzing the competitive behavior of firms in a given industry. The degree of market concentration negatively affects competition but it is positively associated with profits. Khan and Sattar (2014) posit that the higher the market concentration, the less the level of competition and higher the profit. Therefore, banks located in more concentrated markets generate higher profits due to non-competitive behavior as compared to banks in less concentrated markets. In the concentrated markets banks can impose higher interest spreads by setting lower deposit rates and higher lending rates.

2.4 Empirical Review

Owoputi, Kayode and Adeyefa (2014) investigated the impact of variables (bank-specific, industry specific and macroeconomic) on bank performance in Nigeria. The study obtained data from the central bank of Nigeria publications and financial statements of ten banks from 1998 to

2012. Three macroeconomic variables were analyzed in this study: interest rate, inflation rate, and GDP. After applying a random-effect model, the researchers found a significant and positive effect of bank size and capital adequacy on profitability. Liquidity ratio and credit risk have a negative correlation on banks financial performance. The study found that industry specific variables do not affect bank financial performance. Out of the three macroeconomic variables investigated in this study, the empirical results showed a significant and negative effect of interest rate and inflation rate on bank profitability while GDP growth has an insignificant relationship.

Murerwa (2015) studied financial performance determinants in Kenyan banks. The study examined the industry specific, firm specific and macroeconomic variables that influence the financial performance of banks in Kenya. The researcher adopted a descriptive research design and gathered primary data from 44 commercial banks in Kenya. Secondary data from the central bank was also used. After analysis of the collected data using descriptive and inferential analysis, the study found that industry specific factors related to product innovation, competition and development of mobile banking affect bank profitability. 63% and 40% of the respondents agreed that product innovation and development of mobile banking significantly affects profits. On firm specific factors, the study found a positive correlation between capital adequacy and financial performance. Management efficiency positively affects financial performance of banks. For the macroeconomic variables, the study found that they have an insignificant impact on financial performance because they were relatively stable. However, volatility in exchange and interest rates significantly affects bank profitability. Bank specific factors that are controlled by the management affect banks profitability. It is clear that industry specific, bank specific and

macroeconomic variables have an impact on banks profitability. Thus, banks should manage these factors particularly those with the most impact.

Alemu and Negasa (2015) examined the determinants of commercial banks in Ethiopia. The study relied on data from banks over the period 2002 to 2013. The researcher adopted a quantitative approach because the data was secondary. The empirical results showed that industry specific, firm specific and macroeconomic variables have a significant effect on the financial performance of banks. Industry specific factors such as market share and ownership have a significant effect on the bank. However, inflation showed insignificant and positive relationship for financial performance measured by return on assets. The management of the banks has control over firm's specific factors, and thus it is possible to improve the performance by focusing on these factors such as bank size and capital structure. Predicting the effects of macroeconomic variables on bank performance can help commercial banks to improve their profitability.

Chimkono (2017) conducted a study on the impact of micro and macroeconomic variables on the financial performance of commercial banks of Malawi. It relied on secondary data which was gathered in for of audited financial reports and covered a fifteen year period from 2000 to 2014. The population of study constituted commercial banks licensed by the Malawi central bank. Publications prepared by the World Bank and reserved bank of Malawi were also used as sources of data. After using mixed research design that comprised of both descriptive and correlational research techniques the study found that independent variables (lending interest rate, cost efficiency, and asset quality) have a significant effect on the financial performance of commercial banks. Moderating variables (economic growth) has a significant effect on the independent variables. The study also found that the credit risk negatively affects the financial

performance of banks. Thus, a robust credit risk management system is needed to prevent an increase in non-performing loans to enhance financial performance by achieving a high asset quality.

Baba and Nasieku (2016) investigated the effect of macroeconomic factors on the financial performance of Nigerian commercial banks. The study adopted an explanatory research design and relied on secondary data gathered from banks annual reports, World Bank, Nigerian bureau of statistics and research centers. 23 licensed banks in Nigeria participated in this study. The study used return on equity (ROE) as a measure of financial performance. The empirical findings indicated that exchange rate, unemployment rate, and interest rate are negatively and significantly associated with the financial performance of banks while inflation has an insignificant relationship. An increase in exchange rate positively affects the financial performance of banks while an increase in the interest rates worsens financial performance. Based on these results, banks should implement measures to adjust their rates of lending money and financial activities to improve financial performance. Awareness of changes in interest rate and exchange rates can help banks to adjust accordingly to maximize their performance.

Kapaya and Raphael (2016) examine the effects of industry specific, firm specific and macro-economic factors on bank profitability in Tanzania banking industry for the period 1998 to 2010. The study adopted a quantitative approach and data for macroeconomic variables were obtained from World Bank database, stock exchange, and IMF's international financial statistics while bank specific factors were obtained from bank database. Three measures of financial performance were used for this study: net interest margin (NIM), ROE and ROA to measure profitability. After using a regression model, the study found that financial market development, credit risk, capital adequacy and credit facilities significantly affects ROA. Lack of credit risk

management contributes to bank failures due to inability to recognize impaired asset. By improving financial systems transparency banks can effectively evaluate credit risk and avoid exposure to these problems.

Ongore and Kusa (2013) examined the effect of macroeconomic and bank specific variables on the Kenyan bank performance. The study also investigated the role of ownership identity on banks profitability for the period 2001 to 2010. The data was gathered from 37 commercial banks in Kenya and analyzed using a linear multiple regression models. The study expressed the effects of these variables by NIM, ROE, and ROA. The empirical results revealed that bank specific factors significantly affect the financial performance of banks in Kenya. A strong correlation between poor asset quality and ROE was also found indicating that this variable strongly determines bank profitability. The relationship between liquidity management and the three performance indicators is insignificant. The effect of macroeconomic variables on bank profitability was inconclusive. GDP has a positive correlation with ROE and negative with NIM and ROA (-0.046 correlation coefficient with ROA). However, the relationship between GDP and these indicators was insignificant. Inflation has a significant and negative relationship with bank profitability (0.055 coefficient correlation with ROA). For the ownership identity, the study found that this variable has no significant moderating effect on bank performance. Based on these results, it is clear that banks with high-quality assets generate more profits than those with lower quality assets. Financial performance of Kenyan banks is not about maintaining high liquid asset but management efficiency, capital adequacy, and asset quality.

Nyanga (2012) investigated the determinants of financial performance of Kenyan banks for the period 2001 to 2010. The research was designed as an explanatory study, and all the 43 banks were participants. Data was gathered from the CBK and banking survey. After performing

regression analysis, correlation analysis and descriptive analysis the study found that exchange rates and capital adequacy were negatively correlated with ROE while inflation, GDP, size, liquidity, operating cost efficiency and capital adequacy had positive effects on ROA. The study also found that banks in Kenya have experienced a decline in performance on both ROE and ROA.

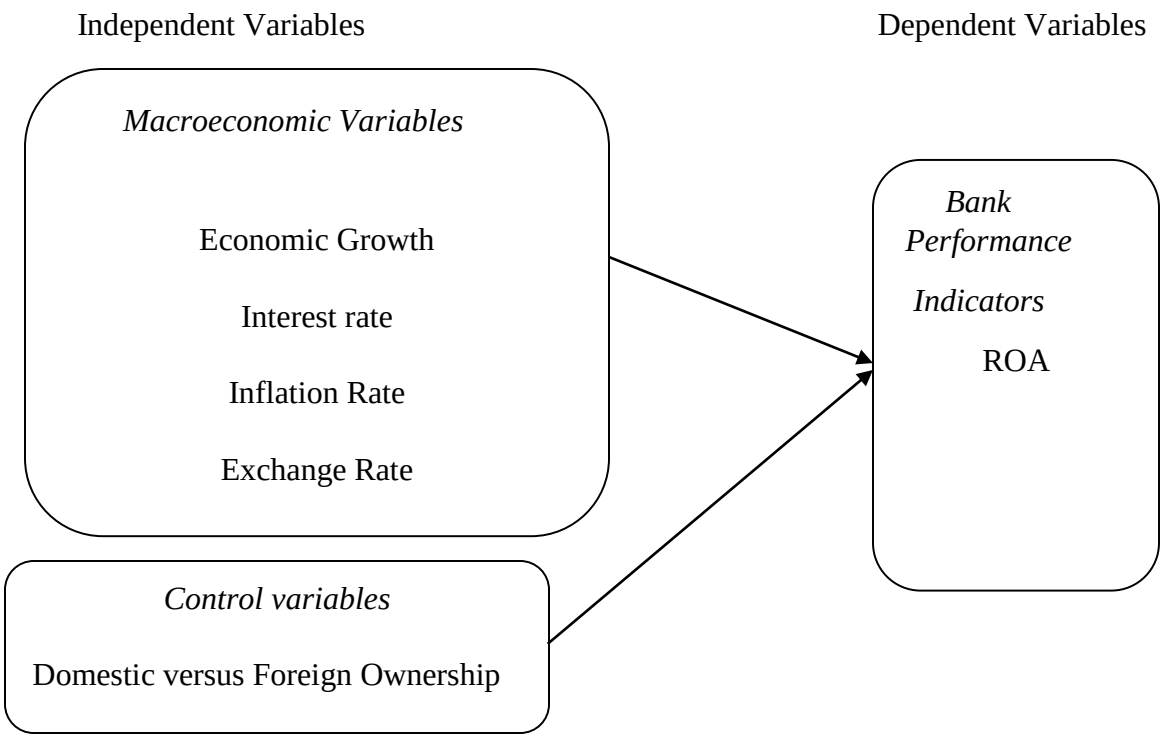
Kamande (2017) conducted a study to examine the effects of bank specific variables on the performance of banks in Kenya from the period 2011 to 2015. The variables tested included liquidity, earning ability, management efficiency, asset quality and capital adequacy. The study collected data from published financial statements of 11 banks which are listed in the Nairobi securities exchange. It adopted an explanatory approach, and multiple linear models were employed for data analysis. The study found that asset quality has the highest influence on the ROA. It also found that capital adequacy decreased significantly during the five year period. Banks should strive to keep their amount of non-performing loans at low levels and increase capital adequacy to improve their profitability. This can be achieved by adopting an efficient management system and retaining earnings to boost capital.

Kiganda (2014) performed an analysis of macro-economic variables (inflation, real GDP, and exchange rate) to determine their effects on bank performance in Kenya focusing on Equity Bank. Using 2008 to 2012 annual data from published Equity bank documents, and World Development Indicators the study found that the three macroeconomic variables have an insignificant effect on financial performance in Kenya. Therefore, bank profitability is determined in large part by internal factors which are related to bank management. Banks should strive to enhance managerial efficiency to realize higher profits.

The study conducted by Owoputi, Kayode and Adeyefa (2014) found that GDP had insignificant effect on financial performance. However, the researcher felt that this findings could be skewed for the Kenyan Banking sector as the population of its operating environment keeps growing as is expected to grow progressively into the future. With a grown population, the sector's market will expand substantially as there will be an increase in deposits and lending fueled by a larger market. The findings of Baba and Nasieku (2016) that an increase in interest rate will worsen financial performance may not be accurate for the Kenyan banking sector. The researcher expects increased interest rates to boost the profitability of the sector as the banks will reap more credit facilities extended to their customers. While Kiganda (2014) found out that bank's profitability is affected more by internal factors, the researcher is of the opinion that external factors (macroeconomic variables) would have a greater impact on the profitability as compared to the internal factors.

2.5 Conceptual framework

Bank performance is measured by use of ratios, such as ROA. This performance is affected by various variables in their operating environment. The conceptual framework seeks to provide a quick understanding of the anticipated relationship between the various variables and their effects on financial performance of the banking sector.



2.6 Summary of literature review

From the reviewed studies, several studies have been conducted to determine the factors that affect the financial performance of banks not only in Kenya but also in other countries. The theories have not drawn specific finding on the impact of variables they have highlighted specifically to the banking industry. The limitation of the empirical framework is that there lack consensus on the impact of macroeconomic variables banks' financial performance. Some studies reported that the impact of macroeconomic factors on bank profitability is insignificant whereas others established mixed results making it difficult to determine whether these variables affect bank profitability. The banks are currently operating in a changed macroeconomic environment and these previous studies were conducted in a different timeline and this study will seek to find out the effect of the current changes on the bank's financial performance and bridge this gap in knowledge.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the methodologies and procedures that were undertaken to examine the effects of the selected macroeconomic variables on the financial performance in Kenyan banks. In particular the chapter covers research design, population of study, sample design, data collection and data analysis.

3.2 Research design

The study employed descriptive case study research designs to describe the current status of the macroeconomic variables and determine the relationship between these variables and financial performance using statistical data. Descriptive designs portray the phenomena of interest while the regression method will describe the interrelationships among variable as accurately as possible. The descriptive design is the methodology of choice for this study because it measures the current status of two or more variables with an aim of establishing the relationship that exists between them. Thus, the descriptive design uncovered information about the current status of the four macroeconomic variables under study: inflation, interest rate, exchange rate, real GDP. Correlation method showed the link or relationship between variables. Empirical data for these macroeconomic variables was gathered to estimate the correlation coefficient between the selected macroeconomic factors and the financial performance of banks in Kenya to determine the degree of linear association between them. The research design was appropriate in highlighting the characteristic behavior of one variable due to another variable and establishing the relationship between the selected macroeconomic factors and financial performance of Kenyan banks.

3.3 Population

The study targeted all the licensed banks in Kenya as at 2016. According to the CBK there are 42 licensed commercial banks in Kenya.

3.4 Data Collection

The study relied on secondary data collected from financial performance of the commercial banks for a 10 years period beginning 2007 to 2016 analyzed quarterly due to the quantitative nature of the data to be collected. The 10 years period was chosen due to dynamic changes that have occurred in the banking industry in Kenya. A period of ten years provides a better way to determine the trends of the macroeconomic variables and their effects on financial performance on banks in Kenya. Secondary data related to the financial performance of the banks was also sourced from statistics maintained by the CBK. The study also used secondary data on the macroeconomic variables: interest rates, real GDP, inflation and exchange rate. The data for the interest rates was obtained from the websites of the banks. The data on exchange rate was obtained from CBK while that for real GDP and inflation was sourced from KNBS. The data is readily available and accessible by the public because it is published in the CBK and KNBS websites.

3.5 Diagnostic Tests

For this study, the following diagnostic tests were done to ascertain that the data is in line with basic assumptions of a linear regression model. Linearity show that two variables X and Y are related by a mathematical equation Y=bX where b is a constant number. The linearity test was obtained through the F-statistic in ANOVA. Normality is a test for the assumption that the residual of the response variable are normally distributed around the mean. This was determined

by Shapiro-walk test or Kolmogorov-Smirnov test. Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic (Khan, 2008).

Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more of the independent variables. This was tested by the determinant of the correlation matrices, which varies from zero to one. Orthogonal independent variable is an indication that the determinant is one while it is zero if there is a complete linear dependence between them and as it approaches to zero then the Multicollinearity becomes more intense (Burns & Burns, 2008).

3.6 Data Analysis

This study analysed the collected data using descriptive and regression analysis. These analysis models examined how the dependent variable is affected by the independent variables.

The independent variables comprised of growth in gross domestic product (GDP), inflation (INF), exchange rates (ER) and interest rates (IR). The variable that was used to measure financial performance for this ten year period was Return on Asset (ROA). This variable is relevant for the particular reason that it is a representation of an organization's financial performance and that it also has a correlation with the interest rates, inflation as well as economic growth.

3.6.1 Analytical Model

The study used the Ordinary Least-squares Regression model to measure the effect of the changing macroeconomic variables on the financial performance of the Kenyan banking sector. There was only a single dependent variable in this study contrary to the three employed in a previous study by Hermanto and Astute (2013).

Consequently, the model used in this study is;

$Y=\beta 0+ \beta 1X1+ \beta 2X2+ \beta 3X3+ \beta 4X4 + \varepsilon it$

Where:

Y = the average financial performance of the banking sector at time t, as expressed by ROA

$\beta 0$ = the regression coefficient

$\beta 1X1$ = the average quarterly inflation rate.

$\beta 2X2$ = the average quarterly interest rate charged by lenders.

$\beta 3X3$ = the average quarterly exchange rate between USD and Ksh.

$\beta 4X4$ = the average quarterly economic growth as measured by GDP.

εit= the error term in time t

3.6.2 Test of Significance

An error term was introduced which was a representative of all the other variables that affect the financial performance of the banking sector in Kenya not considered in this study. A test was performed to ascertain if the impact of the variables beyond the scope of this study is statistically significant. As such, an analysis of variance (ANOVA) was performed to test if there is a significant relationship between the dependent and independent variables.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter engrossed on the collected data analysis from the Central Bank of Kenya and Kenya National Bureau of Statistics to establish the effect of selected macro-economic variables on financial performance of the banking industry in Kenya. By use of descriptive statistics, correlation analysis and regression analysis, the results of the study were presented in table forms as shown in the following sections.

4.2 Diagnostic Tests

The researcher carried out diagnostic tests on the collected data. The null hypothesis for the test was that the secondary data was not normal. If the p-value recorded was more than 0.05, the researcher would reject it. The test results are as shown in Table 4.1.

Table 4.1: Normality Test

Dividend Payout	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
ROA	.165	40	.300	.869	40	.853
Interest rates	.173	40	.300	.884	40	.822
Economic growth	.171	40	.300	.881	40	.723
Exchange rates	.175	40	.300	.892	40	.784
Inflation	.178	40	.300	.896	40	.789
a. Lilliefors Significance Correction						

Source: Research Findings (2017)

Both Kolmogorov-Smirnova and Shapiro-Wilk tests recorded o-values greater than 0.05 which implies that the data used in research was distributed normally and therefore the null hypothesis was rejected. This data therefore was appropriate for use to conduct parametric tests such as Pearson's correlation, regression analysis and analysis of variance.

4.3 Descriptive Analysis

Table 4.2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	40	.8000	1.3227	1.057920	.1508992
Interest rates	40	2.1233	19.5200	8.010335	3.1788441
Economic Growth	40	5.7803	6.0219	5.893685	.0761285
Exchange rate	40	63	104	81.17	10.002
Inflation rate	40	2.7136	19.1870	8.290545	4.5644054
Valid N (listwise)	40				

Source: Research Findings (2017)

Descriptive statistics gives a presentation of the average, maximum and minimum values of variables applied together with their standard deviations in this study.

Table 4.2 above illustrates the descriptive statistics for the applied variables in the study. An analysis of all the variables was obtained using SPSS software for the period of ten years (2007 to 2016). ROA had a mean of 1.057 with a standard deviation of 0.151. Interest rates recorded a mean of 8.010 with a standard deviation of 3.179. Economic growth resulted to a mean of 5.894 with a standard deviation of 0.076. Exchange rates had a mean of 81.17 and standard deviation of 10.002 while inflation rate had a mean of 8.291 and a standard deviation of 4.564.

4.4 Correlation Analysis

Correlation analysis is relayed to find out if there subsists a relationship between two variables which lies between (-) strong negative correlation and (+) perfect positive correlation. Pearson correlation was employed to analyze the level of association between financial performance and the independent variables for this study (interest rates, economic growth, exchange rate and inflation rate).

The study found out a strong positive and statistically significant correlation ($r = .570$, $p = .000$) between economic growth and financial performance of the banking industry. In addition, the study found out that there was a significant strong positive correlation between exchange rates and ROA as evidenced by ($r = .535$, $p = .000$). Interest rates and inflation were found to have a weak positive and insignificant correlation with financial performance as evidenced by ($r = .190$, $p = .241$) and ($r = .072$, $p = .658$). Although the independent variables had an association to each other, the association was not strong to cause Multicollinearity as all the r values were less than 0.70. This implies that there was no Multicollinearity among the independent variables and therefore they can be used as determinants of financial performance of the banking industry in regression analysis.

Table 4.3: Correlation Analysis

		ROA	Interest rates	Economic Growth	Exchange rate	Inflation rate
ROA	Pearson Correlation	1	.190	.570**	.535**	.072
	Sig. (2-tailed)		.241	.000	.000	.658
	N	40	40	40	40	40
Interest rates	Pearson Correlation	.190	1	.297	.298	.448**
	Sig. (2-tailed)	.241		.062	.061	.004
	N	40	40	40	40	40
Economic Growth	Pearson Correlation	.570**	.297	1	.610**	-.110
	Sig. (2-tailed)	.000	.062		.000	.498
	N	40	40	40	40	40
Exchange rate	Pearson Correlation	.535**	.298	.610**	1	.029
	Sig. (2-tailed)	.000	.061	.000		.860
	N	40	40	40	40	40
Inflation rate	Pearson Correlation	.072	.448**	-.110	.029	1
	Sig. (2-tailed)	.658	.004	.498	.860	
	N	40	40	40	40	40
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: Research Findings (2017).

4.5 Regression Analysis

Financial performance as measured by ROA was regressed against four predictor variables; interest rates, economic growth, exchange rates and inflation rate. The regression analysis carried out at 5% significance level. The critical value obtained from the F – table was done in comparison with the same acquired from the regression analysis.

The study obtained the model summary statistics as shown in table 4.4 below.

Table 4.4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.589[a]	.346	.272	.1287766	1.670

a. Predictors: (Constant), Inflation rate, Exchange rate, Interest rates, Economic Growth

b. Dependent Variable: ROA

Source: Research Findings (2017).

R squared, being the coefficient of determination indicates the deviations in the response variable that resulted through variations in the predictor variables. From the outcome in table 4.4 above, the R square value was 0.346, a discovery that 34.6 percent of the deviations in financial performance of commercial banks is caused by changes in interest rates, economic growth, exchange rates and inflation rates. Other variables not included in the model justify for 65.4 percent of the variations in financial performance of commercial banks in Kenya. Also, the results revealed that there exists a strong relationship among the selected variables that are independent and the financial performance of the banking sector as shown by the correlation coefficient (R) equal to 0.589. A durbin-watson statistic of 1.670 indicated that the variable residuals were not serially correlated since the value was more than 1.5.

Table 4.5: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.308	4	.077	4.638	.004[b]
	Residual	.580	35	.017		
	Total	.888	39			

a. Dependent Variable: ROA

b. Predictors: (Constant), Inflation rate, Exchange rate, Interest rates, Economic Growth

The significance value is 0.004 which is less than p=0.05. This implies that the model was significant statistically in forecasting how interest rates, economic growth, exchange rates and inflation rates affect financial performance of commercial banks in Kenya.

Coefficients of determination were used as indicators of the relationship direction between the independent variables and financial performance of commercial banks. The p-value under sig. column was used as an indicator of the relationship significance between the dependent and the independent variables. At 95% confidence level, a p-value of less than 0.05 was interpreted as a measure of statistical significance. As such, a p-value above 0.05 indicates a statistically insignificant association between the variables which are dependent and the independent variables. The results are as shown in table 4.6

Table 4.6: Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-6.322	3.846		-1.644	.109
	Interest rates	-.003	.008	-.068	-.408	.686
	Economic Growth	1.254	.718	.633	1.747	.089
	Exchange rate	.000	.005	-.025	-.073	.942
	Inflation rate	.006	.006	.173	1.028	.311

a. Dependent Variable: ROA

Source: Research Findings (2017).

From the above results, it is evident that none of the selected independent variables produced statistically significant values for this study as indicated by low t-values and p-values that are more than 0.05.

The following regression equation was estimated:

$Y = -6.322 -0.003X_1 + 1.254X_2 +0.000X_3+0.006X_4$

Where,

Y = ROA

X_1= Interest rates

X_2 = Economic growth

X_3 = Exchange rates

X_4 = Inflation rates

On the estimated regression model above, the constant = -6.322 shows that if selected independent variables (interest rates, economic growth, exchange rates and inflation rates) were rated zero, ROA will be -6.322.

4.6 Discussion of Research Findings

The study pursued to find out the relationship between selected macro-economic variables and financial performance of the banking industry in Kenya. Interest rates as measured by the lending rate, economic growth as measured by GDP, exchange rates as measured by KSH/USD and inflation rate as measured by CPI were the independent variables while financial performance of the banking industry as measured by return on assets was the dependent variable. The effect of each of the independent variable on the dependent variable was analyzed in terms of strength and direction.

The Pearson correlation coefficients between the variables revealed a strong positive correlation existing between economic growth and financial performance of the banking industry. Exchange rates and financial performance of the banking industry were also found to have a strong positive correlation. The research also exhibited existent of a weak positive correlation relationship between interest rates and financial performance of commercial banks while inflation was found to have a weak and insignificant positive correlation with financial performance in the banking industry.

The model summary revealed that the independent variables: interest rates, economic growth, exchange rates and inflation rates explains 34.6% of changes in the dependent variable as indicated by the value of R^2 which implies that there are other factors not included in this model that account for 65.4% of changes in financial performance of the banking industry. The model is

fit at 95% level of confidence since the F-value is 4.638. This implies that total multiple regression model is significant statistically, in that it is an appropriate forecast model for explaining how the independent variables selected affects financial performance of the banking sector in Kenya.

This study finding are in line with Kiganda (2014) who performed an analysis of macro-economic variables (inflation, real GDP, and exchange rate) to determine their effects on bank performance in Kenya focusing on Equity Bank. Using 2008 to 2012 annual data from published Equity bank documents and World Development Indicators the study found that the three macroeconomic variables have an insignificant effect on financial performance in Kenya. Therefore, bank profitability is determined in large part by internal factors which are related to bank management. Banks should strive to enhance managerial efficiency to realize higher profits.

This study is in contrast with Baba and Nasieku (2016) who investigated the effect of macroeconomic factors on the financial performance of Nigerian commercial banks. The study adopted an explanatory research design and relied on secondary data gathered from banks annual reports, World Bank, Nigerian bureau of statistics and research centers. 23 licensed banks in Nigeria participated in this study. The study used return on equity (ROE) as a measure of financial performance. The empirical findings indicated that exchange rate, unemployment rate, and interest rate are negatively and significantly associated with the financial performance of banks while inflation has an insignificant relationship. An increase in exchange rate positively affects the financial performance of banks while an increase in the interest rates worsens financial performance. Based on these results, banks should implement measures to adjust their rates of lending money and financial activities to improve financial performance. Awareness of

changes in interest rate and exchange rates can help banks to adjust accordingly to maximize their performance.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings of the previous chapter, establishments, limitations encountered during the research study. This chapter also elucidates the policy recommendations that policy makers can implement to achieve the expected financial performance of commercial banks in Kenya. Lastly the chapter presents suggestions for further research which can be useful to future researchers.

5.2 Summary of Findings

The study search to explore the effect of selected macro-economic variables on financial performance of commercial banks in Kenya. The variables that were independent for the study were interest rates, economic growth, exchange rates and inflation rates. The study adopted a descriptive case study research design. Secondary data was obtained from CBK and KNBS and was analyzed using SPSS software version 21. The study used quarterly data for the commercial bank industry covering a ten year period from January 2007 to December 2016.

From the results of correlation analysis, the Pearson correlation coefficients between the variables revealed a strong positive correlation existing between economic growth and financial performance of the banking industry. The relationship between exchange rates and financial performance of the banking industry was also found to be strong and positive. The research also exhibited existent of a weak positive relationship between interest rates and financial

performance of commercial banks while inflation was found to have a weak and insignificant positive relationship with financial performance in the banking industry.

The co-efficient of determination R-square value was 0.346 which means that about 34.6 percent of changes in financial performance of banking industry in Kenya can be expounded by the four selected independent variables while 65.4 percent in the variation of dividend payout ratio was associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with financial performance of the banking industry (R=0.589). ANOVA results show that the F statistic was significant at 5% level with a p=0.004. Therefore the model explanation of the relationship between the selected variables was fit.

The regression results show that when all the independent variables selected for the study have zero value financial performance will be -6.322. Analysis of model coefficients revealed that none of the four selected independent variables (interest rates, economic growth, exchange rates and inflation rates) produced statistically significant values for this study. This implies that individually none of the selected independent variables is a significant determiner of financial performance in the banking industry.

5.3 Conclusion

As a result of the study outcomes, the study concludes that financial performance of the banking industry in Kenya is significantly affected by interest rates, economic growth, exchange rates and inflation rates when they are combined. However, individually none of these variables is a significant determiner of financial performance of the banking industry. The study therefore

concludes that an increase in interest rates, economic growth, exchange rates or inflation rate do not significantly influence the prevailing financial performance of the banking industry.

This study concludes that independent variables selected for these study interest rates, economic growth, exchange rates and inflation rates influence to a large extent financial performance of banking sector in Kenya. It is therefore sufficient to conclude that these variables significantly influence the financial performance as shown by the p value in Anova summary. The fact that the four independent variables explain 34.6% of changes in dividend payout ratio imply that the variables not included in the model explain 66.4% of changes in dividend payout ratio.

This finding concurs with Kiganda (2014) who performed an analysis of macro-economic variables (inflation, real GDP, and exchange rate) to determine their effects on bank performance in Kenya focusing on Equity Bank. Using 2008 to 2012 annual data from published Equity bank documents, and World Development Indicators the study found that the three macroeconomic variables have an insignificant effect on financial performance in Kenya. Therefore, bank profitability is determined in large part by internal factors which are related to bank management. Banks should strive to enhance managerial efficiency to realize higher profits.

5.4 Recommendations

The study established that although there is a negative influence of interest rates on financial performance of the banking industry, the influence is not statistically significant. This study recommends that there is need for central bank to regulate the interest rate levels prevailing in the country bearing in mind that they influence financial performance in the banking industry.

The study found that exchange rates have a positive influence on financial performance in the banking industry. This study recommends that policy makers should regulate prevailing exchange rates as depreciation in exchange rates may lead to decreased financial performance of the banking industry. Economic growth and inflation rates were found to have a positive relationship with financial performance in the banking industry. The variables were however found to be insignificant determinants of financial performance. This study recommends that policy makers should pay attention to the prevailing rates of these selected independent variables as they can negatively affect financial performance in the banking industry.

5.5 Limitations of the Study

The scope of this research was for ten years 2007-2016. It has not been determined if the results would hold for a longer study period. Furthermore it is uncertain whether similar findings would result beyond 2016. A longer study period is more reliable as it will take into account major economic conditions such as booms and recessions.

One of the limitations of the study is the quality of the data. It is difficult to conclude from this research whether the findings present the true facts about the situation. The data that has been used is only assumed to be accurate. The measures used may keep on varying from one year to another subject to prevailing condition. The study employed secondary data in the public domain, which had already been obtained, unlike the first-hand information presented by primary data. The study also considered selected determinants of and not all the factors affecting financial performance of the banking industry mainly due to limitation of data availability.

For data analysis purposes, the researcher applied a multiple linear regression model. Due to the shortcomings involved when using regression models such as erroneous and misleading results

when the variable values change, the researcher cannot be able to generalize the findings with certainty. If more and more data is added to the functional regression model, the hypothesized relationship between two or more variables may not hold.

5.6 Suggestions for Further Research

This study focused on selected macro-economic variables and financial performance of the banking industry and relied on secondary data. A research study where data collection relies on primary data i.e. in depth questionnaires and interviews covering all the 42 commercial banks registered with the Central Bank of Kenya is recommended so as to compliment this research.

The study was not exhaustive of the independent variables affecting financial performance of the banking industry of commercial banks in Kenya and this study recommends that further studies be conducted to incorporate other variables like growth opportunities, industry practices, a firm lifecycle stage, political stability and other macro-economic variables. Establishing the effect of each variable on financial performance will enable policy makers know what tool to use when controlling the financial performance.

The study concentrated on the last ten years since it was the most recent data available. Future studies may use a range of many years e.g. from 1970 to date and this can be helpful to confirm or disapprove the findings of this study. The study limited itself by focusing on financial institutions. The recommendations of this study are that further studies be conducted on other non-financial institutions operating in Kenya. Finally, due to the shortcomings of regression models, other models such as the Vector Error Correction Model (VECM) can be used to explain the various relationships between the variables.

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APPENDICES

Appendix I: List of Licensed Commercial Banks as at December, 2016

No.	Name of Bank
1.	African Banking Corporation Limited
2.	Bank of Africa Kenya Limited
3.	Bank of Baroda (K) Limited
4.	Bank of India
5.	Barclays Bank of Kenya Limited
6.	Stanbic Bank Kenya Limited (Formerly CfC Stanbic Bank Ltd.)
7.	Charterhouse Bank Limited
8.	Chase Bank (K) Limited
9.	Citibank N.A Kenya
10.	Commercial Bank of Africa Limited
11.	Consolidated Bank of Kenya Limited
12.	Co-operative Bank of Kenya Limited
13.	Credit Bank Limited
14.	Development Bank of Kenya Limited
15.	Diamond Trust Bank Kenya Limited
16.	Ecobank Kenya Limited
17.	Spire Bank Limited **(**Formerly Equatorial Commercial Bank Limited**)**
18.	Equity Bank Limited
19.	Family Bank Limited

20.	Fidelity Commercial Bank Limited
21.	Guaranty Trust Bank (K) Ltd (Formerly-Fina Bank Limited)
22.	First Community Bank Limited
23.	Giro Commercial Bank Limited
24.	Guardian Bank Limited
25.	Gulf African Bank Limited
26.	Habib Bank A.G Zurich
27.	Habib Bank Limited
28.	Imperial Bank Limited
29.	I & M Bank Limited
30.	Jamii Bora Bank Limited
31.	KCB Bank Kenya Limited
32.	Sidian Bank Limited (Formerly K-Rep Bank)
33.	Middle East Bank (K) Limited
34.	National Bank of Kenya Limited
35.	NIC Bank Limited
36.	M-Oriental Commercial Bank Limited
37.	Paramount Bank Limited
38.	Prime Bank Limited
39.	Standard Chartered Bank Kenya Limited
40.	Transnational Bank Limited
41.	UBA Kenya Bank Limited

42.	Victoria Commercial Bank Limited

Appendix II: Research Data

Year	Quarter	ROA	Interest rates	Economic Growth	Exchange rate	Inflation rate
2007	March	0.9300	7.9500	5.7803	72.3507	8.4297
	June	0.8700	6.8767	5.7852	72.4360	4.3276
	September	0.8600	6.1000	5.7912	72.9733	4.8762
	December	0.8300	6.3233	5.7907	70.4550	6.5868
2008	March	0.9100	6.1800	5.7959	69.6837	3.3522
	June	0.9000	6.6500	5.8028	67.2787	2.7136
	September	0.8400	7.0567	5.8044	67.1563	5.3447
	December	0.8000	7.4733	5.8059	64.7377	5.6318
2009	March	0.8900	7.0333	5.7987	67.4623	10.4886
	June	0.8600	7.3367	5.8079	62.9530	17.4374
	September	0.8300	7.9267	5.8098	69.7567	15.8801
	December	0.8800	7.9433	5.8066	78.4150	16.5733
2010	March	1.1000	8.2000	5.8469	79.8873	14.1357
	June	1.1563	7.3667	5.8523	78.0560	10.6038
	September	1.1172	7.2733	5.8588	75.9463	9.7564
	December	1.1800	7.2567	5.8614	75.3220	7.9788
2011	March	1.0700	6.5300	5.8692	76.7047	5.5350
	June	1.1053	5.1200	5.8817	79.6427	3.6742
	September	1.1350	2.1367	5.8981	80.6930	3.3295
	December	1.3050	2.1233	5.9085	80.8377	3.8434
2012	March	1.1762	2.4433	5.9065	82.2083	7.0491
	June	1.2955	3.7933	5.9110	86.3290	13.1629
	September	1.2000	9.0567	5.9176	94.8513	16.5125
	December	1.2400	14.2900	5.9288	91.5223	19.1870

Year	Quarter	ROA	Interest rates	Economic Growth	Exchange rate	Inflation rate
2013	March	1.1653	19.5200	5.9263	83.5383	16.8574
	June	1.3227	14.9967	5.9277	84.7580	11.7655
	September	1.1832	10.9900	5.9365	84.6057	6.3727
	December	1.2326	8.8500	5.9528	85.7140	3.5257
2014	March	1.1851	8.2533	5.9504	86.4953	4.0786
	June	1.2663	9.9067	5.9541	84.9843	4.3669
	September	1.0877	7.3867	5.9638	87.1743	6.9956
	December	1.1141	9.7467	5.9720	86.1500	7.4224
2015	March	1.1068	9.3133	5.9696	86.3343	6.7757
	June	1.1003	8.8667	5.9767	87.4317	7.0334
	September	1.0222	9.2933	5.9824	88.4923	7.5368
	December	1.0500	8.5633	5.9902	90.0430	6.1765
2016	March	1.2331	8.5867	5.9924	91.8107	5.8167
	June	1.1123	8.3900	6.0021	97.0067	6.9943
	September	1.1634	10.1233	6.0083	103.8947	6.1421
	December	1.2137	7.1867	6.0219	102.0750	7.3512