

**EFFECT OF MACROECONOMIC VARIABLES ON THE FINANCIAL
PERFORMANCE OF BANKING SECTOR**

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DECLARATION

I declare that this is my original work and has not been presented for any award in any university.

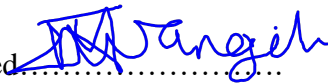


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DEDICATION

I dedicate this research project to my mom Nancy Kariuki for she has been supportive and encouraging throughout my life, her prayers have sustained me this far. Secondly, I dedicate this work to my precious kids Jayden, Skylar and Leroy because of their perseverance, understanding and allowing me to work on the project despite them needing time with me.

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ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
APT	Arbitrage Pricing Theory
CBK	Central Bank of Kenya
CMA	Capital Market Authority
CPI	Consumer Price Index
EMH	Efficient Market Hypothesis
FP	Financial Performance
GDP	Gross Domestic Product
KNBS	Kenya National Bureau of Statistics
KRA	Kenya Revenue Authority
MV	Macroeconomic Variables
NSE	Nairobi Securities Exchange
ROA	Return on Assets
ROE	Return on Equity
ROI	Return on Investments
SPSS	Statistical Package for Social Sciences

ABSTRACT

The banking sector has continuously gained momentous growth. However, the macroeconomic factors have destabilized the sustainability of the business due to financial predicaments and global problems. In Kenya several monetary procedures have been initiated to safeguard the commercial banks from severe macroeconomic factors. The fiscal and monetary policies have been spearheaded to curb against macroeconomic challenges. Nonetheless, the unfavorable macroeconomic variable may provide avenue for immense banking problems. The objective of this research was determining the effect of macroeconomic variables on Kenya's performance of the banking sector. The study was based on Fisher's theory and supported by arbitrage pricing theory as well as modern portfolio theory. The independent variables were GDP growth rate, interest rate, inflation and money supply. The dependent variable that the research endeavored to describe was the financial performance of the Kenyan banking industry. The data was obtained on a quarterly basis for ten-year duration (Jan. 2012 to Dec. 2021). A descriptive research technique was applied in the research, with a multivariate regression model utilized in examining the link between the research variables. The research conclusion resulted in 0.557 R-square, signifying the selected independent variables could account for 55.7% in the Kenya financial performance variation in the banking sector, while the other 44.3 percent was as a result of other factors not explored in this research. The F statistic was significant at a 5% extent possessing a $p=0.000$. This indicates that the model was effective in explaining how Kenya's banking market performed. Further, the conclusions demonstrated that higher GDP growth rate yields a substantial rise in performance in the banking sector while money supply negatively affects performance. Interest rate and inflation did not possess significant effect on banking sector financial performance. The research recommends that there is need to manage GDP growth rate and money supply since they have a major impact on banking sector performance. The research further acclaims the necessity for future researchers to conduct a study for a longer period of time to capture the effects of economic cycles like recessions and booms.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

The macroeconomic variables are pivotal in the financial transactions. Bengi and Njenje (2016) illustrated the importance of macroeconomic variable on the growth of the economy, financial stability and quality inflow of foreign direct investment. The momentous operation and performance of the business is affected directly or indirectly by the macroeconomic variables. The strategic plans of the business have always factored in predicaments associated with macroeconomic variables. Kweyu, Omagwa and Abdul (2021) related the poverty with the financial distress resulting from the macroeconomic factors. The business stability and financial muscles of the firm are the yardstick for stimulating their financial performance. The financial health of the overall macroeconomic factors can be replicated on the financial performance of firms.

The theories reinforcing this study included; Fisher's Theory embedded by (Fama, 1970) to pinpoint that macroeconomic variable is reflected on the stock prices, growth and performance of entities. It gives chief regard to money supply, velocity and value. Arbitrage Pricing Theory formulated by Ross (1976) to pinpoint that no existence of arbitrage in a functional market. Therefore, the profitability and performance are a function of macroeconomic variables. Finally, modern portfolio theory coined by Markowitz (1952) to emphasize the importance of maximization of the prevailing portfolio risk to reap the maximum returns. Fabozzi, Gupta and Markowitz (2002) expounded on the minimization of risk while enhancing optimum returns. The banking sector is lifeblood of the economic growth, employment and inflation. Besides handling voluminous transaction and acting on behalf of CBK, it is pivotal for interest rate, national economic and money supply (Kirui, Wawire & Onono, 2014). The formulation of

policies and procedures that addresses the macroeconomic factors namely; inflation, fuel prices, employment, money supply and even interest rate among others are directed to the banking sector as well as other financial institutions. The banking sector plays an intermediary role by connecting the savers to the borrowers. Additionally, Otambo (2016) banks have chief mandate on the formulation of policies, maintaining the stability of prices, and acting on behalf of CBK (CBK, 2019). The banking sector undertakes numerous activities ranging from the facilitation of money transfer, saving and lending money, foreign exchange services and advisory services to the customers.

1.1.1 Macroeconomic Variables

The overall changes in the economy are associated with the macroeconomic variables (Agrionet, 2011). The elements making up the macroeconomics are the yardstick for overall changes in the development, productivity and businesses. Brueggeman and Fisher (2011) elucidated that national economy relies majorly on macroeconomic variables. The inflation, GDP, money supply and foreign exchange rate are the key macroeconomic variables in the economy. San and Heng (2016) opined that firms have minimal control on the macroeconomic factors. Mokaya, Jagongo and James (2017) opined that macroeconomic variables emanate from the external environment. Macroeconomic variables are the external elements causing changes in the economy.

The macroeconomic factors have experience numerous changes and variation. The variation initiates complexity in the business operation and overall economic prosperity. In addition, globalization has numerous changes either related to economy or technology. It has resulted in the adjustment on the macroeconomic variables. San and Heng (2013). The businesses prefer stable and predictable behavior of macroeconomic factors, nonetheless, in reality they are

highly fluctuating. Walded (2022) coined that the pricing strategies, investment, savings and borrowing are influenced by the macroeconomic factors. The risk and rewards based on macroeconomic variable should be always analyzed and predicted to minimize losses and costly decisions Mokaya, Jagongo, James, (2017).

The operationalization of macroeconomic variables have followed different routes based on the scholars. Simiyu and Ngile (2015) prioritized inflation rate, money supply and foreign exchange rate while Mokaya, Jagongo and James (2017) utilized lending rates, inflation and GDP. In addition, Maina and Kimutai (2018) utilized government expenditure and inflation rate to expound on the macroeconomic variables. Moreover, the study optimized exchange rate and interest to give rigorous analysis of the same. This study delves into GDP and money supply. Moreover, it also analyses the interest rate and inflation to shed more lights on the association.

1.1.2 Financial Performance

The financial performance is an intense examination of efficient maximization of the firm's resources to generate revenues. The general quantifier of monetary adjustment over a specific period is well explained through the financial performance Yamaha and Lamidi (2015). The comparison of firms' capability and the financial performance is done through financial performance metrics (Maghanga & Kalio, 2012). The financial health of a firm or a sector depends on its ability to put all its assets in maximum use. Otando (2016) elucidated that stability of business signifies firm's quality management of their finances. The capital leverage and enhancement of cash flow remains the crucial purpose of the business.

The financial performance propels the business towards competitive advantage, economies of scale and voluminous productivity. Furthermore, the revenues, profitability, expenditures and

liabilities have defined the financial ability of the business (Muringi, 2019). The financial performance is the cornerstone for building strong foundation for business sustainability. Business forecasting, going concern, growth and efficiency incorporated financial performance. Therefore, proper utilization assets to gear profitability, is stepping stone towards the addition of shareholders' wealth.

The financial performance has experience unprecedented variation. The numerous changes have been associated with the fast-paced commercial environment. Muringi (2019) used ROA to explain FP. Omondi and Muturi (2013) concluded that both ROI and ROA are critical parameters for FP. Apart from that market share prices, liquidity, the efficiency in the operation and growth in sale have explained FP. FP defines the prudential execution of policies on assets to reap high return. The firms' profitability elaborates on the financial sustainability, ability and can dictate the business direction. Therefore, this study optimizes ROA as a proxy to FP.

1.1.3 Macroeconomic Factor and Financial Performance

The dynamics surrounding the macroeconomic environment and the financial performance have showed an intertwining connection. The stability of macroeconomic variables provide conducive environment for predicting financial performance and risk minimization. (Muringi, 2019). Maina and Kimutai (2018) concluded that macroeconomics is pivotal for enhancing profitability. The inflation and interest rates have resulted either mayhem or good results on the performance. The business have invested and saved to cushion the business in case of unpredicted problems.

The sound policies frameworks from the policy makers and scholars have tried to address the macroeconomic variable in order to enhance the financial performance (Otambo, 2016). The association amid the macroeconomic and performance has been crucial fulcrum point by

analyst based on the prevailing phenomenon. The variation in macroeconomic variable has defined threats and opportunity for the financial performance concurrently. Kamande (2015) illustrated that maximizing macroeconomic opportunities translates to the financial performance. Nevertheless, threat may ruin the financial stability. The controversial outcome prompts more investigation to determine the correlation.

1.1.4 Banking Sector

The banking sector is the cardinal part of economy since it entails the commercial banks. The total commercial banks licensed and operational in Kenya are 38. This is reduction from the previous 42 banks which consisted of 25 locally owned and 14 abroad. The banking sector is vital for economic prosperity. In addition, it connects the savers and borrowers. The commercial bank discharges the mandate on behalf of CBK. Therefore their mandates and authority are stipulated by the Central Bank of Kenya (CBK, 2015).

The financial issues have received immense attention of commercial banks in Kenya Mokaya, Jagongo and James (2017). Its crucial roles include the economic development, enhancing access to finances and addressing the macroeconomic factors. The evolution of banking sector has been possible to innovation and adherence to the spirit of continuous improvement. The banking sector has tailored their products to meet the clients' demands. Interestingly, tastes and preferences of the clients keep adjusting due to fast-paced integration.

The development in the banking sector can be associated with financial repression and monetary policy formulation in 1970-1980 (Otambo, 2016). The banks utilized policies and governance that enhance generation shareholders wealth through investments and giving out credits on interest. In 1980-1990 the structural adjustment were upgraded to moderate the interest rate and ensure there were minimal upswings and downswings.

The changes escalated to amplification of investment to boost effectiveness and efficiency of credit and saving. Thereby, numerous changes have spurred the economic transformation including digitalization and reforms in the financial sector. Further, monetary policies have protected the banking sector against threats (CBK, 2019). The technological advancement has blueprinted the banking sustainability and financial stability via liberation of indirect mechanisms Kamande (2015). The fiscal instrument, ATMs, plastic money, E-money and digital currency dominated 1990s.

The significant transformations on policies such as Banking Act, Companies Act and Central Bank Act have shaped the operation of the banking sector. The Acts provides the longevity direction, stabilize financial performance, address threats, cushion against risks and provide holistic platform for growth. Strategies have propelled the banking sector towards competitive advantage as well as meeting the international standards (CBK, 2012).

Kenya Bankers Association (KBA) is a special umbrella representing the issues of commercial bank but is controlled by CBK (Meshask and Nyamuite, 2016). Previously, the capital mandated for the bank used to be Ksh. 250 Million which was changed to Kshs. 1 Billion under Ministry of Finance Act (2012). The policies were executed in 2010 before passing in parliament in 2012. The immense changes in the banking sector have triggered high advancement in both the banks as well as the economy.

1.2 Research Problem

The financial soundness of a country has direct connection to its robust nation's banking system (Nguku, 2019). The scholars have stated the crucial foundation on economic growth and performance due to the macroeconomic variables (Al-Tamimi, 2010). The macroeconomic variables are lifeblood for the performance of the banking sectors. It ensures soundness and

healthiness whenever it subjects them to opportunities. The macroeconomic variables have significantly triggered changes on the performance. Nguku (2019) illustrated that macroeconomic variable boost the financial stability. According to Otando (2016) longevity is fundamental for business due to threat of macroeconomic variables.

The banking sector has continuously gained momentous growth. However, the macroeconomic factors have destabilized the sustainability of the business due to financial predicaments and global problems (Mueni, 2016). In Kenya several monetary procedures have been initiated to safeguard the commercial banks from severe macroeconomic factors (CBK, 2016). The fiscal and monetary policies have been spearheaded to curb against macroeconomic challenges. Nyabute (2019) posit that intervention measures from CBK largely address the macroeconomic variables. Nonetheless, the unfavorable macroeconomic variable may provide avenue for immense banking problems. Needless to emphasize the mounting pressure resulting from extreme yet there are unexpected variations.

Globally, Savven et al (2013) undertook analysis of macroeconomic factors verse the financial performance (FP) for the period spanning from 2009-2013 in Indian and concluded on substantial association. According to Kamar (2013) macroeconomic variables and performance have negative connection. This is well coined through inverse connection amid inflation rate and interest rate on the returns. Kamwal and Nadeem (2013) concluded on weak link between earnings and the macroeconomic variables. Nonetheless, San and Heng (2013) pinpointed absence of association for GDP and inflation verse the profitability. Osamwonji and Chijuka (2014) recorded that macroeconomic variable moved in the same direction with the profitability.

Locally, a few research on the macroeconomics verse the profitability and FP have been accomplished. The studies have generated debate emanating from absence of consensus. Macharia (2013) and Frederic (2014) posted significant though negative association amid MV and FP. Contrary, Kiganda (2014) and Kwakwa (2014) stated an insignificant despite positive association for MV and FP. Nevertheless, Mueni (2016) wrapped-up on strong positive link amid MV and ROA. Muringi (2019) presented an insignificant positive association for inflation, positive insignificant correlation for interest rate and positive significance connection of exchange rate verse the ROA. From this empirical overview, it is imperative to pinpoint inconclusive and puzzling output.

The findings executed by the global and local researchers have provided inconsistent and controversial inferences. The outputs presented by the preceding scholars are critical stepping stone for in-depth and robust study. In addition, the results delineated areas of conceptual and empirical gaps. Similarly, contextual gaps emanated from both the global sectors as well as research focusing on other sectors. In a nutshell this research was driven to answer the study question on; what is the effect of macroeconomic variable on the financial performance of banking sector in Kenya?

1.3 Objective of the Study

The objective of the study was to assess the effect of the macroeconomic variable on the financial performance of banking sector in Kenya.

1.4 Value of the Study

The research is crucial for the government formulation of fiscal, monetary and prudential policies to safeguard the banking sectors. The finding will increase knowledge among the top management. Therefore, the formulation of strategies to address the prevailing issues can be

accelerated. Furthermore, the study will broaden the analytical skills, knowledge and understanding on the macroeconomic variable verse the performance.

The study will be immense value to societal knowledge and education to users of this information. The potential users can obtain comprehensive information regarding the macroeconomic. Furthermore, it serves as the supreme reference point for academician. The future scholars can scrutinize the findings, compare and contrast with other findings globally and locally before seeking to address the loopholes.

The findings can be optimized in the improvement of financial policies, timeframe and standard. Furthermore, fundamental benchmarks and brainstorming can accomplish basing them on the outcome. The research can give rise to curiosity on determination of viable decisions and ideas worth executing. The study can dig deeper and broader aspect of knowledge.

Finally, the study will address the relevance and criticism of the theories. The criticisms expound on the weakness while the relevance emphasize on their cornerstone. The study elucidates the assumptions that have not been overtaken by timeframe. Therefore, it will find the vital basis for guiding and fixing macroeconomic challenges.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter is vital for the provision of theoretical framework as the cornerstone of the study. Furthermore, it expounds on the variables determining the financial performance. In addition, it converse about empirical reviews that have been executed by the preceding scholars. This part appraises the work of other scholars and pinpoints the research gaps. Moreover, it addresses schematic representation of predictor and predicted variable. Lastly, it wraps-up by posting the summarized details and research gaps.

2.2 Theoretical Framework

The research incorporates the past presupposition to enhance the study. Fisher's Theory (Irving, 1930) posits that the macroeconomic factors such money supply is critical for the determination of prices and sectorial performance. It presupposes that money demanded is highly proportional to the transaction value. Similarly, Arbitrage Pricing Theory (Ross, 1976) considers risk and uncertainty for the performance and valuation. The theory alludes that macroeconomic variables can be predicted to allow sound investment decisions. Therefore, the potential investors assume that information is replicated on the macroeconomic variables. Likewise, Modern Portfolio Theory (Markowitz, 1952) postulates that even with macroeconomic factors, the core objective is the expected return. Therefore, the anticipated returns and maximization of profit are the driving force in the business set-up.

2.2.1 Fisher's Theory

This theory was established by Irving fisher (1930). Foremost the theory assume that the ratio of funds in the bank to lender finance remain constant. The theory presumes that information is replicated on stock prices, performance and growth. The investors should focus on the

macroeconomic factors to make informed decision. The changes offer chief latitude on the economic behavior (Fredrick, 2021). The theory alludes that strategic decision refers to macroeconomic factor to deal with every subtle adjustment. Hence the profits are anticipated through proper monitoring of macroeconomics and taking significant step to reap from prevailing opportunities.

The Fisher's theory faces a number of weaknesses as follows. One of the weaknesses of this theory is that it neglects the rate of interest as part of causative forces between prices and money. The theory presumes that all information is reflected on the macroeconomic variables and exhibit economic behavior. Contrary, the information in the market is always uneven and internal personnel have more crucial information. The macroeconomic variables keep changing hence affecting the performance and prices. Therefore, keen consideration of several factors is needed whereas it should be predictable. The assumption on the equilibrium level of employment is misleading. Lastly, it cannot explain why it assumes that price could it be constant over short period of time.

Despite having above criticisms, this theory is crucial in examining effects of macroeconomics factors on the performance of commercial banks. It is pivotal in the determination of whether the commercial entities are earning returns and profits. The theory simplifies complex issues relating to macroeconomics by coining an existing connection between the money supply and price level. Further, the theory emphasizes the importance of money velocity, the output of goods, price movement and money quantity determines value of money.

2.2.2 Arbitrage Pricing Theory

Arbitrage Pricing Theory was developed by Ross (1976). This theory is product of asset pricing. The theory put forward several assumptions to elaborate the macroeconomic

environment. It asserts that assets returns can be expounded by systemic variables. Further, it assumes that there are no arbitrage opportunities that are available in well-diversified portfolio. Additionally, it asserts the diversifying specific risk that enables the investors to reap great benefits. Hence, investors consider diversification in their continuous operation.

This theory faces a number of limitations which include failure to specify systematic factors. Therefore, the financial analyst has performed several regressions to explain portfolio returns and performance verse the macroeconomic factors. Further, it presumes the presence perfect market where in the real business world the ideal business does not exist. Moreover, the theory perceived that investors can predict the risks origin and estimate factors accordingly. In business, certain stock may be sensitive to one factor than other. According to Otambo (2016) the model failed to categorize factors which subjects assets to risk.

This theory is of significance utilization in the macroeconomic study. The theory is critical in the explanation of macroeconomic variables. It posits that ROA is linear function resulting from inflation, GDP and other macroeconomic factors. The risk and return are the areas of interest for the investors Shrestha and Subedi (2015). APT details manners in which market pricing is done among the commercial banks. This theory postulates how the desired investment returns can be explained as different macroeconomic factors. APT permits the inclusion of multiple risk factors in a dataset thereby eliminating many questions on unanticipated changes. The investor can make sound judgment regarding the assets with strong potential. In a nutshell, it can build solid portfolio and exploit the prevailing opportunities grounded on return.

2.2.3 Modern portfolio theory

Modern portfolio theory (MPT) embedded by Markowitz (1952). It defines the normal distribution of the ROA. Hence the investor making candid and rational decision avoids unrealistic risk. This advocates for comprehensive assessment of stock portfolio, assets and unique situation to come up with the optimum return entrenched by determined risk level. It concludes that investors' action influences the macroeconomic environment. Further, it assumes that the investors have realistic desires that are achievable.

As a result of the above assumptions, modern portfolio theory faces some shortcomings. Foremost, this approach assume that all investors have reasonable expectation, but this far from the reality , since many people get overconfidence thereby can make wrong decision either to sell quickly or invest wrongly. Further, assumptions of no transaction cost are incorrect, because the investors may need to pay middlemen. The MPT approach alludes that the investors are rational but do not impact on market. Nonetheless, this is misleading since investors consider past information of the company.

Notwithstanding of above criticism, this theory is critical when it comes to assessment of effects of macroeconomics factors on the performance of banking sector. The theory gives blueprint on how to limit investment turnover. Moreover the theory assists in compute banks portfolio. In addition, the theory shows how risky to have concentrated portfolio. The modern portfolio theory encourages evaluation, mitigation of risk and diversification. The theory is paramount in the provision of opportunities for the investment through phasing out underperforming assets and replacing with new and highly one.

2.3 Determinants of Financial Performance

The macroeconomic determinants of financial performance are grounded on the pivotal metrics. This includes GDP, Inflation rate, Interest rate and money supply. The well-functional economy relies on these factors for prosperity. Similarly, the banking sector undertakes diligent inquiry on the behavior of the data. The investment can remain afloat if keen examination of macroeconomic variables is done.

2.3.1 Gross Domestic Product

GDP is the market value of the final products produced within the country over certain duration. Gross domestic product in a country is normally computed by national's statistical bodies. These agencies compile data from various sources. When evaluating GDP, many nations follow developed standards. International standards for computing GDP is found in System of National Accounts, 1993, drafted by the IMF, the European Commission, the United Nations, World Bank, and the Organization for Economic Cooperation. A GDP of a country can be seen in 3 separate ways namely; the production way, the expenditure way and the income way. Otambo (2016), assessed the impacts of GDP on performance of banks' finance in Kenya. The researcher found out that there is a positive relation between gross domestic product and financial performance of banks.

2.3.2 Interest rate

Rates of interest have capacity to affect the running of a company in various manners. Foremost, high interest rates prevent a company from investing in development and fresh capital. In addition to that, low rates of interest are able to enhance a company's development and investing in new projects, thus improvement in employment index, more personal expenditure and higher Gross Domestic Product (Mohr, 2015). The rates of interest charged by commercial

institution especially financial firms and central bank play great roles in influencing macro-economic corporate bond's performance. Banks can raise or lower the interest rates to drive economic growth. This is known as monetary policy. In case an institution borrows finance for development, increase interest rate influences cost of debt.

Similarly, it mitigates institutions profit as well as shareholders dividends as a result of these prices of shares will reduce. Further, opportunity cost for capitalizing an inventory is represented by the rate of interest. The rate of interest is well known to be key factor in attracting investors in market of stock. As the rate of interest increase the bond of attracting attention of investors' increases provided attributes of risk-return; this enhance investors to change from market of equity to market of money through purchase of bonds and selling stocks, thus lowering prices of stock Campbell (1987). The central banks of different countries do regulate rates of interest.

2.3.3 Inflation rates

Inflation is the variation of consumer price index per a given duration usually one year in percent. In addition, consumer price index refers to average change in price paid by end users for certain goods and services. Price variation (changes) is evaluated by re- pricing the same services and goods at certain intervals. KNBS calculates inflation rate in Kenya. Furthermore, inflation has influence worldwide as shown in empirical literature review. Only the rate of effects and control degree of inflation in various contexts makes the difference.

Inflation influences framework of capital plus worthiness of a company (Dammon 2008). The high inflation result to selling of bounds in transaction for stock and therefore company's structure of capital evaluated as ratio of equity debt. An investigation on inflation as one of the key-economic factors impacting stock market performance was conducted by Baraza (2014).

The researcher discovered that existence of an inverse though insignificant relationship in performance of stock security and inflation. In conclusion, the investigation drawn that regulatory entities like central bank of Kenya need to be proactive not reactive when it comes to key-economic forces.

2.3.4 Money supply

Friedman and Schwartz (1963) elaborated the association between supply of money and returns of stock. They explain by utilizing hypothesis that increase in supply of money could influence the economy, thus the returns of stock market. Furthermore, improved supply of money show surplus liquidity, available to purchase securities, and in turn increase the price. Moreover, the influence of money supply can be detailed using two hypothesis; these are MPH and EMH.

The Monetary Portfolio Hypothesis (MPH) enhancing of supply of money in an economy results into improvement in all-economic works including market of stock (Friedman, 1998). In the other hand, Efficient Monetary Hypothesis (EMH) assumed that the influence of variation of supply of money on how prices of share react is minimal. Further, the adjustment spend does not grant space for investors to reach non-normal return since prices of stock entails all relevant data. Cooper (1974) affirmed above that Monetary Portfolio logic by expounding that the variations of supply of money influence the equilibrium place of money, hence affecting assets and assets' prices in portfolio of investors.

2.4 Empirical Review

Ngugi (2017) examined rate of inflation in respect to pricing of shares. The research examined 61 entities at Nairobi Securities Exchange in 2010-2016. The study established that inflation play a substantial role in pricing of shares in NSE. Further, the study found out that volatility

of prices of shares could be elaborated by rate of inflation. However, the assessment timeframe of 5 years may not be sufficient to explain performance and prices of shares. The current study will study quarterly period hence digging deeper and coming up with concrete findings.

In South Sudan, Manyok (2016) carried out assessment to explore how adjustment in the exchange rate affects performance of commercial bank. The study interval was ranged from 2006 to 2015 for rigorous investigation. The targeted population was all operational banks. Further, the secondary data was obtained from 29 financial institutions (statement of finances). The secondary data was then scrutinized by using linear regression analysis approach. Moreover, examination of data entailed measure of tendency. From the output, it shows that there is weak association between changes of rate of exchange and performance of commercial banks. The context of the study was South Sudan; therefore the current study will delve into Kenyan context.

Mumo (2017) investigated rate of inflation and stock market performance. The study revealed that inflation had less influence on change of share price. In addition, the research examined 20 share index in NSE between 1998 and 2015. Moreover, time series data was maximized to give exhaustive results. It concluded that negative impacts of rate of inflation outshine possible gains originating from other forces. This current study will utilize recent data and macroeconomic variable and the financial performance.

Innocent, Shukla and Mulyungi (2018) assessed Rwanda's GDP and performance of stock. The researchers utilized time series data of 6 years. The researcher optimized descriptive design thereafter an Engel Granger Co-integration Test was done. Further, market capitalization was employed to examine performance of stock market. The study recorded that

GDP has no impact when it comes to performance of stock market. In respect to that, the research did not factor in other macroeconomic variables and performance

Ghurstskaia (2018) carried out study to determine association between GDP and bank's profitability. The study took place in Georgia from 2003 to 2017. Moreover, Return on Asset was utilized in measurement of banks' profitability. The study made quality utilization of correlation analysis to scrutinize the data. The study established that GDP had weak bond with profitability of banks. Nonetheless, the research was carried out in Georgia and its economic environment varies from Kenya. Therefore, the findings cannot be generalized to explain Kenyan environment.

Shrestha and Subedi (2015) did a study on role of supply of money on variation of stock prices in Nepal. The study adopted time series data for duration of mid-August 2000 and mid-July 2014. The researchers found out those prices of stock goes tandem with improvement of supply of money. Furthermore, when supply of money increases, prices of stocks changes positively over certain period time. However, the study targeted only Nepal and therefore not appropriate for generalization of Kenya context.

Ouma and Miriu (2014) investigate relationship between money supply and stock prices performance from 2003 to 2013. The ordinary least Square test and descriptive model were availed for the assessment. The study concluded that stock prices and supply of money are related. The examination of association between money supply and stock prices was limited due to their scope and the reviewed period. The prevailing study is focusing on macroeconomic variables and financial performance.

Muriuki (2014) examined interest rate and its responsibilities on the market returns. The study maximized data collected from the Nairobi Stock Exchange and Central Bank of Kenya.

Furthermore, the researcher utilized descriptive research model. The study established positive connection between stock prices performance and rate of interest. However, the study utilized linear regression approach to establish association. Nonetheless, it did not put into consideration the dual causality approach that give better elaboration on the stock prices performance. Moreover, the current study analyses the financial performance as the predicted variable.

Amarasinghe (2015) evaluated association between interest rate and prices of stock. The researcher used Granger Causality Tests and Regression Analysis. The study collected 7-years data from Colombo Stock Exchange and assess all rates of interest as well as all share index. The share index posted that interest rate affect the prices of stock. Further, the study revealed that increase in rate of interest causes the prices of stock to go down. This study concentrates on financial performance verse the macroeconomic variables.

Ajayi and Atanda (2012) conducted a study on impacts of fiscal procedure on banks' performance. The study targeted Nigeria's banks, in addition to that, the data gathered was from 1980 to 2008. The Engle-granger two phase co-integration models were maximized. The study's findings showed that there is significant association between exchange rate and performance of banks in Nigeria. The current study will be done in Kenyan context.

Gatuhi (2015) did a study to examine relationship between interest charged and market performance. The targeted population was all entities in Nairobi Stock Exchange between 2004 and 2014. Further, the study used causal study model and regressed data between 2004 and 2014. The research expedited showed that rate of interest influence prices of stocks in the market. The study used data from 2004 up to 2014, which cannot reflect the current market conditions. Therefore, the current research used data between 2017 and 2021.

2.5 Conceptual Framework

Conceptual model defines a concrete schematic flowchart that posts the association amid the regressor and the regressed variable in a snapshot. The explained variable was the financial performance while the explanatory variables were; GDP, inflation, interest rate and the money supply. The exhaustive presentation of conceptual framework is in figure 2.1 below.

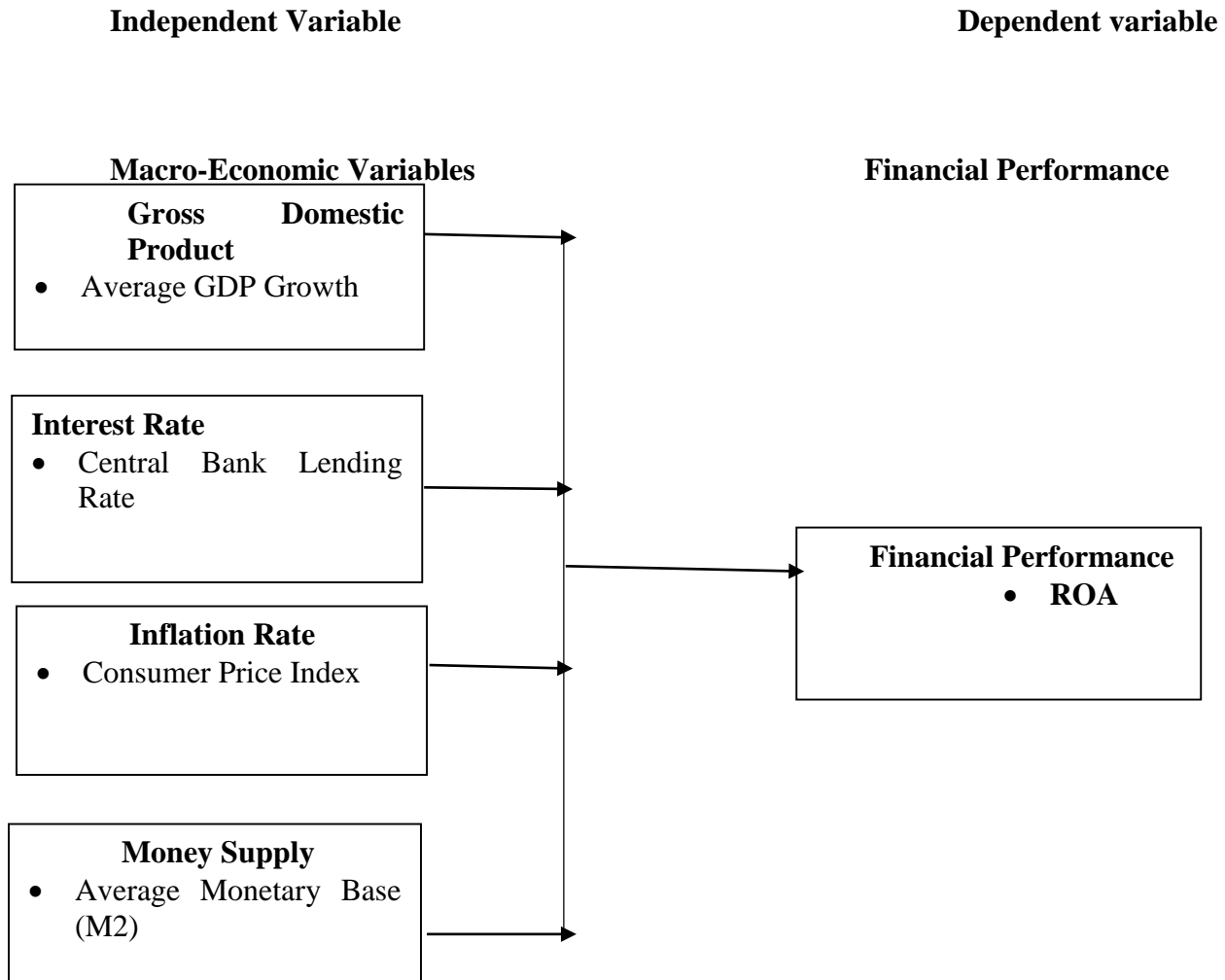


Figure 2.1: Conceptual Framework

Source: Researcher: 2022

2.6 Summary of the Literature Review and Research Gaps

The empirical review on the macroeconomic variables verse the performance has considered wide-array of issues in their undertaking. Specifically, Ajayi and Atandi (2012) scrutinized fiscal procedures and performance in Nigeria. This study gives rise to conceptual and contextual gaps being addressed by the prevailing investigation. This study analyzes macroeconomic variable and the financial performance under the context of banking sector.

Ghurstskaia (2018) delve into GDP verse the Bank Profitability. The study was spearheaded in Georgia. The study provided substantial information on the macroeconomic environment. Nevertheless, it was undertaken in Georgia while this research concentrates on the Kenyan context. On the other side, Amarasinghe (2015) utilized Granger Causality while prevailing study use SPSS to compute multivariate regression, descriptive and inferential arithmetic. Apart from the bridging knowledge gap and conceptual gap, this assessment fills the contextual and empirical gaps.

Innocent, Shukla and Mulyungi (2018) alluded absence of any connection between GDP and performance of stock. Moreover, Mumo (2017) stated a negative association amid inflation and stock performance. Based on the several studies, the findings have either resulted in positive, negative or no association as defined by the preceding studies. Hence, the puzzling and controversial outcome creates more debates that motivated the current study to bridge the gaps.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter was fundamental for discussion of the research design that was appropriate for the study. It gives comprehensive information about the sufficient population necessary for this undertaking. Moreover, it presents data collection techniques that address the objective of the research. Additionally, it highlights data analysis method and diagnostic tests accomplished to ensure that assorted dataset is passed through intensive steps. Finally, it presents the multivariate regression model to elaborate the association and significance tests to gauge if the data meets the minimal threshold.

3.2 Research Design

This chapter provides information on the research design, data assortment means, methods of data analysis and data presentation techniques that are to be used in this section. The study used a descriptive research design to expound on the objective of the study. This design was critical for exemplifying the cause and effect association. Kothari (2015) described the research design as vital layout that eases the analysis. It incorporates how the study was undertaken and how the variables were factored in. Therefore, research design was the backbone of this rigorous scrutiny. Cooper and Schnidler (2014) described the design as a frame of techniques which specify the dataset to be assorted and details the procedural undertakings to be accomplished by such mandate.

3.3 Data Collection

The data was generated from secondary means. The data obtained from KNBS, CBK and KBA aided in problem solving. The published and audited information aided the arrival at the dependable solution and systematic results. Therefore, the information relating to GDP,

interest rate, inflation rate and money supply was sourced on quarterly published financial reports for the period spanning from 2012-2021. It enhanced generation of new knowledge and the validation of the existing information.

3.4 Data Analysis

The data was subjected to methodical through an arithmetical and systematic technique of reviewing, cleaning, completing, condensing, classifying, summarizing and coding. The procedure was rational for elimination of manipulation of dataset. The study maximized SPSS to compute numerous inferential and descriptive statistics. The data passed through comprehensive procedure to detect errors.

3.4.1 Diagnostic Tests

The dataset was subjected diagnostic test such as; normality, autocorrelation and multicollinearity. The presupposition was that the data followed normal distribution. Therefore Kolmogorov-Smirnov and Shapiro-Wilk test were maximized. The failure to meet the normality test calls for more analysis and completion of data avoid skewness.

The multicollinearity was tested using VIF to eliminate indeterminate regression. The higher VIF than 10 ($VIF > 10$) illustrates the presence of multicollinearity (Mueni, 2016). Moreover, it also remove infinite standard error that post danger on the decision making regarding rejecting or failing to reject null hypothesis. This is because it enhances variability in the dataset thereby causing extreme sensitivity to small changes. Therefore, it may boost unreliable output, wrong inference and misleading interpretations. The remedy for multicollinearity detrimental is solved through elimination of highly correlated variable.

The autocorrelation test was spearheaded to define the association amid the explanatory and the explained variable. This is critical for pinpointing direction and the magnitude. The

autocorrelation was executed through the use of Durbin Watson. Statistic computation deviates from 0 to 4. Therefore, a value of 2 postulates that the residuals are not correlated. On the other side a value > 2 depict a negative association and lastly, a value < 2 indicates a positive correlation (Woolridge, 2002). The failure of autocorrelation to satisfy the minimal threshold demands for further tests such as Breusch-Godfrey. Failure to compute autocorrelation may result in biasness on the standard errors as well as ineffective metrics (Otambo, 2016).

3.4.2 Analytical Model

The empirical model was indispensable in giving multivariate regression analysis. The arithmetical and rational association amid the regressor and the regressed variables were cornerstone for this study. The quantification and computation of data set provide meaningful information that was vital for decision making. In addition, it summarized the vast amount of information into concrete details for presentation. Rensik (2003) elucidates the importance of empirical model in linear regression.

$$Y = \alpha_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Whereby:

Y= Financial Performance (Average Quarterly ROA)

α_0 =y intercept of the regression (constant variable)

β_1 - β_4 =the sloping coefficients of the regression model

X_1 =GDP (Quarterly Average GDP Growth)

X_2 =Interest Rate (Quarterly Central Bank and Lending Rate)

X_3 =Inflation (Average Consumer Price Index)

X_4 =Money Supply (Quarterly Average Monetary Base)

ε = error term

3.4.3 Significance Tests

The researcher performed the statistical significance testing. Hence, F-Test, ANOVA and T-Test were expedited for conclusive findings. In a nutshell, 95% and 5% confidence level aided the systematic and thorough conclusion. Similarly, the logical interpretation and exhaustive presentation after intensive investigation countered the prevailing predicaments.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND FINDINGS

4.1 Introduction

This chapter offers the findings of this research. The main aim of the study was to determine how macroeconomic variables influences financial performance of the banking sector in Kenya. The following sections consist of descriptive statistic, diagnostic test, correlations analysis, regression as well as results discussion.

4.2 Descriptive Analysis

Descriptive statistics of all variables on which analysis was done are tabulated below. Quarterly information was gathered and analyzed using SPSS version 24 software during a ten-year duration (2012 to 2021).

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	40	1.6000	4.7000	3.117500	.8366255
GDP growth rate	40	-4.1	11.0	4.453	2.4892
Interest rate	40	7.0	18.0	9.528	2.5379
Inflation rate	40	3.5	16.9	6.435	2.3729
Money supply (M2) in Millions Kes	40	1255046.5	3434640.0	2366933.39	631810.0372
Valid N (listwise)	40				

Source: Research Findings (2022)

4.3 Diagnostic Tests

Before even handling the regression model, diagnostic tests were run. Normality, Multicollinearity, and Autocorrelation tests were conducted in the survey.

4.3.1 Normality Test

To establish if the data was normally distributed, the researcher used the Shapiro-Wilk tests.

If the p-value exceeds 0.05, we conclude that there is normal distribution of data and vice versa.

The test results are listed in Table 4.2.

Table 4.2: Normality Test Results

	Shapiro-Wilk	P-value
ROA	0.871	0.179
GDP growth rate	0.905	0.200
Interest rate	0.920	0.203
Inflation rate	0.883	0.195
Money supply	0.876	0.192

Source: Research Findings (2022)

Since the data displayed a p value of above 0.05 therefore having a uniform distribution, the researcher adopted the alternative hypothesis. This data was fit to be subjected to tests and analysis like variance, regression as well as Pearson Correlation.

4.3.2 Multicollinearity Test

In a multiple regression model, multicollinearity is displayed whenever predictor variables exhibit a substantial relationship. An event where independent variables have great correlations is unfortunate. Parameters are said to have multicollinearity if they have a perfect linear connection. Outcomes for the test on multicollinearity were displayed in Table 4.3. VIF value is used where values that fall below 10 are not multi-linear. One condition for multiple regressions to occur is that no strong connection should be evidenced among variables. Given by the outcomes, every VIF variable is below 10 as indicated in table 4.3 which shows independent variables in the study experience no substantial statistical multi-linearity.

Table 4.3: Multicollinearity Test

	Collinearity Statistics	
	Tolerance	VIF
GDP growth rate	0.376	2.660
Interest rate	0.411	2.433
Inflation rate	0.392	2.551
Money supply	0.518	1.931

Source: Research Findings (2022)

4.3.3 Autocorrelation Test

A serial correlation test established the relationship of error terms for diverse times. For the research to obtain the desired model parameters, the Durbin Watson serial correlation test was utilized to carry out the analysis of data autocorrelation, which is a major shortcoming in the data analysis that must be examined. The findings are shown in Table 4.4.

Table 4.4: Autocorrelation Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.746 ^a	.557	.506	.5881091	1.700

a. Predictors: (Constant), Money supply, GDP growth rate, Inflation rate, Interest rate
b. Dependent Variable: ROA

Source: Research Findings (2022)

From the null hypothesis, no first-order serial/auto correlation exists. The 1.700 Durbin Watson statistical varies from 1.5 to 2.5 indicating no serial correlation.

4.4 Correlation Analysis

Pearson correlation was employed to establish the relationship linking performance of the banking sector in Kenya to the characteristics of the study (GDP growth rate, interest rate, inflation and money supply). From the study's findings, a weak positive that is not statistically significant relationship exists between GDP growth rate and performance of the banking sector ($r = .263$, $p = .101$). The correlation results further revealed a weak positive and significant

statistical connection between interest rate and performance of the banking sector ($r = .329$, $p = .038$). Inflation unveiled a positive but not significant association with performance of the banking sector in Kenya ($r = .162$, $p = .318$). Money supply displays a significant and negative interrelationship to performance of the banking sector in the Kenyan economy ($r = -.684$, $p = .000$). The outcomes are as revealed in Table 4.5.

Table 4.5: Correlation Analysis

		ROA	GDP growth rate	Interest rate	Inflation rate	Money supply
ROA	Pearson Correlation	1				
	Sig. (2-tailed)					
GDP growth rate	Pearson Correlation	.263	1			
	Sig. (2-tailed)	.101				
Interest rate	Pearson Correlation	.329*	.040	1		
	Sig. (2-tailed)	.038	.805			
Inflation rate	Pearson Correlation	.162	.052	.653**	1	
	Sig. (2-tailed)	.318	.749	.000		
Money supply	Pearson Correlation	-.684**	-.038	-.663**	-.408**	1
	Sig. (2-tailed)	.000	.817	.000	.009	

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).
 c. Listwise N=40

Source: Research Findings (2022)

4.5 Regression Analysis

GDP growth rate, interest rate, inflation and money supply were utilized as agents to predict performance of the banking sector in Kenya. The test was done at 5% significance level. Table 4.6 to 4.8 displays the results.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.746 ^a	.557	.506	.5881091	1.700

a. Predictors: (Constant), Money supply, GDP growth rate, Inflation rate, Interest rate
b. Dependent Variable: ROA

Source: Research Findings (2022)

The R squared indicator indicates how the explanatory variables may describe variations in the response variable. As indicated in Table 4.6, the R square was 0.557, indicating that changes in GDP growth rate, interest rate, inflation and money supply account for 55.7 percent of the banking sector's performance. Factors not encompassed in this research account for 44.3 percent of the variance in banking sector performance in Kenya. The correlation coefficient (R) of 0.746 showed a significant connection amongst predictor factors and banking sector performance.

Table 4.7: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15.192	4	3.798	10.981	.000 ^b
	Residual	12.106	35	.346		
	Total	27.298	39			

a. Dependent Variable: ROA
b. Predictors: (Constant), Money supply, GDP growth rate, Inflation rate, Interest rate

Source: Research Findings (2022)

The value of P obtained by ANOVA is 0.000, which is less than p=0.05. This establishes that the model's importance described how GDP growth rate, interest rate, inflation and money supply affect Kenya banking sector performance.

The relevance of various variables was determined using the model coefficients. The statistics of t and values of p were used to accomplish this. This study is significant since it allowed the

researcher to determine which independent variables were chosen (GDP growth rate, interest rate, inflation and money supply) significantly influences the performance of the banking sector of the Kenyan economy. The results are summarized in Table 4.8.

Table 4.8: Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	38.312	6.691		5.726	.000
1 GDP growth rate	.082	.038	.243	2.152	.038
Interest rate	-.060	.060	-.183	-1.009	.320
Inflation rate	-.024	.053	-.067	-.452	.654
Money supply	-5.479	1.001	-.824	-5.473	.000

a. Dependent Variable: ROA

Source: Research Findings (2022)

Table 4.9 shows that GDP growth rate and money supply, with p values less than 0.05, were significant predictors of banking sector performance in Kenya while interest rate and inflation rate did not possess significant impact on banking performance in Kenya.

The following regression was established:

$$Y = 38.312 + 0.243X_1 - 0.824X_2$$

Where,

Y = Performance of the banking sector

X₁= GDP growth rate

X₂= Money supply

Using the constant = 38.312, we can see that if selected independent variables (GDP growth rate, interest rate, inflation and money supply) were rated zero, the banking sector industry would increase by 38.312. Increasing GDP growth rate by one unit would increase performance by 0.243 while increasing money supply by one unit would cause the banking sector performance to decline by 0.824.

4.6 Discussion of Research Findings

This research had an aim of establishing the way in which the predictor variables impacted the performance of the banking sector in the Kenyan context. Independent variables included GDP growth rate, interest rate, inflation and money supply. This research tried to show performance of the banking sector being a dependent variable. The ROA measured performance of the banking sector. Correlation as well as regression analysis being utilized to show the connection linking the independent to dependent variables

The Pearson model showed a weak positive that is not statistically significant relationship exists between GDP growth rate and performance of the banking sector. The correlation results further revealed a weak positive and significant statistical connection between interest rate and performance of the banking sector. Inflation unveiled a positive but not significant association with performance of the banking sector in Kenya. Money supply displays a significant and negative interrelationship to performance of the banking sector in the Kenyan economy.

The independent variables accounted for 55.7% of variances in performance of the banking sector, in accordance with the summary of the model. The predictor variables of this research had explanatory power that fitted a 95% confidence level like indicated by the 0.000 p value that was way below the threshold of significance that is 5%. Therefore, the overall model employed in this study is a good and sufficient prediction model to determine the performance

of the banking sector in Kenya.

This research is in agreement with Ghurstskaia (2018) who carried out study to determine association between GDP and bank's profitability. The study took place in Georgia from 2003 to 2017. Moreover, Return on Asset was utilized in measurement of banks' profitability. The study made quality utilization of correlation analysis to scrutinize the data. The study established that GDP had weak bond with profitability of banks.

This research is also in agreement with research by Ouma and Miriu (2014) who investigated the relationship between money supply and stock prices performance from 2003 to 2013. The ordinary least Square test and descriptive model were availed for the assessment. The study concluded that stock prices and supply of money are related. The examination of association between money supply and stock prices was limited due to their scope and the reviewed period.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The major motive of this study was to investigate the way macroeconomic variables influences the performance of the banking sector in Kenya. The conclusions from the above sections are outlined in this chapter together with the conclusions and limitations of this study. This section

also outlines the strategies that can be adopted by policymakers. It also carries the recommendations.

5.2 Summary of Findings

The study assessed how macroeconomic variables influenced the performance of the banking sector in Kenya. GDP growth rate, interest rate, inflation and money supply were adopted to be the predictor variables of the research. The research utilized descriptive design to do analysis and data collecting. Secondary data was obtained from CBK as well as KNBS and prepared using SPSS version 24 program. The study used data of 10 years compiled quarterly.

The Pearson model showed a weak positive that is not statistically significant relationship exists between GDP growth rate and performance of the banking sector. The correlation results further revealed a weak positive and significant statistical connection between interest rate and performance of the banking sector. Inflation unveiled a positive but not significant association with performance of the banking sector in Kenya. Money supply displays a significant and negative interrelationship to performance of the banking sector in the Kenyan economy.

The independent variables accounted for 55.7% of variances in performance of the banking sector, in accordance with the summary of the model. The predictor variables of this research had explanatory power that fitted a 95% confidence level like indicated by the 0.000 p value that was way below the threshold of significance that is 5%. Therefore, the overall model employed in this study is a good and sufficient prediction model to determine the performance of the banking sector in Kenya.

The regression results further discovered that if the selected independent variables (GDP growth rate, interest rate, inflation and money supply) were rated zero, the banking sector industry would increase by 38.312. Increasing GDP growth rate by one unit would increase performance by 0.243 while increasing money supply by one unit would cause the banking sector performance to decline by 0.824.

5.3 Conclusion

The research findings show that the GDP growth rate and money supply have a substantial impact on Kenya's banking performance. The research finds that higher GDP growth rate leads to a significant rise in performance in the banking sector while a rise in money supply leads to a significant decline in banking sector performance. Interest rate and inflation do not have a significant effect.

The research discovers that the factors under research – GDP growth rate, interest rate, inflation and money supply – affect banking sector performance by describing 55.7% of the variations. This means that the non-model variables are only responsible for 44.3% of variations of performance of the banking sector in the country. It is therefore substantial to infer that the outlined factors impact banking sector performance as shown in the p values below 0.05 ANOVA summary.

The conclusions of this research concurred with Shrestha and Subedi (2015) did a study on role of supply of money on variation of stock prices in Nepal. The study adopted time series data for duration of mid-August 2000 and mid-July 2014. The researchers found out those prices of stock goes tandem with improvement of supply of money. Furthermore, when supply of money increases, prices of stocks changes positively over certain period time.

5.4 Recommendations

This study has demonstrated that GDP growth rate possesses positive and significant impact on the performance of the banking sector in the country. It therefore recommends that several approaches are required to make sure that the factors that lead to improvement in economic growth are improved as this will lead to better performance of the banking sector. The policy makers should come up with policies and guidelines aiming to have a sustainable level of GDP growth rate.

This study demonstrated that money supply impacts negatively on performance of the banking sector. This implies that higher money supply in the economy is likely to possess negative influence on performance of the Kenyan banking sector. The research suggests that policy makers ought to let demand and supply take control so that money supply moves in tandem with changes in the market as this will go a long way in enhancing performance of the banking sector.

5.5 Limitations of the Study

This study embraced a 10-year period (2012-2021). It gives no substantial evidence that in an added timeframe, the findings will not change. Additionally, it is not certain that these findings will be sustained after 2021, things might change. Extra timeframe is reliable because it comprises instances with economic shifts like recessions and booms.

The main drawback of the study was the quality of data. It is not possible to reliably state the results obtained in the survey as the correct reflection of the general situation. Accuracy and reliability of the data collected are assumed to a certain point. Additionally, because of the existing circumstances, computing the data has been incoherent. This study uses secondary

data as opposed to primary data. The determinants of performance have been partially considered because of unavailability of data for all determinants.

Regression models were used to conduct data analysis. It might be impossible for the researchers to generalize outcomes because of the setbacks accruing from model utilization like erroneous and deceptive conclusions ensuing from alteration in variable value. Whenever data is put in a regression model, it is impossible to process it through another prior model.

5.6 Suggestions for Further Research

The objective of the study was to determine macroeconomic variables impact on performance of the banking sector of the Kenyan economy. A research that focuses on primary data or mixes primary data with secondary data is recommended so as to recognize qualitative elements that might have been overlooked in the current research.

This research failed to consider all independent variables impacting performance of the banking sector of an economy. A suggestion therefore arises to include other factors in future studies in order to come up with more specific findings. These factors include exchange rates, balance of payments, corruption, unemployment rate among others. Providing details how each of them affects performance of the banking sector will enable policymakers make decision on the steps to take in order to control their performance of the banking sector.

Because of unavailability of data, this study focused on the latest 10 years. Other future studies should employ a wider range to come up with a valid conclusion. This study was also under restriction because it only focused solely on Kenya. Additional survey should be conducted in other nations to determine results. In conclusion, the investigator adopted a regression model

to do a confirmation or rejection of the findings. Any studies in future should adopt other independent methods to confirm or reject their findings.

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APPENDICES

Appendix I: List of Commercial Banks

Name of Commercial Bank	
ABSA Bank Kenya	
Access Bank Kenya	
African Banking Corporation Limited	
Bank of Africa Kenya Limited	
Bank of Baroda (K) Limited	
Bank of India	
Citibank N.A Kenya	

Consolidated Bank of Kenya Limited	
Co-operative Bank of Kenya Limited	
Credit Bank Limited	
Development Bank of Kenya Limited	
Diamond Trust Bank Kenya Limited	
DIB Bank Kenya Limited	
Ecobank Kenya Limited	
Equity Bank Kenya Limited	
Family Bank Limited	
First Community Bank Limited	
Guaranty Trust Bank (K) Ltd	
Guardian Bank Limited	
Gulf African Bank Limited	
Habib Bank A.G Zurich	
I&M Bank Limited	
Kingdom Bank Limited	
KCB Bank Kenya Limited	
Mayfair CIB Bank Limited	
Middle East Bank (K) Limited	
M-Oriental Bank Limited	
National Bank of Kenya Limited	
NCBA Bank Kenya PLC	
Paramount Bank Limited	

Prime Bank Limited	
SBM Bank Kenya Limited	
Sidian Bank Limited	
Spire Bank Ltd	
Stanbic Bank Kenya Limited	
Standard Chartered Bank Kenya Limited	
UBA Kenya Bank Limited	
Victoria Commercial Bank Limited	

Appendix II: Research Data

Year	Quarter	ROA	GDP growth rate	Interest rate	Inflation rate	Money supply (M2) in Millions Kes
2012	1	3.8000	3.9000	18.0000	16.8700	1,255,046
	2	4.0000	4.8000	18.0000	11.7767	1,314,227
	3	3.7000	5.0000	14.7500	6.3833	1,386,144
	4	4.6000	4.5000	11.0000	3.5300	1,456,090
2013	1	4.7000	3.6000	9.5000	4.0767	1,479,423
	2	4.7000	4.7000	8.5000	4.3667	1,557,145
	3	4.7000	3.7000	8.5000	6.9967	1,598,954
	4	4.7000	3.2000	8.5000	7.4233	1,664,384

Year	Quarter	ROA	GDP growth rate	Interest rate	Inflation rate	Money supply (M2) in Millions Kes
2014	1	3.4000	4.9000	8.5000	6.7800	1,746,803
	2	3.4000	5.9000	8.5000	7.0333	1,827,803
	3	3.4000	5.1000	8.5000	7.5433	1,890,371
	4	3.4000	4.3000	8.5000	6.1800	1,965,251
2015	1	2.5000	4.8000	8.5000	5.8167	2,036,195
	2	2.5000	5.0000	8.5000	6.9933	2,120,967
	3	2.5000	4.7000	11.5000	6.1433	2,161,244
	4	2.9000	5.3000	11.5000	7.3500	2,221,117
2016	1	3.4000	3.8000	11.5000	7.0233	2,250,119
	2	4.2000	3.8000	10.5000	5.3567	2,325,464
	3	3.3000	4.4000	10.5000	6.3333	2,330,230
	4	2.5000	4.8000	10.0000	6.5000	2,352,747
2017	1	2.9000	5.4000	10.0000	8.7700	2,366,207
	2	2.8000	3.3000	10.0000	10.7967	2,464,220
	3	2.7000	3.2000	10.0000	7.5233	2,504,755
	4	2.7000	3.5000	10.0000	4.9833	2,524,773
2018	1	2.7000	5.2000	10.0000	4.4900	2,541,473
	2	2.8000	6.1000	9.5000	3.9867	2,620,200
	3	2.8000	5.3000	9.0000	4.6967	2,682,650
	4	2.8000	6.0000	8.5000	5.6067	2,724,417
2019	1	2.6000	4.8000	8.5000	4.3967	2,768,023

Year	Quarter	ROA	GDP growth rate	Interest rate	Inflation rate	Money supply (M2) in Millions Kes
	2	2.6000	6.0000	8.5000	5.5900	2,843,777
	3	2.7000	5.0000	8.5000	5.0333	2,874,407
	4	2.5000	4.6000	8.5000	5.4433	2,881,990
2020	1	1.8000	4.4000	7.7500	6.2633	2,968,200
	2	1.8000	(4.1000)	7.0000	5.3100	3,109,543
	3	1.7000	(3.5000)	7.0000	4.3067	3,199,993
	4	1.6000	2.3000	7.0000	5.2633	3,237,313
2021	1	2.9000	2.7000	7.0000	5.7900	3,250,220
	2	2.9000	11.0000	7.0000	5.9833	3,315,227
	3	3.6000	9.3000	7.0000	6.6767	3,425,583
	4	3.5000	7.4000	7.0000	5.9933	3,434,640