THE EFFECT OF MACRO-ECONOMIC VARIABLES ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKING SECTOR IN KENYA

BY:

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DECLARATION

I, hereby, declare that this work has not been presented to any institution of higher learning other than to the University of Nairobi for examination and that it is my original work.

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DEDICATION

I am going to dedicate this research Project to my loving husband Jeremiah Mutai, my dad Julius Morugoiwo and late mum Rufina Morugoiwo. I also wish to recognise my sisters (Scola, Sheila, Celestine, Salome, Edith and Annette) and brothers (Titus and Enoch) as they have served as important pillars to provide me with constant inspiration at all times. They gave are the source of the necessary motivation and personal will to confront any role with determination and enthusiasm. Their support and love has granted me the chance to submit of this project, otherwise it would have been impossible.

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ABBREVIATIONS

ANOVA-   Analysis of Variance

ATM-   Automated Teller Machine

CAPM-   Capital Asset Pricing Model

CBK-   Central Bank of Kenya**-**

CEO   Chief Executive Officer

CPI-   Consumer Price Index

EMH-   Efficient Market Hypothesis

GDP-   Gross Domestic Product

GOK-   Government of Kenya

KRA-   Kenya Revenue Authority

MPT-   Market Pricing Theory

NIM-   Net Interest Margin

NSE-   Nairobi Securities Exchange

ROA-   Return on Assets

ROE-   Return on Equity

ROI-   Return on Investments

ABSTRACT

In financial history, banks are known to be necessary for the overall system. Banks, mobilize savings and demand deposits and extend credit, on the other. In this way, they turn illiquid assets into liquid assets. The interrelation between macroeconomic factors, which refer to the banking system environment where it functions, has been debated by scholars, which also includes the operations of firms in the current phenomenon. It is frequently concluded that some core factors, which are macroeconomic, for instance, the impact brought about by inflation, fluctuating interest charges, and currency exchange ratio, are causes of how a company performs. This study thus going to analyse the impression of macro-variables on the fiscal performance of profitmaking banking sector in Kenya. The efficient market hypothesis, modern portfolio theory, and behavioural finance theory were reviewed as strategic fundamental theories guiding the study. This study combines a mixed research design that is designed to use descriptive and correlational research methods. The research employed secondary statistics that has been composed from macroeconomic variable. It is these statistics that are then used in the process of calculating the value of real gross domestic product (GDP), lending interest ratio applied by banking institutions as well as the prevailing exchange ratio. This able to correlate with the used consumer price index for price changes. The statistics that were used were collected from a period of ten years between 2009 and 2018. Data were examined through the procedure of descriptive statistics plus inferential statistics. These combine to develop the correlation and multiple regression analysis. The study revealed the existence of a significant as well as confident affiliation between real GDP and ROA, whereas the association between interest rates and ROA was positive but insignificant, respectively. The results further show the association between price increases and ROA was positive and significant, while the relationship between the exchange rate and ROA was negative and insignificant, respectively. The study concluded that there was a significant and positive relation between Real GDP, inflation, and commercial banks' financial performance but a negligible relationship between the interest rate and exchange rates and bank performance. The study recommended that the government should ensure that they are continuous growth of the economy to enhance the profitability of the banking sector since this sector is an important sector that enhances financial intermediation. The study also endorsed that the management of moneymaking banks has to set favourable interest rates so that they can lend to businesses and individuals, which in turn enhances interest income. Besides, the study recommended that the central bank should undertake measures to combat inflation to ensure that it does not harm the fiscal outcomes of institutions.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In fiscal history, banks remain a necessary element of the entire fiscal industries. Banks, mobilize savings and demand deposits and extend credit, on the other. In this way, they turn illiquid assets into liquid assets (Diamond & Dybvig, 1983). The stimulation of commercial development and growth is determined by the strength of banks, which enhances employment creation, foreign and local investment, and improvement of lives (Kyalo, 2002). Through their intermediation activities, banks facilitate the development process of an economy. Therefore, for this critical role of banks to be sustainable, banks need to financially perform satisfactorily to enable them efficiently undertake their intermediation role (Gutu, 2015). More strides need to be done despite the significant milestones that have altered the direction of the industry. CBK recognizes that Kenya's vision 2030 can only be achieved through the concerted efforts of all financial sector stakeholders, given the growing trend towards financial sector integration, both in Government and the private sector (CBK, 2017).

The interrelation between macroeconomic factors that refer to the banking system environment where it operates has been studied significantly over the years, which also includes the performance of firms in the current phenomenon. It is frequently concluded that some macroeconomic core factors, which include, interest rates, inflation, plus currency exchange rate, are able to indicate the direction of performance. The result of this is that the variables in macroeconomic impact Peoples' investment decision and

prompt immeasurable investigators to explore the connection between investment opportunities and macroeconomic factors (Gan et al., 2006).

The pecuniary segment in Kenya is mainly bank-centered since the principal marketplace is yet deemed constricted and light (Ngugi et al., 2006). This sector is controlled by Kenya's banks. This is resulting in the methodology of intermediation in the country's financials relays greatly on banks, especially commercial ones (Kamau, 2009). There is a link that embraces the country's economy together in the Kenyan banking subdivision, as concluded by (Oloo, 2009). Agricultural and manufacturing, which are major Segments, essentially hinge on this sector for their actual existence and progression. Over a period of last ten years this industry performance(banking industry) has greatly upgraded gradually and only three banks failed to meet the CBK statutory requirement and have been put under it as compared to a large number of banks in the previously same period where 37 banks were put under CBK statutory between 1986 to 1998 (Mwega, 2009).

1.1.1 Macroeconomic Variables

The general economy is dependent on the macro-economic variables elements, and both affect a significant part of the population at the national and regional level rather than a select number of people. Such factors determine the operational efficiency of commercial banks and are external and beyond the control of the bank (Agade, 2014). Macroeconomics is a comprehensive field of the financial market as a whole, including the regulatory and legal framework within which the bank operates. The superiority of bank loans is directly determined by the rate of inflation, interest rates, in addition to Real GDP rates, monetary flow, and currency exchange charges.

The interest ratio is determined through the cost the borrower incurs consuming the funds obtained from a lender or an economic intermediary. Another definition explains it to be the cost a debtor incurs to gain financial resources obtained from a financier or premium based on borrowed possessions (Ombaba, 2013). Lending interest rates designates price borrowers to pay for funds obtained and, thus, the debt service fee. Rise of interest rate results in extra liability obligations plus the equal to NPLs (Curak, Poposki & Pepur, 2012). An upsurge in the real lending rate upturns the actual worth of the borrowers' commitment also absolutely variations, resulting in more costly debt. Banks charging high interest are unprotected by a greater number of defaults or NPLs (Tsumake, 2016).

GDP is said to be the stunning charge of goods or services available in the market produced by an economy of a given country. It can also be understood to be the income total achieved by the people domiciled in a country (Anjom & Karim, 2016). A country's economic success is indicated by, among other factors, the GDP. The real GDP is economic quantifies the economic output in terms of value adjusted for price changes (Nanteza, 2015). The growth in GDP reflects a conducive economic environment that benefits both business units and households. In the conducive economic condition, households and business incomes are enhanced, and borrowers' ability to service their debts is improved (Curak, Poposki & Pepur, 2012).

The countries use the exchange ratio as a financial medium of financial transactions. The exchange rate of a given money of a country is the determinant based on the import and export process. (Gurloveleen & Bhatia, 2015). Variability or stability of exchange rate fluctuation a major concern that determines the extent and direction of commerce and foreign trade. The exchange ratio has a major purpose in worldwide trade, where it is used

to fix prices and determine the circumstances of hedging to avoid the peril associated with the exchange rate (Ramasamy & Abar, 2015). The actual value may cause losses on foreign-denominated loans, which is common in developing markets. Changes in the exchange rate may also affect households and business debt burden due to currency mismatch (Curak, Poposki & Pepur, 2012)

The value of goods and services in a nation may generally increase, and this is referred to as the inflation rate (Nanteza, 2015). The high inflation rate can result in an increase in borrowers' recompense ability through limiting the existing value of the outstanding money that is owed. In addition to this, an increase in inflation tends to reduce borrowers' loan repayment capability through limiting the real income if wages or salaries endured significantly (Tsumake, 2016). The money supply can be taken to be the total money available for circulation in a given country. Money is a store of value since it can be traded for its value. The exchanges of economic transactions are dependent on it as its medium (Gurloveleen & Bhatia, 2015).

1.1.2 Financial Performance

Financial performance is understood to be an evaluation that looks at the efficient company utilization of its resources to generate earn profit in its primary basis of operation. The performance is an explanation of the overall quantifier of an organisation's general monetary standing over a certain duration, and it is commonly relied upon in determining the difference in the performance of entities in similar market spheres or comparison of companies in aggregates. Individual items in the same line, such as total income from a firm's daily operational activities, operational cash flow, and operating income, among others, can be used. Furthermore, an interested party such as a financial analyst uses

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financial statements in carrying out an analysis of the growth rates margin and declining debt (Maria et al., 2002).

The basic financial features of financial efficiency that is employed by the functional banks include: Earnings per share which calculates the proportion of a corporation turnover assigned to the overall value of mutual shareholding left behind, Return on Equity that is calculation of net income using shareholders equity as a basis of understanding the value, yield in sales, Return on investment (ROI), as well as sales growth. The popular ratios values that can calculate the value of performance in a business organization are summarized as growth and profitability and they include: return on asset (ROA), operational efficiency return on equity (ROE), return on investment (ROI), and return on sales (ROS), stock price, liquidity, sales growth, and revenue growth. ROE and ROA are usually useful key financial quantifiers in dictating the level of commercial banks' financial performance (Maria et al., 2002).

1.1.3 Effect of Macro-economic Factors and Bank Fiscal Performance

Project financing is highly discouraged by commercial banks' high-lending rates trend, and this leads to equally efficient equity financing taking the lead though they are relatively expensive. High-treasury bill rates encourage investments on additional tools of government. They (Treasury bill) contest with stocks, deposits, and bonds towards the investment by shareholders. As the need for demand deposits and stock market instruments reduces, it results in an ultimate decrease in their prices. Anticipated correlation resulting in Treasury bill rates and financial performance is, therefore, negatively influenced and also has a positive influence concerning lending rates (Maghyereh, 2002).

Financial economists have talked about how investors look to conclude that macroeconomic features and monetary policy have a big role continuously, leading to a change in financial performance (Muchiri, 2012). Pricing and business outcomes are affected by Economic factors. They are designed to ascertain the influence that they have on dynamic investment options, pricing factors, and elements that trigger speculative dividends. Muchiri (2012) talks about how earlier studies indicate that the consumer price index is an essential ideal that constitutes several macroeconomic variables. These variables are discount rate, price increase, and the goods market, as concluded by (Gan et al., 2006).

In Mexico, a study by Garcia-Garza (2011) found that the Mexican banking sector, the main determinants of increase in bank performance were increased loan intensity and GDP growth, but inefficiency was caused by non-performing loans, increased noninterest expenses, and inflation rate. In developing countries, various factors are employed to calculate the productivity of commercial institutions. Some are business-specific characteristics, industry-specific characteristics, derived from the macro environment, third world countries, ownership is considered as a basic industry-specific determinants in most developing country studies. Other factors included inflation, which is normally caused by economic instability within these countries. Additionally, economic growth measured by GDP was another key factor, in addition to bank size and the level of NPL, just to mention a few.

Several studies within sub-Saharan Africa fall within this category. Sandrine Kablan (2010) undertook a study on bank effectiveness and determinants in sub-Saharan Africa. They are determined in such a manner that they help in assessing different levels of

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economic prosperity as well as the good organization form of banks within this part of the world. The study observed that most Sub Saharan African countries were found to be cost-efficient; however, the NPL was found to undermine the efficiency of these banks, which called upon the improvement in regulatory and credit environment. Furthermore, the political and economic environment has affected the outlook and economic progress in regions of Africa, which resulted in the lowering of efficiency levels.

The economic environment develops a specific risk issue that directly correlates to all participants in a country. Economy Performance and progression a r e calculated in terms of macroeconomic aggregates, which include the total amount of goods produced, generally rise in price levels, employment level, the supply of money for trading, and changes in the exchange rate and industrial capacity utilization.

1.1.4 Commercial Banks in Kenya

Our republic at present features 43 operating and accredited money-making financial banks.40 belong to individuals in the economy, in addition the Government has a controlling share in 3 institutions. The 40 banks owned privately have 25 that belong to local individuals, while 15 are owned by foreigners (locals only have a minority stake in the business). Of the 25 institutions owned locally, 24 are money-making banks and one mortgage provider. There are 14 foreign-owned establishments, which are distinctively business oriented banks. This includes 11 local subsidiaries of foreign banks with three divisions under the banking institutions based in foreign markets (CBK, 2017). Deposits in for profit banks mainly come from individual depositors. These banks then lend these funds in the form of loans to other customers at higher interest rates, thereby earning a profit.

A three phase's review expounds on financial sector growth and development in Kenya (Athanasoglou et al., 2005). Between the early 1970s and 1980s, the first phase believed to have taken place by then. The banking sector by then has immensely taken dominance during this time as compared to the financial sector as this sector was characterized by financial repression. In applying unswerving tools of monetary policy, the administration in governance featured a great deal when it comes to division of credit for investments and extensively brought a turn around on the sector. (Athanasoglou et al., 2005). Late years of the 1980s and initial 1990s years, there were structural adjustments programs and liberalization which spearheaded the second phase. This period was characterized by the moderation of the rates affecting general price increase and principal accounts controls, which remained been observed. A sector initiating slight interest rates that are diverse, upturn obtainability of financial resources over-amplified investments, improve effectiveness in credit apportionment hence the growth in investments catering for an essential need of reforms in the financial sector.

Monetary policy formulation was also meant to be triggered by encouraging its use through liberalization as an indirect tool. The age of invention in the financial sector incorporating developing fiscal instruments characterized its third phase in the late 1990s. Fresh products emerged in the sector comprising of mobile banking, automatic teller machines (ATMs), Islamic sharia finance, mobile money, together with electronic-money (e-money) midst with others rest came up and were witnessed in this sector (Athanasoglou et al., 2005). Kenya's banking industry operates under some Acts, and these Acts are the Companies Act, the Banking Act, the Central Bank of Kenya Act, and frequently additional provident procedures dispensed under the mandate of the controlling agency,

that is, the Central Bank of Kenya when a need arises. The Acts are complemented with the guidelines wholly have the rules and controls governing the whole banking industry facilitating the controls thrilling in the direction of the administration and reasonable facilities (CBK, 2012).

Assets and financial performance growth have continually been experienced in the past number of years in Kenya's banking sector. This been propelled by expansion strategies and computerization of a great number of services in meeting the entire complex needs of the customers. This has resulted in a great progression and expansion of the sector in Kenya and other markets within Africa as well. The CBK annual supervision report of 2015 talks about how banking institutions coping continuously with the dynamic market changes and a constant stream of demands and stipulations through a strong ICT basis. Consumers though constant vigilance prefer customized options, and the availability for them will be rapid as compared to prior periods. These financial firms will have to continuously determine features within new innovative offerings that enhance their ability to be impactful to the market. CBK (2015) concludes that through deposit licensing of the microfinance institution, there would be experienced drop in the retail industry which has a desire to achieve a positive progression.

1.2 Research Problem

Among the various micro and macro-economic factors that affect a banking system, non-performing loans pose a worrisome impression to the lucrativeness of financial institutions as they affect the economic stability of an economy as a whole (Wangai, Bosire & Gathogo, 2014). By affecting the profit stability of the economy of a nation, they undermine the economic functional role of institutional banks, and ultimately, the economy (Klein, 2013).

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To determine the credit quality of loan ranks over the past decade, since most economies around the world were stable until they were affected by the 2007-2008 financial turmoil which spread all over. Due to that, the value of the average bank asset quality decreased tremendously, caused by the overall turmoil (Beck *et al*., 2013).

Despite a problematic macroeconomic situation, the Banking sector in Kenya has remained resilient in recent times. With the "perfect storm" in the banking industry of capping of interest rates, weather conditions being unfavourable, and long periods on elections. The capping of Interest rates impacted how the credit facilities and deposits are priced. Various economies in the sector were adversely affected by the weather conditions, which in turn affected lending in the sectors. Long periods of elections were the major source of uncertainty in the business environment. Despite all these, which may be referred to as a storm, the banking sector remained capitalized at 18.8 percent in 2017 is the capital adequacy ratio standing, should be maintained at a constant value of 14.5 percent. Also, the Kenyan banking sector's average liquidity ratio in 2017 was 43.7 percent, which also above the minimum statutory liquidity ratio of 20 percent. The Kenyan banking sector has remained profitable since it posted a profit before tax of Ksh.133.2 billion in 2017. This is a clear indication that the banking sector remained resilient despite the storm and has proved its ability to withstand cyclical downturns.

Demirgüç-Kunt and Detragiache (1998) developed detailed analysis looking at 65 banks in developing countries and already developed one was carried out. Findings indicated that external factors played a significant contribution towards the banking sector crisis; a Logit model was applied for the study period 1980-94. Naceur (2003) conducted a sample of 10 major banks using balanced panel data looking for Tunisian banking sector

profitability. The outcome indicated there was no significant impact on the inflation annual growth rate and also the inflation rate annually. In eight Asian countries, fourteen Islamic banks' data were evaluated that break in five years period starting the year 1993 (Bashir 2003). Variables involved had a very strong positive impact hence proving linear estimation. Athanasoglou, Delis, and Staikouras (2006) assessed fours year starting from 1998 using an uneven board of up to 132 European banks by linear regression, which was located in the South-Eastern region. The outcome displayed positive returns in high inflation phases without evident outcome on GDP. Wong et al. (2006) dispatched his research by relying on a feasible generalized least square (FGLS) direction to predict and proving there is a direct influence on asset returns, which has definitive correlation with the GDP and the overall inflation rate.

Locally, studies have shown that the elements of macroeconomic dynamics on economic outcome lack consensus. Ongore (2013) recognized that insignificant macroeconomic factors affect bank profitability. The study analyzed data using a regression analysis method and explained that the development of the business is cut down by the rise in inflation rates. Nevertheless, the relationship at a 5% level was insignificant. Desaro (2012) researched the association of macroeconomic features and the economic growth of Kenya's financial institutions. She established that the ROA had an ideal conjunction with the GDP, flow of money, lending rate and inflation. There is also an undesirable connection with the exchange rate. There has also been further research in the country that have concentrated on selected macro-economic variables. For instance, Wamucii (2010) scrutinized the basis of inflation and the monetary profitability of Kenyan commercial banks. He established that the commercial profitability of banks seemed to have an

upward trajectory with the increase in inflation. Kipngetich (2011), found out that connection of interest rates with the monetary performance had a positive relationship.

The macro-economic factors share a connection on the expansion of the local Banking industry. Nevertheless, there environment needs to be extensively pursued, as seen in the foregoing debate on the issue. There has been research conducted concentrated on one macro-economic variable, and those that focused on several variables arrived at conflicting results. The CBK report 2017 demonstrates the resilience of the moneymaking banks in the country in the "perfect storm" and has projected banks to adjust their business models to the changing dynamics and remain resilient amidst the storms. The existing research looks at ways of understanding the gap in existing literature by pondering on the query: what impact do macro-economic variables have on the fiscal outcome of the commercial banking sector in Kenya?

1.3 Research Objective

1.3.1 General Objective

The inclusive goal in the process investigation paper is towards find out the influence that macro-variables on the economic outcomes to the profitmaking financial industry in the republic.

1.3.2 Specific Objectives

i. To determine the consequence of Gross Domestic Product (GDP) on economic outcomes of profitmaking banking commerce in Kenya

ii. To correlate the outcome of lending interest rates on the financial performance of the profitmaking banking sector in Kenya

iii. To evaluate the impact of exchange rates on the economic outcomes to the profitmaking banking industry in Kenya

iv. To evaluate the effect of inflation on the economic outcomes of the profitmaking banking sector in Kenya

1.4 Value of the Study

The results of this investigative paper will contribute to an improvement in addition to understanding of macroeconomic features affecting the Kenyan banking system. The policymakers in the banking business will find the study useful as a benchmark of policy formulation, which is essential to be implemented in the Kenyan financial sector to ensure that viable banks operate with vibrancy and perform their intermediation role efficiently.

The current operational banks will see the essence of the research since it will add to a better understanding on the fiscal performance of the profitmaking banking segment hence will assist them in designing and implementing informed strategies to ensure enhanced and sustained performance. The commercial bank's shareholders will utilize the study as they will be aware of whether treasury top management tasked with the value addition of their investments are making viable decisions based on macroeconomic variables.

To scholars, researchers, and academicians, this research will create curiosity to expound on this area of study for those who may want to conduct further research on the area; hence, may bring new insights undoubtedly will discover this research to be relevant reference material for research gaps plus the academic world.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The segment evaluates the academic information by researchers with focus on macro-economic details that indicate the profitability outcome of the profitmaking banking segment in Kenya. This chapter has three parts. The theoretical review on bank development in addition to the various ideal factors that have been investigated, leading to the creation of the theoretical basis guiding this research is the first part. The second part is based empirical review of the extensive investigation done by various researchers and their discoveries. The segment also indicates a clear determination of current existing knowledge, and finally, a basis and an analysis of current research gaps are given.

2.2 Theoretical Review

Hawking (1996) stipulates that a theory is used to outline the direction and features of an economic system are based on an understanding that can make predictions about specific phenomenon in an analytical manner. Camp (2010) highlights that a theory can be understood to be the ideal basis of definitions, using a flow of propositions that can explain a perceived view of phenomena through the relations of changes that and predict ideas. The major idea behind this section is identifying and examining information which has is already known by other academics and professionals about the influence of macro-economic influences on the economic output of banks. The theoretical review will provide knowledge of what has been done, the shortcomings of earlier studies, and give a framework for the interpretation of the research findings.

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2.2.1 Efficient Market Hypothesis

Fama wrote in1970 on a proposal for an efficient market hypothesis (EMH). It has been used to explain the elements that feature when considering the competition between companies in situations where they were able to increase their profit. The theory discusses three systems of EMH: the first system is the ineffective one followed by a mid-tier system, and the powerful system. The ideal empirical examination is based on the semi-strong form of EMH. The EMH looks at elements in the fiscal market to determine the impact that they have in relation to the stock market.

There exist specific elements in economic stock market that influence its overall price. These are the presence of money in the economy, price fluctuations, and exchange rate Fama, 1981; Chen et al., 1986 and Mayasami and Sims, 2002). EMH introduces a basis of understanding the prices of stock in the market. The research will be based on the current features of the numerous macroeconomic factors and market outcomes of the nation's stock.

2.2.2 Modern Portfolio Theory

Finance theory named Modern Portfolio Theory (MPT) expounds on methods of finding a balance in return and risk maximization and minimization, respectively. The objective is to diversify risks hence select investments that are less risky while maximizing your expected return. The four fundamental steps that guide portfolio construction are as follows; Asset allocation, Security Valuation, optimization of Portfolio, and measurement of performance. Based on factual results, a naturally circulated utility is ascertained to be the return of an asset (also meaning elliptically distributed random variable), which

defines risk as to the deviation from the present standard. This is determined as a portfolio of t o t a l weighted assets. Therefore, the profit on an assortment is the combined weighted typical of the monies. When assets that are distinct are brought together, whose returns are not associated ideally positively, the assortment return is inconsistency reduced by MPT. MPT also undertakes that shareholders are balanced, and the industry is well-organized. (Daniel, Hirshleifer & Subramanyam, 1997).

Portfolio theory by Markowitz (1952) "Portfolio Selection,". The information has provided additional information to t h e financial economics area of study and grown to be used as a portfolio selection theory. Prior to this Markowitz, they concentrated on calculating the value of challenges and benefits obtained of the specific safeties while investors are creating their portfolios. Particularizing mathematics diversification, the anticipation by investors focuses on a selection of choosing ranges been built on those collections' completely characterized by risk-reward in place of basically assembling assets from securities that each individually has good-looking benefits versus pitfalls in its features. Inventors should select portfolios instead of focusing on particular securities. (Markowitz, 1952).

On treating several securities, sole-duration returns as unsystematic variables, allocating them expected values, standard deviations, and correlations. Computation of the expected return is done, and unpredictability of any portfolio created together consistently with the securities. Instability might be treated, and the expected return on investment as proxies for risk and reward. Certain portfolios will optimally stabilize risk and reward among entirely likely universal portfolios. These encompass frontier of the portfolio, which are efficient as what was stated by Markowitz. An investor should have good

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knowledge and choice a venture that is within the well-organized borderline. James Tobin (1958) lengthened Markowitz's work when he totalled the exploration of a guaranteed asset. Likelihood to influence portfolios on the efficient frontier has been made possible as well as deleveraging the ventures too. Super-efficient features and the economic market line has been brought up as a result of these notions. The capital market line portfolios increasingly enhancing their performance through leverage on the better predictions (Tobin, 1958).

Capital asset pricing model (CAPM) cautiously is dignified by Sharpe who explained it in 1964. Interesting conclusions are made out of these enormous assumptions. The marketing portfolio relay on the well-organized frontier as advocated entirely by the super-efficient portfolio that was first explained by Toby. The shareholders, as illustrated by CAPM, have to be given the existing assets in the portfolio, effectively compared or deleveraged in combination to it taking shapes in the guaranteed asset. Beta is based on the CAPM and re-counts a quality's estimated return to its follow-up asset. Understanding the connections that link methodical risk and reward, the portfolio theory offers a context. Through this, it has been possible to shape organisation of institutional assets and inspired the inactive shareholder value techniques to use. The portfolio mathematics theory been used in monetary risk administration and was an imaginary antecedent for current's value-at-risk measures.

2.2.3 Behavioural Finance Theory

Behavioural finance deals in studying how a psychology comportment used by financial specialists and the succeeding outcome the total market development. The information can explicate and escalate an evaluation within an investor's outlines by reasoning. This

entails both the emotive developments featured by the process to be based on the notch that is able to sway the f i n a l o u t c o m e . The what, why and how of finance and investing is elaborated by behavioural finance from a human viewpoint. The traditional theories of finance, the dominant paradigms, had centered on expected return and risk on that assortment apportionment; simply, the CAPM been risk-based asset pricing models and other frameworks having similarity (Athanasoglou et al., 2005).

Hong and Stein (1997) show that this can be inferred using an epidemic model. In this model, information is spread about stocks by investors by word of mouth to one another, subsequently overlooking the principles of portfolio theory. The investors ruling favouritisms can yield overreaction to certain events and under reaction to others as construed by (Daniel, Hirshleifer, and Subramanyam, 1997). The pronouncement era price reaction is inadequate because knowledgeable investors overweigh their former opinions around the stock prices. As additional information in the public domain confirms the one inferred in the occurrence declaration, ultimately, the mispricing is completely engaged. The broad-spectrum expectation is momentum for careful events; realization of returns in stock after an event proclamation will incline t o h a v e a similar indication as the announcement period return.

2.3 Contributing factor of Financial Performance

Factors, both internally and externally, are the foundations of bank performance. They are random variables determining the final product. Intrinsic factors are characteristics of each bank individually affecting its goals. Intrinsic elements are principally predisposed by choices implemented internally by management. Extrinsic factors includes are the Inflation, macroeconomic strategy stability, Gross National Product, Interest Rate and

Political unpredictability as explained by Athanasoglou et al. (2005)

2.3.1 Gross Domestic Product

Siraj and Pillai (2013) considered GDP as an important part of factors that determine the outcome of profitable banks in a country. However, the nature of the influence of monetary increase on the outcome of the financial sector has a balanced iteration on the coexistence between other performance indicators. Hichem *et al*. (2005) explain that the behaviour of bank performance through margins is affected by macroeconomic environment influences. The deterioration in banks' performance may be caused by adverse macroeconomic conditions by pushing for the size of NPLs in the country. Essentially, a confident coexistence within the bank performances as the debt-servicing capacity of borrowers and the real growth (GDP), which is the general economic activity of a country, may weaken due to a slowdown of economic activity. Generally, an upsurge in the GDP can shake the fiscal segment and cause the NPLs to fluctuate.

2.3.2 Interest Rates

The bank's performance is determined by interest rates, which is a macroeconomic determinant. Ogunleye (2001: 61) talks about how fluctuations in the interest proportions can exert a positive or negative role on banks' revenues, respectively, through the evaluation to income. This can happen in a number of ways. To begin with, a spike in lending values raises the figure of profits to banks on the acquisition of the asset. However, it would still be based on how effective the reset period of the value of interest rated on the average asset. These factors determines the period of confirmation to adapt to market conditions (Flannery, 1980). Secondly, the option of selecting the most profitable loans and securities that offer returns as well as what can be maintained as cash reserves could

be impacted on the bank's (apart from the statutory requirement). In time of rising rates, banks prefer to buy higher securities in such cases as it increases earnings in comparison to buying securities since the rates of the are charged at a higher rate for marketable securities; According to Georgievska *et al.* (2011), banks normally use the lending interest tariffs to ensure that they maximize their returns, especially in times of deteriorating economic activity.

Saunders (2002) argues that lending interest rate is a cost, which relates to a transaction or the transfer of a good or service between a buyer and a seller like any other cost. Hichem *et al.* (2005) explain the interest rate explained as a contrast of the net interest income to aggregate resources. This profit margin covers the cost of intermediation that reveals the bank's interest lucrativeness, which is obtained by comparing the intermediation and the overall deliverables. Duetsch Bundesbank (2001) noted that interest rate is the earnings a financier anticipates by advancing and valedictory with his/her liquidity. The interest rate is based on to aspect situation in that the owner of excess resources that is inclusive of some of it as high as they expect increased returns in the days to come. Increasing the interest values demoralize accessing loans, on the other hand. In the stability state, interest value is set to be linked to demand and supply in the investment market.

2.3.3 Exchange Rates

There is a direct effect on the exchange ratio on fiscal performance when certain rates of exchange in legal tender have disparities and challenge right the importation price, such as the production cost together with inflation rates. Exchange rate discrepancies are transmitted to internal charges through 3 linkages of costs of imported consume r goods, and exchange rate programme affects local costs directly. The second

factor affecting the performance is intermediate imported goods prices influencing exchange rate movement, which has an effect on domestically produced goods manufacturing costs. The last is domestic goods priced in foreign currency. The magnitude of fluctuations is redirected in the consumer price index (CPI), determined by the rest on the portion of consumption import goods (Nwankwo, 2006).

Demand increases for domestic goods when factors affecting prices causes a rise in the price value of imported products; hence, reduction in completion which has been experienced. This shift equilibrium results in pressure mounting on domestic prices and nominal wages as demand increases. Additional rising pressure will be applied to domestic prices as a result of rising wages. A drop in the rate of exchange can merely protect the internal as local production cost rises much less than the proportion of devaluation as compared to rates of imported corresponding to rises by the total quantity of the depreciation. This scenario of legal tender depreciation leads to an improved and conducive environment for indigenous industry production. The supplementary, upsurge in the value of exchange causes foreign currency increases in an environment operated by commercial institutions, which are introduced into profit figures to show their growth (Nwankwo, 2006).

2.3.4 Inflation Rates

Investors usually demand a high price to shelter their acquaintance to inflation risks as long as there is improbability in the market, and in turn, causes a drop in the value of investment. In order to bring the inflation permanency rate, it is significant to inspire investment (Nwankwo, 2006). Kadongo (2011) has pointed up macroeconomic features let downs as repelling FDI free flows on the continent; he stresses on which negligent fiscal

and fiscal guidelines have produced unmanageable budget discrepancies and inflationary pressures, increasing native production costs, making exchange rate unsteadiness thus resulting to the region becoming risky location for investors. Instability in the variables, as demonstrated by high inflation and extreme budget deficits, restricts the country's capacity to appeal to investment opportunities (Kadongo, 2011).

2.4 Empirical Review

Ajayi and Mougoue (1996) investigated the association on prices of stock and rates of exchange. They studied in cooperation the temporary period and long-standing period connections in the two factors in eight foremost industrial markets. The outcomes revealed an escalation in local share prices has as having a destructive temporary impact on the local legal tender value. Conversely, long term persistent increase in the local stock prices causes a rise in the local currency, owing to the rise in currency demand.

Maghyereh (2002) examined the extensive correlation defined by the Jordanian stock market and carefully chosen macroeconomic elements. This was shown by the means of Johansen and Juselus (1999) counteraction scrutiny combined with once-a-month factor sequences information for 13 years starting from January 1987. Macroeconomic variables were replicated as indicated by the research in general prices of stock in the Jordanian capital market

Bourke (1989) discovered a constructive interconnection between the general increase in price (inflation) and bank profitability. A higher rate of inflation culminates in increasing in the number of tariffs charged on loan henceforth increased proceeds generation for the bank. An increase in price has an adverse impact on bank profitability if the overhead cost is mounting quicker than the inflation rate. Charles and Gautam

(1996) found adjustments that the head maximum economic series have a disadvantageous consequence on output and returns expected from real stock in the U.S., Canada, Japan, and the United Kingdom for the duration of the post-war period. They complement that, the post-war oil astonishments look as if to have created instability in the Japanese and U.K. stock markets that is "excess" of what can be described by present coherent models.

Demirguc-Kunt et al. (1998) did a variables comprehensive study of those not under the regulation by bank administration and may cause noteworthy influence on bank performance caused by peripheral variables: inflation rate, GDP per capita, GDP per capita progress, taxation level, total financial structure, different legal and organisational dynamics. The optimistic relationship was established through a study done using 80 countries in 7 years culminated by the period ended in 1995 between inflation and profitability. This possibly will indicate (1) about the increase in the level of profits gained by banks under the condition of the inflationary environment from float; (2) The same reasons causes lower bank expenses, which tend to lower profits of the bank due to inflation effects. No association detected concerning GDP per capita growth plus bank profitability. A particular indication of a confident connection between profitability and GDP per capita index was noted. Bank lucrativeness was discovered been more substantial in countries yet developed and industrialized as a result of the effect caused by organizational and influential factors.

Gastanaga et al. (1998) used Colombo in Sri Lanka to test the impact of macroeconomic influences on stock market prices. Entirely Share price index represented the stock market plus the money supply, the treasury bill rate which acted as a assessor of interest rates,

the consumer price index as a assessor of inflation and the percentage of exchange as macroeconomic influences based on once-a-month statistics for the seventeen year duration era which would begin in 1985 and engaging the normal series examinations, which composed of unit roots, co incorporation surveyed the longstanding and short-range connections depicted by the stock price index in conjunction with the economic flexibilities. Backing sentiments concerning the consumer price index, its currency influx, in addition to the Treasury bill rate, which partake an important impact on the stock prices having lagging values of macroeconomic factors.

Patra and Poshakwale (2006) looked at the active small term variations plus the wide-ranging term ones affecting the balanced connections caused by variables such as economies of scale and financial performance for a nine-year period (1990 -1999). The results arrived at showed equipoise association in the small term, in addition to extend period occurred among inflation, currency availability, and sales volume, in addition to the stock access in the Athens stock market. The exchange ratio and company performance equilibrium association were not established either in short term period or long term time.

Demirguc-Kunt and Huizinga (2000) and Olsson (2008) endeavored to ascertain likely recurring bank's profitability activities - the level bank profits are linked to the occupational rotation. Conclusions recommended such a relationship pre-exists though the variables in use were not controlling the business process directly. Demirguc Kunt and Huizinga (2000) relied on GDP annual growth rate values in combination with the GNP per capita recognizing the existence of such a relationship, whereas Olsson (2008) used GDP, unemployment figures, and interest value having variations which were a few

quantities of macroeconomic variables which were insufficient.

Mamatzakis and Remoundos (2003) tested the grounds for 11 years (1989 2000) the outlook of marketable banks in Greek. Profitability was calculated based on the return on assets (ROA) plus return on equity (ROE) in all commercials institutions. The core features and exterior influences played a crucial part of the control procedural actions in the business environment respectively, in explaining existing profitability of the banks. The outcomes recommended correlation between the variables and the management decisions affirming the main influence on the viability of Greek profitmaking banks.

Naceur (2003) explores banks' characteristics effect for 17 years (1983-2000) ultimate on bank structure, and the finding points out that how impactful are these factors on banks' take-home interest difference and success in Tunisian financial Industry. Extraordinary margin in net interest and inclination of profit related to banks leads to clenching comparatively high amounts of capital with enormous overheads. Naceur discovers inflation rates which effectively affect the manner in which the stock market grows can ensure the success with an increase in the net interest difference.

Pasiouras and Kosmidou (2007) observed local and non-local money-making banks' performance in 15 countries within the European Union within six years. The results showed that the productivity of domestically and non-local banks is linked with definite financial tenets and also by financial trade arrangement and macroeconomic circumstances. The effects propose all factors to have a substantial connection with bank productivity regardless of whether their influences and relationships are constantly unchanging for domestic and foreign banks. There are innumerable research that has been conducted in Kenya to determine the connection of macroeconomic factors, in

addition to financial outcome plus their findings variables are diverse; Kipngetich (2011) in his research on the affiliation between interest tariffs levied against commercial banks financial indication in the country realised that a constructive connection between interest values and economic performances of moneymaking banks. Thus companies have to effectively control the interest ratio for better outcomes. The interest rate was found to have a harmful connection with the lucrativeness of companies in the aviation industry.

Desaro (2012), through his study focusing on the outcome of macroeconomic variables on the monetarist outcome of profitmaking banks in Kenya, found out that the ROA was harmfully associated with the exchange value and confidently associated with the GDP growth and inflation. Nyamwange (2009) did a report on the association between financial outcome for international firms in the republic and exchange rate fluctuations and found that Sterling Pound. United States Dollar, Euro, and the Japanese Yen monetary rate impact the economic influence of the international organisations.

Mwangi (2013) researched the non-financial sector to confirm there was an existing connection between macroeconomic factors and the commercial outcome of the air travel business in Kenya. The research concluded that it influenced the economic presentation of corporations in the air travel sector in the country at 20% significance level, (5%) of the process also concluded that ROA has a feeble confident irrelevant correlation with GD. It further pointed to the existence of a limited connection among ROA and rate of exchange, annual average lending rate, and annual inflation rate.

2.5 Conceptual Framework

Ngugi, (2013) explains that a theoretical context as a succinct narrative of the occurrence

being researched followed by a graphical or visual representation of the significant variables of the study. Young (2009) says that the conceptual framework is an illustrative depiction that highlights the connection between the dependent variable and independent variables. These factors of the influence of the variables employed in this research on bank lucrativeness is given in Figure 2.1:
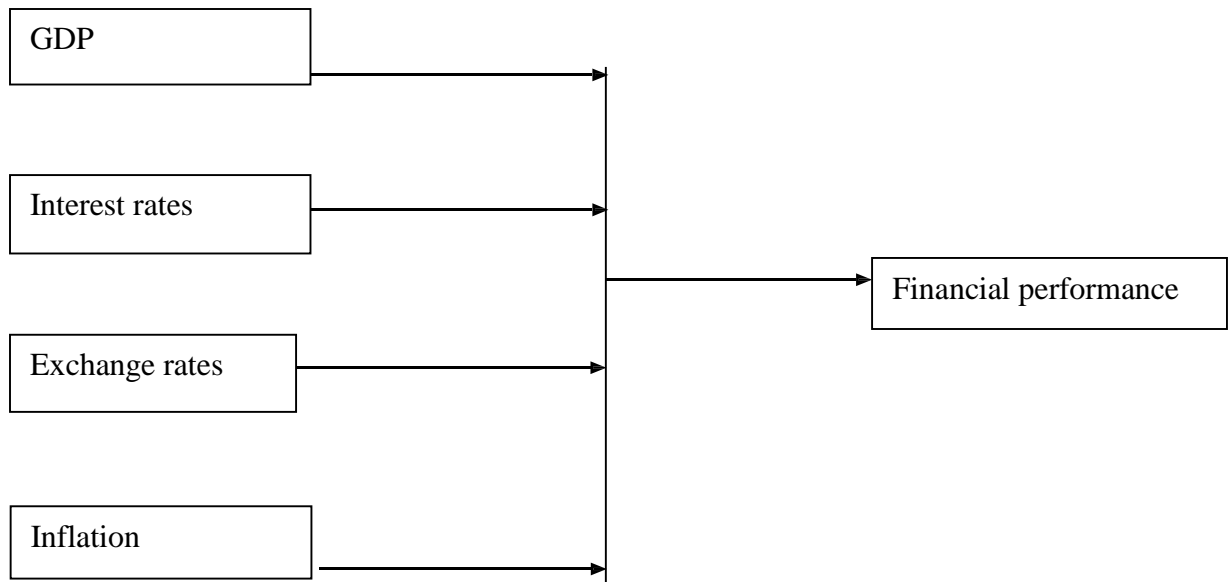
Independent variables   **Dependent variable**

Figure 2.1: Conceptual Framework

The macro-economic variable is the independent variable, and it comprises of four measures. The four measures are GDP, real interest rates, exchange rates, and inflation. Financial performance as a response variable is to be determined in terms of the proportion of annual net income to average total assets return on assets (ROA).

2.6 Summary of Literature Review

The preceding sections outlines the relevant research pertaining to the effect in addition to relationship of the various variables that influence the fiscal outcome of profitmaking

banks in Kenya. The macroeconomic factors include lending rates, GDP, exchange rates, Inflation rates, Treasury bills, etc. The consequences of these investigations have been different, plus the macroeconomic variables have changed over time since the time of the study. The empirical results from earlier studies indicated that macroeconomic variables relationship with financial performance could either be constructive, undesirable or none at all. Desaro et al. (2012), wrote that subsistence of an affiliation between the macroeconomic variables and stock market indices while research conducted by Patra and Poshakwale (2006) indicated no correlation in existence concerning the selected macroeconomic variable and financial performance.

more studies should be implemented to deliver harmonized outcomes based on the fact that studied research provide conflicting outcomes based on the factors used in the research process together with the nation being researched and the technique of enquiry engaged. Studies done in Kenya on the Kenyan banking sector failed to take into account different macroeconomic variables, plus those that have studied more than one variable have conflicting results. As a result of these facts and based on the changing macroeconomic factors ranging from the lending interest rates plus the exchange rates in Kenya, the research carries out investigation on the impact of some macroeconomic variables on the financial outcomes of commercial institutions in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

In this segment, this paper is going to ascertain the method which would be employed in this project. Areas that are defined in this chapter will look at the design, figures, target population, data collection methods, technique and frame, target population, procedure, and information analysis, to find a definitive conclusion. It should be noted that also covered is an analysis on statistical and econometric tools which would be employed to analyse the statistics. Additionally, this chapter looks into the approach that was used for the construction of empirical models and to examine data for the chosen elements.

3.2 Research Design

The design of a research is a frame of tools in combination with tactics for the process of collecting data as determined by the conclusions by Mugenda and Mugenda (2003). This forms the basis of the project that has details that is to be gathered and the manner to be obtained from the source. Cooper and Schindler (2006) mention that the Research design is the basic feature and process, which facilitates the researcher to answer the research hypotheses.

This design combined a mixed research design. It will be able to include the descriptive and correlational research techniques to collect relevant data that can indicate the end product of macro-economic elements on the economic outcome of moneymaking financial firms in the country. The choice to name it research design was achieved after determining the goal of the research, which was to evaluate and establish whether the variables used in

the study had an influence on the economic outcome of moneymaking banks in the country. Such an evaluation could only be meaningfully carried out through the use of descriptive in conjunction with correlational research techniques.

Descriptive Research design may be to data that is researched to explain specific details of an industry or market (Creswell, 2003). A descriptive design of the research needs to employ significant features that the limit the presence of bias while reliability (Kothari 2008). The study shall also use a correlational research process. Mugenda and Mugenda (2003) talk about how Correlational Research can be done by the process identification of factors that are important in determining a given phenomenon (i.e., the monetary profitability of the banks).

3.3 Population

Sekaran (2010) states that the population refers to an ensemble or items of interest to a researcher. The population of this research was the profitmaking banking sector in Kenya that was operational between 1 January 2008 and 31 December 2017. This target population provides data that is useful in answering the research questions raised by the researcher on how macroeconomic variables affect Kenyan moneymaking banks' financial outcome. The selected target sample for this study was all 42 Kenyan moneymaking institutions in Kenya. This target population provides data that is useful in answering the research questions raised by the researcher on how macro-economic elements determine Kenyan profitmaking banks' outcome. The names of these banks included in the target population are indicated in Appendix 1.

3.4 Data Collection

The information available on inflation (CPI) and GDP growth was collected with the help of KNBS, on the other hand, the CBK provided precise figures on the exchange ratio was acquired from the CBK. Access to this information is relatively easy as it is provided on the websites of the relevant authorities. The banks have quarterly published financial statements that have details on the lending interest rates as well as the ROA

3.5 Data Analysis

This section is the task of methodical using arithmetical and rational methods determine the value it holds towards a particular area of interest. This task is developed to deal with t h e manipulation of the information that has been gathered so as to present the evidence (Singleton et al., 2003). Data were analysed using correlation in combination with multiple regression analysis. Version 23.0 of Statistical Program for Social Sciences (SPSS) and Stata was involved in analysis. These named software packages were previously used to analyse data in similar studies, such as those by Ngugi (2013).

3.5.1 Analytical Model

This research featured a multiple regression to calculate its outcome of the process. It would look at the economic role of these elements on the fiscal industry in the country. The responsive variable was determined to be the economic outcome of the banks. The Predictor variables thus became the macro-economic elements. An investigative formula used to scrutinise the connection of the predictor factors on the reaction factors was:

Y=f (GDP, IR, ER, CPI) thus,

$$Y = \beta_0 + \beta_1 LnGDP + \beta_2 LnIR + \beta_3 LnER + \beta_4 LnCPI + \varepsilon$$

Where;

Y = Financial performance of the commercial banking sector as measured by ROA

β_0 = Constant Term (Total Assets)

$\beta_1 - \beta_4$ = Beta coefficient of the regression equation

$LnGDP$ = Natural log of real GDP growth rate on a quarterly basis

$LnIR$ = Natural log of weighted average quarterly interest rates charged by lenders

$LnER$ = Natural log of the average quarterly exchange rate between USD and Ksh.

$LnCPI$ = Natural log of average quarterly inflation rate

ε = Error term

3.5.2 Deterministic Tests

The research undertook a normality test, a homogeneity of variance assessment, autocorrelation test, and multicollinearity assessment as the key assumptions of the regression model. Normality was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk, while a standardized residual plot was used to assess for homogeneity of variances. The Durbin-Watson assessment would show assess for correspondence whereas influences of variance inflation factors were used to assess for multicollinearity

3.5.3 Test of Significance

This test would be conducted based on the Correlation Coefficient (r) which was determined

to be useful to evaluate the strong point and direction of the connection of the response factor (Financial performance) plus each of the predictor factors. The coefficient of determination (R square) challenged the validity of the statistics using the predictor factors of the process. The response variable would provide the definition for the predictor variables. The F value needs to stand more than the table value to indicate any actual essence of connection .The basis will be done at a 5% level of significance. T-test was able to identify the direct linkage between the dependent and each independent factor. The analytical model significance was analysed by the researcher using the Analysis of Variance (ANOVA). According to Larson (2008), ANOVA is used in statistics to look at the differences in a dependent variable based on the factors used. This figure is used to determine whether there are large fluctuations in the value of the data collected

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

It is an overview of the significant determination of what the statistics collected can tell us about how the goals of the project can be achieved.

4.2 Descriptive Statistics

The figures was collected for the ten years and summarised using descriptive statistics as follows

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Dev	Skewness	Kurtosis
LnGDP	40	13.43	14.02	13.7350	.17882	-.200	-1.124
LnIR	40	2.53	3.01	2.7456	.13287	.431	-.686
LnCPI	40	4.60	5.27	4.9613	.21193	-.219	-1.151
LnER	40	4.34	4.64	4.5046	.10425	-.021	-1.475
ROA	40	.01	.04	.0297	.00451	-.859	1.541

Source: Study Data

Table 4.2 indicates the average value of real GDP was 13.735 with least and highest values of 13.43 plus 14.02 while the mean value of lending interest rates was 2.7456 with minimum and maximum values of 2.53 and 3.01 correspondingly. The outcomes pointed out the regular CPI to be was 4.9613 with least and highest values of 4.60 and 5.27, whereas the average assessment of the exchange rate to be 4.5046 with least and highest values of 4.34

and 4.64, correspondingly. The normal ROA was 0.0297 with least and highest values of 0.01 and 0.04 correspondingly, whereas all the kurtosis and skewness figures lie in the threshold of -2 and +2 hence an indication that the statistics were normally distributed.

4.3 Trend Analysis

This segment depicts the graphical tendencies of the research factors for the considered period.

4.3.1 Real GDP Trend

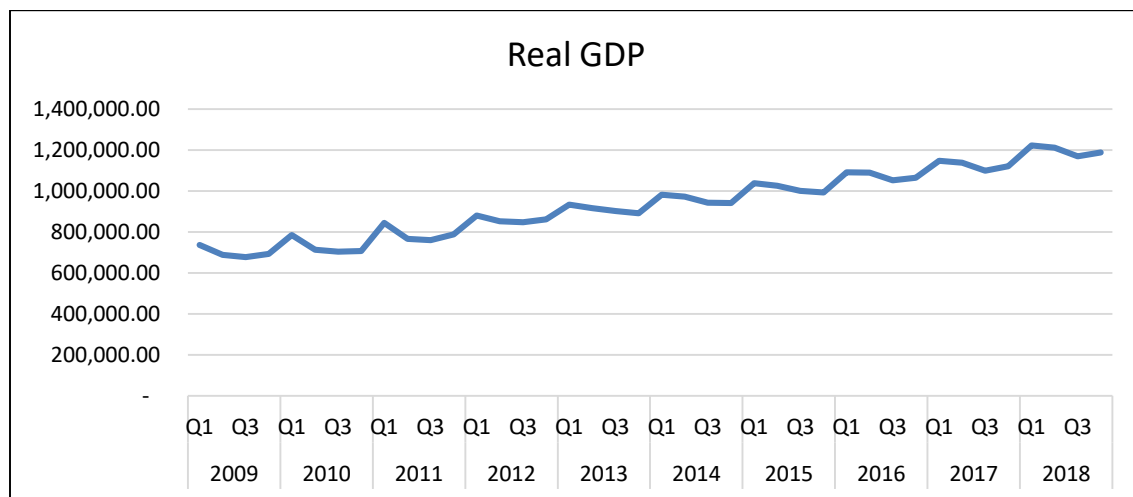The real GDP trend was as follows

Figure 4.1: Real GDP Trend
Source: Study Data

The real GDP trend in figure 4.1 demonstrates that the leaning of GDP in Kenya has been gradually rising through some slumps and increases were witnessed in some of the years for the considered study period

4.3.2 Interest Rates Trend

Figure 4.2 shows the interest rates trend for the considered study period
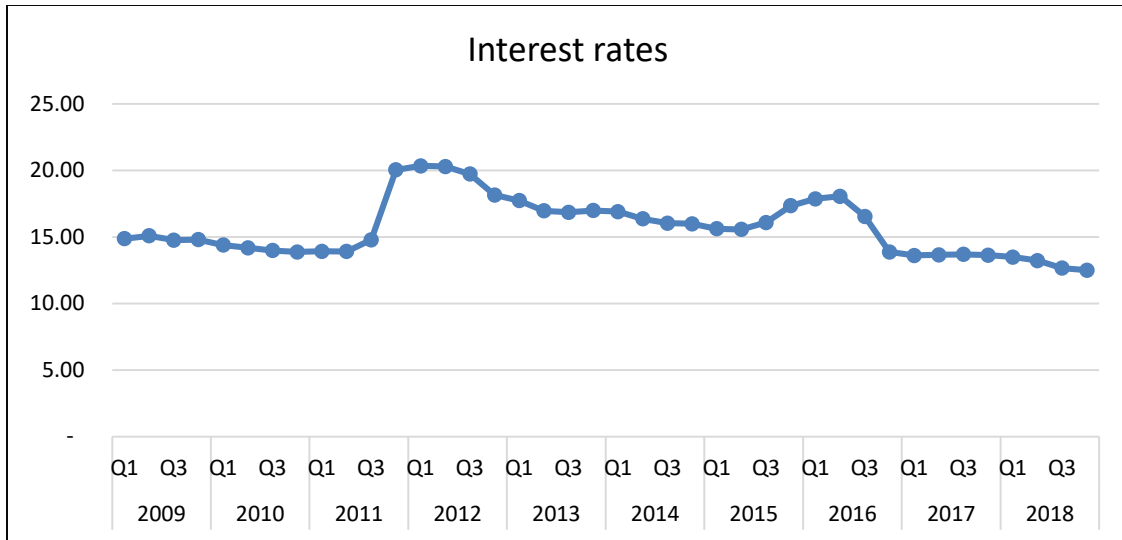
Figure 4.2: Interest Rates Trend

Source: Study Data

The interest rates trend indicates that interest rates were stable between 2009 and the first quarter of 2011, after which a sharp increase was recorded amid the second sector of 2011 up to the second sector of 2012. Thereafter a slight decline was recorded up to the third quarter of 2015, then a slight increase up to the second quarter of 2016. In the third quarter of 2016, interest rates were capped, and since then, they have remained relatively stable.

4.3.3 CPI Trend
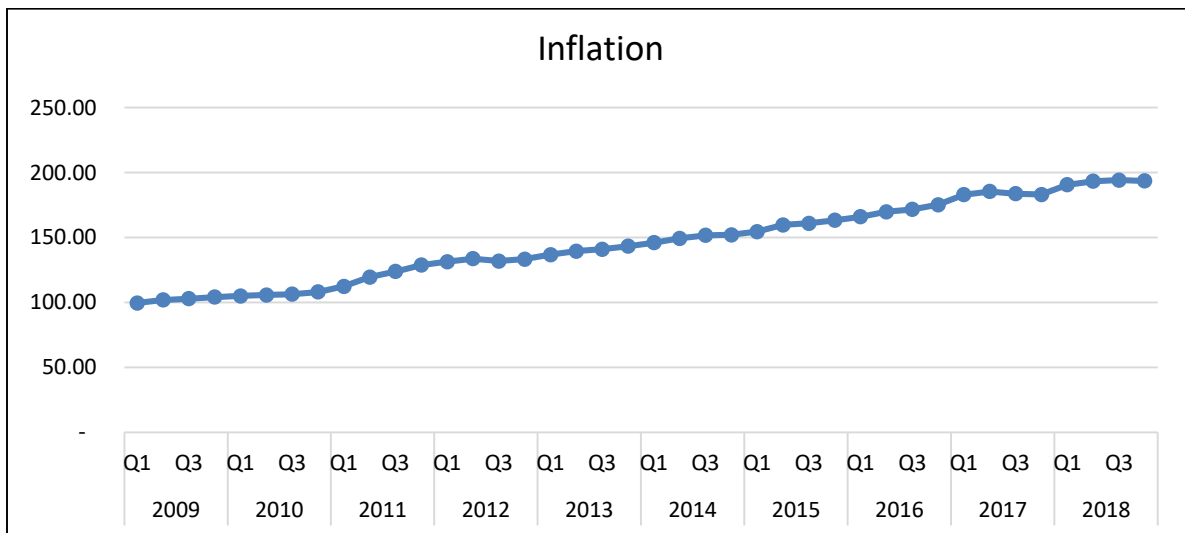
Figure 4.3: CPI Trend
Source: Study Data

Figure 4.3 illustrates the inflation (CPI) trend during the study interval. The movement expresses that Kenya has recorded a steady increase in inflation over the considered study period.

4.3.4 Exchange Rates Trend

Figure 4.4 demonstrates the exchange rates drift
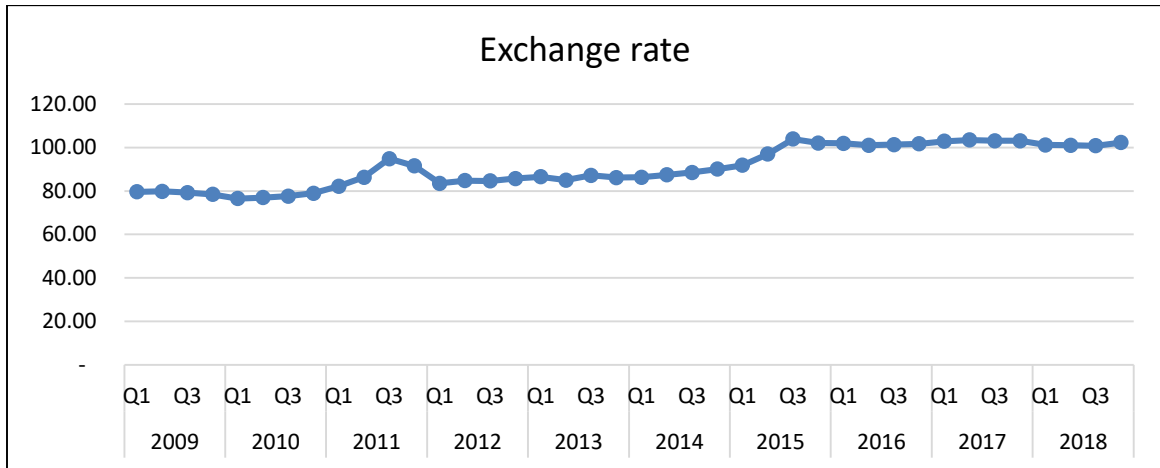
Figure 4.4: Exchange Rates Trend
Source: Study Data

The exchange rates trend on figure 4.1 shows that exchange rates in Kenya have been gradually rising through some slumps and increases were witnessed in some of the years for the considered study period

4.3.5 ROA Trend
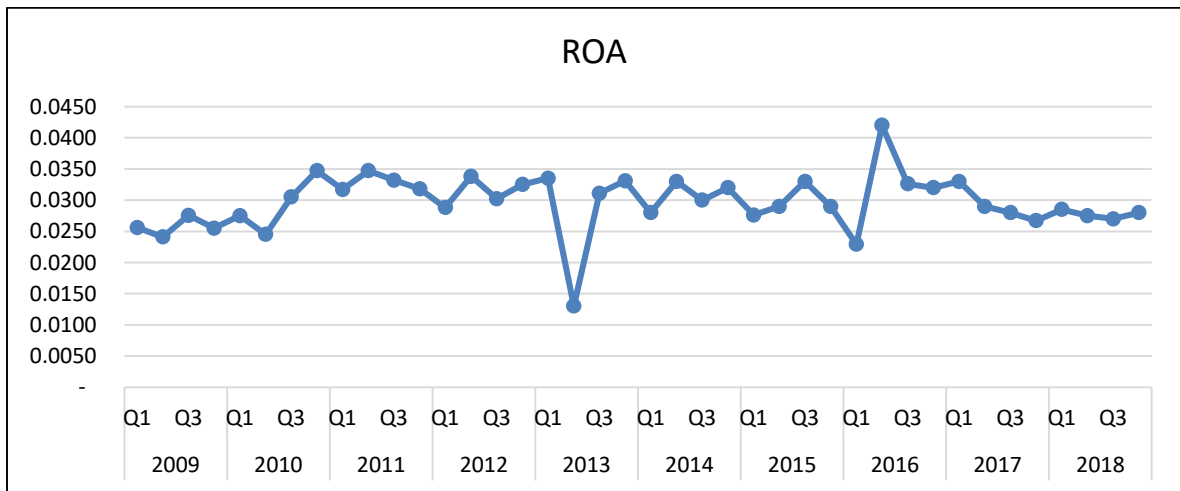
Figure 4.5: ROA Trend
Source: Research Data
Figure 4.5 shows the ROA drift for the Kenyan banking sector. According to the trend,

ROA was fluctuating up and down from 2009 up to the first quarter of 2013, where a sharp

decline was recorded. Thereafter, an increase was witnessed up to the third quarter of 2015,

where a decline was witnessed but picked up in the second quarter of 2016 with a decline

being recorded thereafter all the way to 2018.

4.4 Diagnostic Tests

The study undertook the normality test, the homogeneity of variance test, autocorrelation

assessment and multicollinearity test as key assumptions for the regression model

4.4.1 Normality Test

Normality would be assessed using the Kolmogorov-Smirnov and Shapiro-Wilk as

presented by table 4.2

Table 4.2: Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
LnGDP	.084	40	.200[*]	.950	40	.073
LnIR	.117	40	.181	.951	40	.080
LnCPI	.106	40	.200[*]	.936	40	.055
LnER	.102	40	. 200[*]	.991	40	.091
ROA	.116	40	.187	.938	40	.060
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

The Kolmogorov-Smirnov and Shapiro-Wilk test on table 4.2 shows that all the P values are more than 0.05. This indicates how the statistics is normally distributed in addition to the assumption of normality has not been violated.

4.4.2 Homogeneity of Variances

A standardised residual plot was used to assess for homogeneity of variances as shown by figure 4.1
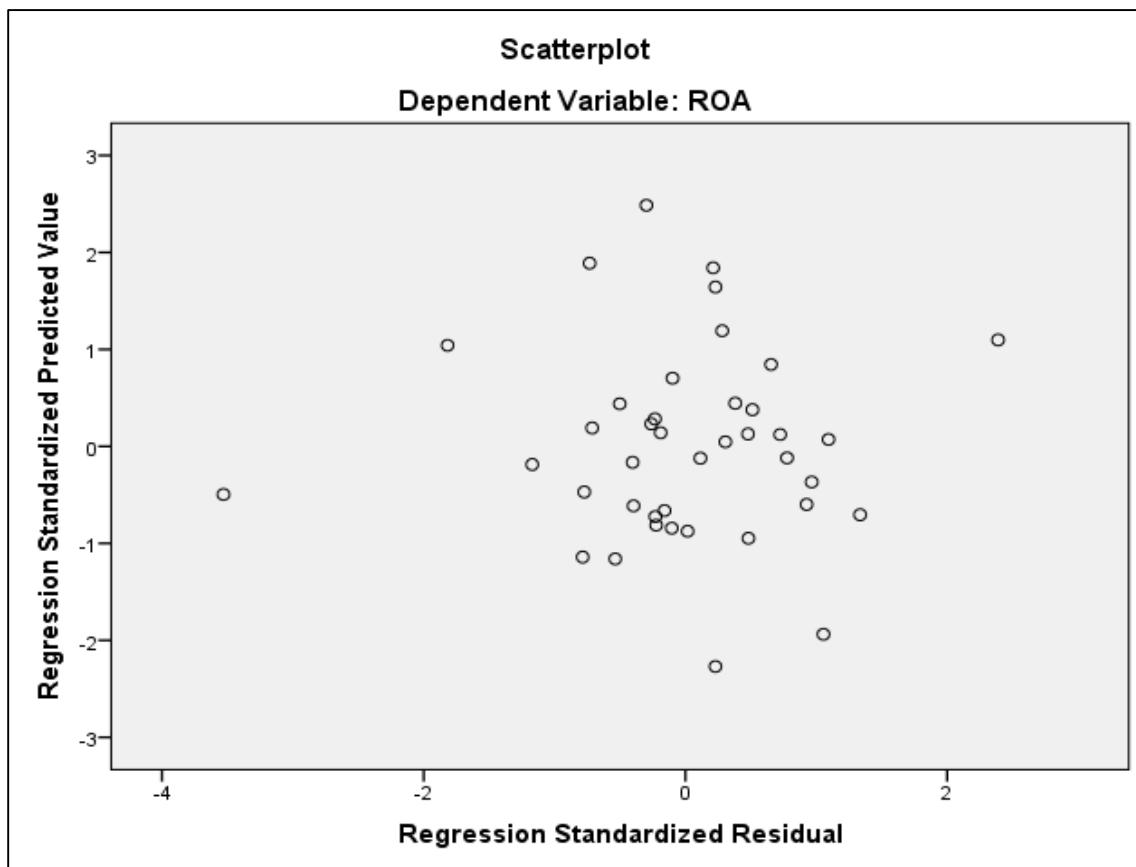
Figure 4.6: Standardized Residual Plot

The standardised residual plot show that the plotted data points exhibit a similar pattern.

This is an indication that the assumption of homogeneity of variances has not been violated.

4.4.3 Autocorrelation

The Durbin-Watson test would assess in lieu of autocorrelation. These results were presented as follows

Table 4.3: Autocorrelation

Model	Durbin-Watson
1	2.089

Research Data

The autocorrelation test results in table 4.3 show that the Durbin-Watson statistic value is 2.089, which features in the endorsed threshold of 1.5 and 2.5. This indicates that there are no autocorrelations, and the assumption of autocorrelation has not been violated.

4.4.4 Multicollinearity

The variance inflation factors were used to assess for multicollinearity as shown under table 4.4

Table 4.4: Multicollinearity

Variable	Tolerance	VIF
LnGDP	.848	1.179
LnIR	.955	1.047
LnCPI	.730	1.370
LnER	.535	1.869

Source: Study Data

The multicollinearity tests result in table 4.4 shows how the entire the variance inflation

aspects are lower than the recommended threshold of 10. This specifies that there exists no multicollinearity in the midst of the variables.

4.5 Correlation Analysis

The correlation was employed to check for linear connotation among each of the research variables.

Table 4.5: Correlation Matrix

	ROA	LnGDP	LnIR	LnCPI	LnER
ROA	1				
LnGDP	.040	1			
LnIR	.161	-.167	1		
LnCPI	.087	.374[**]	-.152	1	
LnER	.151	.276[**]	-.175	.223[**]	1
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Study Data

Table 4.5 indicates that the association amid ROA and real GDP was weak and positive, as shown by a correlation coefficient of 0.040, whereas a correlation between interest rates as ROA was also weak and positive as indicated by the coefficient of 0.161, respectively. The results further show the correlations between CPI, exchange rates, and ROA were weak and positive, as indicated by coefficients of 0.087 and 0.151, correspondingly. From the table, all coefficients are less than 0.7 hence an indication that there exists no multicollinearity amid these research variables.

4.6 Regression Analysis

This was include to scrutinise the association relating the explanatory with the response

variables. These results comprised a model summary, analysis of variance, and regression coefficients.

4.6.1 Model Summary

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. The error of the Estimate
1	.986[a]	.972	.969	.03579

a. Predictors: (Constant), LnER , LnIR , LnGDP , LnCPI

b. Dependent Variable: ROA

Source: Study Data

The model summary results indicate that the coefficient of determination (R square) was 0.972. This indicates that the independent variables (interest rate, exchange rates, GDP, and CPI) account for 97.2% of the variation in the dependent variable (ROA).

4.6.2 Analysis of Variance

Table 4.7: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.545	4	.386	301.595	.000[b]
1	Residual	.045	35	.001		
	Total	1.590	39			

a. Dependent Variable: ROA

b. Predictors: (Constant), LnER , LnIR , LnGDP , LnCPI

Source: Study Data

The ANOVA results in table 4.7 show that the F statistics value was 301.595, with a p-value of 0.00<0.05. This indicates that the model is significant and fit for the study as the P-value is significant.

4.6.3 Coefficients

Table 4.8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.012	1.576		-1.912	.064
	LnGDP	.490	.147	.434	3.335	.002
	LnIR	.027	.044	.018	.611	.545
	LnCPI	.582	.156	.611	3.741	.001
	LnER	-.106	.150	-.055	-.708	.483

a. Dependent Variable: ROA

Source: Study data

The coefficient marks on table 4.8 show that there was a significant (P-value = 0.002<0.05) and positive (B=0.490) connection concerning real GDP and ROA whereas the relationship between interest rates (IR) and ROA was positive (B=0.027) but insignificant (P value=0.545>0.05) respectively. The results further show that the connection concerning inflation (CPI) and ROA was positive (B=0.582) and significant (P-value = 0.001<0.05) while the association between the exchange rate and ROA was negative (=B-0.106) and insignificant (P = 0.483>0.05) correspondingly.

4.7 Interpretation of the Findings

This study found real GDP to have a positive (B=0.490) and significant (P-value = 0.002<0.05) relationship with ROA. This value points to the fact that a unit growth in GDP increases ROA by 0.490 units, and GDP growth significantly enhances banks' financial performance. A study by Desaro (2012) found out that the ROA was adversely associated with the exchange ratio and positively correlated with the GDP growth and inflation. However, Demirguc-Kunt et al. (1998) found that there was no connotation detected concerning GDP per capita development and bank lucrativeness.

The research also revealed that the association amid interest rates and ROA was optimistic (B=0.027) but insignificant (P value=0.545>0.05), respectively. This indicates changes in lending rates do not have a substantial consequence on moneymaking banks' financial performance. Research conducted by Kipngetich (2011) found that interest rates had a converse association with the lucrativeness of companies in the aviation industry. Mwangi (2013) settles there is a negative, insignificant association between ROA and annual average lending ratio. Njuguna (2013) found that interest charges, inflation, and the basic factors could be credibly used to forecast MFIs' expected ROA.

The results further revealed that the connection concerning inflation (CPI) and ROA was confident (B=0.582) and substantial (P-value = 0.001<0.05), respectively. This is an indication that there is an important and confident connection amid inflation and commercial institutions financial performance. As a study by Bourke (1989) found that an advanced rate of inflation culminates when increasing the quantity of rates charged on loan henceforth higher returns generation by the bank. An increase in price has an antagonistic influence on bank lucrativeness if the overhead cost was mounting quicker than the inflation

rate. Naceur (2003) also discovered that inflation rates had a negative while stock market improvement had a confident bearing on lucrativeness in addition to net interest margin.

The study finally revealed that the association amid the exchange ratio and ROA was undesirable (=B-0.106) in addition to being insignificant (P = 0.483>0.05), respectively. This indicates that there is no noteworthy connection between the exchange ratio and moneymaking banks' financial outcome. Research conducted by Patra and Poshakwale (2006) found the exchange ratio and company performance equilibrium association was not established either in short term period or long term period of time. Nyamwange (2009) established that Sterling Pound. United States Dollar, Euro exchange ratio, and the Japanese Yen exchange ratio sway the fiscal outcome of Multinational Corporations.

CHAPTER FIVE

5.1 Introduction

This segment contains an overview, plus conclusions of the project as per the information collected and future outcomes. The chapter finally indicates all limitations of the research and recommendations of techniques that can be improved through investigation.

5.2 Summary

This research expected to define the bearing of macro-variables on monetary outcomes of the moneymaking banking division in Kenya. The efficient market hypothesis, modern portfolio theory, together with the behavioural finance theory ware reviewed as the key theories guiding the research. The inquiry used secondary statistics that had at present been collected. The information remained based on existing macroeconomic variables that were used to obtain relevant data to calculate the Gross Domestic Product (GDP) growth, together with other factors.

Descriptive analysis results were able to indicate that the average figure of real GDP was 13.735 with while the mean value of lending interest rates was 2.7456. The calculations further revealed also established that the basal CPI was 4.9613, whereas the average value of the exchange rate was 4.5046, while the average ROA was 0.0297, respectively, whereas all the kurtosis and skewness values were estimated to be in the threshold of -2 and +2 as a consequence an indication that the statistics was normally distributed.

Correlation analysis results revealed the correlation between ROA and real GDP was weak and positive, whereas the correlation between interest rates as ROA was also weak and positive, respectively. The results further showed the correlations between CPI, exchange rates, and ROA were weak and positive, respectively.

The regression coefficient results revealed a noteworthy and confident connection concerning real GDP and ROA, whereas the association relating interest rates plus ROA was confident but insignificant, respectively. The results further show that the relationship concerning inflation and ROA was confident and substantial, while the association concerning the exchange rate plus ROA was undesirable and insignificant, respectively.

5.3 Conclusions

The study outcome explained how real GDP has a confident and significant connection with ROA. This study based on this observation concludes that GDP growth significantly enhances banks' financial growth as well. The research further revealed how the connection concerning interest rates and ROA was confident but insignificant, respectively. This study concludes that changes in lending rates do not include a direct bearing on the profitmaking banks' economic outcome.

Additionally, the research results revealed that the affiliation depicted amid inflation (CPI) and ROA was confident and valuable. The study used this information to declare there is an important as well as positive relation amid price changes and moneymaking banks outcome. The study finally revealed the association relating the exchange rate and ROA to be undesirable also insignificant. The study thus determines the existence of no valuable connection relating the exchange rate and moneymaking banks' financial outcome.

5.4 Recommendations

The conclusion resolved that GDP growth significantly affected banks' economic performance. This finding recommends that the government should ensure that they are

continuous increase of the economy to enhance the performance of the economic industry since it is a valuable sector that enhances business intermediation.

Based on the study finding, the research indicated that changes in lending rates do not have a direct impact on moneymaking banks' economic outcome. This research, however, pointed to the fact that the management of for-profit banks must set favourable interest rates so that they can lend to businesses and individuals, which in turn enhances interest income.

The research results drew the deduction that there was an ideal as well as confident connection concerning inflation in addition to money-making banks' financial performance. The study based on this conclusion dictates that the central bank has to undertake measures to combat inflation to ensure that it limits any adverse influence on the economic outcome of institutions.

Finally, the research declared that was there existed no valuable connection between the exchange value and banks' financial outcome. The study, however, shows that the central bank have to implement ideas that limit the fluctuations of the interest rates to encourage foreign exchange and to counteract interest rate fluctuations.

5.5 Limitations of the research

The investigation only looked at real GDP, lending interest ratio, exchange value, and charge fluctuations as the only macroeconomic factors, thus leaving out other valuable factors like foreign direct investments, unemployment, industrial production, and oil prices, among others. Thus, the study is limited to the considered research variables. The study also only looked at the banking sector together with financial output of the financial sector. Hence, the outcome can only be based to the banking sector and not any other industry in the country.

The study context was Kenya, so the data was collected within Kenya; hence, the findings are limited to Kenya, and they may not be generalized to other countries since macroeconomic variables exhibit different movements in different countries. Finally, the study used secondary data from 2009 to 2018, which is historic and lagged in nature and may not represent the current situation. In addition, secondary data ignores the qualitative elements that correlate with the performance within the financial sector.

5.6 Suggestions for Extended Research

This project purely looking at macroeconomic elements and only covered for macroeconomic factors, including real GDP, lending interest rate, exchange rates, and inflation. However, there are other financial influences like foreign direct investments, unemployment, industrial production, oil prices. The study thus suggests a similar study that will focus on the fiscal factors which was left out in the research process.

Further, the study did not incorporate bank-specific factors like bank size, age, profitability, and another bank characterizes to determine their relation on bank profitability. The research thus indicates the need for an additional study which incorporates both macro and microeconomic variables. The study also uses specific measures for the variables like the performance was measured using ROA, economic growth measured using GDP, while inflation was proxied by CPI. The paper recommends other measures for the variables like ROE for bank performance, GDP per capita for economic growth and inflation rates.

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APPENDICES

Appendix I: List of Moneymaking Banks

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank of Kenya
6. CfC Stanbic Holdings
7. Chase Bank Kenya (Taken Over by SBM Bank)
8. Citibank
9. Commercial Bank of Africa
10. Consolidated Bank of Kenya
11. Cooperative Bank of Kenya
12. Credit Bank
13. Development Bank of Kenya
14. Diamond Trust Bank
15. Eco bank Kenya
16. Equity Bank
17. Family Bank
18. Fidelity Commercial Bank Limited
19. First Community Bank
20. Giro Commercial Bank
21. Guaranty Trust Bank Kenya
22. Guardian Bank
23. Gulf African Bank
24. Habib Bank
25. Habib Bank AG Zurich
26. Housing Finance Company of Kenya
27. I&M Bank
28. Imperial Bank Kenya (In receivership)
29. Jamii Bora Bank
30. Kenya Commercial Bank
31. Middle East Bank Kenya
32. National Bank of Kenya
33. NIC Bank
34. Oriental Commercial Bank
35. Paramount Universal Bank
36. Prime Bank (Kenya)
37. Sidian Bank
38. Spire Bank
39. Standard Chartered Kenya
40. Trans National Bank Kenya
41. United Bank for Africa
42. Victoria Commercial Bank

Source: CBK Annual report 2017

Appendix II: Data Group Sheet

Year	Q	Real GDP	Interest r	Inflation	Exchange	ROA
2009	Q1	737,906.34	14.87	99.50	79.58	0.0256
	Q2	688,912.00	15.09	101.91	79.81	0.0241
	Q3	678,697.00	14.76	102.90	79.25	0.0276
	Q4	693,523.00	14.80	104.07	78.45	0.0255
2010	Q1	786,481.00	14.39	105.01	76.49	0.0275
	Q2	713,363.99	14.19	105.65	76.98	0.0245
	Q3	705,260.19	13.98	106.32	77.58	0.0305
	Q4	707,158.87	13.87	108.07	78.94	0.0347
2011	Q1	845,860.78	13.92	112.41	82.21	0.0317
	Q2	767,418.00	13.91	119.56	86.33	0.0347
	Q3	761,159.00	14.79	123.88	94.85	0.0332
	Q4	789,245.00	20.04	128.81	91.52	0.0318
2012	Q1	880,802.00	20.34	131.36	83.54	0.0288
	Q2	853,430.00	20.30	133.63	84.76	0.0338
	Q3	847,709.00	19.73	131.78	84.61	0.0302
	Q4	862,398.00	18.15	133.35	85.71	0.0325
2013	Q1	934,377.00	17.73	136.72	86.50	0.0335
	Q2	917,617.00	16.97	139.46	84.98	0.0130
	Q3	902,369.00	16.86	140.99	87.17	0.0311
	Q4	892,495.00	16.99	143.25	86.15	0.0331
2014	Q1	982,917.00	16.91	145.99	86.33	0.0280
	Q2	972,761.00	16.36	149.27	87.43	0.0330
	Q3	944,087.00	16.04	151.62	88.49	0.0300
	Q4	942,421.00	15.99	152.09	90.04	0.0320
2015	Q1	1,039,433.00	15.62	154.48	91.81	0.0276
	Q2	1,026,833.00	15.57	159.71	97.01	0.0290
	Q3	1,001,471.00	16.09	160.93	103.89	0.0330
	Q4	994,165.00	17.35	163.27	102.08	0.0290
2016	Q1	1,091,747.00	17.87	165.92	101.90	0.0229
	Q2	1,090,548.00	18.06	169.76	101.04	0.0420
	Q3	1,053,014.00	16.55	171.56	101.34	0.0326
	Q4	1,065,389.00	13.88	175.18	101.73	0.0320
2017	Q1	1,149,000.00	13.61	182.98	102.85	0.0330
	Q2	1,138,981.00	13.66	185.39	103.50	0.0290
	Q3	1,100,234.00	13.69	183.66	103.13	0.0280
	Q4	1,121,607.00	13.64	183.05	103.10	0.0267
2018	Q1	1,224,057.00	13.49	190.62	101.18	0.0285
	Q2	1,212,316.00	13.22	193.31	101.00	0.0275
	Q3	1,170,098.00	12.66	194.14	100.83	0.0270
	Q4	1,188,361.00	12.51	193.51	102.29	0.0280